




# Promaster 252 / 260 / 272

## Owner/Operator Manual

---

### Models

992111 - 25hp PM252M XDZ	992130 - 26hp PM252M
992113 - 26hp PM252M XDZ	992131 - 25hp PM260M
992115 - 25hp PM260M XDZ	992132 - 25hp PM260H
992117 - 26hp PM260M XDZ	992133 - 27hp PM260H
992121 - 27hp PM260M XDZ	992134 - 26hp PM260M
992123 - 31hp PM272H XDZ	992135 - 26hp PM260H
992124 - 26hp PM272H XDZ	992136 - 27hp PM260M
992125 - 27hp PM252M XDZ	992137 - 27hp PM260H
992126 - 27hp PM272H XDZ	992138 - 31hp PM272H
992127 - 25hp PM252M	992139 - 26hp PM272H
992128 - 25hp PM252H	992145 - 27hp PM260M
992129 - 27hp PM252H	

 ENGLISH

 FRANÇAIS

 ESPAÑOL



US Patent 6,301,864

00454600 11/05  
Printed in USA

# TABLE OF CONTENTS

Safety .....	7	Storage .....	30
Assembly .....	12	Accessories .....	32
Controls and Features .....	14	Troubleshooting .....	31
Operation .....	15	Service Parts .....	33
Maintenance Schedule .....	19	Specifications .....	34
Service and Adjustments .....	20	Warranty .....	38

## INTRODUCTION

### THE MANUAL

Before operation of unit, carefully and completely read your manuals. The contents will provide you with an understanding of safety instructions and controls during normal operation and maintenance.

All reference to left, right, front, or rear are given from operator sitting in operation position and facing the direction of forward travel.

### MODEL AND SERIAL NUMBERS

Transfer model & serial number label from product registration here.

When ordering replacement parts or making service inquiries, know the Model and Serial numbers of your unit and engine.

Numbers are located on the product registration form in the unit literature package. They are printed on a serial number label, located on the frame of your unit.



Figure 1

- Record Unit Model and Serial numbers here.

- Record Engine Model and Serial numbers here.

### UNAUTHORIZED REPLACEMENT PARTS

Use only Gravelly replacement parts. The replacement of any part on this vehicle with anything other than a Gravelly authorized replacement part may adversely affect performance, durability, or safety of this unit. Gravelly disclaims liability for any claims or damages, whether warranty, property damage, personal injury or death arising out of the use of unauthorized replacement parts.

### DISCLAIMER

Gravelly reserves the right to discontinue, make changes to, and add improvements upon its products at any time without public notice or obligation. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations may not be applicable to your unit.

### PRODUCT REGISTRATION

The Gravelly dealer must register the product at the time of purchase. Registering the product will help the company process warranty claims or contact you with the latest service information. All claims meeting requirements during the limited warranty period will be honored, whether or not the product registration card is returned. Keep a proof of purchase if you do not register your unit.

**Customer Note:** If the dealer does not register your product, please fill out, sign, and return the product registration card to Gravelly.

### DELIVERY

**Customer Note:** If you have purchased this product without complete assembly and instruction by your retailer, it is your responsibility to:

1. Read and understand all assembly instructions in this manual. If you do not understand or have difficulty following the instructions, contact your nearest Gravelly Dealer for assistance. Make sure all assembly has been

properly completed and safety interlock system works properly.

**NOTE:** To locate your nearest Gravely dealer, go to [www.gravely.com](http://www.gravely.com) on the internet



**WARNING:** Improper assembly or adjustments can cause serious injury.

2. Understand all Safety Precautions provided in the manuals.

3. Review control functions and operation of the unit. Do not operate unit unless all controls function as described in this manual.
4. Review recommended lubrication, maintenance, and adjustments.
5. Fill out Product Registration Card and return the card to Ariens Company or go to [www.gravely.com](http://www.gravely.com).

## SAFETY



**WARNING:** This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the safety instructions in the manuals and on decals could result in serious injury or death.

Slopes are a major factor related to loss-of-control and tip-over accidents. Operation on all slopes requires extra caution.

Tragic accidents can occur if the operator is not alert to the presence of children. Never assume that children will remain where you last saw them.

Gasoline is extremely flammable and the vapors are explosive, handle with care.

Disengage attachment, stop unit and engine, remove key, engage parking brake, and allow moving parts to stop before leaving operator's position.



**WARNING:** POTENTIALLY HAZARDOUS SITUATION! If not avoided, COULD RESULT in death or serious injury.



**CAUTION:** POTENTIALLY HAZARDOUS SITUATION! If not avoided, MAY RESULT in minor or moderate injury. It may also be used to alert against unsafe practices.

### NOTATIONS

**NOTE:** General reference information for proper operation and maintenance practices.

**IMPORTANT:** Specific procedures or information required to prevent damage to unit or attachment.

### PRACTICES AND LAWS

Practice usual and customary safe working precautions, for the benefit of yourself and others. Understand and follow all safety messages. Be alert to unsafe conditions and the possibility of minor, moderate, or serious injury or death. Learn applicable rules and laws in your area, including those that may restrict the age of the operator.

### REQUIRED OPERATOR TRAINING

Original purchaser of this unit was instructed by the seller on safe and proper operation. If unit is to be used by someone other than original purchaser (loaned, rented or sold), ALWAYS provide this manual and any needed safety training before operation.

### SAFETY DECALS AND LOCATIONS

ALWAYS replace missing or damaged safety decals. Refer to figure 2 for Safety Decal locations.



OL1253



OL3900

### SAFETY ALERT SYSTEM

These are safety alert symbols. They mean:

- **ATTENTION!**
- **YOUR SAFETY IS INVOLVED!**

When you see this symbol:

- **BECOME ALERT!**
- **OBEY THE MESSAGE!**

### SIGNAL WORDS

The safety alert symbols above and signal words below are used on decals and in this manual.

Read and understand all safety messages.



**DANGER:** IMMINENTLY HAZARDOUS SITUATION! If not avoided, WILL RESULT in death or serious injury.

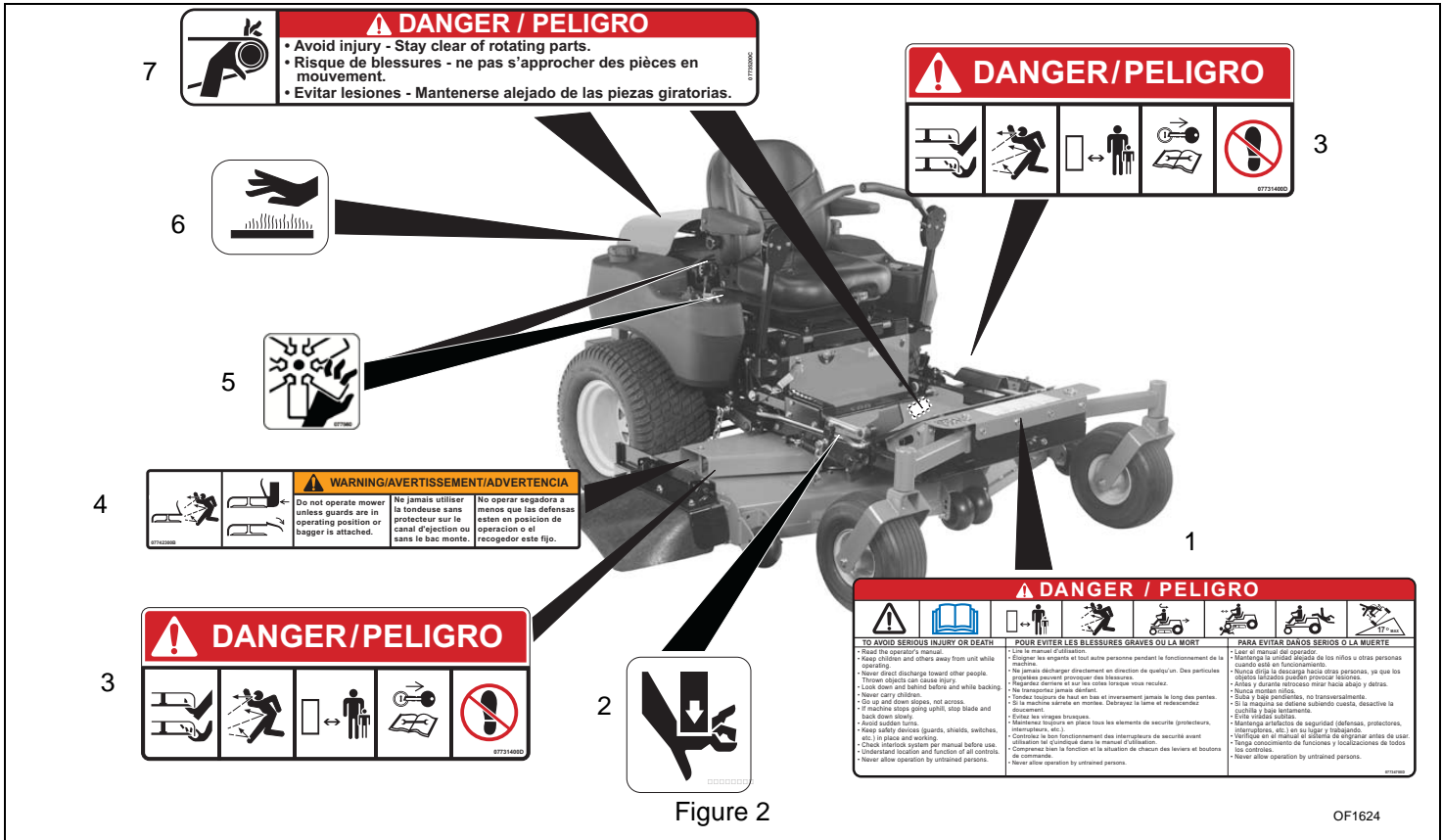


Figure 2

OF1624

**1. DANGER! TO AVOID SERIOUS INJURY OR DEATH**



OL4450

Go up and down slopes, not across.  
DO NOT operate on slopes over 17°.

- If machine stops going uphill, stop blade and back down slowly.
- Avoid sudden turns.
- Keep safety devices (guards, shields, switches, etc.) in place and working.
- Check interlock system per manual before use.
- Understand location and function of all controls.
- Never allow operation by untrained persons.

**2. PINCH POINT!**



OF3330

Avoid pinch points.

**3. DANGER!**



OL3030

Always keep feet and hands away from rotating parts.



OL1801

Read Operator's Manual.



OL4370

Keep children and others away from unit while operating.



OL0910

Never direct discharge toward other people. Thrown objects can cause injury.



OL4460

Look down and behind before and while backing.



OL4470

Keep children out of work area and under watchful care of a responsible adult.



OL4480

NEVER CARRY CHILDREN.



Always stand clear of discharge area. Do not direct discharge toward other people.

OL0910



Keep people away from unit while operating.

OL3292



Shut off engine, remove key, and read manual before you adjust or repair unit.

OL4010



NO STEP! Always keep feet away from rotating parts.

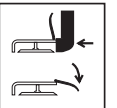
OL4420

#### 4. WARNING!



Always stand clear of discharge area.

OL4430



Do not operate mower unless guards are in operating position or bagger is attached.

OL3320

#### 5. DANGER!



AVOID INJURY. Stay clear of rotating fan.

OL4740

#### 6. HOT SURFACES!



DO NOT touch parts which are hot from operation. ALWAYS allow parts to cool.

OD0061

#### 7. DANGER!



AVOID INJURY. Stay clear of rotating parts.

OL4730

### SAFETY RULES

Read, understand, and follow all safety practices in Owner/Operator Manual before beginning assembly. Failure to follow instructions could result in personal injury and/or damage to unit.

ALWAYS remove key and/or wire from spark plug before assembly. Unintentional engine start up can cause death or serious injury.

Complete a walk around inspection of unit and work area to understand:

- Work area
- Your unit
- All safety decals

Determine which attachments are needed and can be used safely.

Inspect unit before each use for: missing or damaged decals and shields, correctly operating safety interlock system, and deterioration of grass catchers. Replace or repair as needed.

ALWAYS check overhead and side clearances carefully before operation. ALWAYS be aware of traffic when operating along streets or curbs.

Keep children and people away.

Keep children out of work area and under watchful care of a responsible adult.

Keep area of operation clear of all toys, pets, and debris. Thrown objects can cause injury.

Check for weak spots on docks, ramps or floors. Avoid uneven work areas and rough terrain. Stay alert for hidden hazards or traffic.

DO NOT operate near drop-offs, ditches, or embankments. Unit can suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.

Data indicates that operators, age 60 and above, are involved in a larger percentage of riding mower related injuries. These operators should evaluate their ability to operate the riding mower safely enough to protect themselves and others from serious injury.

Read the entire Owner/Operator manual and other training material. If the operator or the mechanic cannot read the manual, it is the owner's responsibility to explain it to them. Only the user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.

Only trained adults may operate or service unit. Training includes actual operation.

Local regulations may restrict the age of the operator.

NEVER allow children to operate or play on or near unit. Be alert and shut off unit if children enter area.

NEVER operate unit after or during the use of medication, drugs or alcohol. Safe operation requires your complete and unimpaired attention at all times.

DO NOT wear loose clothing or jewelry and tie back hair that may get caught in rotating parts.

Wear adequate outer garments.

NEVER wear open sandals or canvas shoes during operation. Wear adequate safety gear, protective gloves and footwear.

Wear proper footwear to improve footing on slippery surfaces.

Always wear safety goggles or safety glasses with side shields when operating mower.

Moving parts can cut or amputate fingers or a hand. Wrap blade(s) or wear gloves to service. On multiblade mowers, rotation of one blade will cause all blades to rotate.

NEVER place your hands or any part of your body or clothing inside or near any moving part while unit is running.

ALWAYS keep hands and feet away from all rotating parts during operation. Rotating parts can cut off body parts.

ALWAYS keep body and hands away from pin holes or nozzles which eject hydraulic fluid under pressure.

DO NOT touch parts which are hot. Allow parts to cool.

ALWAYS keep hands and feet away from all pinch points.

Fumes from the engine exhaust can cause death or serious injury. DO NOT run engine in an enclosed area. Always provide good ventilation.

Read, understand, and follow all instructions in the manual and on the machine before starting.

Understand:

How to operate all controls

The functions of all controls

How to STOP in an Emergency

Braking and steering characteristics

Turning radius and clearances

Keep safety devices or guards in place and functioning properly. NEVER modify or remove safety devices.

Do not operate without either entire grass catcher or the discharge guard in place.

Stop engine before removing grass catcher or unclogging chute.

Ensure Safety Interlock System is functioning properly. DO NOT operate unit if safety interlock is damaged or disabled.

Start and operate unit only when seated in operator's position. Steering control levers must be in neutral, PTO disengaged and parking brake set when starting engine.

Use care when approaching blind corners, shrubs, trees or other objects that may obscure vision.

Dust, smoke, fog, etc. can reduce vision and cause an accident. Mow only in daylight or good artificial light.

Avoid slippery surfaces. Always be sure of your footing.

DO NOT mow on wet grass. Reduced traction could cause sliding and effect the machine's stability.

Watch for traffic when operating near or crossing roadways.

Never carry passengers.

DO NOT try to stabilize the machine by putting your foot on the ground.

Never direct discharge towards persons or property that may be injured or damaged by thrown objects. Use extreme caution on gravel surfaces.

Always stand clear of the discharge area.

ALWAYS disengage PTO, stop unit and engine, remove key, engage parking brake and allow moving parts to stop before leaving operator's position.

Never engage PTO while raising attachment or when attachment is in raised position.

DO NOT operate at too fast a rate. DO NOT change engine governor settings or over-speed engine. Slow down before turning.

DO NOT operate in reverse unless absolutely necessary.

ALWAYS look down and behind before and while backing.

Stop and inspect equipment if you strike an object or if there is an unusual vibration. Repair, if necessary, before restarting. Never make adjustments or repairs with the engine running.

Mower blades are sharp and can cut you. Wrap the blade(s) or wear gloves, and use extra caution when servicing them. NEVER weld or straighten mower blades.

Rotation of one blade may cause rotation of the other blades.

Take all possible precautions when leaving unit unattended. Shut off engine. Remove wire from spark plug and secure it away from spark plug.

ALWAYS remove key to prevent unauthorized use.

Know the weight of loads. Limit loads to those you can safely control and the unit can safely handle.

Disengage PTO when attachment is not in use. ALWAYS turn off power to attachment when travelling, crossing driveways, etc.

Mow up and down slopes, not across them.

DO NOT operate on slopes of more than 17 degrees.

Use of a Rollover Protection System (ROPS) is recommended for slope operation. See Attachments and Accessories.

Always wear a seat belt when operating unit using a Rollover Protection System (ROPS).

