



# Pro 150

## Owner/Operator Manual

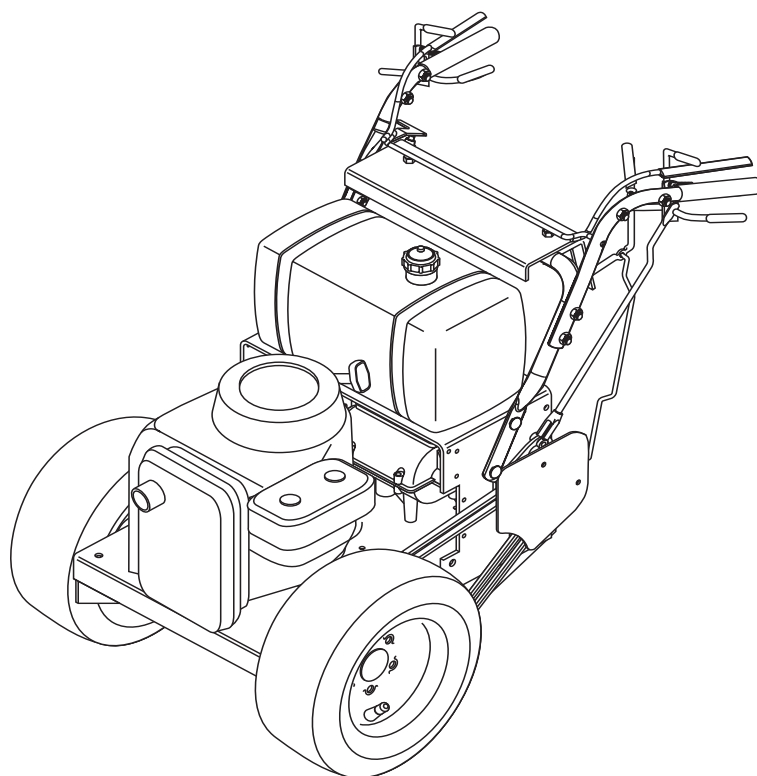
### Model

988088

988091

988092

988309



**GB** ENGLISH

**F** FRANÇAIS

**E** ESPAÑOL



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MODEL CERTIFICATE OF CONFORMITY ISSUED BY THE MANUFACTURER  
CERTIFICAT DE CONFORMITÉ DU MODÈLE DÉLIVRÉ PAR LE FABRICANT  
MODELL-KONFORMITÄTSBESTÄTIGUNG AUSGESTELLT DURCH DEN HERSTELLER  
MODEL CERTIFICAAT VAN OVEREENSTEMMING AFGEGEVEN DOOR DE FABRIKANT  
CERTIFICATO DI CONFORMITÀ DEL MODELLO RILASCIATO DAL PRODUTTORE  
CERTIFICADO DE CONFORMIDAD DEL MODELO PROVISTO POR EL FABRICANTE  
MODEL KONFORMITETS ERKLÆRING Udstedt af FABRIKANTEN  
MODELLSERTIFIKAT FOR OVERENSSTEMMELSE Udstedt af FABRIKANT TILLVERKERENS  
TILLVERKARENS MODELLCERTIFIKAT OM ÖVERENSSTÄMMELSE  
VALMISTAJAN ANTAMA VAKUUTUS MALLIN MÄÄRÄYSTEN MUKAISUUDESTA

We the undersigned, - Je soussigné, - Mit meiner Unterschrift - De ondergetekende, - Il sottoscritto, - El abajo firmante, Undertegnede, - Undertecknaren av detta dokument, - Me, allekirjoittaneet, ARIENS COMPANY, certify that the riding rotary lawnmower - certifie que les tondeuse rotative autoportée - bestätige ich, daß der Mäher - verklaart dat de Grasmaaimachine - certifica che le i trattorino con unità di taglio rotativa - certifica que el Cortacésped giratorio para pasajeros - certificamos que o minitractor cortador de grama com lâminas giratórias - bevidner herved at Selvkørende rotations græsslåmaskine - bevitner at gressklippertraktor - intygar att intygar att åkrotorklippare - vakuutamme, että lumilinko Ajoleikkuri:

Category: **WIDE-AREA COMMERCIAL WALK-BEHIND ROTARY MOWER**

Make and Trade Name: **GRAVELY**

Model: 988309 with 888301

Serial # Range: From – To 000101 – 000999

conform to the specifications of directive 98/37/EC, and council directive 84/538/EEC as amended by 87/252/EEC, 83/180/EEC and 88/181/EEC, and EC directive (EMC) 89/336/EEC as amended by EC directive 92/31/EEC.

sont conformes aux spécifications de la directive 98/37/EEC et la directive du conseil Européen numéro 84/538/EEC révisée par les directives 87/252/EEC, 83/180/EEC et 88/181/EEC et de la directive EC (EMC) 89/336/EEC modifiée par la directive EC 92/31/EEC.

den Spezifikationen der Direktive 98/37/EEC, sowie der Ratsdirektive 84/538/EEC, modifiziert durch die Direktiven 87/252/EEC, 83/180/EEC und 88/181/EEC, sowie der EU-Direktive (EMC) 89/336/EEC, modifiziert durch die EU-Direktive 92/31/EEC, entspricht.

in overeenstemming zijn met de specificaties van richtlijn 98/37/EEG, en richtlijn 84/538/EEG van de raad, zoals gewijzigd door 87/252/EEG, 83/180/EEG en 88/181/EEG, en EC richtlijn (EMC) 89/336/EEC zoals gewijzigd door EC richtlijn 92/31/EEC.

sono conformi alla direttiva CEE 98/37 e alla direttiva del Consiglio Europeo CEE 84/538, emendata dalle direttive CEE 87/252, 83/180 e 88/181, e la direttiva CE (EMC) CEE 89/336, emendata dalla direttiva CEE 92/31.

conforme a las especificaciones de la directiva 98/37/CEE, y la directiva del consejo europeo número 84/538/CEE modificada en las directivas 87/252/CEE, 83/180/CEE y 88/181/CEE, y la directiva EC (EMC) 89/336/EEC reformada por la directiva EC 92/31/EEC.

opfylder spesifikasjonene i direktiv 98/37/EEC og rådets direktiv 84/538/EEC med ændringer i 87/252/EEC, 83/180/EEC og 88/181/EEC, og EC direktiv (EMC) 89/336/EEC med ændringer i EC direktiv 92/31/EEC.

Enheten oppfyller spesifikasjonene i direktiv 98/37/EEC og rådets direktiv 84/538/EEC med endringer i 87/252/EEC, 83/180/EEC og 88/181/EEC, og EC direktiv (EMC) 89/336/EEC med endringer i EC direktiv 92/31/EEC.

är i överensstämmelse med specifikationerna i direktiv 98/37/EEC, samt rådsdirektiv 84/538/EEC, med ändringar i 87/252/EEC, 83/180/EEC och 88/181/EEC, och EC direktiv (EMC) 89/336/EEC med ändringar i EC direktiv 92/31/EEC.

On valmistettu 98/37/EEC, mukään. Ja neuvostori määräysten, 84/538/EEC tarkennettu 87/252/EEC, 83/180/EEC ja 88/181/EEC mukaan, ja EC määräysten (EMC) 89/336/EEC tarkennettu määräysten EC 92/31/EEC mukaan.

Certifying Laboratory to 84/538/EEC - TUV Rheinland.

