

Owner's Manual Field and Brush Mower



MODEL NUMBER: _	
SERIAL NUMBER:	
•	
DATE PURCHASED	:

Register your Generac product at: WWW.GENERAC.COM 1-888-GENERAC (888-436-3722)



CANCER AND REPRODUCTIVE HARM

www.P65Warnings.ca.gov.

(000393a)

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Section 1: Safety Rules & General Information

Introduction

Thank you for purchasing a Generac Power Systems Inc. product. This unit has been designed to provide high performance, efficient operation, and years of use when maintained properly.

The information in this manual is accurate based on products produced at the time of publication. The manufacturer reserves the right to make technical updates, corrections, and product revisions at any time without notice.

Read This Manual Thoroughly



AWARNING

Consult Manual. Read and understand manual completely before using product. Failure to completely understand manual and product could result in death or serious injury. (000100a)

If any section of this manual is not understood, contact your nearest authorized dealer, or contact Generac Customer Service at 1-888-436-3722 (1-888-GENERAC), or www.generac.com with any questions or concerns.

This manual must be used in conjunction with the appropriate installation manual.

SAVE THESE INSTRUCTIONS: The manufacturer suggests that this manual and the rules for safe operation be copied and posted near the unit installation site. Safety should be stressed to all operators and potential operators of this equipment.

Safety Rules

The manufacturer cannot anticipate every possible circumstance that might involve a hazard. The alerts in this manual, and on tags and decals affixed to the unit, are not all inclusive. If using a procedure, work method, or operating technique that the manufacturer does not specifically recommend, verify that it is safe for others and does not render the equipment unsafe.

Throughout this publication, and on tags and decals affixed to the unit, DANGER, WARNING, CAUTION, and NOTE blocks are used to alert personnel to special instructions about a particular operation that may be hazardous if performed incorrectly or carelessly. Observe them carefully. Alert definitions are as follows:

▲ DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

(000001)

AWARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

(000002)

ACAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

(000003)

NOTE: Notes contain additional information important to a procedure and will be found within the regular text of this manual.

These safety alerts cannot eliminate the hazards that they indicate. Common sense and strict compliance with the special instructions while performing the action or service are essential to preventing accidents.

How to Obtain Service

When the unit requires servicing or repairs, contact your nearest authorized dealer, or contact Generac Customer Service at 1-888-436-3722 (1-888-GENERAC), or **www.generac.com** for assistance.

When contacting Customer Service about parts and service, always supply the complete model and serial number of the unit as given on its data decal located on the unit. Record the model and serial numbers in the spaces provided on the inside front cover of this manual.

General Hazards

▲WARNING

Accidental Start-up. Disconnect the negative battery cable, then the positive battery cable when working on unit. Failure to do so could result in death or serious injury. (000130)

AWARNING

Personal injury. Keep out of reach of children. Failure to do so could result in death or serious injury.

(000128a)

AWARNING

Personal injury and equipment damage. Do not tamper with engine governed speed. Operating engine too fast or slow increases the risk of injury or permanent engine damage. (000254)



AWARNING

Vision loss. Eye protection is required when operating unit. Failure to wear appropriate eye protection could result in vision loss or serious injury. (000407)



AWARNING

Vision loss. Eye protection is required when servicing unit. Failure to do so could result in vision loss or serious injury.

(000377)



AWARNING

Hearing Loss. Hearing protection is recommended when using this machine. Failure to wear hearing protection could result in permanant hearing loss. (000107)



AWARNING

Moving Parts. Do not wear jewelry when starting or operating this product. Wearing jewelry while starting or operating this product could result in death or serious injury.

(000115)



AWARNING

Moving Parts. Keep clothing, hair, and appendages away from moving parts. Failure to do so could result in death or serious injury.

(000111)



AWARNING

Hot Surfaces. When operating machine, do not touch hot surfaces. Keep machine away from combustibles during use. Hot surfaces could result in severe burns or fire.

(000108)



AWARNING

Risk of Fire. Hot surfaces could ignite combustibles, resulting in fire. Fire could result in death or serious injury.

(000110)

AWARNING

Risk of injury. Do not operate or service this machine if not fully alert. Fatigue can impair the ability to service this equipment and could result in death or serious injury. (000215)

AWARNING

Environmental Hazard. Always recycle batteries at an official recycling center in accordance with all local laws and regulations. Failure to do so could result in environmental damage, death or serious injury.

(000228)

AWARNING

Personal injury. Wear sturdy shoes with no-slip tread, long pants, and gloves when operating this unit. Failure to do so could result in death or serious injury.

(000492)

Exhaust and Fuel Hazards



ADANGER

Asphyxiation. Running engines produce carbon monoxide, a colorless, odorless, poisonous gas. Carbon monoxide, if not avoided, will result in death or serious injury.

(000103)

ADANGER

Explosion and Fire. Fuel and vapors are extremely flammable and explosive. Store fuel in a well ventilated area. Keep fire and spark away. Failure to do so will result in death or serious injury.

(000143)

ADANGER

Explosion and fire. Fuel and vapors are extremely flammable and explosive. No leakage of fuel is permitted. Keep fire and spark away. Failure to do so will result in death or serious injury.

(000192)

ADANGER

Explosion and Fire. Do not overfill fuel tank. Fill to 1/2 inch from top of tank to allow for fuel expansion. Overfilling may cause fuel to spill onto engine causing fire or explosion, which will result in death or serious injury. (000166b)

ADANGER

Risk of fire. Allow fuel spills to completely dry before starting engine. Failure to do so will result in death or serious injury.

(000174)

AWARNING

Fire risk. Fuel and vapors are extremely flammable. Do not operate indoors. Doing so could result in death, serious injury, or property or equipment damage. (000281)

AWARNING

Explosion and fire risk. Do not smoke near unit. Keep fire and spark away. Failure to do so could result in death, serious injury, or property or equipment damage. (000282)



AWARNING

Explosion and Fire. Do not smoke while refueling unit. Failure to do so could result in death, serious injury, or property or equipment damage. (000284a)

Fire Hazards



AWARNING

Risk of Fire. Verify machine has properly cooled before installing cover and storing machine. Hot surfaces could result in fire.

(000109)

AWARNING

Risk of fire. Never operate engine without the air cleaner installed. Operating engine without the air cleaner could result in death or serious injury.



