Groundsmaster® 5900 Rotary Mower

Model No. 31698—Serial No. 400000000 and Up
Model No. 31699—Serial No. 400000000 and Up

Software Guide

Read this information carefully to learn how to operate the InfoCenter control on your product. You are responsible for operating the product properly and safely.

Visit www.Toro.com for product safety and operation training materials, accessory information, help finding a dealer, or to register your product.

Introduction

The Software Guide for the Groundsmaster 5900 or 5910 rotary mower provides information for using the system information and control the system functions.

Contents

Product Overview

Controls

InfoCenter Startup Screen

When you start the machine, the startup screen appears, displaying the corresponding icons that apply (i.e., the parking brake is applied, the PTO is in the ON position, and the cruise control is in the ON position).

Note: The following figure is an example screen; this screen is meant to show all the **potential** icons that could appear on the screen while operating.

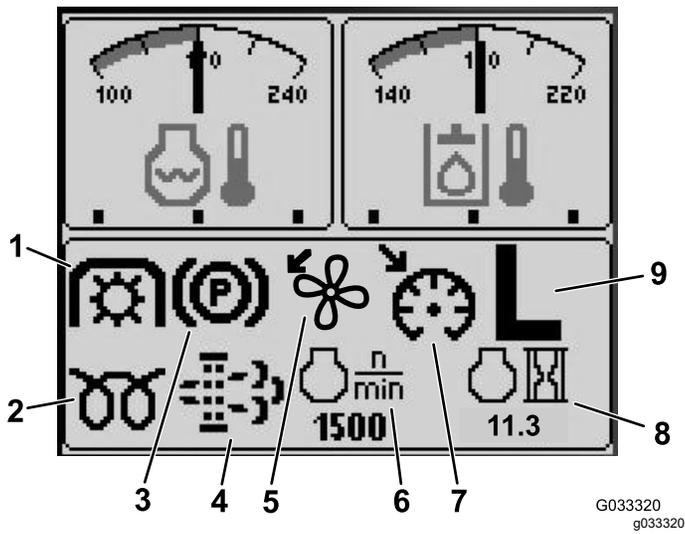Refer to the following graphic for all of the icon meanings (Figure 1).

Figure 1

1. PTO indicator
2. Glow-plug indicator
3. Parking-brake indicator
4. Diesel-particulate filter (DPF) maintenance indicator
5. Fan-reverse indicator
6. Engine speed
7. Cruise-control-set indicator
8. Engine-hours indicator
9. H/L (High/Low) transmission-range indicator

Operation

InfoCenter Control

Screen Functions

Press the corresponding button to view screen 1 or screen 2, to stop the audible alarm, to view the fault screen, or to exit (Figure 2).
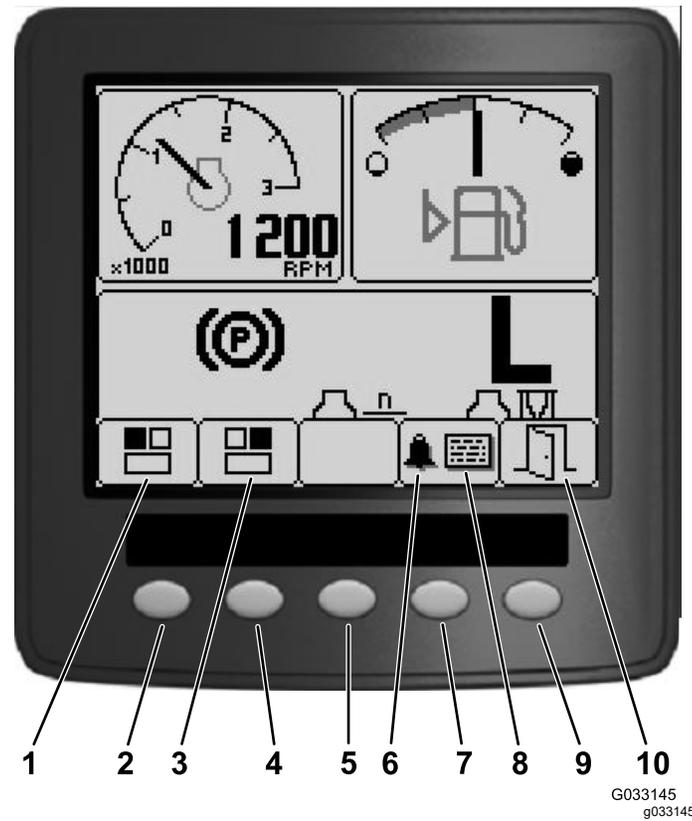
Figure 2