February 1, 1999  
Date/Datum/Data/  
Fecha/Dato/Päiväys

Manager of Product Conformance  
Position/Qualité/Stilling/Functie/Qualifica/  
Puesto/Stilling/Funktie/Titel/Arvo

Signature/Unterschrift/Handtekening/Firma/  
Underskrift/Underskrift Handlekening/  
Underskrift/Allekirjoitus

## CONTROLS AND FEATURES

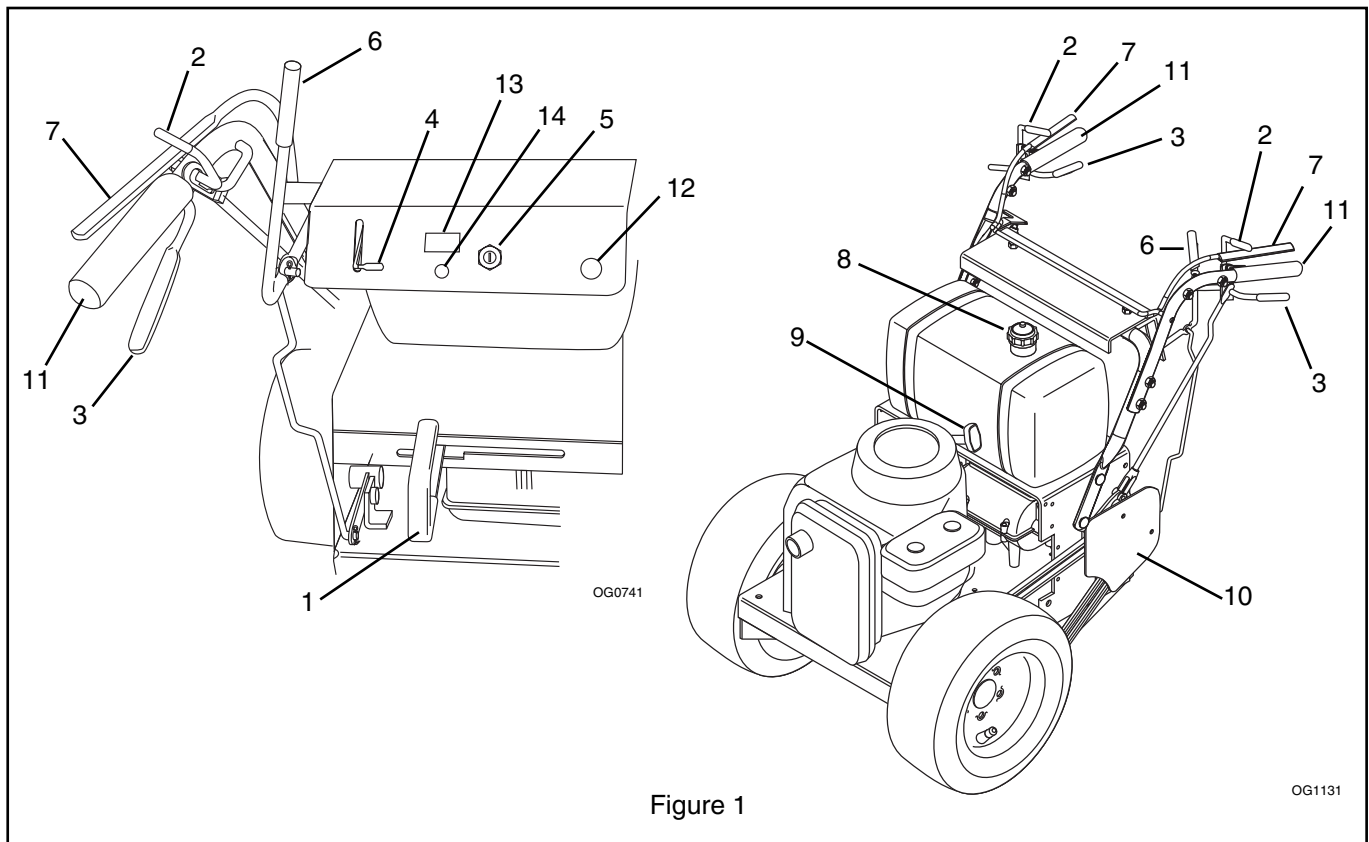


Figure 1

### ENGLISH

1. Shift Lever
2. Steering Lever Latches
3. Steering Levers
4. Throttle-Choke Lever
5. Ignition Switch
6. PTO Lever
7. Operator Presence Controls
8. Fuel Cap
9. Recoil Starter Handle
10. Traction Belt Guard
11. Handlebar
12. Choke Control (Electric Start Models)
13. Hourmeter (Electric Start Models)
14. Oil Light (Electric Start Models)

### FRANÇAIS

1. Levier de vitesses
2. Verrouillage des poignées de direction
3. Leviers de direction
4. Manette des gaz – Starter
5. Clé de contact
6. Commande de la PdF
7. Commandes de présence de l'opérateur
8. Bouchon du réservoir de carburant
9. Poignée du démarreur à cordon
10. Garant de courroie de transmission
11. Guidon
12. Commande du starter (Modèles à démarreur électrique)
13. Compteur horaire (Modèles à démarreur électrique)
14. Voyant de l'huile (Modèles à démarreur électrique)

### ESPAÑOL

1. Palanca de cambios
2. Trabas de las palancas de la dirección
3. Palancas de dirección
4. Palanca del acelerador-estrangulador
5. Interruptor de encendido
6. Palanca de la TDF
7. Controles de presencia del operador
8. Tapón del combustible
9. Manilla de arranque de retroceso
10. Protección de la correa de tracción
11. Manillar
12. Control de estrangulamiento (modelos con arranque eléctrico)
13. Batería (modelos de arranque eléctrico)
14. Luz del aceite (modelos de arranque eléctrico)

## **⚠ WARNING ⚠**

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

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## 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.

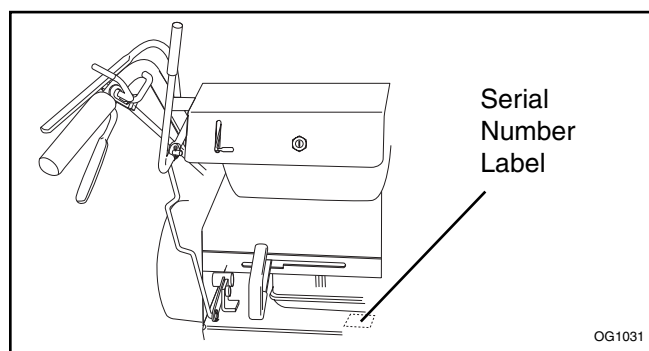
All reference to left, right, front, or rear are given from operator standing in operation position and facing the direction of forward travel.

### 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 also printed on a serial number label, located on the frame of your unit.



- Record Engine Model and Serial numbers here.

### PRODUCT REGISTRATION

A warranty registration card must be filled out, signed, and returned at time of purchase. This card activates the warranty. Claims meeting requirements during limited warranty period will be honored.

### UNAUTHORIZED REPLACEMENT PARTS

Use only Gravely replacement parts. The replacement of any part on this vehicle with anything other than a Gravely authorized replacement part may adversely affect the performance, durability, or safety of this unit and may void the warranty. Gravely 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

Gravely 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.

### DEALER DELIVERY

Dealer should:

1. Check all controls for proper function.
2. Check the safety interlock system to make sure that it is functioning properly. (See *Operation*.)
3. Fill out Original Purchaser Registration Card and return the card to Gravely.
4. Explain Limited Warranty Policy.
5. Explain recommended lubrication and maintenance. Advise customer on adjustments.
6. Instruct customer on controls and operation of unit. Discuss and emphasize the Safety Precautions. Give customer Owner/Operator, Parts, and Engine Manuals. Advise customer to thoroughly read and understand them.

# SAFETY

## SAFETY ALERTS



Look for these symbols to point out important safety precautions. They mean:

**Attention!**



**Personal Safety Is Involved!**

**Become Alert!**

**Obey The Message!**

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.