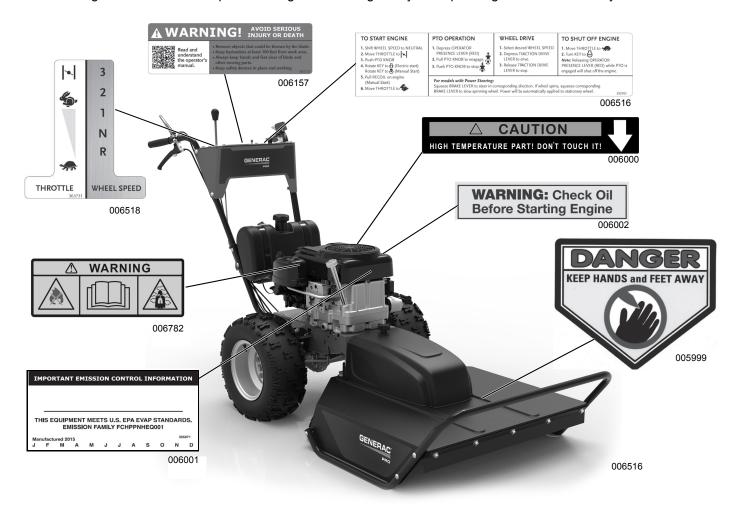
AWARNING

Fire hazard. Keep a fire extinguisher near unit at all times. Failure to do so could result in death, serious injury, or property or equipment damage.

(000418)

Safety and Operating Decals

This unit features numerous safety and operating decals. These decals provide important operating instructions and warn of dangers and hazards. Replace damaged or missing safety and operating decals immediately.



Section 2: General Information and Setup

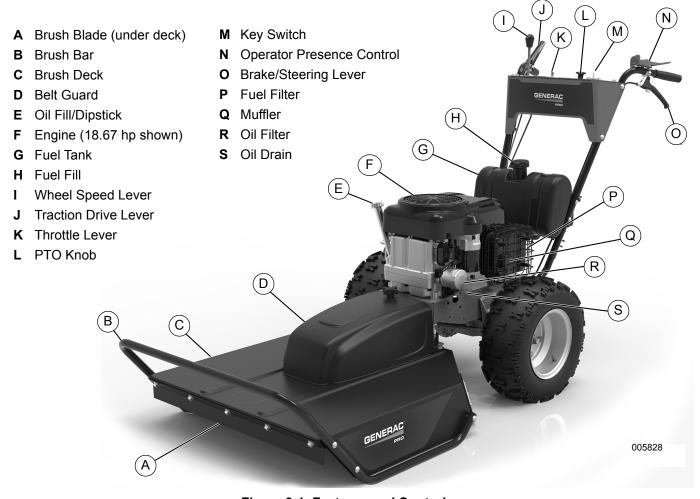


Figure 2-1. Features and Controls

Field and Brush Mower Specifications				
General	AT45026GENG	AT47030GENG		
Cutting Capacity	4 ft (1.2 m) Tall Grass 8 ft (2.4 m) Tall Brush 2.5 in (6.4 cm) Thick Saplings	6 ft (1.8 m) Tall Grass 8 ft (2.4 m) Tall Brush 3 in (7.6 cm) Thick Saplings		
Cutting Width	26 in (60 cm)	30 in (76.2 cm)		
Cutting 4 in (10 cm) 4		4 in (10 cm)		
Speeds	3 Forward 1 Reverse	3 Forward 1 Reverse		
Tires	18 in (45.72 cm) x 7 in (17.78 cm) All Terrain Sealant Filled	18 in (45.72 cm) x 7 in (17.78 cm) All Terrain Sealant Filled		
Machine Weight	290 lb (131.5 kg)	325 lbs (141.42 kg)		
Machine Dimensions	80.5 in (294.5 cm) L 30.25 in (76.85 cm) W 48.2 in (198.63 cm) H	80.5 in (294.5 cm) L 30.25 in (76.85 cm) W 48.2 in (198.63 cm) H		

Engine Specifications			
General	AT45026GENG	AT47030GENG	
Engine	Generac G-Force	Generac G-Force	
Oil Capacity 40.6 oz (1.2 L		54.1 oz (1.6 L)	
Oil Type	See chart in Adding Oil	See chart in Adding Oil	
Spark Plug	Champion RC12YC or equivalent	Torch F7RTC or equivalent	
Spark Plug Gap	.024031 in (0.6-0.8 mm)	.024031 in (0.6-0.8 mm)	

A complete specification sheet is included in the documentation provided with the unit at the time of purchase. For additional copies, contact your nearest authorized dealer, or contact Generac Customer Service at 1-888-436-3722 (1-888-GENERAC), or www.generac.com

Emissions

The United States Environmental Protection Agency (US EPA) (and California Air Resources Board (CARB), for engines/equipment certified to California standards) requires that this engine/equipment complies with exhaust and evaporative emissions standards. Locate the emissions compliance decal on the engine to determine applicable standards. For emissions warranty information, reference the included emissions warranty. It is important to follow the maintenance specifications in the manual to ensure the engine complies with the applicable emissions standards for the duration of the product's life.

Remove Contents from Carton

 See Figure 2-2. Remove and verify carton contents prior to assembly. Carton contents should contain the following:

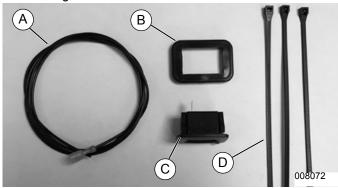


Figure 2-2. Maintenance Meter

Item	Description	
Α	Wire, 66 in	1
В	Meter	1
С	Panel Adapter	1
D	Cable Ties	3

- 2. Contact Generac Customer Service at 1-888-436-3722 or www.generac.com with unit model and serial number for any missing carton contents.
- Record model, serial number, and date of purchase on front cover of this manual.

Installing Brush Deck

1. See *Figure* 2-3. Cut cable tie (A) and remove detent pin (B) and collar (C) from power unit.

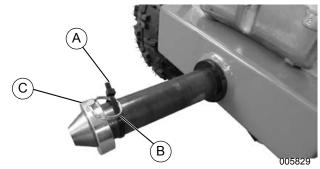


Figure 2-3. Detent Pin and Collar

- 2. Place brush deck in front of power unit.
- **3.** See *Figure 2-4*. Slide power unit pin into deck bracket and install collar and detent pin (D).

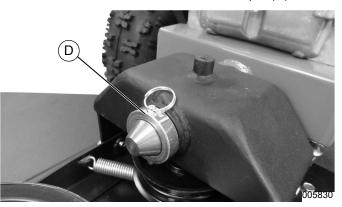


Figure 2-4. Detent Pin and Collar Installed

4. See *Figure 2-5*. Insert belt into area just above tensioner spring (F) and deck pivot bracket (G) and install belt onto pulley.

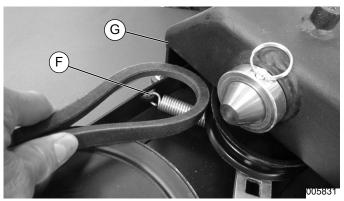


Figure 2-5. Belt Insertion Point

5. See Figure 2-6. Wrap belt around clutch pulley (H).

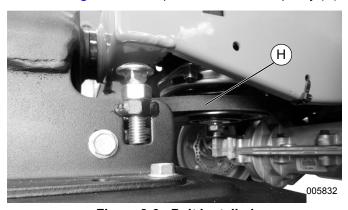


Figure 2-6. Belt Installed



AWARNING

Personal injury. Use caution when installing belt onto deck pulley. Failure to do so could result in serious injury.