Keep all movements on the slope *slow* and *gradual*. Do not make sudden changes in speed or direction.

Avoid starting or stopping on the slope. If tires lose traction, disengage the blades and proceed slowly *straight* down the slope.

If you cannot back up a slope or you feel uneasy on it, do not mow it.

DO NOT park on slopes unless necessary. When parking on slope always chock or block wheels. Always set parking brake.

Use a slow speed. Tires may lose traction on slopes even though the brakes are functioning properly.

Do not bypass transmission when on a slope.

Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the hitch point.

Follow the manufacturer's recommendations for weight limits for towed equipment and towing on slopes.

NEVER allow children or others in or on towed equipment.

On slopes, the weight of the towed equipment may cause loss of control.

Travel slowly and allow extra distance to stop.

Use extra care when loading or unloading unit onto trailer or truck.

Secure unit chassis to transport vehicle. NEVER secure from rods or linkages that could be damaged.

DO NOT transport machine while engine is running.

ALWAYS turn off power to attachment and shut off fuel when transporting unit.

Keep unit free of debris. Clean up oil or fuel spills.

This product is equipped with an internal combustion type engine. DO NOT use unit on or near any unimproved, forest-covered or brush covered land unless exhaust system is equipped with a spark arrester meeting applicable local, state or federal laws. A spark arrester, if it is used, must be maintained in effective working order by operator.

Fuel is highly flammable and its vapors are explosive. Handle with care. Use an approved fuel container.

NO smoking, NO sparks, NO flames. ALWAYS allow engine to cool before servicing.

NEVER fill fuel tank when engine is running or hot from operation.

NEVER fill or drain fuel tank indoors.

Replace fuel cap securely and clean up spilled fuel.

Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.

When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.

Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.

If fuel is spilled on clothing, change clothing immediately.

Avoid Electric Shock. Objects contacting both battery terminals at the same time may result in injury and unit damage. DO NOT reverse battery connections.

Reverse connections may result in sparks which can cause serious injury. Always connect positive (+) lead of charger to positive (+) terminal, and negative (-) lead to negative (-) terminal.

ALWAYS disconnect negative (-) cable FIRST and positive (+) cable SECOND. ALWAYS connect positive (+) cable FIRST, and negative (-) cable SECOND.

Explosive Gases from battery can cause death or serious injury. Poisonous battery fluid contains sulfuric acid and its contact with skin, eyes or clothing can cause severe chemical burns.

No flames, No sparks, No smoking near battery.

ALWAYS wear safety glasses and protective gear near battery. Use insulated tools.

DO NOT TIP battery beyond a 45° angle in any direction.

ALWAYS keep batteries out of reach of children.

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

ALWAYS block wheels and know all jack stands are strong and secure and will hold weight of unit during maintenance.

Release pressure slowly from components with stored energy.

NEVER attempt to make any adjustments to unit while engine is running (except where specifically recommended). Stop engine, remove key or spark plug wire and wait for all moving parts to stop before servicing or cleaning.

Check parking brake operation frequently. Adjust and service as required.

ALWAYS maintain unit in safe operating condition. Damaged or worn out muffler can cause fire or explosion.

Maintain or replace safety and instruction labels, as necessary.

NEVER store unit with fuel in fuel tank, inside a building where any ignition sources are present.

Shut off fuel and allow engine to cool completely before storing in closed area or covering unit.

Clean grass and debris from unit, especially from around muffler and engine, to help prevent fires.

For extended storage, shut off fuel and clean unit thoroughly. See engine manual for proper storage.

Lower cutting deck unless a positive mechanical lock is used.

Use only attachments or accessories designed for your unit.

Check all hardware at regular intervals, especially blade attachment bolts. Keep all hardware properly tightened.

Check attachment components frequently. If worn or damaged, replace with manufacturer's recommended parts.

# ASSEMBLY

**WARNING:** AVOID INJURY. Read and understand entire *Safety* section before proceeding.

## Unpack Unit

Remove unit and all other components from shipping container. Open bypass valves (see *MOVING UNIT MANUALLY* on page 18). Push unit from container onto a level surface. Close bypass valves.

## Prepare Seat

Remove nuts from seat studs in hood frame. Peel off paper backing from foam tape and place between hood frame and chassis. Lift and rotate seat onto hood frame. Secure with nuts.

## Install Steering Levers

Remove spacers, bolts, and nuts from steering levers. Turn the steering levers into the operating position. Re-install spacers, bolts and nuts. Tighten hardware securely (figure 3).



- 1. Steering Lever in Shipping Position
- 2. Spacers and Hardware
- 3. Steering Lever in Operation Position

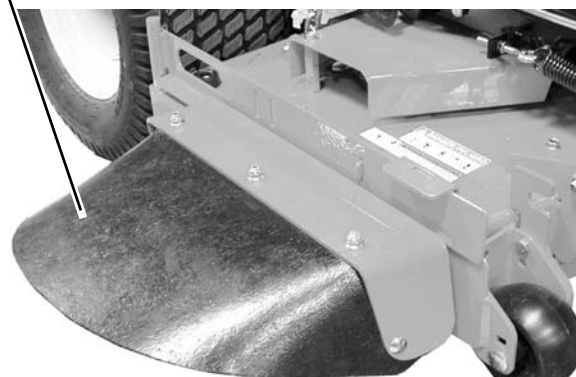
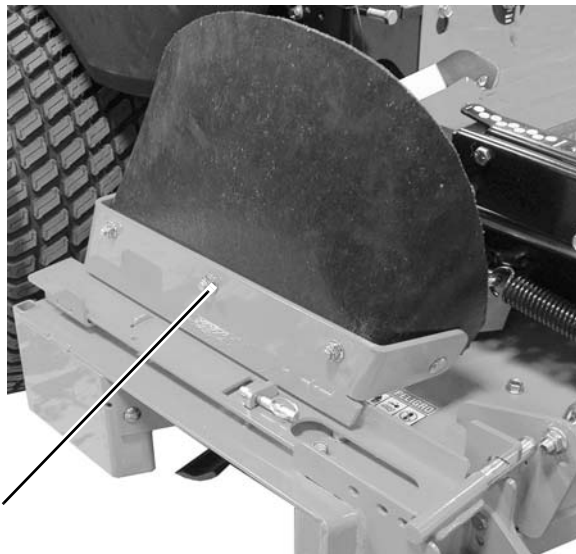
Figure 3

OF3520

## Place Discharge Chute in Operating Position

**WARNING:** Do not operate mower unless the discharge chute is in the operating position.

Prior to operating the unit, remove the discharge chute from the transport position and place the discharge chute in the operating position (figure 4)..



- 1. Discharge Chute in Transport Position
- 2. Discharge Chute in Operating Position

Figure 4



**Check Tire Pressure**

.See *SPECIFICATIONS* on page 34

**Check Engine Oil**

Refer to Engine Manual.

**Check Hydraulic Oil**

See *Checking Hydraulic Oil Level* on page 29.

**Check Coolant Level (992113, 117, 121, 123, 124, 125, 126, 130, 134, 135, 136, 137, 138, 139)**

Refer to Engine Manual.

**Fill Fuel Tank**

See *FILLING FUEL TANK* on page 17.

**Connect Battery**

Place unit in the service position (see *SERVICE POSITION* on page 20). Connect negative (–) battery cable to battery (see *Battery Removal and Installation* on page 21 and perform steps 2 through 4 in the installation section).

**Check Blade Level and Blade Pitch**

See *Leveling the Mower Deck* on page 24.

**Check Safety Interlock System**

**WARNING:** Safety interlock system failure and improper operation of unit can result in death or serious injury. Test this system each time unit is operated. If this system does not function as described, do not operate until repairs are made.

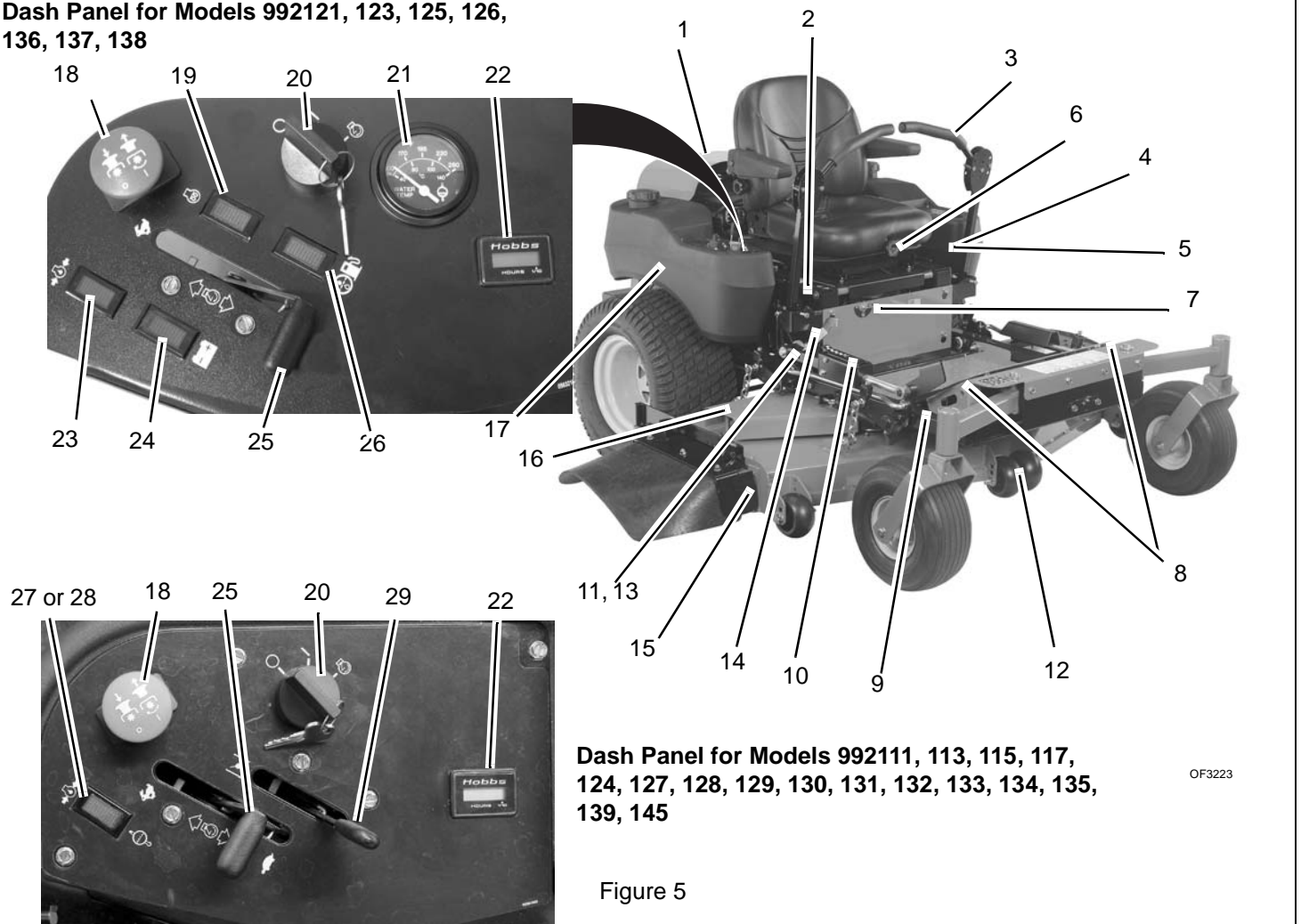
See *Safety Interlock System* on page 15.

**Check Function of All Controls**

Ensure unit runs and performs properly.

# CONTROLS AND FEATURES

## Dash Panel for Models 992121, 123, 125, 126, 136, 137, 138



## Dash Panel for Models 992111, 113, 115, 117, 124, 127, 128, 129, 130, 131, 132, 133, 134, 135, 139, 145

OF3223

Figure 5

1. Hood
2. Parking Brake Lever
3. Steering Levers
4. Mower Lift Lever (992123, 124, 126, 128, 129, 132, 133, 135, 137, 138, 139)
5. Seat Adjustment Lever
6. Seat Suspension Adjustment Knob
7. Fuel Shut-Off Valve
8. Axle Locks
9. Tie-Down Lugs
10. Height of Cut Indicator
11. Cylinder Stops (992123, 124, 126, 128, 129, 132, 133, 135, 137, 138, 139)
12. Anti-Scalp Rollers
13. Cylinder Stop Storage Post (992123, 124, 126, 128, 129, 132, 133, 135, 137, 138, 139)
14. Foot Board Latch
15. Mower Deck with Chute Deflector
16. Belt Cover
17. Fuel Tanks
18. PTO (Power Take-Off) Switch
19. Glow Plug Light (992121, 123, 125, 126, 136, 137, 138)
20. Ignition Switch
21. Coolant Temperature Gauge (992121, 123, 125, 126, 136, 137, 138)
22. Hour Meter
23. Oil Pressure Light
24. Charging System Light
25. Throttle Lever
26. Fuel/Water Separator Light (992121, 123, 125, 126, 136, 137, 138)
27. Oil Pressure / Coolant Temperature Light (992113, 117, 124, 130, 134, 135, 139)
28. Oil Pressure Light (992111, 115, 121, 123, 125, 126, 127, 128, 129, 131, 132, 133, 136, 137, 138, 145)
29. Choke Control (992111, 113, 115, 117, 124, 127, 128, 129, 130, 131, 132, 133, 134, 135, 139, 145)

# OPERATION



**WARNING:** AVOID INJURY. Read and understand entire *Safety* section before proceeding.

## CONTROLS AND FEATURES

See figure 5 for Controls and Features locations.

### Safety Interlock System



**WARNING:** Safety interlock system failure and improper operation of unit can result in death or serious injury. Test this system each time the unit is operated. If this system does not function as described, do not operate until repairs are made.

Perform the following tests to ensure the safety interlock system is working properly. If the unit does not perform as stated, contact your Gravely dealer for repairs.

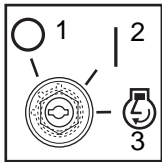
**IMPORTANT:** With the parking brake engaged, the steering levers must be locked in neutral.

**IMPORTANT:** With the parking brake disengaged, the engine must not start and the engine must shut off if the operator leaves the seat.

Test	Steering Levers	PTO	Parking Brake	Engine
STARTING INTERLOCK				
1	Neutral	Off	Engaged	Starts
2	Neutral	On	Engaged	Doesn't Start
3	Neutral	Off	Disengaged	Doesn't Start
OPERATING INTERLOCK (ENGINE ON)				
4*	Neutral	On	Engaged	Shuts Off
5*	Neutral	Off	Disengaged	Shuts Off
6*	Neutral	Off	Engaged	On

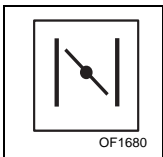
\* Operator lifts off seat.

### Ignition Switch



Operate the ignition switch with the removable key. The switch has three positions: Off (1), Run (2) and Start (3). See *STARTING AND SHUTTING OFF ENGINE* on page 17 for detailed instructions on how to start engine.

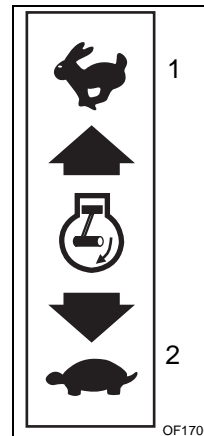
### Choke Control (992111, 113, 115, 117, 124, 127, 128, 129, 130, 131, 132, 133, 134, 135, 139, 145)



Use to start a cold engine. Push choke lever forward to start a cold engine. Pull the choke lever to the rear when the engine is warm.

### Throttle Lever

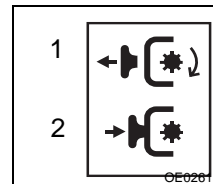
Changes the speed of engine.



Fast (1) – Increases engine speed.

Slow (2) – Decreases engine speed.

### Power Take Off (PTO) Switch



Engages (1) and disengages (2) mower blades.

### Oil Pressure Light (992111, 115, 121, 123, 125, 126, 127, 128, 129, 131, 132, 133, 136, 137, 138, 145)



Indicates when engine oil pressure is low.

**NOTE:** It does not indicate engine oil level.

See *TROUBLESHOOTING* on page 31 or refer to Engine Manual for details.

### Oil Pressure / Coolant Temperature Light (992113, 117, 124, 130, 134, 135, 139)

Indicates when engine oil pressure is low or engine coolant temperature is too high.

See *TROUBLESHOOTING* on page 31 or refer to Engine Manual for details.

### Charging System Light (992121, 123, 125, 126, 136, 137, 138)

Indicates when the charging system is not charging the battery.

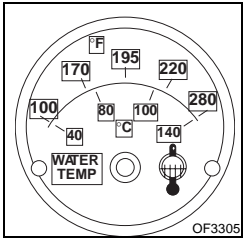
### Glow Plug Light (992121, 123, 125, 126, 136, 137, 138)

Indicates when the engine glow plugs are energized. Glow plugs energize for approximately 5 seconds when the key switch is turned to the Run position.