**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

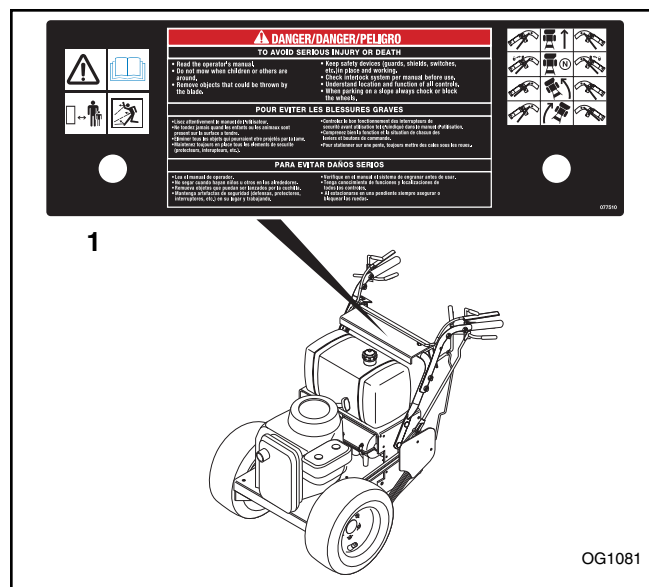
Practice usual and customary safe working precautions, for the benefit of yourself and others. Understand and follow all safety messages. Be alert to unsafe conditions and the possibility of minor, moderate, or serious injury or death. Learn applicable rules and laws in your area.

## 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 below for Safety Decal locations.



### 1. DANGER! To avoid serious injury or death

Read the operator's manual.



OL1801

Keep children and others away from unit while operating.



OL4370

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



OL0910

- Keep all controls, guards and safety shields properly serviced and functional.
- Check interlock system per manual before use.
- Understand location and function of all controls.
- Never allow operation by untrained persons.
- When parking on a slope always chock or block the wheels.

## OPERATIONAL SAFETY RULES

### Walk Around Inspection

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

- Work area
- Your unit
- All safety decals

### Work Area

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 dock, ramps or floors. Avoid uneven work areas and rough terrain.

Avoid slippery surfaces. ALWAYS be sure of your footing.

DO NOT operate on wet grass.

Dust, smoke, fog, etc. can reduce vision and cause an accident. Operate unit only when there is good visibility and light.

### Personal Safety

- Only trained adults may operate unit
- Training includes actual operation

NEVER allow children to operate or play on or near unit.

Be alert and shut off unit if children enter area.

Never carry passengers.

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

NEVER allow anyone to operate this unit when their alertness or coordination is impaired.

Wear adequate safety gear, protective gloves and footwear.

NEVER wear open sandals or canvas shoes during operation.

Protect eyes, face and head from objects that may be thrown from unit. Wear appropriate hearing protection.

Sharp edges can cut. Moving parts can cut off fingers or a hand. Wrap blade(s), wear gloves and use extreme caution when servicing.

**IMPORTANT:** On multi-blade mowers, rotation of one blade will cause all blades to rotate.

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

ALWAYS keep hands away from all pinch points.

DO NOT touch unit parts which might be hot from operation. Allow parts to cool before attempting to maintain, adjust or service.

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

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

Keep children and people away from unit during operation.

Fumes from engine exhaust can cause injury or death.

DO NOT run engine in an enclosed area. Always provide good ventilation.

Thrown objects can cause injury and property damage. DO NOT point discharge at anyone or discharge directly onto paved or gravel surfaces.

Always stand clear of the discharge area when operating this unit.

### Operation

Understand:

- How to operate all controls
- The functions of all controls
- How to STOP in an Emergency
- Braking and steering characteristics
- Turning radius and clearance

ALWAYS keep protective structures, guards, and panels in good repair, in place and securely fastened.

NEVER modify or remove safety devices.

ALWAYS keep discharge cover or complete grass catcher in place and in proper working condition.

Check steering control operation frequently. Adjust and service as required.

Safety Interlock System must function properly. DO NOT operate unit if operator presence control is damaged or disabled.

If equipment vibrates abnormally, stop engine at once, disengage PTO, wait for all moving parts to stop, and remove key. Check for any damage or loose parts. Repair before restart.

Before starting engine: disengage PTO and place unit in neutral.

DO NOT operate at too fast a rate. DO NOT change engine governor settings or over-speed engine. Slow down and turn corners slowly.

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

Avoid uneven and rough terrain. 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.

DO NOT try to stabilize unit by putting foot on ground when operating with applicable riding attachments.

When engine is running and speed control lever is forward, holding only one steering lever will cause unit to circle around one drive wheel.

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

Never leave a running unit unattended. ALWAYS shut off engine before leaving unit.

ALWAYS remove key to prevent unauthorized use.

DO NOT operate in reverse unless absolutely necessary. ALWAYS backup slowly. ALWAYS look down and behind, before and while backing.

### **Hazardous Slopes**

DO NOT operate on steep slopes. DO NOT operate on slopes of more than 10°. Operate across the face of slopes, not up and down.

Keep all movement on slopes slow and gradual. DO NOT make sudden changes in speed or direction. Use a slow speed to avoid stopping or shifting on slopes. Avoid starting or stopping on a slope.

DO NOT park unit on a slope unless absolutely necessary. When parking on a slope always chock or block wheels.

### **Transport**

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.

### **Cleaning**

Keep unit free of grass, leaves, or other debris. Clean up oil or fuel spills.

### **Spark Arrester**

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

## **FUEL SAFETY RULES**

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.

## **BATTERY SAFETY RULES**

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.

Reverse connections may cause sparks which may result in injury. ALWAYS connect/disconnect cables in proper order.

Poisonous battery fluid contains sulfuric acid and its contact with skin, eyes, or clothing can cause severe burns.

Explosive Gases! No flames, No sparks, No smoking near battery.

ALWAYS wear safety glasses and protective gear near battery.

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

ALWAYS keep batteries out of reach of children.

### **Battery Electrolyte First Aid**

- **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! DO NOT induce vomiting!

## **MAINTENANCE AND SERVICE SAFETY RULES**

Before making any inspections, repairs, etc.: disengage PTO, stop unit and engine, remove key, allow moving parts to stop.

Allow hot parts to cool.

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

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

Keep hardware, especially blade attachment bolts, tight.

## **STORAGE SAFETY RULES**

For unit storage or extended storage:

- NEVER store with fuel in fuel tank, inside a building where any ignition sources are present.
- Allow engine to cool completely.



## ACCESSORY AND ATTACHMENT SAFETY RULES

Use only attachments or accessories designed for your unit.

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

Use extra care with grass catchers and other attachments. These can change the stability of the unit. Use only approved hitch points.

ALWAYS be aware of attachments when turning. ALWAYS allow adequate clearance between attachments, personnel, and other objects.

## ASSEMBLY



**WARNING: AVOID INJURY.** Read and understand *Assembly, Fuel and Battery Safety Rules* before proceeding.

1. Remove the power unit from shipping container.
2. Adjust tire pressure to 12 to 15 psi (83 to 103 kPa).
3. For electric start models, charge and connect battery. See *Service & Adjustments*.

4. Check the adjustments outlined in *Service & Adjustments*.
5. Add clean fuel to the fuel tank. See engine manual for type and grade.
6. Mount mower to unit.
7. Check for loose hardware.
8. Be sure that safety interlock system operates correctly. See *Maintenance*.
9. Be sure that unit tracks straight. See *Adjustments*.

## OPERATION



**WARNING: AVOID INJURY.** Read and understand *Operational, Fuel and Battery Safety Rules* before proceeding.

### CONTROLS AND FEATURES

#### Safety Interlock System

The engine will only start with the PTO disengaged and the shift lever in neutral.