(000411)

See Figure 2-7. Place belt onto deck pulley. Gradually turn belt pulley to assist belt into pulley groove.



Figure 2-7. Install Belt on Spindle Pulley

See Figure 2-8. Install and secure belt guard with provided hardware.



Figure 2-8. Deck Installation Complete

Removing Brush Deck

NOTE: Only remove the brush deck to install other attachments, or when performing maintenance.

 See Figure 2-9. Remove knob (A) securing belt guard to brush deck, and remove belt guard (B).

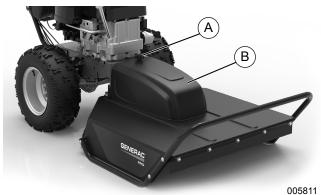


Figure 2-9. Belt Guard Knob

2. Place a screw driver between blade pulley and belt.

3. See *Figure 2-10*. Rotate blade pulley to roll belt off blade pulley (C).

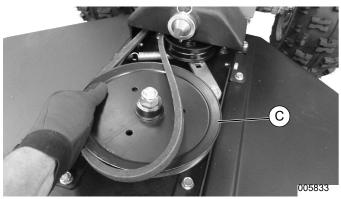


Figure 2-10. Removing Belt from Blade

4. See *Figure 2-11*. Push the belt toward the power unit, and the belt will fall off clutch pulley (D).

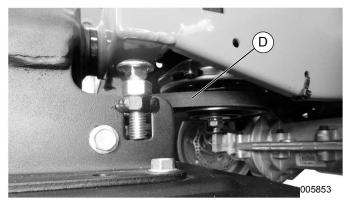


Figure 2-11. Belt Installed

- 5. Pull the belt toward deck and remove the belt.
- See Figure 2-12. Remove collar (E) and detent pin (F).

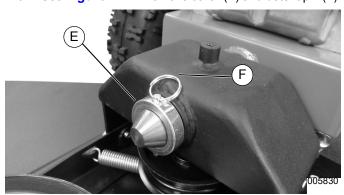


Figure 2-12. Detent Pin and Collar

- 7. Shift wheel speed lever into neutral.
- **8.** Pull power unit back to remove power unit pin from deck pivot bracket.

Maintenance Meter Installation

- 1. Gently pry black panel insert from control panel
- 2. Insert panel adapter from kit into open hole in control panel. Verify adapter engages panel completely.
- See Figure 2-13. Insert meter (A) firmly into panel adapter (B) until it snaps into place. The meter flange should be flat against the adapter face.



Figure 2-13. Maintenance Meter Installation

- **4.** Slide sensor wire onto sensor wire connector on the back of the meter.
- **5.** See *Figure 2-14*. Run sensor wire from meter to handlebar and secure with two cable ties (C).



Figure 2-14. Maintenance Meter Installation

- **6.** Route the balance of sensor wire forward following the existing wiring harness toward the engine spark plug wire. Do not bind it too tightly with the cable ties. Trim the excess material from the cable tie.
- 7. See Figure 2-15. At a convenient point along the spark plug wire wrap four or five turns of meter wire (D) tightly around spark plug wire (E) and secure it to itself with cable tie (F). Cut and discard the balance of the wire.

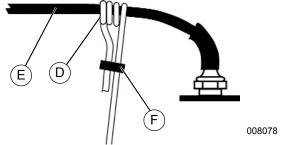


Figure 2-15. Maintenance Meter Installation

NOTE: Avoid placing the wire on, or near hot surfaces.

Adding Oil

ACAUTION

Engine damage. Verify proper type and quantity of engine oil prior to starting engine. Failure to do so could result in engine damage.

(000135)

AWARNING

Skin irritation. Avoid prolonged or repeated contact with used motor oil. Used motor oil has been shown to cause skin cancer in laboratory animals. Thoroughly wash exposed areas with soap and water.

(000210)

IMPORTANT NOTE: The unit is shipped without oil in the engine. Oil must be added prior to operation.

- **1.** Place unit on a firm, level surface, and verify engine is cooled.
- See Figure 2-16. Remove oil dipstick/fill cap (A) and wipe dipstick clean.

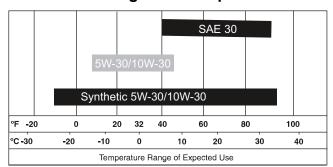


Figure 2-16. Adding Oil

Add 20 oz (600 mL) of engine oil. Climate determines proper engine oil viscosity. See *Table 1: Engine Oil Requirements* to select correct viscosity.

NOTE: Use only detergent oil classified SF-SG. Do not mix oils of different brands and features.

Table 1 – Engine Oil Requirements



- 4. Wait one minute for oil to settle.
- **5.** Reinsert dipstick into oil filling hole without screwing it in. Pull the dipstick out, and verify oil is between the "MIN" and "MAX" marks.

- 6. If oil level is low, add a few ounces of oil at a time, rechecking the dipstick until the oil reaches the "MAX" mark. Do not overfill.
- 7. Fully tighten the cap, and wipe i[any spilled oil.

Adding Fuel



ADANGER

Explosion and Fire. Fuel and vapors are extremely flammable and explosive. Add fuel in a well ventilated area. Keep fire and spark away. Failure to do so will result in death or serious injury. (000105)



ADANGER

Explosion and Fire. Do not fill fuel tank past full line. Allow for fuel expansion. Overfilling may cause fuel to spill onto engine causing fire or explosion, which will result in death or serious injury.

(000214)



AWARNING

Explosion and Fire. Do not smoke while refueling unit. Failure to do so could result in death, serious injury, or property or equipment damage. (000284a)

NOTE: Never use contaminated gasoline or mixed gasoline with oil. don't allow dust, foreign matter or water to enter into the fuel tank.

- Place unit on a firm, level surface in a well ventilated area.
- **2.** Verify unit is OFF and cooled for a minimum of two minutes.
- 3. See Figure 2-17. Remove the gas fill cap (A).

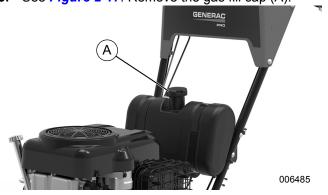


Figure 2-17. Fuel Cap

- **4.** Fill tank with fresh, unleaded gas with a minimum 90 octane rating to 0.25 in (6.4 mm) from the bottom of the fill neck to allow for fuel expansion.
- 5. Install fuel fill cap.

NOTE: Allow spilled fuel to evaporate before starting unit.