### Fuel / Water Separator Light (992121, 123, 125, 126, 136, 137, 138)

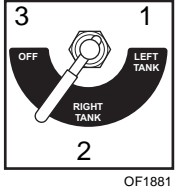
Indicates when the fuel/water separator filter needs to be replaced (refer to Engine Manual).

**Coolant Temperature Gauge (992121, 123, 125, 126, 136, 137, 138)**



Indicates temperature of coolant. See *TROUBLESHOOTING* on page 31 or refer to Engine Manual for details.

**Fuel Shut-Off Valve**

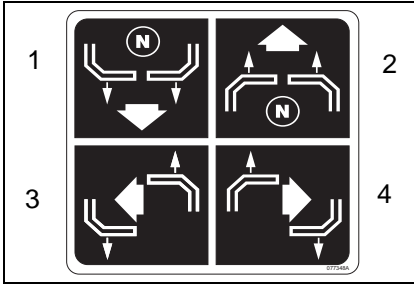


Controls fuel flow from left fuel tank (1) or right fuel tank (2).

Open valve to operate the engine. Turn the valve to off (3) when storing or transporting the unit.

**NOTE:** There is no off (3) position on models 992121, 123, 125, 126, 136, 137, 138.

**Steering Levers**



Control speed, directional control, and stopping unit.

- Reverse (1) – Pull both steering levers backward.
- Forward (2) – Push both steering levers forward.

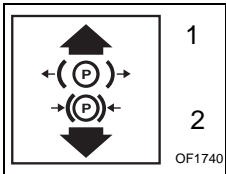
- Left (3) – Pull left steering lever back or push right steering lever forward or a combination of both.
- Right (4) – Pull right steering lever back or push left steering lever forward or a combination of both.

To stop, return both steering levers to neutral.

**NOTE:** Steering levers are mechanically locked in neutral whenever parking brake is engaged.

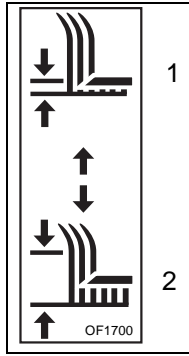
**NOTE:** Aggressive turning can scuff or damage lawns. ALWAYS keep both wheels rotating when making sharp turns. DO NOT make turns with inside wheel completely stopped. To obtain minimum turning radius, slowly reverse inside wheel while moving outside wheel slowly forward.

**Parking Brake Lever**



Engages (2) and disengages (1) parking brake.

**Mower Lift Lever (992123, 124, 126, 128, 129, 132, 133, 135, 137, 138, 139)**



Raises and lowers mower deck.

To lower (1) – Move mower lift lever forward.

To raise (2) – Move mower lift lever rearward.

**Cylinder Stops (992123, 124, 126, 128, 129, 132, 133, 135, 137, 138, 139)**

**CAUTION:** AVOID PINCH POINTS. Always use the T-portion of the cylinder stop when removing or installing the cylinder stops.

Ensure the same cutting height after raising mower deck to clear an obstacle. Cylinder stops are stored on a post behind hydraulic lift cylinder and come in two sizes: 11/32 in. and 11/16 in. (8.73 mm and 17.5 mm).

1. Remove cylinder stops from post and snap onto lift cylinder rod.
2. Push lift lever forward until cylinder rests against cylinder stops.

**Mower Lift Pedal (992111, 113, 115, 117, 121, 125, 127, 130, 131, 134, 136, 145)**



Mower lift pedal raises and lowers the mower deck for transporting the unit and for setting the cutting height.

**To Transport:** Push mower lift pedal (1) all the way forward until lift lock (2) engages.

**To Set Cutting Height:** Put cutting height adjustment pin in desired hole. Push mower lift pedal (1) forward and hold while pushing down on the lift lock (2). Slowly lower mower lift pedal (1) until deck lift contacts cutting height adjustment pin.

**NOTE:** See *STEERING LEVER HANDLE HEIGHT ADJUSTMENT* on page 28 to adjust the force required to lift the mower deck.

**Seat Adjustment Lever**

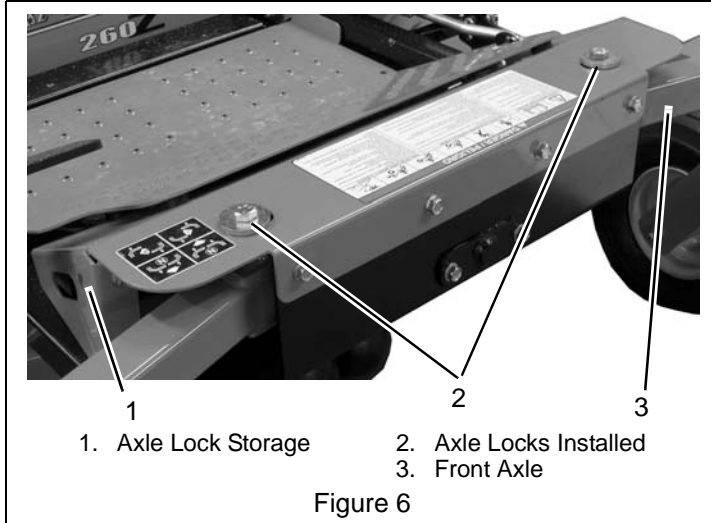
Pull lever out and slide seat to desired position. Release lever to lock seat into position.

**Seat Suspension Adjustment Knob**

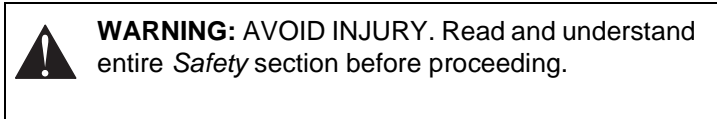
To make seat more firm turn knob clockwise. To make seat less firm turn knob counter clockwise.

## Axle Locks

For a solid front axle, install axle locks on front axle. For a pivoting front axle, remove axle locks from front axle and store on unit (figure 6).



## FILLING FUEL TANK



To add fuel to fuel tank:

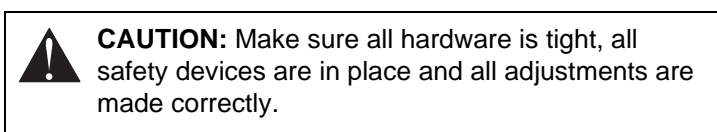
1. Place unit in an open or well-ventilated area.
2. Shut off engine and allow to cool.
3. Clean fuel cap and surrounding area to prevent dirt from entering fuel tank.
4. Remove fuel cap.

**IMPORTANT:** Refer to Engine Manual for correct type and grade of fuel or damage to the engine will occur. See *SPECIFICATIONS* on page 34 for fuel tank capacity.

**NOTE:** If unit runs out of fuel on diesel models (992121, 123, 125, 126, 136, 137, 138), the engine must be primed prior to starting the engine. Refer to Engine Manual for detailed instructions.

5. Fill fuel tank to within 1 in. (2.54 cm) below bottom of filler neck.
6. Replace fuel cap and tighten.
7. Clean up any spilled fuel.

## PRIOR TO STARTING THE UNIT



### 1. Check Safety Interlock System

If this system does not function as described do not operate until repairs are made.

### 2. Check Air Cleaner

Check air filter for dirt. Clean as required. Follow Engine Manual for maintenance schedule.

### 3. Check Engine Fuel and Engine Oil

Check and add fuel if required. Check that engine oil level is within operating range. Follow Engine Manual for maintenance schedule.

**NOTE:** If unit runs out of fuel on diesel models (992121, 123, 125, 126, 136, 137, 138), the engine must be primed prior to starting the engine. Refer to Engine Manual for detailed instructions.

### 4. Check Tire Pressure

See *SPECIFICATIONS* on page 34 for correct tire pressure.

### 5. Check Hydraulic Fluid Level

### 6. Adjust Seat

Be sure all controls can be reached safely from operator's position.

### 7. Set Cutting Height

Make sure the deck is set to the correct cutting height.

### 8. Check Radiator Screen (992113, 117, 121, 123, 124, 125, 126, 130, 134, 135, 136, 137, 138, 139)

Check radiator screen for debris see *MAINTENANCE SCHEDULE* on page 19 and refer to Engine Manual for detailed instructions.

## STOPPING IN AN EMERGENCY

Bring steering levers back to neutral, set parking brake, and turn off engine.

## STARTING AND SHUTTING OFF ENGINE

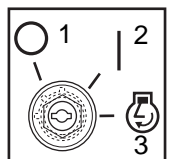
**NOTE:** DO NOT operate starter more than 15 seconds per minute, as overheating and damage can occur. If engine will not start, see *TROUBLESHOOTING* on page 31 or refer to Engine Manual.

**NOTE:** The engine will not start unless the steering control levers are in the neutral position, the PTO switch is in the off position, and parking brake is engaged.

**NOTE:** If unit runs out of fuel on diesel models (992121, 123, 125, 126, 136, 137, 138), the engine must be primed prior to starting the engine. Refer to Engine Manual for detailed instructions.

**To Start Gas Units** (992111, 113, 115, 117, 124, 127, 128, 129, 130, 131, 132, 133, 134, 135, 139, 145):

1. Insert ignition key.
2. Move choke control to the on position.
3. Move the throttle to 3/4 fast position.
4. Turn ignition key to Start (3) position.

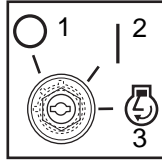


**NOTE:** If engine does not start in five seconds, release ignition key, wait, and then repeat. Once engine has started, ignition key will return to the Run (2) position.

5. Move the choke control to the off position when engine has warmed up.

**To Start Diesel Units** (992121, 123, 125, 126, 136, 137, 138):

1. Insert ignition key.
2. Move the throttle to 3/4 fast position.
3. Turn ignition key to Run (2) position. The glow plug light will come on for approximately 5 seconds.
4. When glow plug light goes out, turn ignition key Start (3) position.



**NOTE:** If engine does not start in five seconds, release ignition key, wait, and then repeat. Once engine has started, release ignition key and ignition key will return to the Run (2) position.

**To shut off:**

1. Disengage PTO.
2. Set parking brake.
3. Turn ignition key to Off (1) position.

## OPERATING MOWER

1. Start engine.
2. Move throttle lever to 3/4 to full speed.

**IMPORTANT:** Never engage the PTO if the mower is plugged with grass or other material.

3. Engage PTO to engage mower blades.
4. Move throttle lever to fast.
5. Release parking brake.

**WARNING:** Move the steering control levers slowly and keep the throttle control lever at slow speed until you learn how to operate the unit.

6. Use steering levers to move the unit.
7. Disengage PTO to stop mower blades.

## PARKING THE UNIT

1. Move steering levers to the neutral position. Shut off PTO.
2. Move throttle lever to the slow position.
3. Engage parking brake.

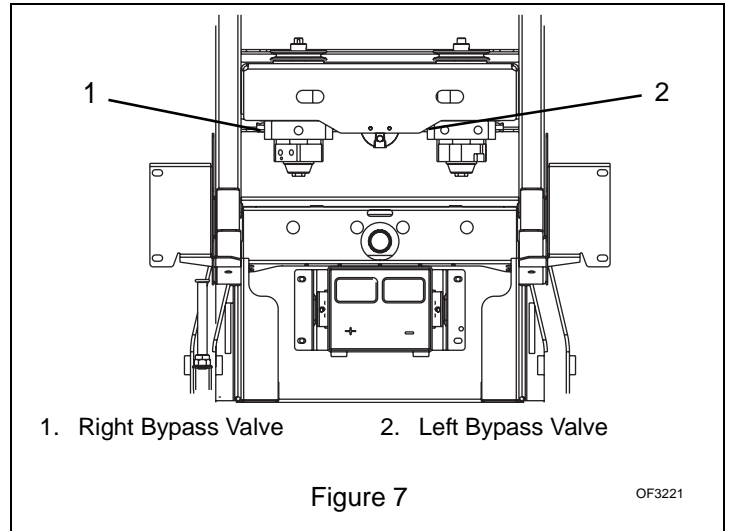
## MOVING UNIT MANUALLY

**IMPORTANT:** Never tow unit.

1. Place unit in the service position (see *SERVICE POSITION* on page 20).
2. Turn right and left bypass valves counterclockwise 1/2 turn (figure 7).

**WARNING:** Do not bypass transmission when on a slope.

3. Disengage parking brake.
4. Push unit to desired location.
5. Engage parking brake.
6. Turn right and left bypass valves clockwise 1/2 turn.



1. Right Bypass Valve 2. Left Bypass Valve

Figure 7

OF3221

## TRANSPORTING UNIT

ALWAYS shut off engine, set parking brake, and remove key when transporting unit on a truck or trailer. Tie unit down securely. Do not tie down by linkages, guards, cables or other parts that may be damaged.

## FOR BEST PERFORMANCE

Cut grass when it is dry.

Keep mower blades sharp.

Keep mower deck properly leveled.

Adjust anti-scalp rollers to prevent scalping.

Do not set height of cut too low. For very tall grass, mow twice.

Do not travel too fast.

Mow with the engine set at full throttle.

When mulching, only remove 1/3 of grass length per cutting.

Discharge clippings into areas already cut.

Vary cutting pattern with each mowing.

Do not allow grass or debris to collect inside of mower deck. Clean after each use.

# MAINTENANCE SCHEDULE



**WARNING:** AVOID INJURY. Read and understand entire *Safety* section before proceeding.

Proper maintenance can prolong the life of unit. The following chart shows the recommended service schedule. More frequent service may be required due to working conditions (heavy loads, high ambient temperatures, dusty conditions, or airborne debris).

See the maintenance instructions in the Engine Manual for additional information.

Interval	Task	Action
<b>Each Use</b>	<p>Check Safety Interlock System</p> <p>Check Parking Brake</p> <p>Check Hydraulic Oil Level</p> <p>Check Tires</p> <p>Clean Unit</p> <p>Follow Engine Maintenance Schedule</p> <p>Check Cooling System (992113, 117, 121, 123, 124, 125, 126, 130, 134, 135, 136, 137, 138, 139)</p>	<p> <b>WARNING:</b> Safety interlock system failure and improper operation of unit can result in death or serious injury. Test this system each time the unit is operated. If this system does not function as described, do not operate until repairs are made. See <i>Safety Interlock System</i> on page 15.</p> <p>Engage parking brake. Push unit. If unit rolls adjust parking brake (see <i>PARKING BRAKE ADJUSTMENT</i> on page 28).</p> <p>See <i>Checking Hydraulic Oil Level</i> on page 29.</p> <p>See <i>SPECIFICATIONS</i> on page 34 for correct tire pressure.</p> <p>Clean engine, battery, seat, mower deck, etc. of dirt and debris. Do not use solvents, hard cleaners, or abrasives.</p> <p><b>NOTE:</b> Protect painted surfaces with automotive type wax.</p> <p>Perform scheduled engine maintenance. Refer to Engine Manual for detailed instructions.</p> <p><b>IMPORTANT:</b> To avoid damaging the radiator, DO NOT USE high-pressure water to clean the radiator.</p> <p>Check cooling system for dirt and debris in radiator screen, oil cooler, hoses, fan, etc. Refer to Engine Manual for detailed instructions.</p>
<b>Every 25 Hours</b>	<p>Check Mower Blades</p>	<p>Ensure mower blade hardware is tightened to 115 – 125 lbf-ft. (156 – 169 N•m). Check mower blades for wear. Sharpen or replace mower blades as needed (see <i>SHARPENING MOWER BLADE</i> on page 22).</p>
<b>Every 50 Hours</b>	<p>Lubricate Front Axle and Pivot Points</p>	<p>Oil all pivot points, pin connections, and apply grease to front axle grease zerk (see <i>LUBRICATING UNIT</i> on page 21).</p>

Interval	Task	Action
<b>Every 100 Hours</b>	Clean Battery	Keep battery and battery terminals clean (see <i>Cleaning the Battery</i> on page 21).
	Check Fasteners	Check mower blade mounting hardware and all other fasteners. Replace missing or damaged fasteners. Tighten all nuts and bolts to their correct torque value.
	Check All Belts	Replace worn or deteriorated belts. <ul style="list-style-type: none"> <li>• Check mower drive belt. See <i>MOWER DRIVE BELT REMOVAL</i> on page 26 for belt location.</li> <li>• Check PTO belt. See <i>PTO BELT REMOVAL</i> on page 25 for belt location.</li> <li>• Check transmission belt. See <i>TRANSMISSION BELT REMOVAL (992111, 113, 115, 117, 124, 127, 128, 129, 130, 131, 132, 133, 134, 135, 139, 145)</i> on page 26 for belt location.</li> <li>• Check radiator fan belt. Refer to Engine Manual (992121, 123, 125, 126, 136, 137, 138).</li> </ul>
<b>Every 400 Hours</b>	Grease Front Axle Caster Pivots	Repack front axle caster pivots (see <i>LUBRICATING UNIT</i> on page 21).
<b>Every 500 Hours</b>	Change Hydraulic Oil and Filter	See <i>Changing Hydraulic Oil and Filter</i> on page 29.