**DANGER: SAFETY INTERLOCK SYSTEM FAILURE** and improper operation of unit can result in death or serious injury. ALWAYS know the safety interlock system is operating properly. See *Maintenance* for testing instructions.

#### Operator Presence Control

When the shift lever or PTO is engaged, the operator presence control stops the engine when the operator presence control lever is released. The operator presence control lever must be depressed to operate the PTO or traction drive.



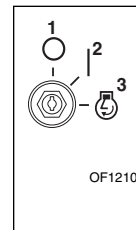
**CAUTION: AVOID INJURY.** Operate only when presence control is functioning correctly.

#### Steering Levers

The steering levers are used to steer, operate in forward and reverse, and stop the unit. When held in neutral, the brakes are engaged.

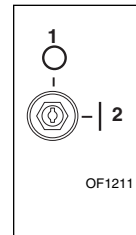
#### Steering Lever Latches

The red steering lever latches hold the steering levers in the neutral lock position.



#### Ignition Switch (Electric Start Models)

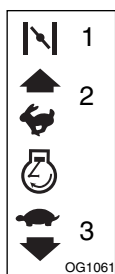
Operate the ignition switch with the removable key. The switch has three positions: Off (1), On (2) and Start (3). To start the engine, turn the key to Start, then release to Run. To stop the engine, turn the key to Off.



#### Ignition Switch (Recoil Start Models)

Operate the ignition switch with the removable key. The switch has two positions: Off (1) and On (2). To start the engine, turn the key to On and pull the recoil handle. To stop the engine, turn the key to Off.





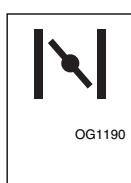
### Throttle/Choke Lever (Recoil Start Models)

The Throttle/Choke lever changes the speed of the engine and chokes the engine for cold starts. Place the lever in Choke (1) to start a cold engine. Move the lever to Fast (2) to increase engine speed. Move the lever to Slow (3) to decrease engine speed.



### Throttle Lever (Electric Start Models)

The throttle lever changes the speed of the engine. Move the throttle lever to Fast (1) to increase engine speed. Move the lever to Slow (2) to decrease engine speed.

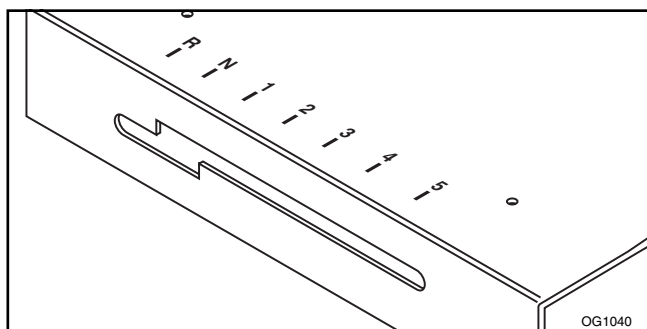


### Choke Control (Electric Start Models)

Use the choke control to start a cold engine. Pull the control out to choke the engine. Push the control in when the engine gets warm.

### Shift Lever

The shift lever sets the direction and speed of the unit. "R" is for reverse, "N" for neutral, "1" indicates the slowest forward speed. The numbers from "2" to "5" indicate increasingly faster forward speeds.



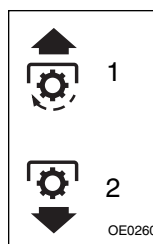
To shift unit:

1. Stop unit movement by pulling both steering levers all the way up.
2. You can move the shift lever one of two ways:
  - Continue to hold up both steering levers and use your knee to move the shift lever to the desired position.
  - Lock both steering lever latches. Move the shift lever to the desired position. Hold the steering levers up as you unlock the latches.



**WARNING:** When engine is running and transmission is in gear, engaging one steering lever latch and releasing the opposite steering lever causes unit to circle around one drive wheel.

3. Release both steering levers slowly.

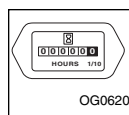


### PTO Clutch

Push the PTO (power take off) lever On (1) to engage the mower. Pull the PTO lever Off (2) to disengage the mower.

### Recoil Starter Handle

Pull the recoil starter handle to start the engine.



### Hour Meter (Electric Start Models)

The hour meter measures the number of hours that the key is in the run position.



### Oil Pressure Light (Electric Start Models)

The red light near this symbol comes on when the key is turned to run and the engine oil pressure is low. Check oil level and add if necessary. See Engine Manual.

## FILL FUEL TANK



**WARNING:** Use caution with fuel. Fuel is very flammable.

Keep fuel in a clean and tight container.

Keep fuel away from fire or heat. Never put fuel in the fuel tank while the engine is running or hot.

Clean up any spilled fuel before starting the engine.

Add fuel to the fuel tank as needed. See engine manual for type and grade of fuel.

To add fuel to the fuel tank:

1. Put the unit in an open area.
2. Stop the engine.
3. Allow engine to cool.
4. Clean the fuel cap and the area around the fuel cap to prevent dirt from entering the fuel tank.
5. Remove the cap from the fuel tank.
6. Fill the fuel tank. Be careful not to spill.
7. Install the cap on the fuel tank and tighten.
8. Clean up any spilled fuel before starting the engine.

## TO STOP IN AN EMERGENCY

1. Turn the ignition key Off.
2. Allow engine to stop completely.
3. Engage steering latches in neutral lock.

## TO START AND SHUT OFF ENGINE

### Before Each Use

Check each item in *Before Each Use* in the Maintenance Schedule.

**NOTE:** The engine will not start unless the shift lever is in neutral and the Power Take Off (PTO) is Off.

### Starting with Recoil Handle

1. Lock the steering lever latches in neutral.
2. Put the shift lever in neutral.
3. Move PTO switch to Off.
4. Set throttle to the proper starting position. If the engine is cold, choke the engine.
5. Turn ignition switch to On.
6. Grasp recoil starter handle and pull rope out slowly until it pulls harder. This is the compression stroke.
7. Let the rope rewind slowly.
8. Pull rope with rapid continuous full arm stroke to start engine. Allow rope to rewind slowly.

**IMPORTANT:** DO NOT let starter handle snap against engine.

9. Repeat until engine starts. (If engine does not start, refer to Engine Manual.)
10. After engine starts, adjust choke as needed. Allow engine to warm and run smoothly before operating unit.

### Starting with Electric Start

To start the engine:

1. Lock the steering lever latches in neutral.
2. Put the shift lever in neutral.
3. Move PTO switch to Off.
4. If the engine is cold, choke the engine.
5. Move the throttle to Fast.
6. Put the ignition key in the switch and turn it to Start.
7. When the engine starts, release the key to Run position.

**IMPORTANT:** DO NOT operate starter motor more than 15 seconds per minute, as overheating and damage can occur. If engine will not start, refer to *Troubleshooting* or Engine Manual.

8. Release the choke. Allow engine to warm and run smoothly before operating unit.

### Shut Off

1. Engage steering latches in neutral lock.
2. Move the throttle lever to Slow.
3. Turn the ignition key Off.
4. Allow engine to stop completely.

## TO OPERATE UNIT

Operate the unit only when in the operator's position directly behind the handlebars.



**WARNING:** When the engine is running and the speed control lever is engaged, holding only one steering lever in neutral causes the unit to circle sharply around one drive wheel.

To operate:

1. Lock the steering latch levers in neutral.
2. Place PTO in Off position.
3. Place shift lever in Neutral.
4. Start the engine. Allow the engine to warm and run smoothly.
5. Move the throttle lever to the Fast position.
6. Engage the operator presence control and move shift lever to desired direction and speed.
7. Hold steering levers in neutral and release steering latch levers.

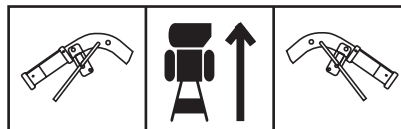


**WARNING:** When the engine is running and the shift lever is engaged, releasing only one steering latch causes the unit to circle around one drive wheel.