1. Screen 1—top, left screen
2. Button 1
3. Screen 2—top, right screen
4. Button 2
5. Button 3
6. Audible alarm
7. Button 4
8. Fault screen
9. Button 5
10. Exit

Press buttons 1 to 4 to access the pop-up menu bar on the bottom of the screen (Figure 2).

After the startup screen appears, you can select what you would like displayed in both the top, left corner and top, right corner of the display screen by pressing button 1 or button 2 on the InfoCenter control (Figure 2).

Note: When you shut off the machine, the top 2 screens remain at the previous setting before the machine was shut off.

You can toggle between the following screens by pressing button 1 and button 2:

• Tachometer—top, left screen (Figure 3)

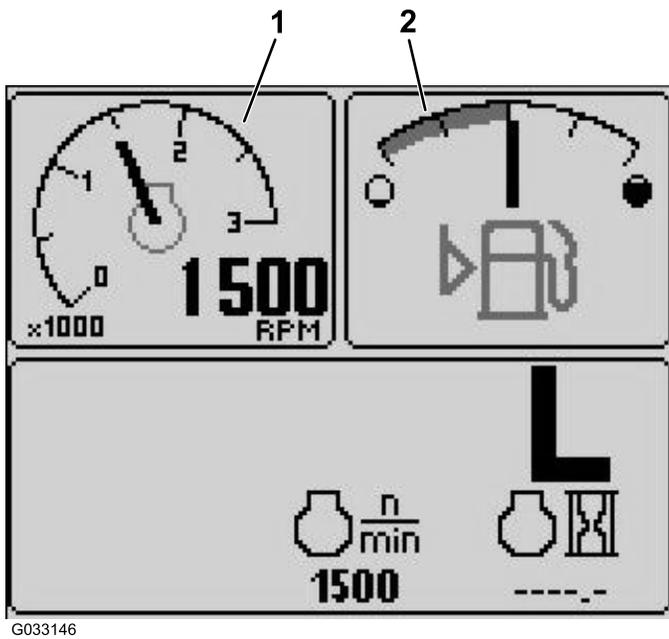• Fuel-level indicator—top, right screen (Figure 3)

Figure 3

1. Tachometer
2. Fuel-level indicator

- 12 V battery-voltage indicator—top, left screen (Figure 4)
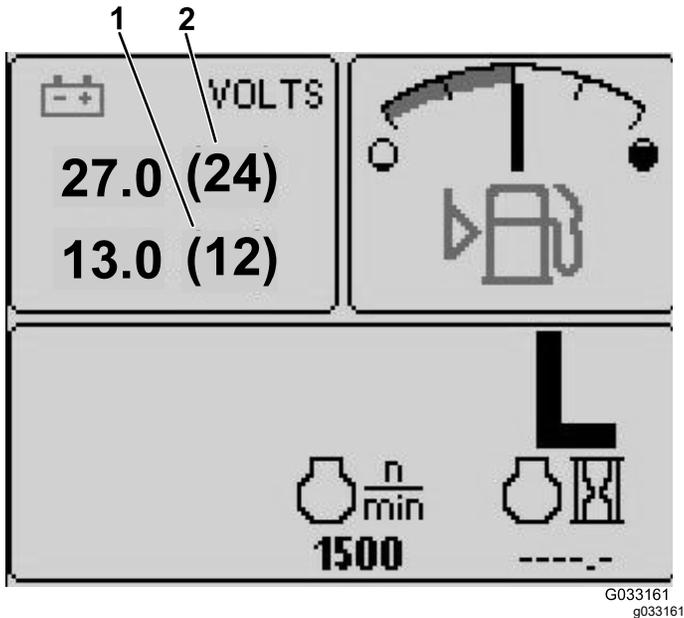- 24 V battery-voltage indicator—top, left screen (Figure 4)