## SERVICE AND ADJUSTMENTS

Gravely Dealers will provide any service which may be required to keep your unit operating at peak efficiency. Should engine service be required, it can be obtained from a Gravely Dealer or the engine manufacturer's authorized service center.



**WARNING:** AVOID INJURY. Read and understand entire *Safety* section before proceeding.



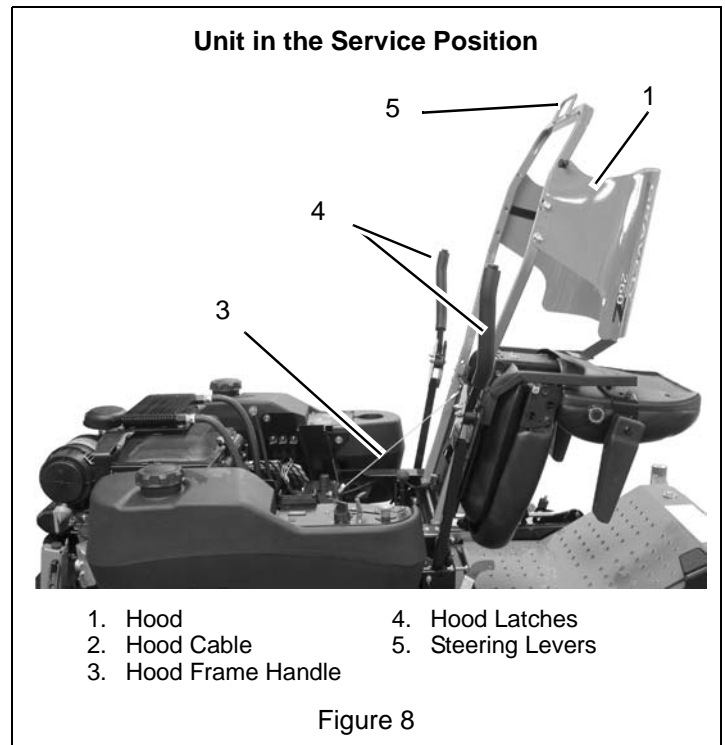
**CAUTION:** HOT SURFACES may result in injury. DO NOT touch engine or drive parts which are hot from operation. Allow parts to cool before servicing.

### SERVICE POSITION

**IMPORTANT:** Place unit on a flat level surface. ALWAYS shut off engine, set parking brake, and remove ignition key. Ensure unit is secure and will not tip over. When a lift is used, strap and clamp unit to the lift.

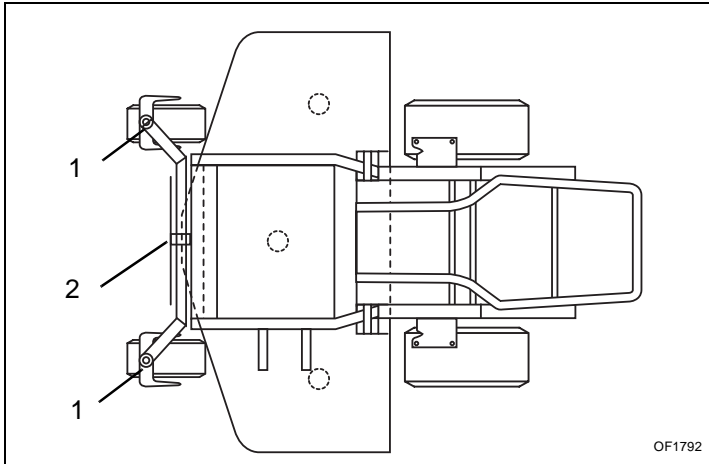
1. Place steering levers in neutral position and engage parking brake.
2. Unlatch the hood latches.

3. Using the hood frame handle, slowly lift the hood up until the hood cable is taut and is supporting the weight of the hood.





## LUBRICATING UNIT



OF1792

Item	Lubrication	Location	Interval
1	Repack	Front Axle Caster Pivot	400 hours
2	Grease	Front Axle Grease Zerk	50 hours
	Oil	All Pivot Points and Pin Connections	50 hours

Figure 9

**IMPORTANT:** Wipe front axle grease zerk and two front axle castor pivots clean before and after lubrication.

**NOTE:** Use Stens Mix Hi-Temp Grease or equivalent (part number 00036700).

## SERVICING THE BATTERY

**WARNING:** AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

**WARNING:** Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

**NOTE:** Unit comes equipped with a maintenance-free battery that requires no regular maintenance except cleaning the terminals.

### Battery Removal and Installation

#### Removal (Figure 10)

1. Place unit in the service position (see *SERVICE POSITION* on page 20).
2. Disconnect negative (-) cable first, then positive (+) cable.
3. Remove battery hold-down bracket and battery from unit.

#### Installation (Figure 10)

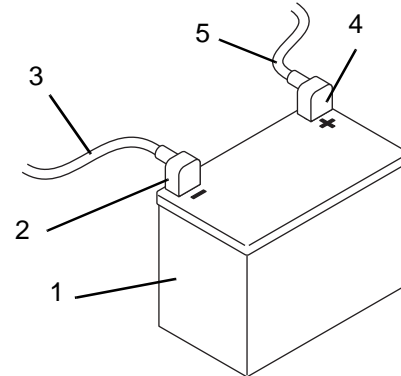
1. Install battery on unit with battery hold-down bracket.
2. Connect positive (+) cable first, then negative (-) cable.

3. Coat terminals with dielectric grease or petroleum jelly.
4. Close hood (see *SERVICE POSITION* on page 20).

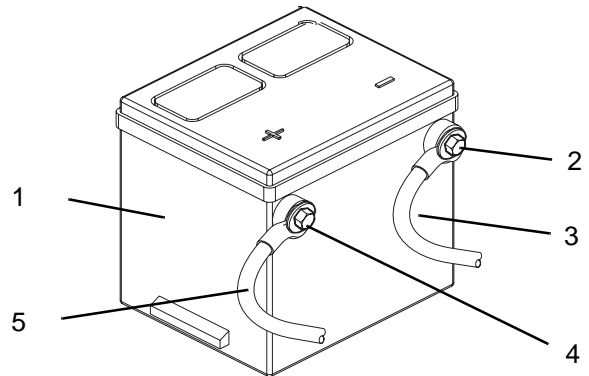
### Cleaning the Battery (Figure 10)

1. Disconnect negative (-) cable first, then positive (+) cable.
2. Clean battery cable ends and terminals with wire brush. Rinse with a weak baking soda solution.
3. Connect positive (+) cable first, then negative (-) cable.
4. Coat terminals with dielectric grease or petroleum jelly.

### Battery for models 992111, 113, 115, 117, 124, 127, 128, 129, 130, 131, 132, 133, 134, 135, 139, 145.



### Battery for models 992121, 123, 125, 126, 136, 137, 138.



1. Battery
2. Negative (-) Terminal
3. Negative (-) Cable
4. Positive (+) Terminal
5. Positive (+) Cable

Figure 10

OF3227

### Charging the Battery (Figure 10)

**WARNING: FROZEN BATTERIES CAN EXPLODE** and result in death or serious injury. DO NOT charge a frozen battery. Let battery thaw before charging.

Follow First Aid directions for contact with battery fluid.

- **External Contact:** Flush with water.

- **Eyes:** Flush with water for at least 15 minutes and get medical attention immediately!
- **Internal Contact:** Drink large quantities of water. Follow with Milk of Magnesia, beaten egg or vegetable oil. Get medical attention immediately!
- In case of internal contact, DO NOT induce vomiting!

**IMPORTANT:** DO NOT fast charge. Charging at a higher rate will damage or destroy battery. ALWAYS follow information provided on battery and battery charger. Contact battery manufacturer and battery charger manufacturer for detailed instructions.

1. Remove battery from unit (see *Battery Removal and Installation* on page 21).
2. Place battery on bench or other well-ventilated area.
3. Connect positive (+) lead of charger to positive (+) terminal, and negative (-) lead to negative (-) terminal.
4. Charge battery according to the instructions from battery charger manufacturer and battery manufacturer.
5. Install battery on unit (see *Battery Removal and Installation* on page 21).

### Jump-Starting

Gravely does not recommend jump-starting your unit. Jump-starting can damage engine and electrical system components. See your Engine Manual for more detailed information.

### MOWER BLADE REMOVAL

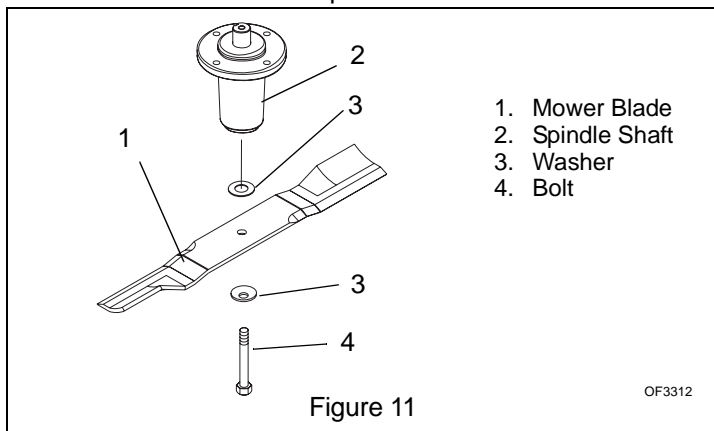
**NOTE:** If mower is used under sandy soil conditions, replace mower blades when air lifts become eroded through at ends (figure 12).

#### Removal (Figure 11)



**CAUTION:** Mower blades are sharp and can cut you. Wrap mower blades or wear gloves, and use extra caution when servicing.

1. Block mower blades to prevent rotation.



2. Remove bolts, washers, and mower blades from spindle shafts.

#### Installation (Figure 11)

1. Install mower blades, washers, and bolts on spindle shafts.

2. Tighten bolts to 115-125 lbf-ft (156-169 N•m).

### SHARPENING MOWER BLADE

**NOTE:** If mower is used under sandy soil conditions, replace mower blades when air lifts become eroded through at ends (figure 12).



**CAUTION:** DO NOT sharpen mower blades while on unit. An unbalanced mower blade will cause excessive vibration and eventual damage to unit. Check mower blade balance before reinstalling blades.

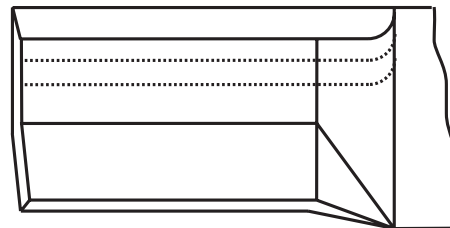
NEVER weld or straighten bent blades.

1. Remove mower blade from unit.

Discard mower blade if (figure 12):

- More than 1/2 in. (1.27 cm) of metal is removed.
- Air lifts become eroded.
- Blade is bent or broken.

DO NOT Sharpen To This Pattern



Sharpen To This Pattern

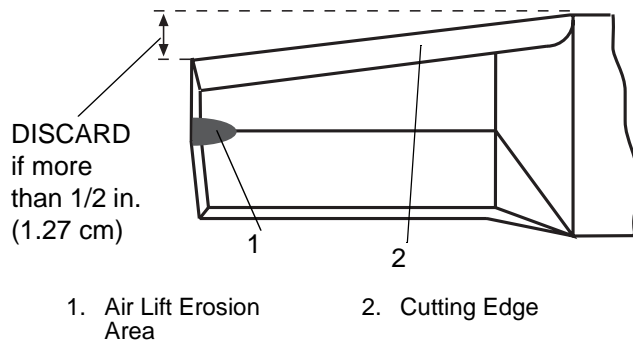


Figure 12

OF3310

2. Sharpen mower blade by removing an equal amount of material from each end of mower blade. DO NOT change angle of cutting edge or round the corner of mower blade.
3. Check mower blade balance. Slide mower blade on an unthreaded bolt. A balanced blade should remain in a horizontal position. If either end of mower blade moves downward, sharpen the heavy end until blade is balanced.
4. Install mower blade on unit.

## ANTI-SCALP ROLLER ADJUSTMENT

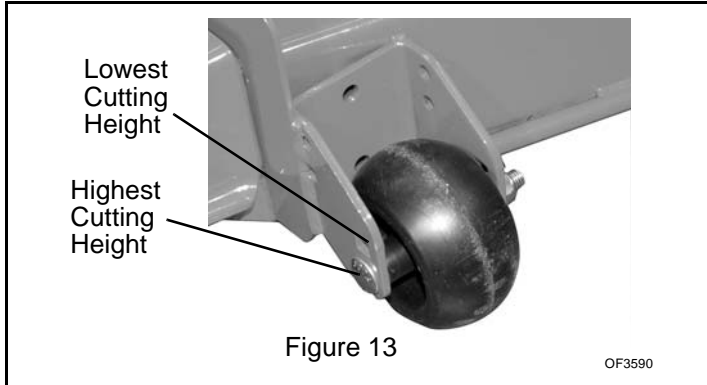
The anti-scalp rollers are set at the factory for typical mowing height, but can be adjusted for high or low cutting conditions (figure 13).

Anti-Scalp rollers are intended to prevent lawn scalping, not to control cutting height.

For a very high cutting height, set the anti-scalp rollers in the lowest position on the bracket.

For a very low cutting height, set the anti-scalp rollers in the highest position on the bracket.

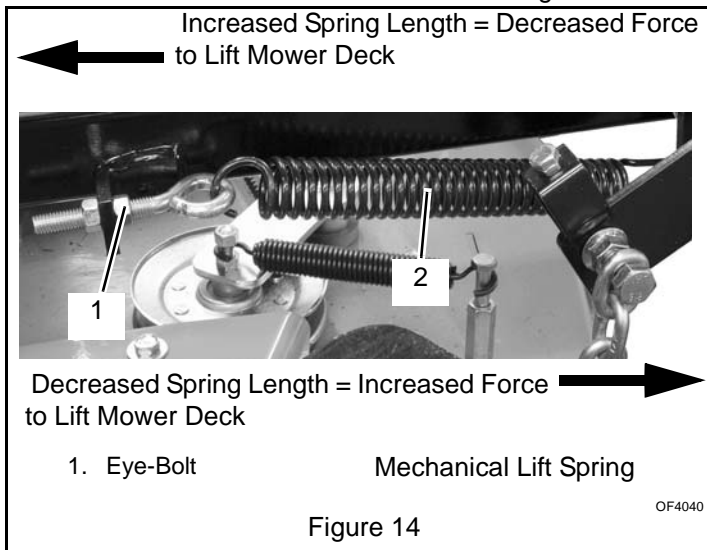
**NOTE:** There are four anti-scalp rollers on the outside of the mower deck and two anti-scalp rollers on the inside of the mower deck. Make sure all anti-scalp rollers are set at the same height.



## MOWER LIFT PEDAL ADJUSTMENT (992111, 113, 115, 117, 121, 125, 127, 130, 131, 134, 136, 145)

The mower lift pedal can be adjusted to decrease or increase the amount of force required to lift the mower deck.

**NOTE:** Decreasing the amount of force required to lift the mower deck will increase the mower deck's bouncing. Increasing the amount of force required to lift the mower deck will decrease the mower deck's bouncing.



**IMPORTANT:** Adjust the mechanical lift spring on each side of the unit to the same length.

- Adjust the eye-bolt to increase the length of the mechanical lift spring which will decrease the amount of force required to lift the mower deck.
- Adjust the eye-bolt to decrease the length of the mechanical lift spring which will increase the amount of force required to lift the mower deck.

## MOWER DECK REMOVAL

**⚠ DANGER:** MOVING PARTS can cut or amputate body parts. ALWAYS wait for moving parts to stop before performing maintenance or service.

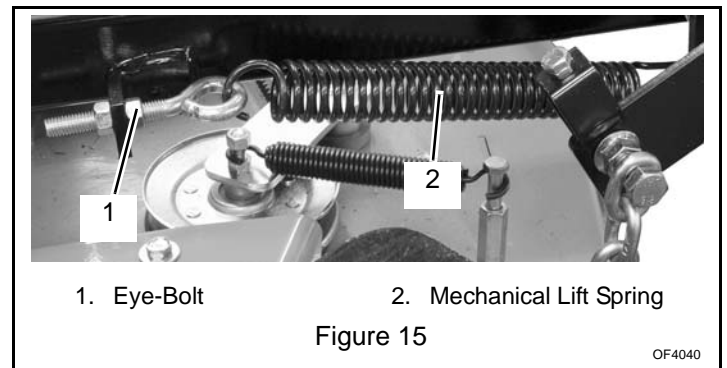
**NOTE:** Only remove PTO belt from electric clutch.