ALWAYS hold both steering levers in the neutral position when releasing the steering lever latches.

ALWAYS release levers slowly.

- To move straight forward; slowly release both steering levers to the full outward position.



OG1140

- To stop or place unit in neutral lock, pull both levers all the way up and engage both steering latches.



OG1150

- To turn to the left; pull the left hand lever up.



OG1200

- To turn to the right; pull the right hand lever up.



- To move in reverse:
  1. Place steering levers in neutral.
  2. Engage steering lever latches.
  3. Engage the operator presence control and move shift lever to Reverse.
  4. Hold steering levers in neutral and release latches.
  5. Release steering levers slowly.



**WARNING:** Uncontrolled reverse travel can result in serious injury.  
Do not put shift lever into the reverse position unless you are prepared to operate in reverse.

To mow:

1. Place steering levers in neutral.
1. Engage steering lever latches.
1. Move the shift lever to the neutral position.
2. Slow the engine down to about half speed.
3. Engage operator presence control lever.
4. Move the PTO switch to On to engage mower.
5. Move the throttle lever to the Fast position.

**IMPORTANT:** NEVER engage the PTO if the mower is plugged with grass or other material. This will damage the PTO belt.

6. Move the shift lever to set a slow ground speed.
7. Hold steering levers in neutral and release latches.
8. Release steering levers slowly.

When you know how to operate the unit, select a speed appropriate to your mowing conditions.

To disengage mower, move the PTO switch to Off.

To stop:

1. Pull both steering levers to neutral position.
2. Lock the steering lever latches in neutral.
3. Keep one hand on the operator presence control and move the shift lever to the neutral position.
4. Move the throttle lever to Slow.
5. Turn the ignition key to Off.

## PARKING

1. Stop unit and shut off engine.
2. Remove the key.

3. Pull both levers all the way up and engage both steering latches. The brake is applied when the steering levers are in neutral.
4. Chock or block the wheels if parked on a slope.

## TO PUSH UNIT BY HAND

To move the unit without the engine running:

1. Turn the engine off.
2. Move shift lever to neutral.
3. Hold steering levers in neutral and disengage latches. Release steering levers. The brake is disengaged when the steering levers are released.

**IMPORTANT:** Never tow unit.

## TO TRANSPORT UNIT

ALWAYS shut off engine, remove key and drain fuel when transporting unit on a truck or trailer. 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.

# MAINTENANCE



**WARNING: AVOID INJURY.** Read and understand *Maintenance and Service* and *Battery Safety Rules* before proceeding.

## MAINTENANCE SCHEDULE

	Each Use	25	50	100
Check Safety Interlock System	●			
Check Air Cleaner	●			
Check Engine Oil	●			
Check Engine Cooling	●			
Check Fasteners	●			
Check Tire Pressure	●			
Check Battery and Battery Fluid		●		
Check All Belts		●		
General Lubrication			●	
Change Engine Oil				●
Check Fuel Filter				●
Check Spark Plug				●
Check Muffler				●

### CHECK SAFETY INTERLOCK SYSTEM

Test the safety interlock system at each operation. If the system does not function properly, do not operate the unit until repairs are made.

Engine must not start unless PTO is disengaged and the speed control lever is in neutral. To test:

1. With engine off, engage PTO.
2. Turn electric start model ignition switch to Start. Engine must not crank. Turn recoil start model ignition switch to Run. Pull recoil start handle. Engine must not start.
3. Place speed control lever in Forward.
4. Turn electric start model ignition switch to Start. Engine must not crank. Turn recoil start model ignition switch to Run. Pull recoil start handle. Engine must not start.

The engine **MUST** stop whenever the operator removes both hands from controls while the PTO or transmission is engaged. To test:

1. Start engine and engage PTO.
2. Release operator presence control lever. Engine must stop.
3. Disengage PTO.
4. Restart engine.
5. Place shift lever in first Forward speed.
6. Release operator presence control lever. Engine must stop.

### CHECK AIR CLEANER

Check the air cleaner element daily. See engine manual for detailed instructions.

### CHECK ENGINE OIL

Check the engine oil level daily. Never operate the engine when the oil level is low. See engine manual for detailed instructions.

### CHECK ENGINE COOLING

Check the engine air cooling system daily. See engine manual for detailed instructions.

### CHECK FASTENERS

Check all nuts, bolts, and other fasteners daily. Replace fasteners that are missing or damaged.

### CHECK TIRE PRESSURE

Check tires for proper inflation, excessive wear or damage daily. The correct air pressure is 12 to 15 psi (83 to 103 kN/m<sup>2</sup>).

### CHECK BATTERY (ELECTRIC START MODELS)



**WARNING: AVOID INJURY.** Read and understand *Battery Safety Rules* before attempting any maintenance.

### Terminals

Inspect battery and terminals monthly.

To clean terminals:

1. Remove battery from unit by removing cables.
2. Remove tie down rod nuts and lift battery out.
3. Clean or service battery away from unit. Remove corrosion from battery terminals and cable connections with wire brush, then wash with a weak baking soda solution.

4. Apply a thin coat of grease or petroleum jelly to terminals and cable ends to retard corrosion.
5. Reinstall battery.

### Electrolyte Level

Check electrolyte level every 25 hours of operation.  
Check each cell:

1. Remove caps one at a time. The electrolyte level should be at level indicated.
2. Fill each cell with distilled water if needed.
3. Reinstall and tighten each cap.

**IMPORTANT:** When adding distilled water to battery during freezing weather, battery must be charged to mix water with existing electrolyte.

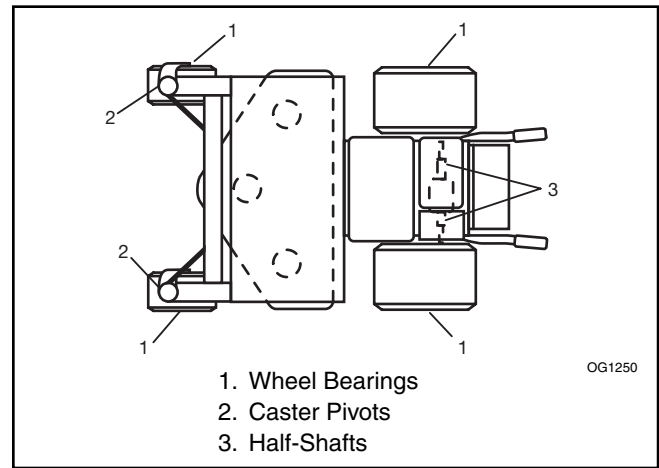
### CHECK ALL BELTS

Check all belts for wear or damage every 50 hours.  
See *Adjustments* to set proper belt tension.

### GENERAL LUBRICATION

Apply a small amount of oil to the pivot points as required for smooth operation.

Apply high quality lithium based grease to all lube fittings every 50 hours of operation.



### CHANGE ENGINE OIL

See engine manual for detailed instructions.

### CHECK FUEL FILTER

See engine manual for detailed instructions.

### CHECK SPARK PLUG

See engine manual for detailed instructions.

### CHECK MUFFLER

Check muffler for damage or wear. Replace if necessary.