Checking Tire Pressure

AWARNING

Loss of control. Do not overinflate tires. Overinflation could cause a blow out, which could result in loss of control. Loss of control could result in death, serious injury, property or equipment damage. (000428)

1. See *Figure 2-18*. Remove valve stem protective cap (A) and check tire pressure with tire pressure gauge.

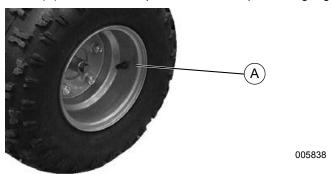


Figure 2-18. Valve Stem Location

- **2.** Compare tire pressure reading to the manufacturer's recommended tire pressure stamped on tire.
- **3.** If pressure is too low, add air through valve stem with an air hose.
- **4.** Replace valve stem protective cap when finished.

Connecting Battery Cable

Units are shipped with negative terminal battery cable disconnected. Before use, connect battery cable.

1. See *Figure 2-19*. Connect the negative (black) cable to the negative (-) battery terminal.



Figure 2-19. Connecting Battery Cable

Handlebar Height Adjustment

All units are shipped with the handlebar set to the highest position. To adjust the handlebar to lower positions:

 See Figure 2-20. Remove rear handlebar bolt (A) with a 9/16 in wrench from both sides of the unit.

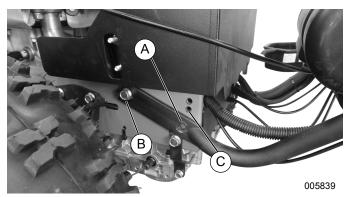


Figure 2-20. Handlebar Height Adjustment

- Loosen front handlebar bolt (B) on both sides of the unit. Do not remove.
- **3.** Align handlebar rear hole to handlebar low position hole (C) in the frame.
- 4. Reinstall rear bolts on both sides of the unit.
- 5. Tighten front and rear bolts on both sides of Unit.

Deck Pivot Bolt Check/Adjustment

NOTE: Deck carriage bolts should be adjusted to the lowest setting for easy to moderate mowing. For instructions on aggressive mowing see *Deck Pivot Bolt Adjustment for Aggressive Mowing Conditions*

Verify the machine had been shipped with the deck pivot carriage bolts installed at the lowest position. If they are not in the lowest position, perform the following procedure on both deck pivot bolts:

1. See *Figure 2-21*. Hold the square portion of carriage bolt (A) using a 1/2 in wrench.

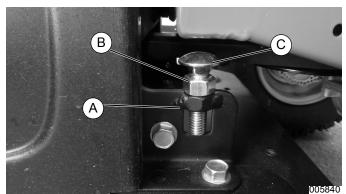


Figure 2-21. Carriage Bolt and Locknut

- Turn locknut (B) up to bottom of bolt head (C) using a 3/4 in wrench.
- 3. Turn the carriage bolt down using a 1/2 in wrench until threaded end contacts deck bracket.

- **4.** Hold the square portion of carriage bolt (A) using a 1/2 in wrench.
- 5. Tighten locknut (B).

Steering Brake Burnishing

Brake pads and rotors must be burnished during first use. To burnish the steering brake system:

- 1. See **Starting Unit**. Shift unit into second gear.
- **2.** Engage traction drive lever to drive the machine forward.
- **3.** Apply both brakes equally with moderate force and hold brakes on for 100 ft (30.5 m).
- **4.** Release brakes for 25 ft (7.6 ft).
- **5.** Reapply both brakes equally with moderate force and hold brakes for 100 ft (30.5 m).

Blade Clutch Burnishing

The blade clutch must be burnished before initial use for optimum engaging and braking action.

NOTE: The machine must be fully assembled and set up before performing the burnishing procedure.

- Start the engine and set the machine to half throttle. See Starting Unit.
- **2.** Engage blade clutch for two seconds, disengage and let cool down for 10 seconds.
- 3. Repeat step 2 for 50 cycles.

High Altitude Replacement Kit

At high altitude, standard carburetor air-fuel mixture will be too rich. A rich mixture decreases performance, increases fuel consumption, fouls the spark plug and causes hard starting. Operation at high altitude for extended periods of time, may increase emissions.

Proper operation at higher altitudes can be improved by installing an altitude kit when required. See *Table 2:*High Altitude Replacement Kit

Table 2 – High Altitude Replacement Kit

Altitude Range	Part Number	
0-5000 ft	Not required	
5000-8000 ft	10000035259	

Kits can be obtained by contacting Generac Customer Service at 1-888-436-3722 (1-888-GENERAC), or **www.generac.com**. Kits must be installed by a qualified individual.

NOTE: If a carburetor is replaced, the proper high altitude kit jet will need to be installed into the replacement carburetor.

NOTE: The warranty may be void if installation of a high altitude kit is not made for high altitude use.

Section 3: Operation



AWARNING

Consult Manual. Read and understand manual completely before using product. Failure to completely understand manual and product could result in death or serious injury. (000100a)



AWARNING

Hot Surfaces. When operating machine, do not touch hot surfaces. Keep machine away from combustibles during use. Hot surfaces could result in severe burns or fire.

(000108)

AWARNING

Personal injury. Disengage mower blades when crossing roadways or walkways. Engage mower blades on grass or brush only. Failure to do so could result in death, serious injury, property damage, or equipment damage.

(000402)

AWARNING

Projectile risk. Remove all debris from work area before operating unit. Failure to do so could result in death, serious injury, or property or equipment damage. (000410)

AWARNING

Accidental startup. Before clearing debris from mower deck, shut engine OFF and allow to cool. Disconnect spark plug wire. Failure to do so could result in death or serious injury. (000488)

Operation and Use Questions

Contact your nearest authorized dealer, or contact Generac Customer Service at 1-888-436-3722 (1-888-GENERAC), or **www.generac.com** with questions or concerns about unit operation and maintenance.

Controls and Symbols

See *Figure 3-1*. The control panel uses icons to represent settings. Be familiar with icon meanings prior to unit operation.

CHOKE
N NUETRAL
DLE
FAST

RUN
STOP

BLADE ENGAGE

5 START

* BLADE DISENGAGE

Figure 3-1. Control Symbols

Before Starting Engine

IMPORTANT NOTE: Oil must be added before starting the engine for the first time. Units are shipped without oil.

- 1. Check engine oil level.
- 2. Check fuel level.
- **3.** See *Figure 3-2*. Verify fuel shut-off valve (A) located under the fuel tank is open.



Figure 3-2. Fuel Shut-Off Valve

Starting Unit

 See Figure 3-3. Set wheel speed lever (A) to NEUTRAL.

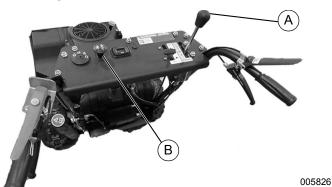


Figure 3-3. Wheel Speed Lever

NOTE: The wheel speed lever must be in NUETRAL and blade control knob (B) pushed down to the BLADE DIS-ENGAGE position for the engine to start.