1. Remove PTO belt from electric clutch (see *PTO BELT REMOVAL* on page 25).

**NOTE:** Perform steps 2 and 3 for mechanical lift mower decks only (992111, 113, 115, 117, 121, 125, 127, 130, 131, 134, 136, 145).

**⚠ CAUTION:** Use care when releasing mechanical lift spring tension. Keep body parts well away from springs when performing this operation.

2. Raise mower deck to transport position (see *Mower Lift Pedal* (992111, 113, 115, 117, 121, 125, 127, 130, 131, 134, 136, 145) on page 16).
3. Remove mechanical lift spring from each side of unit (figure 15).



4. Lower mower deck all the way down.
5. Remove link chains from mower lift arms (figure 16).
6. Remove mower mounting arms from frame.
7. Slide mower deck out from under unit.

## Installing the Mower Deck (figure 16)

1. Slide mower deck under unit.
2. Install mower mounting arms on frame.
3. Install link chains on the mower lift arms.

**NOTE:** Perform steps 4 and 5 for mechanical lift mower decks only (992111, 113, 115, 117, 121, 125, 127, 130, 131, 134, 136, 145).

4. Raise mower deck to transport position (see *Mower Lift Pedal* (992111, 113, 115, 117, 121, 125, 127, 130, 131, 134, 136, 145) on page 16).
5. Install mechanical lift spring on each side of unit (Figure 15).

6. Install PTO belt on electric clutch (see *PTO BELT REMOVAL* on page 25).
7. Level mower deck (see *Leveling the Mower Deck* on page 24).

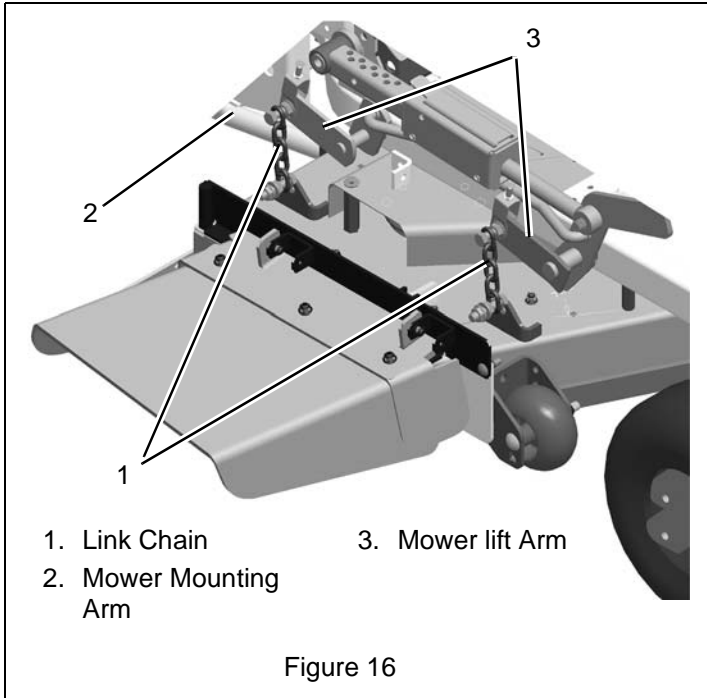


Figure 16

### Leveling the Mower Deck

These adjustments should be made on a level surface with the tires inflated to the correct air pressure.

#### Check Blade Level and Pitch

1. Raise mower deck to a 3 in. (7.62 cm) cutting height.
2. Shut off engine. Engage parking brake. Remove the ignition key.

**NOTE:** Place blocks under the bottom edge of the deck, not under the reinforcement bar welded along deck face.

3. Place blocks at each corner of the deck to support the weight of the deck.
4. Turn the blades so the blade ends point left to right across the width of the deck.
5. Measure the distance between the ground and cutting edge of the blade on the left blade (Left position in figure 17) and on the right blade (Right position in figure 17). Distances should be within 3/16 in. (4.7 mm). If they are not, raise the low side of the deck using the height adjusters on the deck lift brackets (see figure 18).
6. After deck is level side to side, check the deck front to back pitch.
7. Turn the blades so the blade ends point front to back as shown in figure 17.
8. Measure the distance between the ground and the cutting edge of the middle blade at the front of the deck (Front position in figure 17) and between the ground the cutting edge of the left and right blades at the rear of the deck (Rear position in figure 17).

9. The cutting edge at the front of the deck (Front position in figure 17) should be 1/8 in. (3.18 mm) lower than the cutting edges at the rear of the deck (Rear position in figure 17).
10. If measurements are out of range, raise the low side of the deck using the height adjusters on the deck lift brackets (see figure 18). Be sure to raise the deck evenly to keep the deck level side to side.

**NOTE:** Pitching the front of the blades lower than the rear provides a balance between cut quality and the power needed to cut grass. Certain cutting conditions require the deck to be pitched with the rear of the blades lower than the front. Heeling the deck this way requires more engine power but can provide better cut quality.

11. Remove the blocks from under the deck.

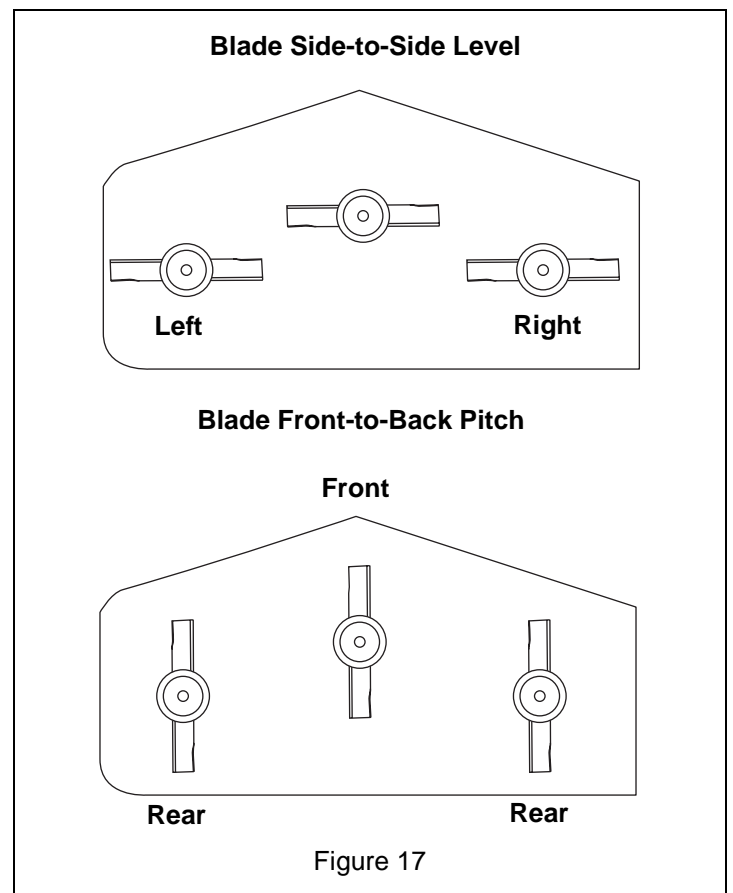
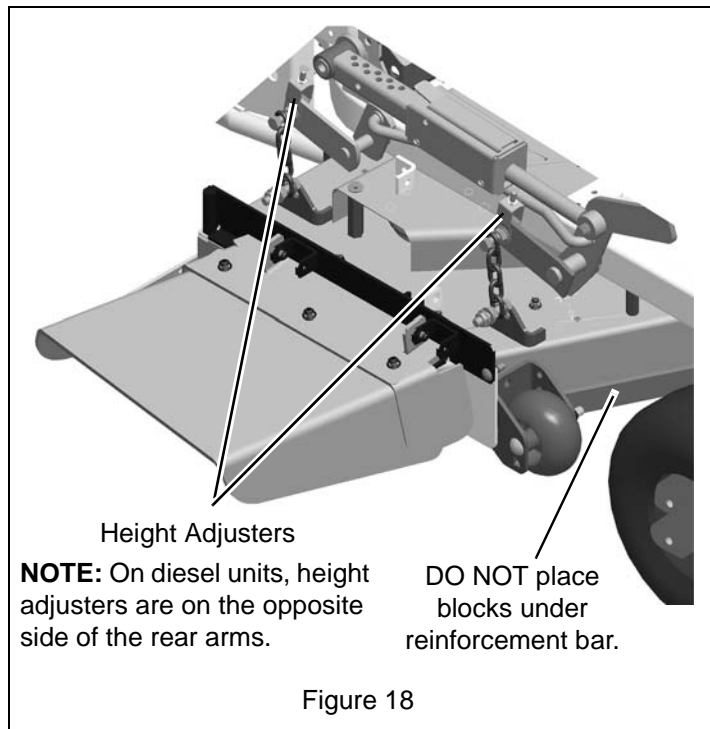


Figure 17

### Adjust Blade Height

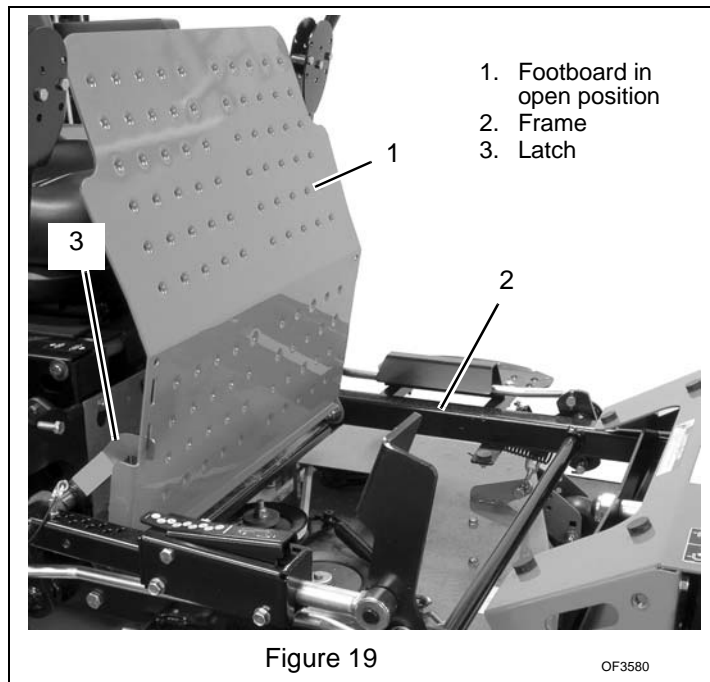
Level and pitch the mower with the height adjusters on each deck lift bracket (figure 18).

Loosen the jam nut on the deck lift bracket bolt about 1/4 turn to reduce clamp load on the height adjusters. Loosen the jam nut on the deck adjuster bolt and then turn the bolt clockwise to raise the deck or counterclockwise to lower the deck. Tighten both jam nuts.



## MOWER DRIVE BELT AND PTO BELT ACCESS

1. Lower the mower deck.
2. Place seat in most rearward position.
3. Place foot board in open position (figure 19).
4. Secure raised footboard with latch.



## PTO BELT REMOVAL



**WARNING:** MOVING PARTS can cut or amputate body parts. ALWAYS wait for moving parts to stop before performing maintenance or service.



**CAUTION:** DAMAGED OR WORN BELTS may result in injury and/or damage to unit. Check belts for excessive wear or cracks often.

**NOTE:** On XDZ models (992111, 113, 115, 117, 121, 123, 124, 125, 126), the Ogura electric clutch can be adjusted if the clutch starts to slip. Contact your Gravely dealer for this adjustment.

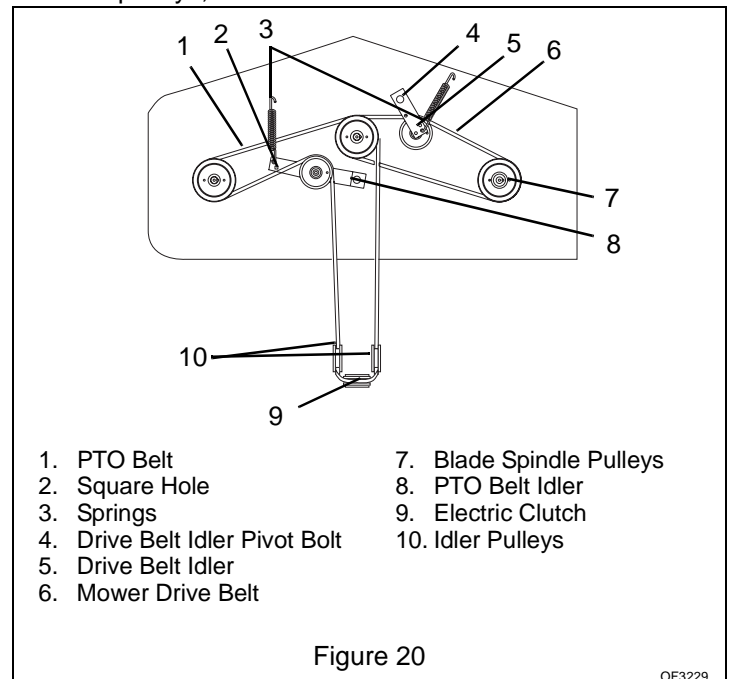
## Removal (Figure 20)

1. Open footboard (see *MOWER DRIVE BELT AND PTO BELT ACCESS* on page 25)
2. Remove left hand belt cover from mower deck.



**CAUTION:** Use care when releasing idler spring tension. Keep body parts well away from idlers when performing this operation.

3. Place 1/2-inch driver and ratchet extension into square hole in PTO belt idler.
4. While pulling PTO belt idler towards rear of unit, remove PTO mower belt from PTO belt idler.
5. Slowly release tension on PTO belt idler until all tension is removed from springs.
6. Remove PTO mower belt from blade spindle pulleys, idler pulleys, and electric clutch.

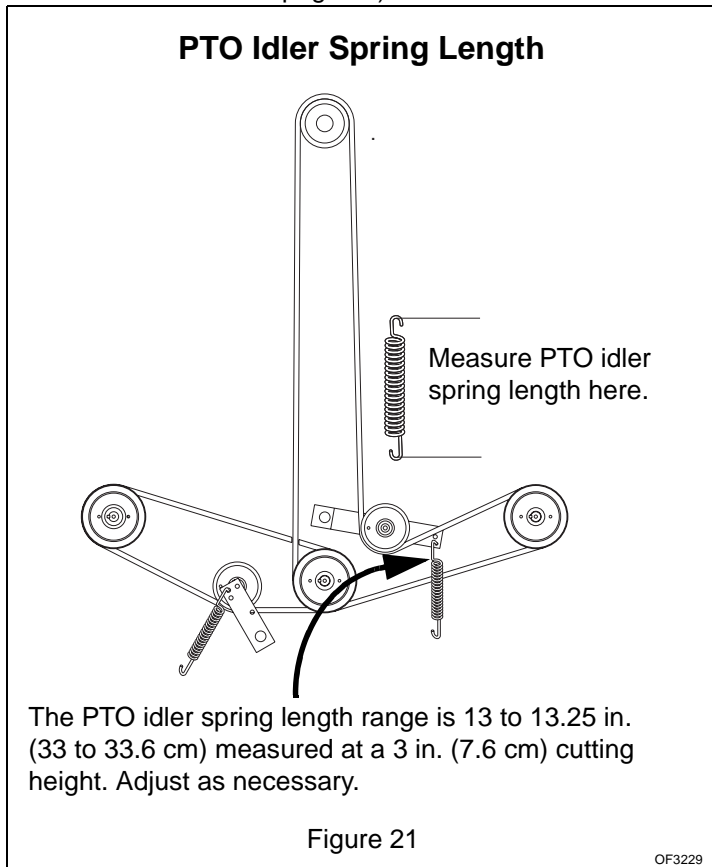


## Installation (Figure 20)

1. Install the new PTO belt on electric clutch, idler pulleys, and blade spindle pulleys.
2. Place 1/2-inch driver and ratchet extension into square hole in PTO belt idler.
3. While pulling PTO belt idler towards the rear of unit, install PTO mower belt on PTO belt idler.
4. Slowly release the tension until PTO belt idler is firmly against PTO belt.

**NOTE:** The PTO idler spring length range is 13 to 13.25 in. (33 to 33.6 cm) measured at a 3 in. (7.6 cm) cutting height. Adjust the idler spring length as needed, see figure 21.

5. Install belt guard on rear of unit.
6. Install left hand belt cover on mower deck.
7. Close footboard (see *MOWER DRIVE BELT AND PTO BELT ACCESS* on page 25).