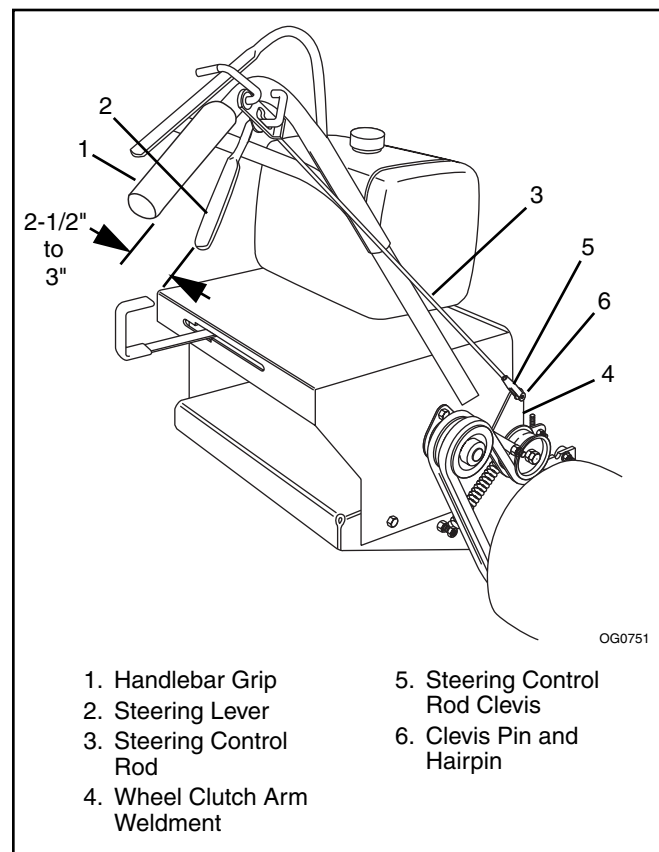
## SERVICE AND ADJUSTMENTS



**WARNING:** AVOID INJURY. Read and understand *Maintenance and Service and Battery Safety Rules* before proceeding.

### STEERING LEVER ADJUSTMENT

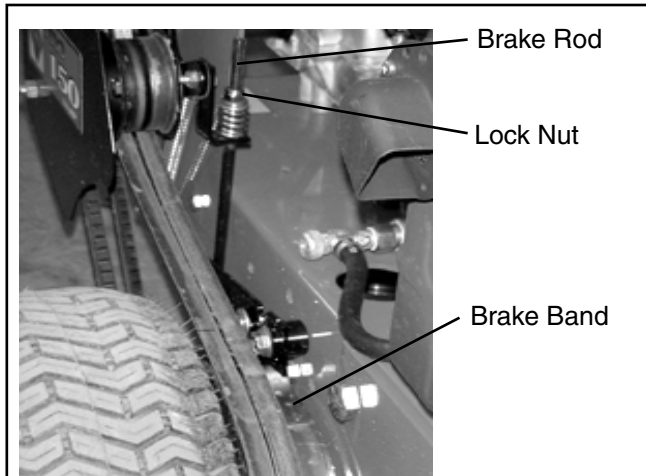
1. Turn off the engine, remove the key and allow unit to cool.
2. Disengage neutral lock and release lever.
3. Shift transmission into neutral. Operate steering levers several times. Do not move unit.
4. Remove hair pin and clevis pin from the clevis on the steering control rod.
5. Adjust the clevis on the steering control rod until the gap between the ends of the steering lever and handlebar grip is 2-1/2 to 3 inches.
6. Reinstall the clevis pin and hair pin.
7. Repeat for other steering lever.



## ADJUSTING THE BRAKES

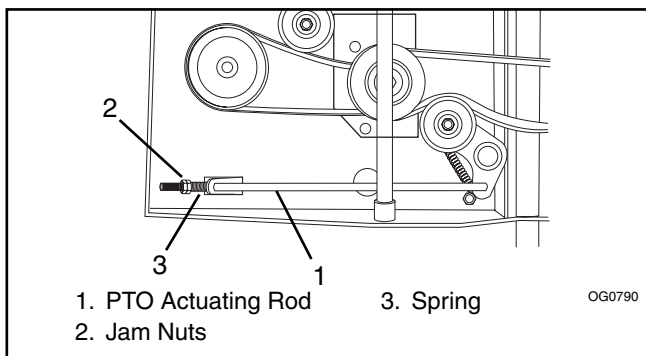
**NOTE:** The traction belt must disengage as the brake starts to engage.

1. Turn off the engine, remove the key and allow unit to cool.
2. If brakes do not disengage fully when traction belt is engaged, the brakes are too tight. Loosen the locknut.
3. If brakes do not engage fully when traction belt is disengaged, the brakes are too loose. Tighten the locknut.
4. Start engine and test in low gear for proper brake engagement.



## ADJUSTING PTO CLUTCH

1. Turn off engine, remove key and allow hot parts to cool.
2. Move the PTO lever to On.
3. Loosen the two jam nuts on the rear end of the PTO actuating rod.
4. Turn the two jam nuts forward until the gap in the coils of the spring is approximately .030" (.76 mm).



5. Lock the two jam nuts on the PTO actuating rod.

## REPLACING THE TRACTION BELTS

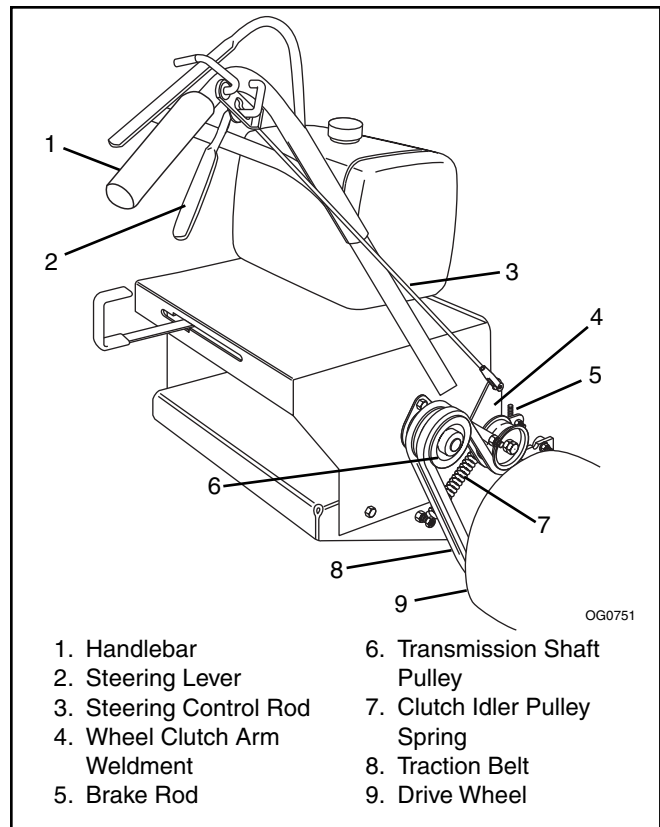
1. Turn off the engine, remove the key and allow unit to cool.

2. Release the steering levers.
3. Raise the rear of the unit so that the drive wheels are off the ground.
4. Remove traction belt guard.
5. Remove clutch idler pulley spring.



**WARNING: AVOID INJURY.** An extension spring, when extended, stores energy and can be dangerous. Always use tools specifically designed for installing or removing an extension spring. Always compress or extend springs slowly.

6. Remove hair pin and clevis pin holding steering control rod to wheel clutch arm weldment.



7. While slowly turning the drive wheel, work the traction belts off the transmission shaft pulley and drive wheel.
8. Install new traction belts.

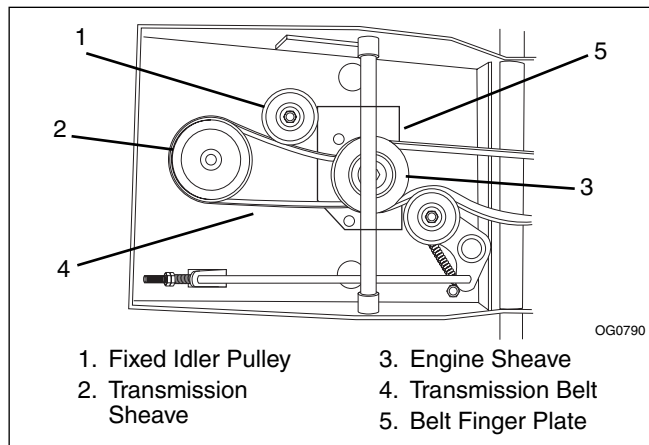
**IMPORTANT:** Always replace belts in sets.