Figure 4

1. 12 V battery-voltage indicator
2. 24 V battery-voltage indicator

- Hydraulic-fluid-temperature and fan indicator—top, right screen (Figure 5)

Note: In the following example, the hydraulic-fluid-cooling fans are running at 25% speed in the forward direction.

- Engine-coolant-temperature and fan indicator—top, left screen (Figure 5)

Note: In example Figure 5, the engine-coolant fans are running at 50% speed in the reverse direction.

This display (Figure 1) indicates fan speed and direction. The fan speed is controlled by the hydraulic-fluid temperature or the engine-coolant temperature, and automatically reverses as needed. A reverse cycle automatically initiates to help blow debris off the respective hood screen, when either the temperature of the engine coolant or the hydraulic fluid reaches a certain point. Additionally, the radiator fans perform a reverse cycle every 21 minutes regardless of the coolant temperature.

Fan direction is also indicated on the engine-coolant-temperature screen and the hydraulic-fluid-temperature screen. If the bar is to the right of the midpoint hash mark, the fans are running in the forward direction. If the bar is to the left of the midpoint hash mark, the fans are running in the reverse direction (Figure 5).
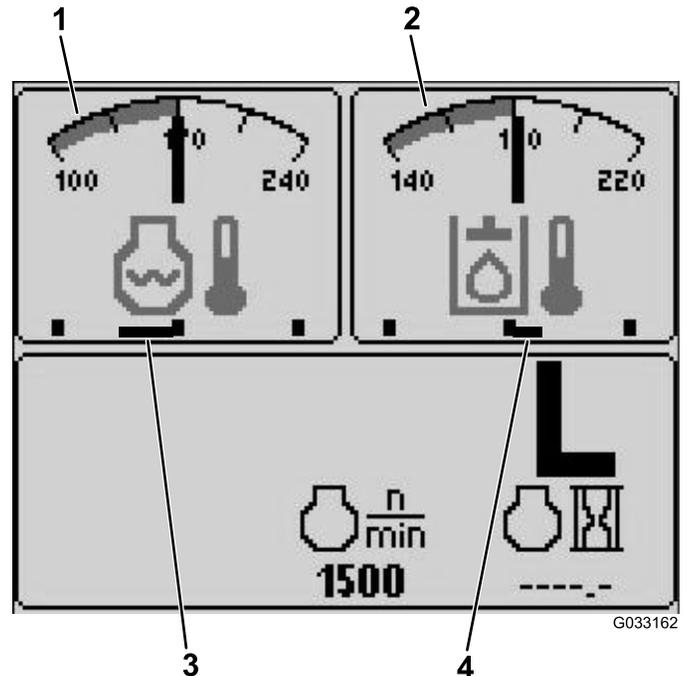

Figure 5

1. Engine-coolant temperature indicator
2. Hydraulic-fluid temperature indicator
3. Engine-coolant fans running at 50% speed in the reverse direction
4. Hydraulic-fluid cooling fans running at 25% speed in the forward direction

If a fault appears on the screen, press any key to view the active fault advisory (Figure 2).

Note: Contact your supervisor or mechanic to relay the fault advisory and determine the course of action.

Press the arrow keys to navigate the fault screen.

Press any key to reveal the information keys on the screen.