## MOWER DRIVE BELT REMOVAL

### Removal (Figure 20)

**NOTE:** The PTO belt must be removed from blade spindle pulleys prior to removing mower drive belt. The PTO belt does not need to be removed from electric clutch.

1. Remove PTO belt from blade spindle pulleys (see *PTO BELT REMOVAL* on page 25).
2. Remove mower drive belt from right blade spindle pulley and then from center blade spindle pulley.
3. Loosen drive belt idler pivot bolt just enough to gain clearance to remove mower drive belt from under drive belt idler.
4. Remove mower drive belt from unit.

### Installation (Figure 20)

1. Install the new mower drive belt on center blade spindle pulley, right blade spindle pulley, and drive belt idler.
2. Tighten drive belt idler pivot bolt.
3. Install PTO belt on blade spindle pulleys (see *PTO BELT REMOVAL* on page 25).

## TRANSMISSION BELT REMOVAL (992111, 113, 115, 117, 124, 127, 128, 129, 130, 131, 132, 133, 134, 135, 139, 145)

### Removal (Figure 22)

1. Remove PTO belt from electric clutch (see *PTO BELT REMOVAL* on page 25).

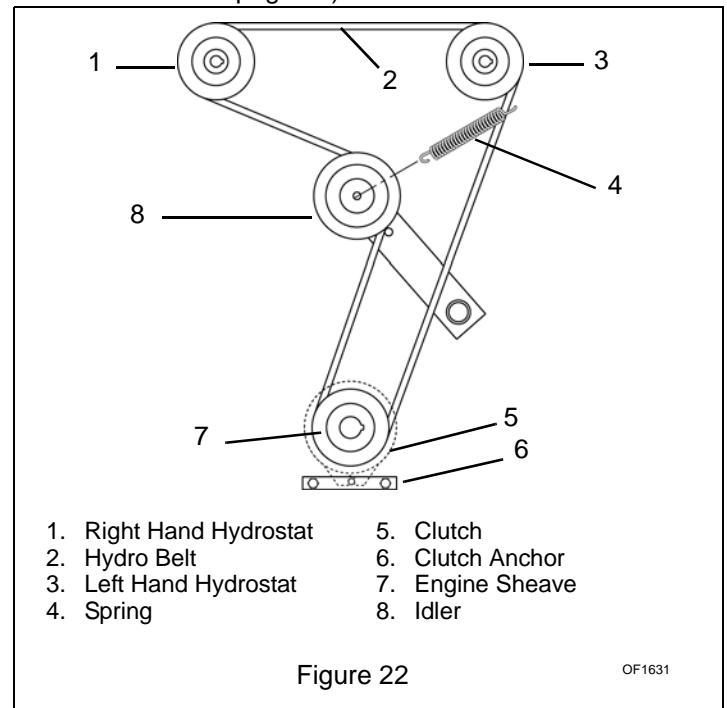


**CAUTION:** Use care when releasing idler spring tension. Keep body parts well away from idlers when performing this operation.

2. Remove clutch anchor.
3. Slowly release the tension on the hydro pump belt idler until all the tension is removed from the springs.
4. Remove old hydro pump belt from right hand hydrostat sheave first.

### Installation (Figure 22)

1. Install new hydro pump belt by positioning belt on sheaves. Put belt onto right hand hydrostat sheave last.
2. Replace clutch anchor.
3. Install PTO belt on electric clutch (see *PTO BELT REMOVAL* on page 25).



## TRANSMISSION BELT REMOVAL (992121, 123, 125, 126, 136, 137, 138)

### Removal (Figure 23)

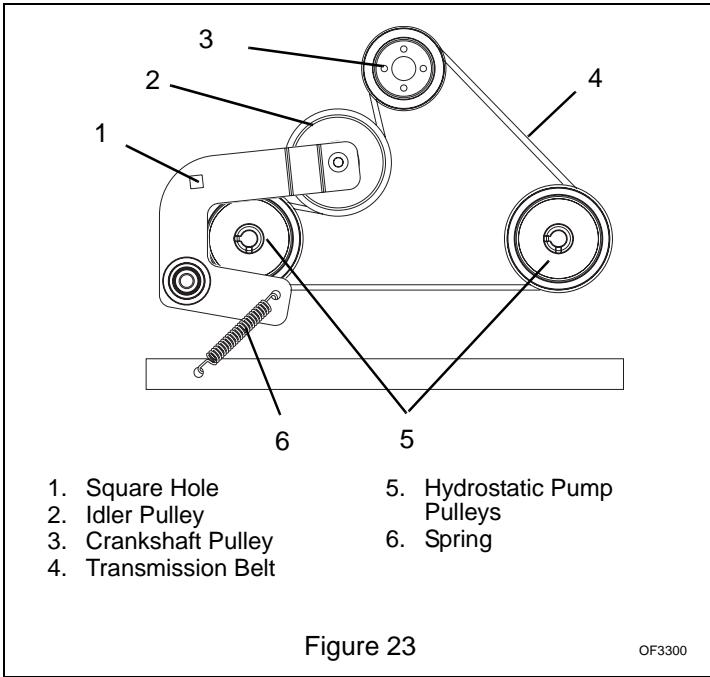
**NOTE:** A 1/2-inch ratchet driver is needed to remove transmission belt.

1. Place unit in the service position (see *SERVICE POSITION* on page 20).



**CAUTION:** Use care when releasing idler spring tension. Keep body parts well away from idler when performing this operation.

- Place a 1/2-inch ratchet driver into square hole in idler pulley.



- |                      |                             |
|----------------------|-----------------------------|
| 1. Square Hole       | 5. Hydrostatic Pump Pulleys |
| 2. Idler Pulley      | 6. Spring                   |
| 3. Crankshaft Pulley |                             |
| 4. Transmission Belt |                             |

Figure 23

OF3300

- While pulling idler pulley away from unit, remove transmission belt from idler pulley.
- Slowly release the tension on idler pulley until all the tension is removed from spring.
- Remove transmission belt from crankshaft pulley and two hydrostatic pump pulleys.

### Installation (Figure 23)

- Install the new transmission belt on two hydrostatic pump pulleys and crankshaft pulley.
- Place 1/2-inch ratchet driver into square hole in idler pulley.
- While pulling idler pulley away from unit, install transmission belt on idler pulley.
- Slowly release the tension until idler pulley is firmly against transmission belt.

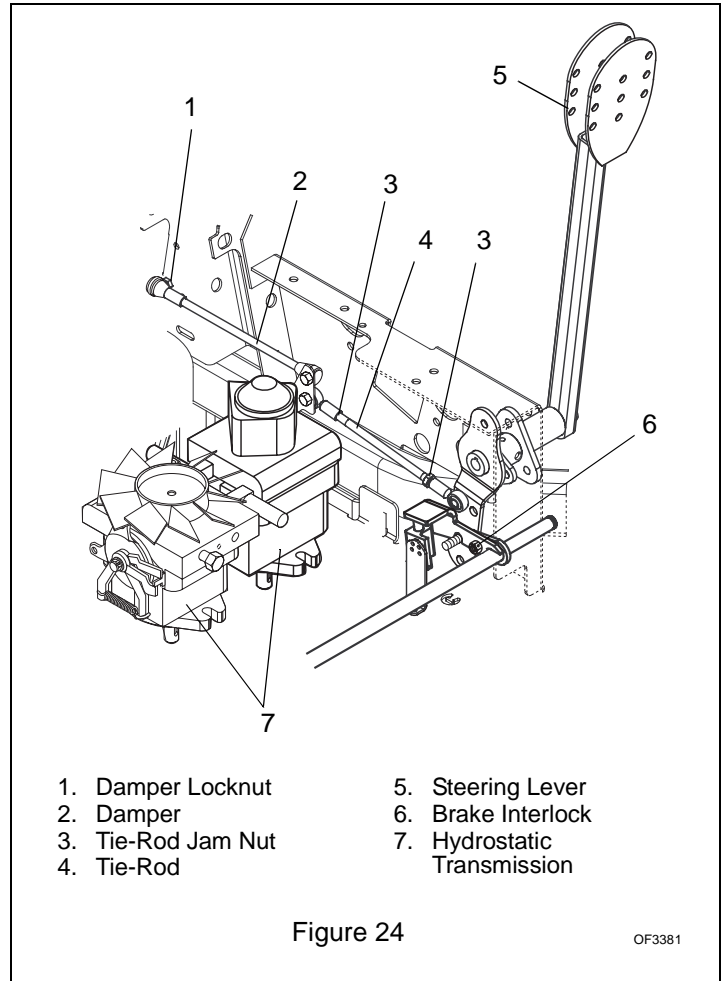
## STEERING CONTROL NEUTRAL ADJUSTMENT

If the steering levers do not line up (match) or the unit has excessive creeping when the steering levers are in neutral, adjust as follows.

### Adjusting the Steering Levers to Line Up (Match) (Figure 24)

- Shut off engine. Engage parking brake. Remove the ignition key.
- Place unit in the service position (see *SERVICE POSITION* on page 20).
- Loosen damper locknut on the same side as the steering lever to be adjusted.
- Loosen brake interlock on the same side as steering lever to be adjusted.
- Loosen tie rod jam nut and turn tie rod until steering levers are aligned.

- Tighten jam nut on tie rod, tighten brake interlock and tighten damper locknut.



- |                    |                             |
|--------------------|-----------------------------|
| 1. Damper Locknut  | 5. Steering Lever           |
| 2. Damper          | 6. Brake Interlock          |
| 3. Tie-Rod Jam Nut | 7. Hydrostatic Transmission |
| 4. Tie-Rod         |                             |

Figure 24

OF3381

### Eliminating Excessive Creeping of the Unit (Figure 24)



**WARNING:** This adjustment requires operating the engine and opening the hood. Use extreme care to avoid contact with moving parts and hot surfaces. Be sure rear of unit is well supported and secure before starting engine.

- If hydraulic system is cold, run unit for a minimum of five minutes, then shut off engine.
- With the unit up to and facing a wall, jack the unit up so that both drive wheels are off the ground.
- Start the engine and release the parking brake.
- Move the steering levers from Forward to Reverse several times to make sure controls are free. Then return steering levers to neutral position.
- Check wheel(s) for movement.
- Shut off engine.

**NOTE:** The right and left steering levers are adjusted the same way. To access the tie-rod, place unit in the service position.

- Adjust tie-rod(s):

If the wheel is moving in a forward direction:

- a. Loosen the jam nut on each end of the tie-rod.
- b. Turn tie-rod counterclockwise (lengthening the distance between the steering lever and hydrostatic transmission) several times.

If the wheel is moving in a reverse direction:

- a. Loosen the jam nut on each end of the tie-rod.
- b. Turn tie-rod clockwise (decreasing the distance between the steering lever and hydrostatic transmission) several times.

8. Start engine.
9. Move steering levers from Forward to Reverse several times. Then return steering levers to neutral position.
10. Shut off engine.
11. If wheel is not moving, tighten jam nuts on tie-rod. The adjustment is complete.
12. If wheel is still moving, repeat steps 7 through 12.

## ADJUSTING UNIT TO TRACK STRAIGHT



**WARNING:** Prior to adjusting the tracking of the unit, shut off engine, engage parking brake, and remove the ignition key.

Check and adjust tire pressure. Increase pressure on side unit tracks to. DO NOT exceed maximum recommended tire pressure. See *SPECIFICATIONS* on page 34 for correct tire pressure.

If tire pressure adjustment does not solve tracking problem, adjust the limiter bolts on the stop bracket (figure 25). Front bolts adjust forward and rear bolts adjust reverse. Lengthen the limiter bolt (move closer to lever) on side which is too fast.

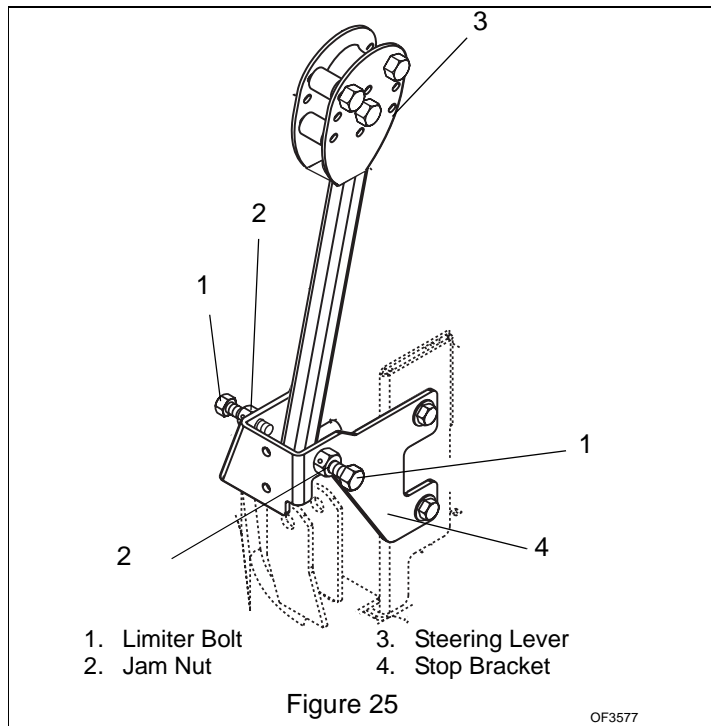


Figure 25

OF3577

## STEERING LEVER HANDLE HEIGHT ADJUSTMENT

The handles have three height positions (figure 26).

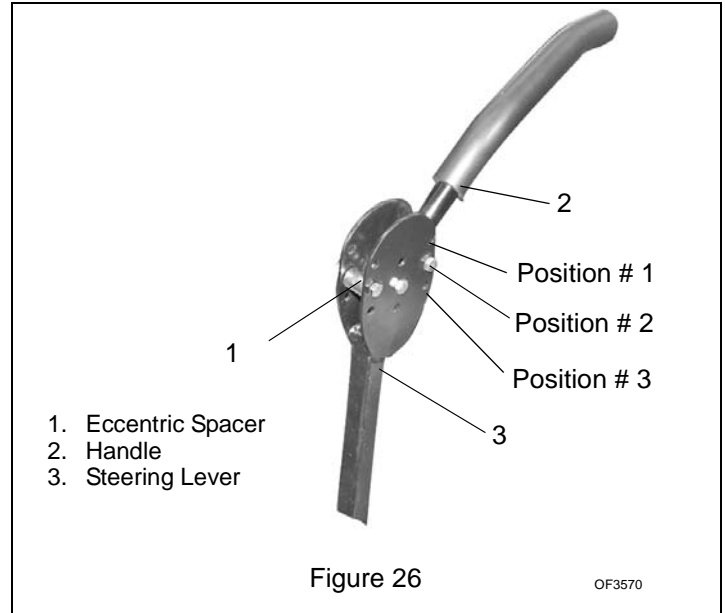


Figure 26

OF3570

1. Remove spacer, handle, and eccentric spacer from steering lever.

**NOTE:** Position the right and left handles at the same height.

2. Install spacer, handle, and eccentric spacer in the appropriate height position. Do not tighten nut holding eccentric spacer.
3. Turn eccentric spacer until the right and left handles are the same height. Tighten nut.

## PARKING BRAKE ADJUSTMENT

The parking brake might need adjustment over time and after new brake pads have been installed.

**NOTE:** After installing new brake pads in calipers, they must be burnished by driving for a short distance (about 100 feet) with the brake on. To do this, bring parking brake lever part-way up while driving normally (in a straight line).

### Check Adjustment

**NOTE:** Be sure to check parking brake on both sides of unit (figure 27).

**NOTE:** The clearance between jam nuts and trunnion should be:

- 1-1/2 in. (3.81 cm) for models with serial numbers below 000500.
- 1-1/4 in. (3.2 cm) for models with serial numbers 000500 and above.

### Adjusting the parking brake

1. Engage parking brake.
2. Turn jam nuts counterclockwise until the spring is completely extended and there is no pressure on the spring.



3. Measure the spring length. Depending on the model, the extended spring length may be 1-3/4 in. (4.4 cm) or 2 in. (5.1 cm).