2. See *Figure 3-4*. Verify neutral safety switch (C) at the rear of the transaxle is connected.

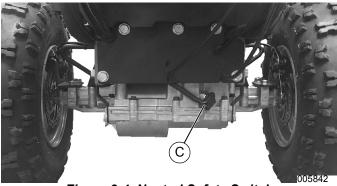


Figure 3-4. Neutral Safety Switch

- Move throttle lever to CHOKE or FAST if the engine is already warm.
- Rotate key to the START position until the engine starts, then release. The key will return to the RUN position.
- **5.** Set throttle lever to the FAST position.

Engaging Wheel Drive

The unit has a three speed forward, single speed reverse transmission. General guidelines are as follows:

- 1st Gear: Thick, woody vegetation
- 2nd Gear: Stalky material or field mowing
- 3rd Gear: Lighter mowing or for transporting.
- Reverse Gear: Maneuvering in tight spots.
- Set throttle in the FAST position for mowing.
- Transport the machine in 3rd gear and use the throttle to adjust speed.
- Mowing speed impacts cutting performance. Mow at a slower gear to improve cut quality.
- For best control, select a drive speed that matches the conditions. Use a slower speed when in wet or heavy growth, or on slippery or steep slopes.

ACAUTION

Equipment damage. Always release the traction drive lever before shifting gears. Failure to do so could result engine and transmission damage.

(000412)

 See Figure 3-5. Set wheel speed lever (A) to the desired gear.

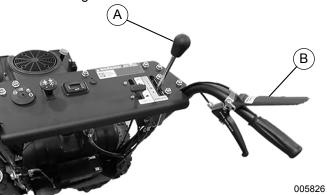


Figure 3-5.

- **2.** Gently push down traction drive lever (B) to engage the wheels.
- **3.** Release the traction drive lever to slow or stop.

IMPORTANT NOTE: The steering brakes will not stop the machine if the machine is in gear and the traction drive lever is engaged.

Engaging Mower Blade

AWARNING

Personal injury, equipment damage. Always disengage mower blade before shifting into reverse. Failure to do so could result in serious injury or equipment damage.

(000405)

- **1.** See *Figure 3-6*. Press operator presence lever (A) against handlebar grip.
- **2.** Pull up blade control knob (B) to the BLADE ENGAGE position to engage the blade.

NOTE: Pulling up the blade control knob before holding down the operator presence lever shuts off the engine.

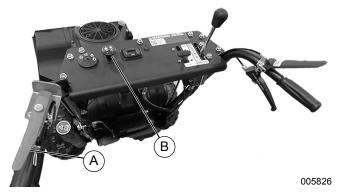


Figure 3-6. Mower Blade Controls

Disengaging Mower Blade

Stop the mower blade by pushing down the blade control knob into the BLADE DISENGAGE position.

NOTE: Releasing the operator presence lever to disengage the mower blade will shut off the engine.

Stopping the Engine

- 1. Disengage mower blade.
- 2. Set throttle control to the IDLE position.
- **3.** Turn key to the STOP position and remove key.

NOTE: On units equipped with a fuel shutoff valve, close the valve before transporting or storing the mower.

Operating Steering Brakes

The steering brakes apply a stopping force to the desired wheel. Using the steering brakes can assist with:

- Shifting drive power from one wheel to the other to improve traction.
- Keeping the mower driving straight on side slopes.
- Turning the mower left or right.

Steering with Brake Assist

- See Figure 3-7. Set wheel speed lever (A) to gear best suited for the application. See Engaging Wheel Drive.
- **2.** Engage traction drive lever (B) to drive the machine.
 - Turn left by squeezing left brake lever (D)
 - Turn right by squeezing right brake lever (C).

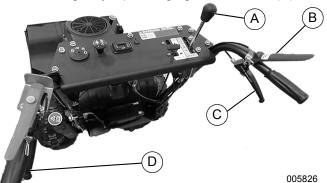


Figure 3-7. Brake Assist

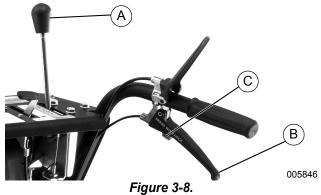
Traction Control with Brakes

Occasionally, the machine may lose traction on one or both wheels. To regain traction:

- 1. Stop the mower blade by pushing the blade control knob to the BLADE DISENGAGE position.
- **2.** Apply the brake on the spinning wheel to direct power to the wheel that has traction.
- 3. If both wheels are spinning, alternate brakes.

Setting Parking Brake

 See Figure 3-8. Set wheel speed lever (A) to NEU-TRAL.



- **2.** Engage brake lever (B) and push brake lock (C) forward. The brake lever will remain up when locked.
- 3. Repeat step 2 for other brake.

If Mower Gets Stuck

- 1. Disengage mower blade. Never attempt to free the unit from an obstruction with the blade engaged.
- **2.** Push down on the handlebars to lift the mowing deck over the obstruction.
- 3. Shift the machine in reverse and back away.

Mowing on Slopes

AWARNING

Personal injury, equipment damage. Always mow across the face of a slope. Never mow slopes greater than 20 degrees. Failure to do so could result in a slip and fall, resulting in loss of control of the equipment and could result in death or serious injury. (000404)

AWARNING

Personal injury. Never operate mower on wet or slippery slopes as loss of control may result. Operating on wet or slippery slopes could result in death, serious injury, or property or equipment damage.

(000413)

AWARNING

Personal injury. Never shift gears while operating on a slope. Doing so could result in loss of control and could cause death, serious injury, or property or equipment damage.

(000414)

- When mowing sloped terrain, mow across the face of the slope. Do not mow up and down the slope.
- To avoid excessive speed, shift into a lower gear before descending a slope.
- When mowing side hills, feather the uphill brake to keep the machine moving in a straight line.

Deck Pivot Bolt Adjustment for Aggressive Mowing Conditions

NOTE: The machine must be on a flat surface when making any deck adjustments.

Adjust the deck carriage bolts to the highest setting for aggressive mowing.

1. See *Figure* **3-9**. Hold the square portion of locknut (A) with a 3/4" wrench.

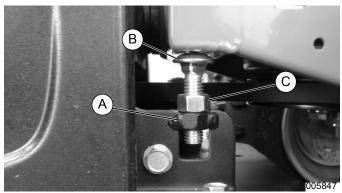


Figure 3-9.

- 2. Turn carriage bolt (B) up using a 1/2" wrench until the top of the head contacts the frame.
- **3.** Tighten locknut (C) against deck bracket while holding the carriage bolt stationary.
 - Repeat the process on the other deck pivot bolt.

Operation

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Section 4: Maintenance and Troubleshooting

Maintenance

Regular maintenance will improve performance and extend engine/equipment life. Regular maintenance, replacement, or repair of the emissions control devices and systems may be performed by any repair shop or person of the owner's choosing. To obtain emissions control warranty service free of charge, contact Generac Customer Service at 1-888-436-3722 (1-888-GENERAC), or www.generac.com. See the emissions warranty.

AWARNING

Accidental start-up. Before servicing or detangling, shut down unit, allow to cool, remove keys, and disconnect spark plug wire(s). Failure to do so could result in death, serious injury, or equipment damage.