Diesel-Particulate-Filter (DPF) Maintenance Indicator

If the diesel-particulate-filter (DPF) maintenance indicator (Figure 1) appears on the screen, immediately contact your Toro distributor for service.

Fuel-Level Indicator

This display indicates the level of fuel in the tank (Figure 3).

PTO Indicator

This display indicates (Figure 1) when the PTO is engaged.

Parking-Brake Indicator

This display indicates that the parking brake is engaged (Figure 1).

Cruise-Control Indicator

This display (Figure 1) indicates when the cruise control is set.

H/L (High/Low Range) Speed-Range Indicator

This display indicates the selected transmission speed range (Figure 1).

Glow-Plug Indicator

This display indicates when the engine is preheating (Figure 1).

Engine-Hours Indicator

This display shows the total hours that the engine has been operated (Figure 1).

Tachometer

This display shows the engine-operating speed in rpm (Figure 3).

Hydraulic-Fluid-Temperature Indicator and Cooling-Fan-Status Indicator

This display indicates the hydraulic-fluid temperature and the status of the cooling fan (Figure 5).

Engine-Coolant-Temperature Indicator and Cooling-Fan-Status Indicator

This display indicates the engine-coolant temperature and the status of the cooling fan (Figure 5).

Battery Voltage

This display shows both the 12 V and 24 V battery voltage (Figure 4).

Service-Due Indicator

This display indicates the time until the next regular service interval.

Note: After you service the machine, reset the indicator.

1. Press and hold the far, right button on the InfoCenter.

   Note: The Main Menu screen appears.

2. Select Service using the 2 buttons on the left; press the button below the right arrow to continue.

3. Select Hours and press the button below the right arrow.

4. Press the button below Reset Hours.

5. Select the Hours for the appropriate next service time and press the button below the right arrow.

   Note: A check mark appears once the indicator has been reset.

6. When you are finished, press the button below the exit icon (picture of an open door) to return to the main screen, or press cancel to exit.

Audible Alarm (InfoCenter)

The alarm sounds during the following scenarios:

Lowering the deck

- The engine is not running
- Any deck is being lowered

Deck is out of float

- The PTO is requested and qualified
- Any deck is below the limit, but not floating

Machine sends a request to the InfoCenter

- The engine sends a red, stop lamp message

    Note: If the alarm stops or if the operator acknowledges the alarm by pressing any button on the InfoCenter, then the alarm should stop.

- Regeneration requested by the engine
- Any engine fault
- Any advisory; refer to InfoCenter Advisories (page 10)
- The engine sends an amber warning message
- The fuel level is below 2.2%

Main Menu

Press and hold the fifth button (far right) on the InfoCenter to access the main menu.

From the main menu screen, you can access the Service screen, Diagnostics screen, Settings screen, or the About screen (Figure 6).

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g033167

Figure 6

Service Screen

If you have an issue that requires use of the Service screen (i.e., calibrating the traction pedal), contact your Toro distributor for assistance.

Accessing the Protected Menus

Note: The factory default PIN code for you machine is either 0000 or 1234.

If you changed the PIN code and forgot the code, contact your authorized Toro distributor for assistance.

- 5900
- 1234

1. From the HOME SCREEN, press buttons either buttons 1, 2, 3, or 4 to access the pop-up menu bar at the bottom of the screen (Figure 7).
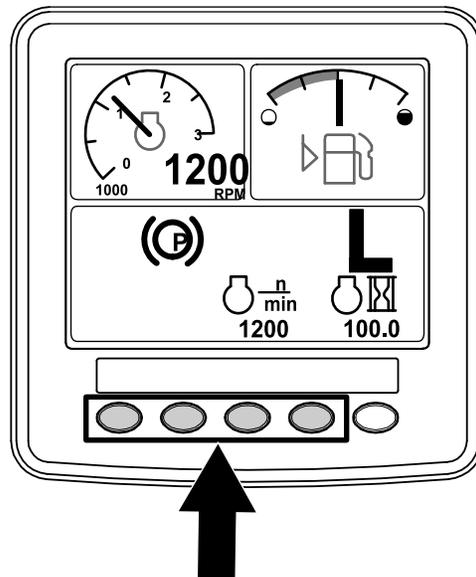