9. Connect steering control rod to wheel clutch arm weldment with clevis pin and hair pin.
10. Reinstall clutch idler pulley spring.
11. Reinstall traction belt cover.
12. Lower the unit.
13. Check adjustment of steering levers. See *Steering Lever Adjustment*.



## REPLACING THE TRANSMISSION BELT

1. Stop the engine. Remove ignition key. Put PTO lever in the "OFF" position. Put the shift lever in neutral.
2. Loosen belt finger plate and remove mower belt from engine sheave.



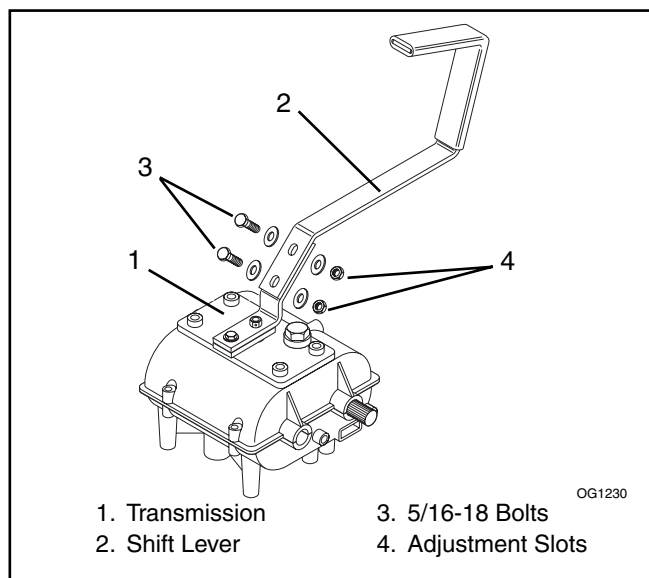
3. Loosen the 3/8-16 bolt which fastens the fixed idler pulley to the frame. Slide the pulley to end of slot. Remove the bolt, spacer and idler pulley if necessary.
4. Remove old transmission drive belt.
5. Install new transmission belt in the top groove of the clutch hub and on the transmission sheave.
6. Tension the belt with fixed idler pulley and tighten the 3/8-16 nut and bolt.

**NOTE:** It may be necessary to re-tension this belt during break-in.

7. Reinstall mower belt on engine sheave. Tighten the belt finger plate.

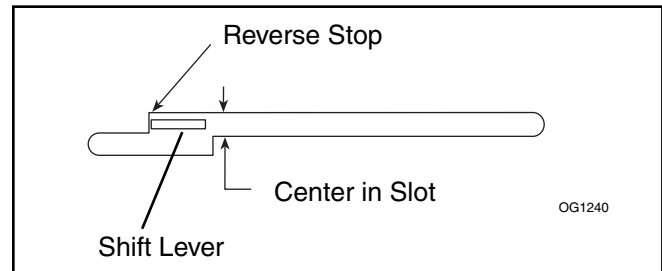
## ADJUSTING SHIFT LEVER LINKAGE

The transmission shift lever is attached to the transmission shift arm with two 5/16-18 bolts.



To adjust:

1. Stop the engine. Remove ignition key. Put PTO lever in the "OFF" position. Put the shift lever in neutral.
2. Loosen two 5/16-18 bolts in shift lever.
3. Center shift lever vertically in Forward slot, just touching the reverse stop.



4. Tighten bolts securely.

**NOTE:** You should not be able to shift into reverse without pushing down on the shift lever.

## ADJUSTING THE UNIT TO TRACK STRAIGHT

**NOTE:** When adjusting tire pressure, do not exceed 15 psi (103 Kn/m<sup>3</sup>) maximum inflation pressure.

**If unit turns to the right,** try each of the following steps until the unit tracks straight. If may not be necessary to perform all the steps.

1. Reduce the air pressure in the left tire.
2. Increase the air pressure in the right tire.

**If unit turns to the left,** try each of the following steps until the unit tracks straight. It may not be necessary to perform all the steps.

1. Reduce the air pressure in the right tire.
2. Increase the air pressure in the left tire.

## BATTERY (ELECTRIC START MODELS)



**WARNING: AVOID INJURY.** Read and understand *Battery Safety Rules* before attempting any maintenance.

### Charge Battery



**WARNING: FROZEN BATTERIES CAN EXPLODE** and result in death or serious injury.

DO NOT charge a frozen battery. Let the battery thaw before charging.

**IMPORTANT:** DO NOT fast charge. Charging at a higher rate will damage or destroy battery.

ALWAYS follow information provided on battery by battery manufacturer. Contact battery manufacturer for detailed instructions.



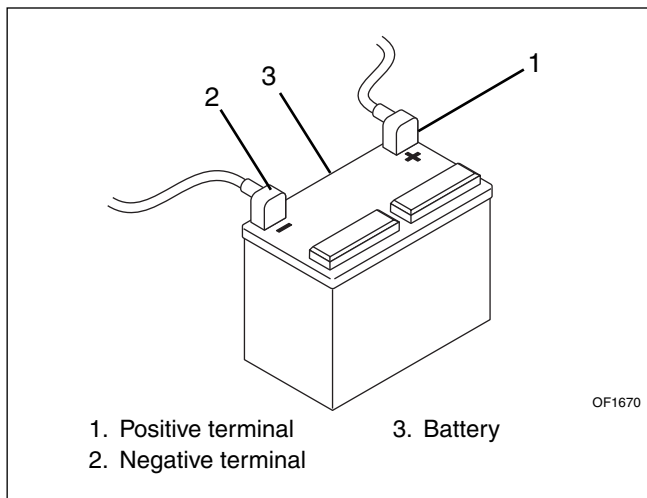
1. Put unit into service position.
2. Disconnect negative (–) cable first, then positive (+) cable.
3. Remove hold down and remove battery.
4. Place battery on bench or other well-ventilated place where electrolyte spill will not create damage.
5. **Initial Battery Setup** - Remove caps and fill each cell to level indicated with electrolyte at  $1.230 \pm$  specific gravity and  $80^{\circ}\text{F}$  ( $27^{\circ}\text{C}$ ).
  - Let battery stand for thirty minutes.
  - Check electrolyte level and add more if necessary.
6. Connect positive (+) lead of charger to positive (+) terminal, and negative (–) lead to negative (–) terminal.
7. Charge the battery at two and a half amps for ten hours or until all cells are gassing freely and the specific gravity is constant over three 30 minute intervals.
8. Immediately after charging, check electrolyte level. If low, add distilled water to bring cell up to required level.
9. Replace caps finger tight.
10. Wash off and dry battery.
11. Reinstall battery into unit and connect positive (+) cable first, then negative (–) cable.

3. Connect the other end of the same jumper cable to the positive (+) terminal of the booster battery.
4. Connect one end of the second jumper cable to the negative (–) terminal of the booster battery.
5. Make the final jumper cable connection to the engine block or the furthest ground point away from the discharged battery.



**WARNING:** Make sure cables are clear of any moving engine parts before starting engine.

6. Start engine (refer to Operation Section). If engine will not start after several tries, unit or battery may need service.
7. After engine starts, leave cables connected for one to two minutes.
8. Disconnect cables in reverse order.
9. Operate unit normally to charge battery.



## Jump Start

It may be possible to recharge the battery by jump starting the unit and allowing the engine to run. The unit used for jump starting should have a 12 volt battery with at least 500 cold cranking amperes, and a negatively grounded system.