AWARNING

Personal injury. Mower blades are extremely sharp. Use appropriate personal protective equipment when handling and servicing blades, or use blade protection. Failure to do so could result in death or serious injury.

(000400)

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AWARNING

Hot Surfaces. When operating machine, do not touch hot surfaces. Keep machine away from combustibles during use. Hot surfaces could result in severe burns or fire. (000108)

Table 3 - Maintenance Schedule

Procedure	Before Each Use	Every 25 Hours	Every 100 Hours
Verify operator presence switch function	•		
Check engine oil level	•		
Inspect general equipment condition	•		
Check blade sharpness	•		
Clean engine exterior and cooling fins	•		
Inspect all belt tensions and condition	•		
Brake maintenance		•	
Lubricate grease fittings		•	
Lubricate cables		•	
Check tire pressures		•	
Change engine oil and filter if equipped	1st time 5 hours	•	
Verify battery charge		•	
Inspect cable connections		•	
Replace air filter and precleaner if equipped		•	
Replace belt		•	
Replace spark plug(s)			•
Replace fuel filter			•

Operating the Maintenance Meter

See *Figure 4-1*. The maintenance meter monitors the accumulated running time, time until the engine oil needs to be changed, and time until lubrication is recommended. Pressing function button (A) cycles through meter functions.



Figure 4-1. Operating Maintenance Meter

After 25 hours of running time, the meter will automatically blink as a signal for oil change. It will continue to blink for two hours of accumulated running time. The next alert will automatically appear in 25 hours. No reset is required.

If the RPM indication is not responding to changes in engine speed, check the connections at the meter and verify meter wire is wrapped tightly around spark plug wire.

Air Filter Maintenance

NOTE: To order a replacement air filter, contact Generac Customer Service at 1-888-436-3722 (1-888-GEN-ERAC), or *www.generac.com*.

- 1. Clean the area around the filter cover.
- 2. Remove cover by unscrewing the two knobs.
- 3. Remove filtering element.
- Tap cartridge on a solid surface and blow it from the inside with compressed air to remove dust and debris.
- **5.** Clean the inside of the filter housing. Do not allow dust or debris to enter the inlet duct.

NOTE: If the cartridge is too dirty to clean, clogged, or damaged, replace the cartridge with a new one.

6. Install the cartridge and refit the cover.

Changing Engine Oil and Filter

ACAUTION

Engine damage. Verify proper type and quantity of engine oil prior to starting engine. Failure to do so could result in engine damage.

(000135)

AWARNING

Skin irritation. Avoid prolonged or repeated contact with used motor oil. Used motor oil has been shown to cause skin cancer in laboratory animals. Thoroughly wash exposed areas with soap and water.

(000210)

NOTE: Drain oil when engine is warm. Warm oil drains more completely.

1. See *Figure 4-2* and *Figure 4-3*. Place an approved oil container near oil drain (A).

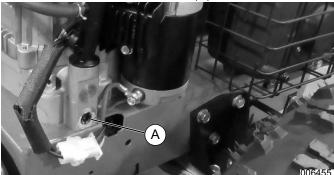


Figure 4-2. 16 HP Oil Drain

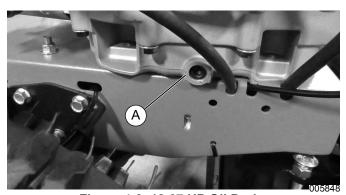


Figure 4-3. 18.67 HP Oil Drain

- 2. Remove drain plug with a 8 mm Allen wrench and allow oil to drain into the container.
- **3.** Remove oil filter with an oil filter wrench and replace with a **new** oil filter.
- **4.** Replace drain plug and fully tighten.
- Add 16 oz (473 ml) of oil into the oil fill and wait one minute for the oil to settle. See *Adding Oil* for information on engine oil requirements.
- Check the dipstick and continue adding a few ounces of oil at a time, rechecking the dipstick until the oil reaches the fill mark. Do not overfill.

Servicing Spark Plug

To service spark plug:

- 1. Clean area around spark plug.
- 2. Remove and inspect spark plug.
- 3. See *Figure 4-4*. Inspect electrode gap with wire feel gauge and reset spark plug gap to .024-.032 in (0.6-0.8 mm).

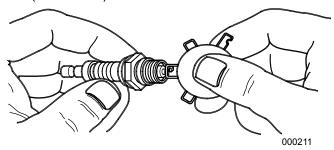


Figure 4-4. Spark Plug

- Replace spark plug if electrodes are pitted, burned or porcelain is cracked.
- Install spark plug. If a new spark plug is used, turn it 1/2 turn after compressing the gasket. If reinstalling a used spark plug, turn it 1/8-1/4 turns after compressing the gasket.

Idler Arm Lubrication

NOTE: Over greasing may leak grease onto drive belt.

- 1. Remove belt guard from deck.
- See Figure 4-5. Locate idler arm grease fitting (A).

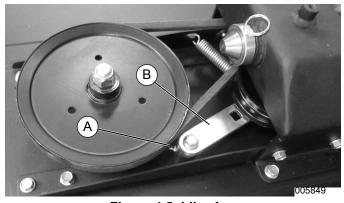


Figure 4-5. Idler Arm

- **3.** Apply 1-2 pumps of grease with a grease gun.
- 4. Reinstall belt and belt guard.

Cable Lubrication

- Lubricate the traction drive cable, shift cables, throttle cable, and brake cable where cable enters sheathing with a multi-purpose aerosol lubricant.
- Spray lubricant into the cable housing while working the cable back and forth a few times. Lubricate more frequently in dry and dusty environments.

Adjusting Traction Drive Cable

NOTE: When properly adjusted, the traction drive lever increases cable tension when the lever is parallel to the handlebar grip.

1. See *Figure 4-6*. Locate traction drive cable (A) along right handlebar.



Figure 4-6. Traction Drive Cable

Rotate center portion of in-line adjuster (B) clockwise while holding in-line adjuster ends stationary to expand in-line adjuster and remove cable slack.

Adjusting Shift Cables

The shift cables require adjustment if there is excessive play in the wheel speed lever, or if the lever no longer aligns with the wheel speed label.

NOTE: One cable may need to be tensioned and the other cable loosened to realign the lever.

See Figure 4-7. Locate shift cable adjustment nuts
 (A) on the shift lever end of the cable.

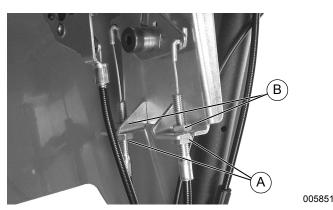


Figure 4-7. Shift Cable

- Loosen one of the cable jam nuts (B) using two 13 mm wrenches.
- **3.** Pull down on the cable to remove slack and tighten the cable adjustment nut to maintain cable tension.

NOTE: Do not over tighten the cable. Over tightening will create a spongy feel in the shift lever.