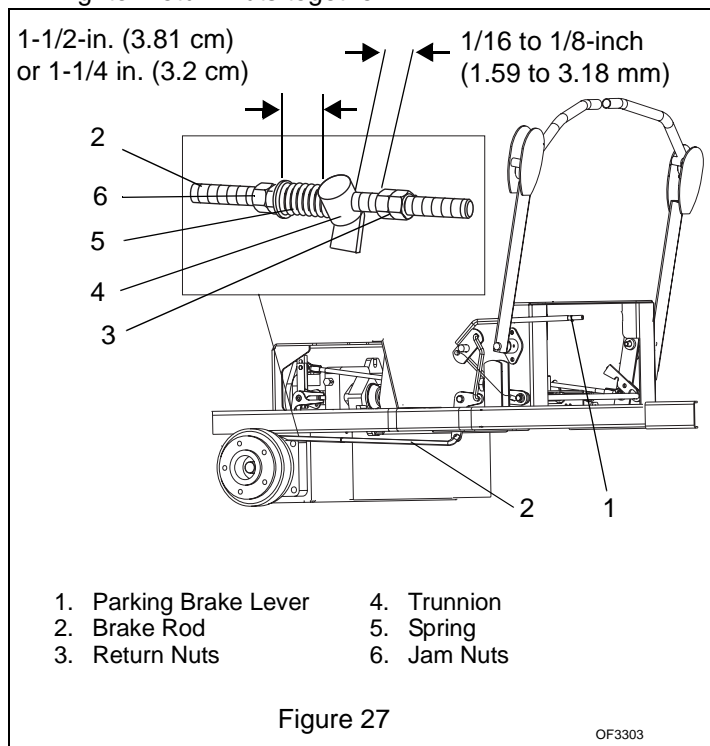
4. Compress the spring 1/2 in. (1.3 cm) by turning the jam nuts clockwise.

**NOTE:** The clearance between jam nuts and trunnion should be 1-1/2 in. (3.81 cm) or 1-1/4 in. (3.2 cm).

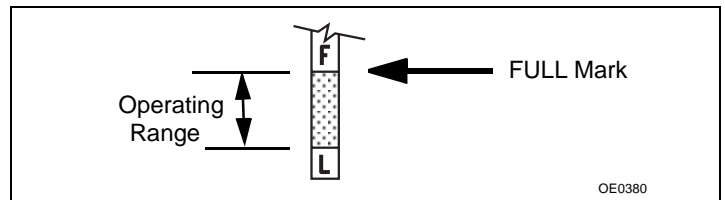
5. Tighten jam nuts together.

6. Turn return nuts clockwise to decrease the distance or counter clockwise to increase the distance until there is 1/16 to 1/8 in. (1.59 to 3.18 mm) between return nuts and trunnion.

7. Tighten return nuts together.



## Checking Hydraulic Oil Level



1. Start the unit and run it to operating temperature (about 10 minutes).
2. Cycle the control levers forward and backward two or three times.
3. For units equipped with a hydraulic deck lift, raise and lower the deck completely two or three times.
4. Shut off engine. Engage parking brake. Remove the ignition key.
5. Place unit in the service position (see *SERVICE POSITION* on page 20).
6. Remove any dirt that may be around the cap/dipstick on the hydraulic reservoir.
7. Remove cap/dipstick.
8. Check hydraulic oil level mark on cap/dipstick.
9. Add Mobile 1 Extended Performance 15W50 as needed. Do not overfill.

## Changing Hydraulic Oil and Filter

**NOTE:** Change the hydraulic oil filter and hydraulic oil every 500 hours. Use Mobil 1 Extended Performance 15W50 Synthetic Oil for best component life.

1. Clean around dipstick cap and dipstick. Remove dipstick.
2. Place container under oil filter to catch oil.
3. Remove oil filter.
4. Allow tank to drain.
5. Lubricate rubber gasket on new oil filter with clean hydraulic oil.
6. Spin new oil filter onto filter housing until it makes contact. Tighten oil filter another 1/2 turn.
7. Add new oil to the oil tank. It will take about 4 quarts (4 liters). Use Mobil 1 Extended Performance 15W50 Synthetic Oil for best pump and wheel motor life.
8. Check hydraulic oil level.
9. Properly dispose of waste oil.

## HYDRAULIC OIL SYSTEM



**WARNING:** HYDRAULIC FLUID can result in severe burns. Fluid in hydraulic system can penetrate skin and result in serious injury or death. Be sure to stop the engine before doing any work on hydraulic parts.

Keep body and hands away from pin holes or nozzles which expel hydraulic fluid when under pressure. Use paper or cardboard, not hands, to search for leaks.

Ensure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to system.

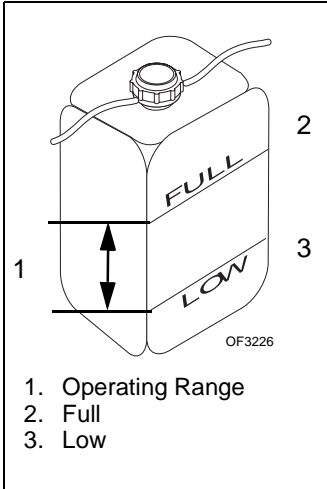
FOREIGN FLUID INJECTED INTO BODY can result in gangrene. Fluid must be surgically removed within a few hours by a doctor familiar with this form of injury.

## COOLING SYSTEM (992113, 117, 121, 123, 124, 125, 126, 130, 134, 135, 136, 137, 138, 139)

### Checking Coolant Level



**WARNING:** To avoid personal injury DO NOT remove radiator cap when engine is hot. Check coolant level at coolant reservoir, not at radiator.



Check coolant level when engine is cold. Check coolant level at overflow reservoir.

1. Place unit in the service position (see *SERVICE POSITION* on page 20).
2. Check coolant reservoir. Coolant should be between the low and full marks with engine cold.
3. If coolant is below the low mark, remove cap, and add coolant to the full mark. Refer to Engine Manual for the correct type of coolant.

### Changing Coolant

Refer to Engine Manual for the correct procedure on when and how to change the coolant.

## STORAGE



**WARNING:** AVOID INJURY. Read and understand entire *Safety* section before proceeding.

### SHORT TERM

NEVER spray unit with high-pressure water or store unit outdoors.

Inspect unit for visible signs of wear, breakage or damage. Keep all nuts, bolts and screws properly tightened and know unit is in safe working condition.

Store unit in a cool, dry protected area.

### LONG TERM

Clean unit thoroughly with mild soap and low pressure water and lubricate (see *LUBRICATING UNIT* on page 21). Touch up all scratched painted surfaces.

Remove weight from wheels by putting blocks under frame or axle.

When storing unit for extended periods of time, remove all fuel from the tank, start up the engine, and run the unit out of gas. Refer to Engine Manual.

Clean and charge the battery. Charge battery every three to four weeks when storing unit.

## TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	CORRECTION
<b>Engine does not crank.</b>	<ol style="list-style-type: none"> <li>1. PTO engaged.</li> <li>2. Parking brake disengaged.</li> <li>3. Loose or corroded battery cables.</li> <li>4. Discharged battery.</li> <li>5. Faulty starter.</li> </ol>	<ol style="list-style-type: none"> <li>1. Disengage PTO.</li> <li>2. Engage parking brake.</li> <li>3. Clean and tighten battery cables (see <i>SERVICING THE BATTERY</i> on page 21).</li> <li>4. Charge battery (see <i>Charging the Battery (Figure 10)</i> on page 21).</li> <li>5. See your Gravely Dealer.</li> </ol>
<b>Engine cranks but does not start.</b>	<ol style="list-style-type: none"> <li>1. Fuel tank empty.</li> <li>2. Faulty spark plug (992111, 115, 127, 128, 129, 131, 132, 133, 145).</li> <li>3. Air cleaner is plugged or dirty.</li> <li>4. Fuel filter is dirty.</li> <li>5. Faulty fuel pump.</li> <li>6. Faulty engine.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill fuel tank (see <i>FILLING FUEL TANK</i> on page 17).</li> <li>2. Replace spark plug. Refer to Engine Manual.</li> <li>3. Clean or replace air cleaner. Refer to Engine Manual.</li> <li>4. Clean or replace fuel filter. Refer to Engine Manual.</li> <li>5. Refer to Engine Manual or see your Gravely Dealer.</li> <li>6. Refer to Engine Manual or see your Gravely Dealer.</li> </ol>
<b>Oil pressure light is on for models (992111, 115, 121, 123, 125, 126, 127, 128, 129, 131, 132, 133, 136, 137, 138, 145).</b>	<ol style="list-style-type: none"> <li>1. Oil pressure is low.</li> </ol>	<ol style="list-style-type: none"> <li>1. Refer to Engine Manual.</li> </ol>
<b>Fuel/Water separator light is on for models (992121, 123, 125, 126, 136, 137, 138).</b>	<ol style="list-style-type: none"> <li>1. Fuel/water separator filter dirty or damaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean or replace fuel/water separator filter. Refer to Engine Manual.</li> </ol>
<b>Water temperature gauge is reading above normal (engine is overheating) for models 992121, 123, 125, 126, 136, 137, 138.</b>	<ol style="list-style-type: none"> <li>1. Engine oil level low.</li> <li>2. Coolant level low.</li> <li>3. Radiator plugged with debris.</li> <li>4. Faulty radiator.</li> </ol>	<ol style="list-style-type: none"> <li>1. Add engine oil. Refer to Engine Manual.</li> <li>2. Add coolant (see <i>Checking Coolant Level</i> on page 30).</li> <li>3. Clean radiator. Refer to Engine Manual.</li> <li>4. See your Gravely dealer.</li> </ol>
<b>Oil Pressure / Coolant Temperature Light is on for models 992113, 117, 124, 130, 134, 135, 139.</b>	<ol style="list-style-type: none"> <li>1. Engine oil level low.</li> <li>2. Coolant level low.</li> <li>3. Radiator plugged with debris.</li> <li>4. Faulty radiator.</li> </ol>	<ol style="list-style-type: none"> <li>1. Refer to Engine Manual.</li> <li>2. Add coolant (see <i>Checking Coolant Level</i> on page 30).</li> <li>3. Clean radiator. Refer to Engine Manual.</li> <li>4. See your Gravely dealer.</li> </ol>
<b>Charging system light is on (992121, 123, 125, 126, 136, 137, 138).</b>	<ol style="list-style-type: none"> <li>1. The charging system is not charging the battery.</li> </ol>	<ol style="list-style-type: none"> <li>2. See your Gravely dealer.</li> </ol>
<b>Engine continues to run when ignition key is in the off position.</b>	<ol style="list-style-type: none"> <li>1. Ignition ground wire disconnected (992111, 115, 127, 128, 129, 131, 132, 133, 145).</li> <li>2. Ignition switch failure.</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect ground wire to clean metal surface.</li> <li>2. Replace ignition switch. See your Gravely Dealer.</li> </ol>

## TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	CORRECTION
<b>PTO or mower blades do not engage or shuts off.</b>	<ol style="list-style-type: none"> <li>Operator presence switch not depressed.</li> <li>Faulty PTO switch.</li> </ol>	<ol style="list-style-type: none"> <li>Depress operator presence switch by sitting on seat.</li> <li>See your Gravelly Dealer.</li> </ol>
<b>Unit does not drive.</b>	<ol style="list-style-type: none"> <li>Parking brake engaged.</li> <li>Transmission bypass valves open.</li> <li>Hydraulic oil level low.</li> <li>Faulty hydraulic drive system.</li> </ol>	<ol style="list-style-type: none"> <li>Disengage parking brake.</li> <li>Close transmission bypass valves (see <i>MOVING UNIT MANUALLY</i> on page 18).</li> <li>Add hydraulic oil (see <i>Checking Hydraulic Oil Level</i> on page 29).</li> <li>See your Gravelly Dealer.</li> </ol>

## ACCESSORIES

Part No.	Description
79206400	52-Inch Mulching Kit
79206500	60-Inch Mulching Kit
79206600	72-Inch Mulching Kit
79206700	Lawn Striper Kit
79100800	52-Inch Discharge Cover Kit
79206800	60-Inch Discharge Cover Kit
79206900	72-Inch Discharge Cover Kit
79205200	24 x 12-12 Bar-Style Tire Kit
79202200	Liftmaster Kit (992123, 124, 126, 128, 129, 132, 133, 135, 137, 138, 139)
79202300	Hitch Kit
89202800	Foldable ROPS Kit
79202700	Headlight Kit
79207300	Eye-Q 2006 Package
79207400	Eye-Q 2006 Scan Mate
79207200	Eye-Q 2006 Conversion Unit Package
79204700	Eye-Q Accessory Wire Harness Kit
79204300	Eye-Q Accelerometer Kit
79204400	Eye-Q Temperature Kit
79205000	Eye-Q GPS Kit
79204000	Eye-Q Engine RPM Kit
79204100	Eye-Q RFID Kit
89200800	Snow Blower Kit (Requires kit 89203200 & 79204500)
89200900	Sweeper Brush Kit
89203200	Quick Hitch Kit
89201100	Snow Blade Kit (Requires kit 89203200 & 79204500)
79204500	Weight Kit

## ACCESSORIES

Part No.	Description
89201300	Debris Blower Kit (Requires kit 89203200 & 79204500)
89203000	3-Bucket Bagger Kit

<b>SERVICE PARTS</b>		
<b>Part No.</b>	<b>Qty</b>	<b>Description</b>
00525500	1	Battery - Daihtsu Diesel
21536900	1	Air Filter Element
21537000	1	Outer Primary Element
21538900	1	Fuel Filter - Kawasaki Liquid-Cooled Vertical Shaft
21410800	1	Fuel Filter - 25hp Kawasaki
21539500	1	Fuel Filter - 27hp Kohler
21538900	1	Fuel Filter - Daihtsu Diesel
21541800	1	Fuel Filter - 26hp Kawasaki
21535800	1	Engine Oil Filter - 25hp Kawasaki
21397200	1	Engine Oil Filter- 27hp Kohler
21539000	1	Engine Oil Filter- Daihtsu Diesel
21380000	1	Engine Oil Filter- 26hp Kawasaki
09414200	1	Hydraulic Oil Filter
21538500	1	Spark Plug - Kawasaki Air-Cooled Vertical Shaft
21536100	1	Spark Plug - Kawasaki Liquid Cooled Vertical Shaft
21525900	1	Spark Plug - Kohler Vertical Shaft
07200026	1	52-Inch PTO Drive Belt - Kohler & Kawasaki Vertical Shaft
07200028	1	60-Inch PTO Drive Belt - Kohler & Kawasaki Vertical Shaft
07200032	1	72-Inch PTO Drive Belt - Kohler & Kawasaki Vertical Shaft
07200036	1	52-Inch Right-Hand Mower Drive Belt - Kohler & Kawasaki Vertical Shaft
07200038	1	60-Inch Right-Hand Mower Drive Belt - Kohler & Kawasaki Vertical Shaft
07200039	1	72-Inch Right-Hand Mower Drive Belt - Kohler & Kawasaki Vertical Shaft
07242000	1	Transmission Belt - Kohler & Kawasaki Vertical Shaft
07200027	1	52-Inch PTO Drive Belt - Daihtsu Diesel
07200030	1	60-Inch PTO Drive Belt - Daihtsu Diesel
07200033	1	72-Inch PTO Drive Belt - Daihtsu Diesel
07200036	1	52-Inch Right-Hand Mower Drive Belt - Daihtsu Diesel
07200038	1	60-Inch Right-Hand Mower Drive Belt - Daihtsu Diesel
07200039	1	72-Inch Right-Hand Mower Drive Belt - Daihtsu Diesel
07242800	1	Transmission Belt - Daihtsu Diesel
00450300	3	52-Inch Mower Blade
09081200	3	60-Inch Mower Blade
09290500	3	72-Inch Mower Blade
00273100	3	52-Inch Mower Blade, Mulching

<b>SERVICE PARTS</b>		
<b>Part No.</b>	<b>Qty</b>	<b>Description</b>
08866900	3	60-Inch Mower Blade, Mulching
09290600	3	72-Inch Mower Blade, Mulching
09212200	1	Cylinder Stop, 11/32 in. (8.73 mm)
09212300	1	Cylinder Stop, 11/16 in. (17.5 mm)