1. Ensure battery is not frozen. If the fluid is frozen, remove battery from unit and allow it to thaw before charging.
2. Connect the positive (+) jumper cable to the positive terminal of the discharged battery.

## STORAGE



**WARNING: AVOID INJURY.** Read and understand *Maintenance and Service* and *Storage Safety Rules* before proceeding.

### Storage – Two Months or More

Check each item in the Before Each Use, 25 and 50 hour maintenance schedule, but do not add gasoline. Clean the tractor. Touch up all scratched painted surfaces.

**IMPORTANT:** Never spray unit with water or store unit outdoors. Store unit in a cool, dry, protected location.

**NOTE:** Do not use harsh or abrasive cleaners on any painted surface. Do not allow gasoline or oil to remain on any decals.

### Engine

Refer to the engine manual to prepare the engine for storage.

### Battery

Remove battery and store in a cool, dry place.

## TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	CORRECTION
Engine will not start	<ol style="list-style-type: none"> <li>1. Safety Interlock System is preventing start.</li> <li>2. Fuel tank is empty or fuel is contaminated.</li> <li>3. Air cleaner is clogged or damaged.</li> <li>4. Safety Interlock System out of adjustment or defective.</li> <li>5. Dirty or damaged spark plug.</li> </ol>	<ol style="list-style-type: none"> <li>1. The engine will not start unless the speed control lever is in the neutral position and the PTO switch is in the Off position.</li> <li>2. Add fuel. If necessary, replace the fuel with clean, fresh fuel.</li> <li>3. Clean or replace the filter element. See engine manual.</li> <li>4. See your Dealer for repairs.</li> <li>5. See Engine Manual.</li> </ol>
Unit will not move or mow when the engine is running	<ol style="list-style-type: none"> <li>1. Transmission belt or mower belt is broken, worn, or off the pulleys.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check belts for wear, damage and correct position on pulleys. Replace belts if worn or damaged. See <i>Service and Adjustments</i>.</li> </ol>
Changes in the sound or vibrations of the unit	<ol style="list-style-type: none"> <li>1. Loose or missing fasteners.</li> <li>2. Mower blade problem.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check all the fasteners. Replace if necessary.</li> <li>2. Refer to mower Owner/Operator Manual.</li> </ol>
Unit will not move when operated on an incline.	<ol style="list-style-type: none"> <li>1. Binding in the steering or brake linkage.</li> <li>2. Steering levers out of adjustment.</li> <li>3. Worn or damaged traction belts.</li> <li>4. Transmission shaft pulley worn.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check linkage for debris or damage. Repair if necessary. See <i>Service and Adjustments</i> or your Dealer for repairs.</li> <li>2. See <i>Service and Adjustments</i>.</li> <li>3. Check belts for wear or damage. Replace if necessary. See <i>Service and Adjustments</i>.</li> <li>4. If pulley shows excessive wear, replace it. See your Dealer for repairs.</li> </ol>

## ACCESSORIES

See your authorized Gravely dealer to add these optional accessories.

78800200	Grass Catcher Adapter Kit (36" mower)
78800400	Grass Catcher Adapter Kit (50" mower)
78506700	High Lift Blade Kit (50")
78802900	Mulching Kit (36" mower)
78800800	Mulching Kit (50" mower)

## ATTACHMENTS

See your authorized Gravely dealer to add these attachments to your unit.

888301	36" Side Discharge *
888047	36" Mower
888010	Grass Catcher (Multi-Use)
888048	50" Mower

\* CE Certified

## SERVICE PARTS

Be sure to always use genuine Gravely parts to keep your unit running like new.

Part no.	Qty	Description
78801800	1	Battery
21391300	1	Paper Element - Kawasaki - 14 hp
21391200	1	Foam Precleaner - Kawasaki 14 hp
042926	1	Paper Element - Kawasaki 12.5 hp
042925	1	Foam Precleaner - Kawasaki 12.5 hp
21530000	1	Air Filter - Briggs & Stratton
040742	1	Fuel Filter - Kawasaki
21530400	1	Fuel Filter - Briggs & Stratton
21380000	1	Oil Filter - Kawasaki 14 hp
048832	1	Oil Filter - Kawasaki 12.5 hp
21530700	1	Oil Filter - Briggs & Stratton
21384700	1	Spark Plug - Kawasaki 14 hp
042914	1	Spark Plug - Kawasaki 12.5 hp
21531100	2	Spark Plug - Briggs & Stratton

## SPECIFICATIONS

Model Number	988088	988091	988092	988309
Description	PRO 150			
Length – in (cm)	38.3 (97.3)			
Height – in (cm)	39.0 (99.1)			
Width – in (cm)	32.8 (83.3)			
Actual Weight – lbs (kg)	232 (105.5)		240 (109.1)	232 (105.5)
Battery	N/A		12V 13A	N/A
Brakes	6" Band			
Turning Radius – in (cm)	0			
Tire Size	13x6.50-6, 4 Ply Rating			
Engine – Manufacturer	Kawasaki		Briggs & Stratton	Kawasaki FC420V-ES15
Cycle	4			
Horsepower – HP(KW)	14 HP	12.5 HP	16	10.9 HP (8.1 KW @ 2900 min <sup>-1</sup> )
Starting System	Recoil		Electric	Recoil
Fuel Tank Capacity	4.5 gal U.S. (17.1 L)			
Fuel	See Engine Manual			
Governed R.P.M. (max.)	3300			2950
Crank Case Cap.	See Engine Manual			
Air Cleaner	Paper Element, Foam Precleaner			
Transmission	Peerless 5 Speed + Reverse			
Speed– Forward Max.	0 – 5.2 MPH (0 – 8.4 km/hr)			
– Reverse Max.	0 – 3 MPH (0 – 4.9 km/hr)			
Tire Pressure	12 – 15 PSI (83 - 103 kPa)			

Mower	888301	
Weight – lbs (kg)	186 (84.4)	
Length – in (cm)	42.75 (108.6)	
Height – in (cm)	13.5 (34.3)	
Width – in (cm)	44.4 (112.8)	
Width of Cut – in (cm)	36 (91.4)	
Max. Rotation Speed of Cutting Edge	3505 min <sup>-1</sup>	
Oper. Ear Sound Pressure (L <sub>pa</sub> ) dB <sub>A</sub>	86	
Sound Power (L <sub>wa</sub> ) dB <sub>A</sub>	100	
VIBRATION MEASURE (m/s <sup>2</sup> )		
@ Operator hands	X axis	<3.0
	Y axis	3.4
	Z axis	<2.5



**Gravely Division of Ariens Company**

655 West Ryan Street  
P.O. Box 157  
Brillion, WI 54110-0157  
920-756-2141  
Fax 920-756-2407

## 2 Year Limited Warranty

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

### Protection Plan

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

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

### Usage Requirement

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

### Purchaser's Responsibilities

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

### Product Registration

- The Gravely dealer must fill out and return the warranty registration card to validate the warranty.

### Service Parts and Accessories

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

### Service

- Warranty service must be done by an authorized Gravely dealer. To find a Gravely dealer near you, contact Ariens Company.

### Battery Warranty Prorated

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

### Exclusions (No Warranty)

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

Ariens Company may from time to time change the design of its products. Nothing contained in this warranty shall be construed as obligating Ariens Company 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 express warranty, and under any implied warranty that may exist, is limited to repair or replacement of any defective part. In no event shall Ariens Company be liable for incidental, special, or consequential damages (including lost profits). This warranty gives you specific legal rights. You may also have other rights which vary from state to state. Some states do not allow the exclusion of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitations and exclusions may not apply to you.

### DISCLAIMER OF FURTHER WARRANTY

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

Form: GLW2-062399



**GRAVELY**

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