Replacing Drive Belt

See Figure 4-8. Remove brush deck (see Removing Brush Deck) and tip the machine back on its handlebars to access clutch connector (A).



Figure 4-8. Clutch Connector Location

See Figure 4-9. Disconnect clutch connector (B) by lifting the locking tab and separating the halves.



Figure 4-9. Clutch Connector

3. See *Figure 4-10*. Align the hole in traction drive (C) with the opening in the frame (D) by rotating clutch bolt (E) with a 5/8" socket.

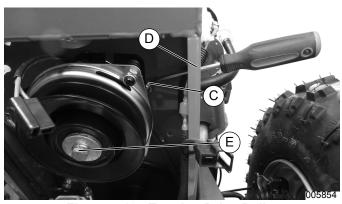


Figure 4-10. Traction Drive Pulley

- Insert a Phillips screwdriver through the frame opening (C) and into the hole in traction drive pulley (D).
- **5.** Rotate clutch bolt (E) until screwdriver contacts frame to prevent the engine shaft from rotating.
- 6. Remove clutch bolt (E) using a 5/8 in socket.

- 7. Remove clutch from engine shaft.
- **8.** See *Figure 4-11*. Remove belt guide retaining nuts (F) with a 1/2" socket.

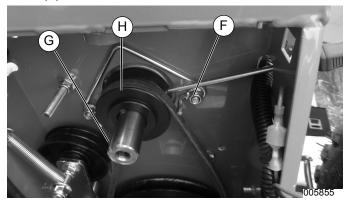


Figure 4-11. Clutch Removal

- **9.** Remove key (G) from traction drive pulley (H) and shift transmission to NEUTRAL.
- 10. Remove pulley from pulley grove.
- **11.** Rotate belt 90° and remove from transmission by sliding the belt out between the pulley and frame.
- **12.** Install the **new** belt by reversing the steps above.

During reassembly, verify:

- Clutch bolt is torqued to 50 ft-lbs (68 Nm).
- Shaft key is installed in engine shaft.
- Belt is routed to inside of belt guides.
- See Figure 4-12. The clutch is located properly on the anti-rotation bolt (D).

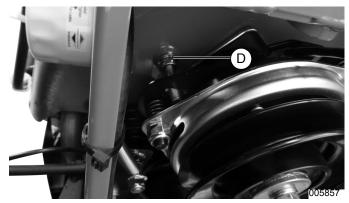


Figure 4-12. Anti-Rotation Bolt Location

Removing Wheels

- **1.** Loosen wheel nut with the wheel on the ground.
- **2.** Use a suitable lifting device and raise the machine to allow wheel removal.
- 3. Remove wheel nut and slide wheel off.
- **4.** Replace wheel and finger tighten wheel nut before lowering the wheel to the ground.
- 5. Tighten wheel nut with wheel resting on the ground.

Replacing Mower Blade

AWARNING

Personal injury. Mower blades are extremely sharp. Use appropriate personal protective equipment when handling and servicing blades, or use blade protection. Failure to do so could result in death or serious injury.

(000400)

The blade should be replaced every five years, or when worn or damaged, whichever comes first.

 See Figure 4-13. Block mower blade from rotating with a piece of wood (A).

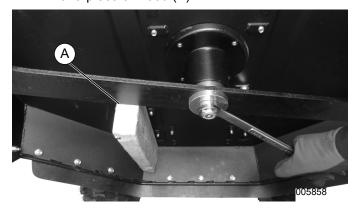


Figure 4-13. Mower Blade Removal

- 2. Remove mower blade lock nut and washer.
- 3. Remove mower blade.
- **4.** Mount new mower blade, washer, and lock nut and torque to 100 ft-lbs (135.58Nm).

NOTE: Seat the mower blade completely over the small ridge in the spindle hub before tightening the lock nut.

Replacing the Mower Blade Pulley

The mower blade pulley is designed to protect the drive system. If the machine is overloaded the blade pulley may fail and require replacement.

1. See *Figure 4-14*. Unscrew hand knob (A) and remove belt guard (B).

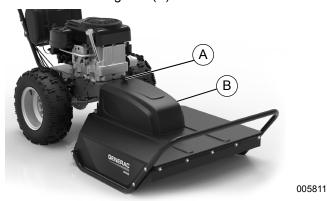


Figure 4-14. Accessing Blade Pulley

Remove belt from pulley. See Removing Brush Deck. 3. See *Figure 4-15*. Block blade with a piece of wood to prevent it from rotating and remove locknut (C) with a 15/16" wrench.

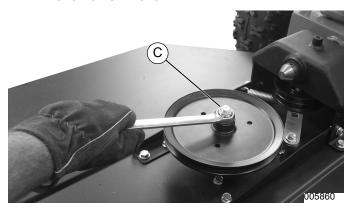


Figure 4-15. Blade Pulley Locknut

- **4.** Remove damaged mower blade pulley and replace with a **new** mower blade pulley.
- **5.** Secure mower blade pulley with the locknut and torque to 50 ft-lbs (68 Nm).
- Install the mower belt. See Replacing Mower Blade.
- 7. Replace the belt guard and hand knob.

Adjusting Brake Cables

See *Figure 4-16*. Unscrewing micro adjust knob (A) increases brake cable tension.

Once the micro adjust knob nears the end of its thread travel a full adjustment is required.

NOTE: It is recommended the wheel be removed before completing a full adjustment.

1. See *Figure 4-16*. Screw micro adjust knob (A) into the caliper as far as it goes.



Figure 4-16. Brake Cable Adjustment

- Loosen cable clamp (B) using a 5.5 mm hex wrench.
- **3.** Pull the cable through the clamp, removing any cable slack.
- **4.** While maintaining tension on the cable, tighten cable clamp with a 5.5 mm hex wrench.

Adjusting Brake Pads

The brake pads may require adjustment after pad wear.

- 1. Remove the wheel from the side being worked on.
- See Figure 4-17. Locate pad adjustment screw (D) on the outboard side of the caliper.

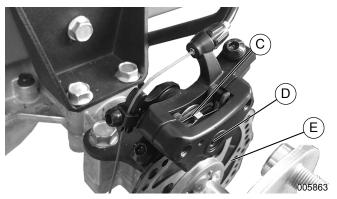


Figure 4-17. Brake Pad Adjustment

- **3.** Tighten adjustment screw with a 5.5 mm hex wrench until brake pad (C) is shy of contacting brake rotor (E).
- 4. Reinstall the wheel.
- **5.** Repeat steps 1-5 with the other brake pad if required.

Adjusting Caliper Alignment

NOTE: Caliper alignments are only required after brake pads have been adjusted.

- 1. Remove the wheel from the side that needs adjusting.
- 2. See *Figure 4-18*. Loosen caliper mounting bolts (F) one turn using a 5.5 mm hex wrench.