## SPECIFICATIONS

Model Number	992111	992113	992115	992117	992121	992123
<b>Model</b>	PM252MXDZ	PM252MXDZ	PM260MXDZ	PM260MXDZ	PM260MXDZ	PM272HXDZ
<b>Engine</b>						
Engine	Kawasaki				Daihatsu Diesel	
Engine Model Number	FH721V	FD731V	FH721V	FD731V	950D	950DT
Engine Power – hp (kW) at Maximum RPM	25 (18.6)	26 (19.4)	25 (18.2)	26 (19.4)	27 (20.1)	31 (23.1)
Governed RPM (May be different from maximum RPM)	3550		3600			
Liquid or Air Cooled	Air	Liquid	Air	Liquid		
Cooling System Capacity	NA	Refer to Engine Manual	NA	Refer to Engine Manual		
<b>Speed</b>						
Forward Maximum – mph (km/h)	13 (20.8)					
Reverse Maximum – mph (km/h)	6 (9.6)					
<b>Turning Radius</b>	Zero					
<b>Brakes</b>	Hydro/Dynamic Drum – Parking					
<b>Electrical</b>						
Starter	Electric					
Battery	12-Volt Maintenance Free					
Power Take-Off	Electric PTO Clutch/Brake					
<b>Fuel</b>						
Fuel Type	Refer to Engine Manual					
Fuel Tank Capacity – gal. (L)	13 (49)					
<b>Transmission</b>						
Type	Hydrostatic Drive					
Transmission Oil	Mobil 1 Extended Performance 15W50 Synthetic Oil					
Hydraulic System Capacity – qt (L)	4.5 (4.3)				5 (4.7)	
Hydraulic Oil Filter	Yes					
<b>Size and Weight</b>						
Length – in. (cm)	80 (203)					
Width – in. (cm)						
With Discharge Chute	67.5 (171)		75 (191)		87 (221)	
Without Discharge Chute	55.5 (141)		63 (160)		75 (191)	
Height – in. (cm)	50 (127)					
Height with ROPS – in. (cm)						
Extended	75 (190)					
Folded	59 (150)					
Weight – lbs (kg)	1160 (526)	1185 (538)	1175 (533)	1195 (542)	1440 (653)	1540 (699)
<b>Tires</b>						
Front Tire Size – in. (cm)	15 x 6 -6 (38 x 15 -15)					
Rear Tire Size – in. (cm)	24 x 12 -12 (61 x 30 -30)					
Front Tire Pressure – psi (kPa)	20 -25 (138 - 172)					
Rear Tire Pressure – psi (kPa)	12 -15 (83 -103)					
<b>Mower Deck</b>						
Mower Deck Lift	Mechanical				Hydraulic	
Cutting Width – in. (cm)	52 (132)		60 (152)		72 (183)	
Cutting Height – in. (cm)	1 - 5 (2.5 - 12.7)					
Cutting Height Increments – in. (cm)	1 to 5 (2.5 to 12.7)					
<b>Maximum Towing Capacity – lbs (kg)</b>	500 (227)					
<b>Maximum Tongue Weight – lbs (kg)</b>	50 (23)					

## SPECIFICATIONS

Model Number	992124	992125	992126	992127	992128	992129
<b>Model</b>	PM272HXDZ	PM252MXDZ	PM272HXDZ	PM252M	PM252H	PM252H
<b>Engine</b>						
Engine	Kawasaki	Daihatsu Diesel		Kawasaki		Kohler
Engine Model Number	FD731V	950D		FH721V		CV740S
Engine Power – hp (kW) at Maximum RPM	26 (19.4)	27 (20.1)		25 (18.2)		27 (20.1)
Governed RPM (May be different from maximum RPM)	3600			3550		
Liquid or Air Cooled	Liquid			Air		
Cooling System Capacity	Refer to Engine Manual					
<b>Speed</b>						
Forward Maximum – mph (km/h)	13 (20.8)					
Reverse Maximum – mph (km/h)	6 (9.6)					
<b>Turning Radius</b>	Zero					
<b>Brakes</b>	Hydro/Dynamic Drum – Parking					
<b>Electrical</b>						
Starter	Electric					
Battery	12-Volt Maintenance Free					
Power Take-Off	Electric PTO Clutch/Brake					
<b>Fuel</b>						
Fuel Type	Refer to Engine Manual					
Fuel Tank Capacity – gal. (L)	13 (49)					
<b>Transmission</b>						
Type	Hydrostatic Drive					
Transmission Oil	Mobil 1 Extended Performance 15W50 Synthetic Oil					
Hydraulic System Capacity – qt (L)	5 (4.7)	4.5 (4.3)	5 (4.7)	3.5 (3.3)	4 (3.8)	
Hydraulic Oil Filter	Yes					
<b>Size and Weight</b>						
Length – in. (cm)	80 (203)					
Width – in. (cm)						
With Discharge Chute	87 (221)	67.5 (171)	87 (221)	67.5 (171)		
Without Discharge Chute	75 (191)	55.5 (141)	75 (191)	55.5 (141)		
Height – in. (cm)	50 (127)					
Height with ROPS – in. (cm)						
Extended	75 (190)					
Folded	59 (150)					
Weight – lbs (kg)	1285 (583)	1425 (646)	1530 (694)	1145 (519)		
<b>Tires</b>						
Front Tire Size – in. (cm)	15 x 6 -6 (38 x 15 -15)					
Rear Tire Size – in. (cm)	24 x 12 -12 (61 x 30 -30)					
Front Tire Pressure – psi (kPa)	20 -25 (138 - 172)					
Rear Tire Pressure – psi (kPa)	12 -15 (83 -103)					
<b>Mower Deck</b>						
Mower Deck Lift	Hydraulic	Mechanical	Hydraulic	Mechanical	Hydraulic	
Cutting Width – in. (cm)	72 (183)	52 (132)	72 (183)	52 (132)		
Cutting Height – in. (cm)	1 - 5 (2.5 - 12.7)					
Cutting Height Increments – in. (cm)	1 to 5 (2.5 to 12.7)					
<b>Maximum Towing Capacity – lbs (kg)</b>	500 (227)					
<b>Maximum Tongue Weight – lbs (kg)</b>	50 (23)					

## SPECIFICATIONS

Model Number	992130	992131	992132	992133	992134	992135
<b>Model</b>	PM252M	PM260M	PM260H	PM260H	PM260M	PM260H
<b>Engine</b>						
Engine	Kawasaki			Kohler	Kawasaki	
Engine Model Number	FD731V	FH721V		CV740S	FD731V	
Engine Power – hp (kW) at Maximum RPM	26 (19.4)	25 (18.2)		27 (20.1)	26 (19.4)	
Governed RPM (May be different from maximum RPM)	3550	3600				
Liquid or Air Cooled	Air			Liquid	Air	
Cooling System Capacity	Refer to Engine Manual					
<b>Speed</b>						
Forward Maximum – mph (km/h)	13 (20.8)					
Reverse Maximum – mph (km/h)	6 (9.6)					
<b>Turning Radius</b>	Zero					
<b>Brakes</b>	Hydro/Dynamic Drum – Parking					
<b>Electrical</b>						
Starter	Electric					
Battery	12-Volt Maintenance Free					
Power Take-Off	Electric PTO Clutch/Brake					
<b>Fuel</b>						
Fuel Type	Refer to Engine Manual					
Fuel Tank Capacity – gal. (L)	13 (49)					
<b>Transmission</b>						
Type	Hydrostatic Drive					
Transmission Oil	Mobil 1 Extended Performance 15W50 Synthetic Oil					
Hydraulic System Capacity – qt (L)	3.5 (3.3)	4 (3.8)		3.5 (3.3)	4 (3.8)	
Hydraulic Oil Filter	Yes					
<b>Size and Weight</b>						
Length – in. (cm)	80 (203)					
Width – in. (cm)						
With Discharge Chute	67.5 (171)	75 (191)				
Without Discharge Chute	55.5 (141)	63 (160)				
Height – in. (cm)	50 (127)					
Height with ROPS – in. (cm)						
Extended	75 (190)					
Folded	59 (150)					
Weight – lbs (kg)	1145 (519)	1160 (526)	1170 (531)	1175 (533)	1170 (531)	1185 (538)
<b>Tires</b>						
Front Tire Size – in. (cm)	15 x 6 -6 (38 x 15 -15)					
Rear Tire Size – in. (cm)	24 x 12 -12 (61 x 30 -30)					
Front Tire Pressure – psi (kPa)	20 -25 (138 - 172)					
Rear Tire Pressure – psi (kPa)	12 -15 (83 -103)					
<b>Mower Deck</b>						
Mower Deck Lift	Mechanical			Hydraulic	Mechanical	Hydraulic
Cutting Width – in. (cm)	52 (132)	60 (152)				
Cutting Height – in. (cm)	1 - 5 (2.5 - 12.7)					
Cutting Height Increments – in. (cm)	1 to 5 (2.5 to 12.7)					
<b>Maximum Towing Capacity – lbs (kg)</b>	500 (227)					
<b>Maximum Tongue Weight – lbs (kg)</b>	50 (23)					



## SPECIFICATIONS

Model Number	992136	992137	992138	992139	992145
<b>Model</b>	PM260M	PM260H	PM272H	PM272H	PM260M
<b>Engine</b>					
Engine	Daihatsu Diesel			Kawasaki	Kohler
Engine Model Number	950D		950DT	FD731V	CV740S
Engine Power – hp (kW) at Maximum RPM	27 (20.1)		31 (23.1)	26 (19.4)	27 (20.1)
Governed RPM (May be different from maximum RPM)	3600				
Liquid or Air Cooled	Liquid				Air
Cooling System Capacity	Refer to Engine Manual				
<b>Speed</b>					
Forward Maximum – mph (km/h)	13 (20.8)				
Reverse Maximum – mph (km/h)	6 (9.6)				
<b>Turning Radius</b>	Zero				
<b>Brakes</b>	Hydro/Dynamic Drum – Parking				
<b>Electrical</b>					
Starter	Electric				
Battery	12-Volt Maintenance Free				
Power Take-Off	Electric PTO Clutch/Brake				
<b>Fuel</b>					
Fuel Type	Refer to Engine Manual				
Fuel Tank Capacity – gal. (L)	13 (49)				
<b>Transmission</b>					
Type	Hydrostatic Drive				
Transmission Oil	Mobil 1 Extended Performance 15W50 Synthetic Oil				
Hydraulic System Capacity – qt (L)	3.5 (3.3)	4 (3.8)			3.5 (3.3)
Hydraulic Oil Filter	Yes				
<b>Size and Weight</b>					
Length – in. (cm)	80 (203)				
Width – in. (cm)					
With Discharge Chute	75 (191)		87 (221)		75 (191)
Without Discharge Chute	63 (160)		75 (191)		63 (160)
Height – in. (cm)	50 (127)				
Height with ROPS – in. (cm)					
Extended	75 (190)				
Folded	59 (150)				
Weight – lbs (kg)	1455 (660)	1465 (665)	1540 (699)	1275 (578)	1165 (528)
<b>Tires</b>					
Front Tire Size – in. (cm)	15 x 6 -6 (38 x 15 -15)				
Rear Tire Size – in. (cm)	24 x 12 -12 (61 x 30 -30)				
Front Tire Pressure – psi (kPa)	20 -25 (138 - 172)				
Rear Tire Pressure – psi (kPa)	12 -15 (83 -103)				
<b>Mower Deck</b>					
Mower Deck Lift	Mechanical	Hydraulic			Mechanical
Cutting Width – in. (cm)	60 (152)		72 (183)		60 (152)
Cutting Height – in. (cm)	1 - 5 (2.5 - 12.7)				
Cutting Height Increments – in. (cm)	1 to 5 (2.5 to 12.7)				
<b>Maximum Towing Capacity – lbs (kg)</b>	500 (227)				
<b>Maximum Tongue Weight – lbs (kg)</b>	50 (23)				



# Ariens Limited



## Warranties

### 2-Year Limited Lawn and Garden Consumer Warranty

Ariens Company (Ariens) warrants to the **original purchaser** that Ariens and Gravely brand consumer products manufactured by Ariens Company will be free from defects in material and workmanship for a period of two (2) years after the date of purchase, and that Ariens will repair any defect in material or workmanship, and repair or replace any defective part, subject to the conditions, limitations and exclusions set forth herein. Such repair or replacement will be free of charge to the **original purchaser** (labor and parts), except as noted below.

The two-year duration of this warranty applies only if the product is put to ordinary, reasonable, and usual personal, family, or household uses. If the product is put to any business, commercial, or industrial use such as, but not limited to, commercial landscaping, mowing or snow removal services, or golf course or park maintenance, or agricultural or farmstead use, then the duration of this warranty is ninety (90) days after the date of purchase, or one (1) year after the date of purchase if the product is labeled as a Professional/Commercial Product. The duration of this warranty shall be ninety (90) days after the date of purchase if any product is rented or leased.

### 2-Year Limited Lawn and Garden Commercial Warranty

The Ariens Company (Ariens) warrants to the **original purchaser** that all Gravely Pro and ProMaster products manufactured by Ariens will be free from defects in material and workmanship for a period of two (2) years after the date of purchase or 1000 hours of use, whichever comes first. An authorized Gravely dealer will repair any defect in material or workmanship, and repair or replace any defective part, subject to the conditions, limitations and exclusions set forth herein. Such repair or replacement will be free of charge to the **original purchaser** (labor and parts), except as noted below.

The duration of this warranty shall be ninety (90) days after the date of purchase or 1000 hours of use, whichever comes first, if any product is rented or leased.

### 3-Year Limited Sno-Thro Warranty

Ariens Company (Ariens) warrants to the **original purchaser** that Sno-Thro products manufactured by Ariens Company will be free from defects in material and workmanship for a period of three (3) years after the date of purchase, and will repair any defect in material or workmanship, and repair or replace any defective part, subject to the conditions, limitations and exclusions set forth herein. Such repair or replacement will be free of charge to the **original purchaser** (labor and parts), except as noted below.

The three-year duration of this warranty applies only if the product is put to ordinary, reasonable, and usual personal, family, or household uses. If the product is put to any business, commercial, or industrial use, then the duration of this warranty is ninety (90) days after the date of purchase, or one (1) year after the date of purchase if the product is labeled as a Professional/Commercial Product. The duration of this warranty shall be ninety (90) days after the date of purchase if any product is rented or leased.

### DURA-CLEAN™ Auger Limited Lifetime Warranty

Ariens Company (Ariens) warrants to the **original purchaser** that the rubber components of the DURA-CLEAN™ Auger manufactured by Ariens Company will be free from defects in material and workmanship and will not wear out for the life of the Sno-Thro, except as noted below.

Ariens Company will provide for the replacement of any of the rubber components of the DURA-CLEAN™ Auger found upon examination by the Ariens Company to be defective or worn out. Replacements will be supplied free of charge. Labor is not included after two (2) years from the date of purchase of the Sno-Thro.

The lifetime limited warranty shall apply if the product is put to ordinary, reasonable, and usual personal household use. If the product is put to any business, commercial, industrial, rental, or leased use, the warranty shall be against defects in material and workmanship for ninety (90) days following the date of purchase.

## Exceptions, Limitations, Exclusions

These warranties are subject to the following conditions, limitations, and exclusions:

To obtain warranty service, the following conditions must be met:

- The purchaser must perform the maintenance and minor adjustments explained in the owner's manual.
- The purchaser must promptly notify Ariens Company or an authorized Ariens service representative of the need for warranty service.
- The purchaser must transport the product to and from the place of warranty service.
- Warranty service must be performed by a respective Ariens or Gravely authorized service representative.
- To find an Ariens or Gravely authorized service representative, contact Ariens at:

655 W. Ryan St., P.O. Box 157

Brillion, WI 54110-0157

(920) 756 - 2141

www.ariens.com

www.gravely.com

This warranty is subject to the following limitations:

- Genuine Ariens or Gravely brand service parts and accessories not purchased with the product covered by this warranty, but which are later purchased and used with that product, are warranted to be free from defects in material and workmanship for a period of ninety (90) days after date of purchase, and Ariens Company will repair or replace any such part or accessory free of charge, except for labor, during that period.
- Batteries are warranted only for a period of twelve (12) months after date of purchase, on a prorated basis. For the first ninety (90) days of the warranty period, a defective battery will be replaced free of charge. If the applicable warranty period is more than 90 days, Ariens Company will cover the prorated cost of any defective battery, for up to twelve (12) months after the date of purchase.

Ariens may from time to time change the design of its products. Nothing contained in this warranty shall be construed as obligating Ariens 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

Ariens Company's liability under this warranty, and under any implied warranty that may exist, is limited to repair of any defect in workmanship, and repair or replacement of any defective part. Ariens Company shall not be liable for incidental, special, or consequential damages (including lost profits). Some states do not allow the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

The following items are excluded from this warranty:

- Engines and engine accessories are covered only by the engine manufacturer's warranty and are not covered by this warranty.
- Peerless gearboxes and/or transmissions are covered only by Peerless' warranty and are not covered by this warranty.
- Hydro-Gear transmissions and/or Hydro-Gear drive components are covered only by the Hydro-Gear warranty and are not covered by this warranty.
- Parts that are not genuine Ariens or Gravely brand service parts are not covered by this warranty.
- Except as specifically warranted, 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 except as noted below.
- Mufflers, belts, and tires on consumer lawn and garden products are warranted to the **original purchaser** for two years.
- Friction discs, idlers, cables, and electrical components on Sno-Thros put to usual personal household use are warranted to the **original purchaser** for two years.
- Any defect which is the result of misuse, alteration, improper assembly, improper adjustment, neglect, or accident is 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 for warranty information.

### DISCLAIMER OF FURTHER WARRANTY

**Ariens Company makes no warranty, express or implied, 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 particular purpose, or any other implied warranty, applies to Ariens Company, then any such implied warranty is limited to the duration of this warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.**

*This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.*



GRAVELY  
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](http://www.gravelly.com)

 **WARNING** 

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.