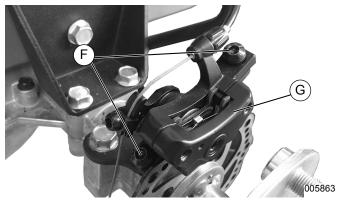


Figure 4-18. Brake Caliper Alignment

- **3.** While manually squeezing caliper (G) closed on brake rotor, tighten caliper mounting bolts.
- 4. Replace the wheel.
- 5. Repeat steps 1-4 on the other side if necessary.

Battery Care



AWARNING

Explosion. Batteries emit explosive gases while charging. Keep fire and spark away. Wear protective gear when working with batteries. Failure to do so could result in death or serious injury.

(000137a)

AWARNING

Explosion. Do not dispose of batteries in a fire. Batteries are explosive. Electrolyte solution can cause burns and blindness. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention.

(000162)

AWARNING

Accidental Start-up. Disconnect the negative battery cable, then the positive battery cable when working on unit. Failure to do so could result in death or serious injury. (000130)

AWARNING

Accidental start-up. Before servicing or detangling, shut down unit, allow to cool, remove keys, and disconnect spark plug wire(s). Failure to do so could result in death, serious injury, or equipment damage. (000415)



AWARNING

Risk of burn. Do not open or mutilate batteries. Batteries contain electrolyte solution which can cause burns and blindness. If electrolyte contacts skin or eyes, flush with water and seek immediate medical attention. (000163a)

AWARNING

Environmental Hazard. Always recycle batteries at an official recycling center in accordance with all local laws and regulations. Failure to do so could result in environmental damage, death or serious injury.

(000228)

Always recycle batteries in accordance with local laws and regulations. Contact your local solid waste collection site or recycling facility to obtain information on local recycling processes. For more information on battery

at: http://batterycouncil.org

Proper care can extend battery life. For best battery performance and long battery life:

recycling, visit the Battery Council International website

- Do not allow battery to fully discharge.
- Charge the battery every 4–6 weeks when the unit is not being used. Operate the engine for at least 45 minutes to maintain proper charge.
- Store unused battery in a dry environment with temperatures between +40°F (5°C) and +95°F (+35°C).

- Do not charge a fully charged battery. Heat from the trickle charger could damage the battery. The battery will read 12–13.2 volts when fully charged.
- Do not crank the engine when battery charge is low.
- Before charging the battery, observe its external appearance and keep it clean and dry. Never charge or use a battery that shows cracks, changes shape, leaks, or is otherwise damaged.

Charging the Battery

If the battery loses charge, recharge with a trickle charger. The charger must have an output of 12 volts, at no more than 2 amps.

NOTE: Starting a machine that has significantly discharged using the recoil starter or jumper cables will not recharge the battery.

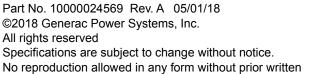
To connect a battery charger to the battery:

- 1. Disconnect battery cables.
- Connect negative (black) battery charger cable to battery negative (-) terminal, and connect positive (red) battery charger cable to battery positive (+) terminal.
- 3. Plug battery charger into an outlet.
- **4.** Charge until battery charger indicates it is charged or battery measures 12–14 volts.
 - At 1 amp, charging may take as long as 24 hours.
 - At 2 amps, charging may take as long as 12 hours.
- **5.** Disconnect charger from outlet once battery has charged.
- **6.** Disconnect battery from charger and remove the cables, removing the negative cable

Troubleshooting

Symptom	Possible Cause	
	Verify transmission is in NEUTRAL, and PTO switch is in depressed position.	
	Verify neutral safety switch plug is connected.	
Engine starter wan't erank	Inspect fuse located under battery.	
Engine starter won't crank	Verify battery is more than 12 volt. See <i>Battery Care</i> .	
	Verify all wire connections are clean and tight. Verify ground connections on handlebar and all connections on solenoid are proper. Disconnect green battery ground wire first to avoid sparks. Reconnect battery ground wire.	
	Verify fuel tank is at least half full and fuel shut off is in ON position.	
Engine starter cranks but	Verify fuel solenoid switch on carburetor bowl is connected.	
engine won't start	Attempt to start with throttle in CHOKE position. If this fails, attempt to start in RUN position.	
	Refer to the OEM for engine specific procedures.	
	Inspect throttle lever travel and adjustment. Verify throttle lever is in RUN position.	
	Air filter may be dirty. Change as necessary.	
Engine lacks power or is not running smoothly	Spark plug may be dirty or cracked. Change as necessary. If it's oily, leave it out, hold a rag over the plug hole(s) and crank the engine several times to blow out any oil in the cylinders. Wipe off plug and install.	
	Fuel may be old. Change as necessary.	
	Inspect the fuel filter. Replace as necessary.	

Symptom	Possible Cause	
	Inspect oil level and adjust as needed.	
	Verify machine is not on a steep incline.	
Engine smokes	Air filter may be dirty. Replace as necessary.	
	Inspect cooling fins. Clean if necessary.	
	Contact Generac Customer Service at 1-888-436-3722, or www.generac.com.	
Traction drive does not	Inspect drive belt. Replace if broken. Repair if out of adjustment.	
engage	Adjust traction drive cable	
Difficulty shifting	If shifting on a slope or under load, lift one tire to relieve residual drive load.	
Difficulty Stiffling	Excessively tight shift cables. Loosen one cable slightly. Test for improvement.	
Belt frays or rolls over the pul-	Pulley dirty or damaged. Clean pulley with steel wool or file off any cuts or nicks.	
ley	Inspect belt for stretching, wear or hard spots.	
	Inspect mower blade for damage or wear. Replace or sharpen. Never try to straighten a bent blade. Verify blade is properly orientated. See <i>Replacing Mower Blade</i> .	
Excessive vibration when	Mower blade entangled in debris. Remove debris.	
engaging mower blade	Mower blade not properly seated on hub. Loosen mower blade nut, reseat the mower blade, and tighten nut.	
	Inspect and tighten all fasteners as required.	
Mower blade is not cutting, or	Mower blade not properly seated on hub. Loosen mower blade nut, reseat mower blade, and tighten nut.	
is loose	Mower blade dull. Sharpen blade. Verify blade is properly orientated. See <i>Replacing Mower Blade</i> .	
Mower blade will not engage	Verify operator presence lever is activated.	
and/or disengage	Verify control panel plugs and electric clutch plugs are connected.	
Wheels pulling left or right	Verify tire pressure is correct.	
	Verify all cables are adjusted properly and cables are not kinked.	
Poor brake performance	Caliper not be adjusted properly. See Adjusting Caliper Alignment.	
	Pads and rotors not aligned properly.	
	Pads and rotors not burnished properly. See Adjusting Brake Pads.	
Levers hard to move during cold weather operation	Cable housing is freezing. Using a lubricating syringe, inject a fuel additive into cable-housing opening to absorb moisture. Tip the machine forward slightly so the additive will flow down into the housing. Afterwards, lubricate with SAE30 oil.	



consent from Generac Power Systems, Inc.