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Figure 7

2. Press and hold button 5 to access the MAIN MENU (Figure 8).
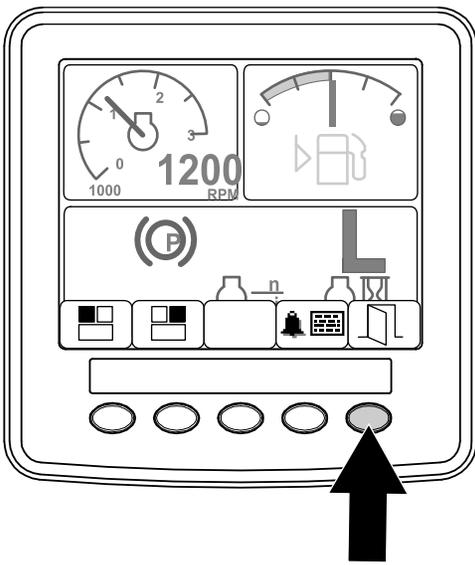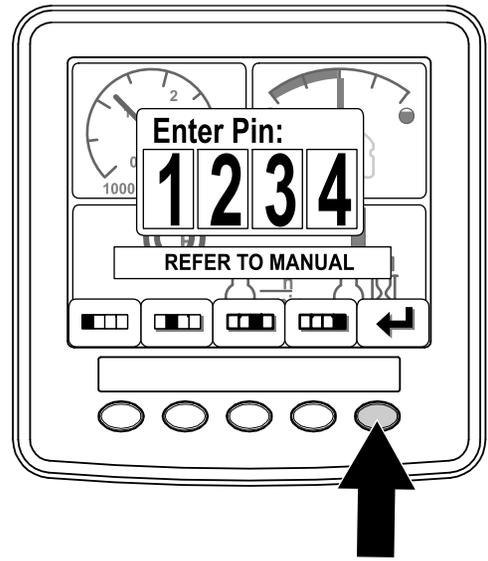
Figure 8

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If the menus are protected, the ENTER PIN screen displays.

3. Press buttons 1 through 4 to enter your PIN code (Figure 9).

Figure 9

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4. When you complete entering the PIN, press button 5 (Figure 10).

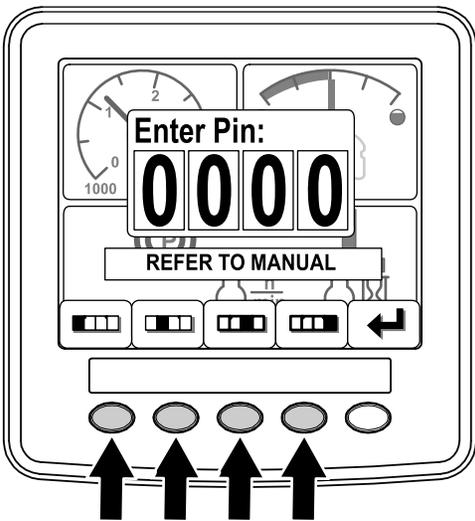The InfoCenter displays the MAIN MENU.

g214883

Figure 10

g214882

Note: When you shutoff the engine and then move the ignition switch to the RUN position, PIN code protection is applied to the MAIN MENU.

Changing the InfoCenter PIN

1. From the startup screen, press and hold button 5 until the Main Menu appears (Figure 11).

Figure 11

2. Press button 2 until you reach Settings on the Main Menu screen and press button 4 to select Settings (Figure 11).

3. From the Settings screen, press button 4 to select Display (Figure 12).
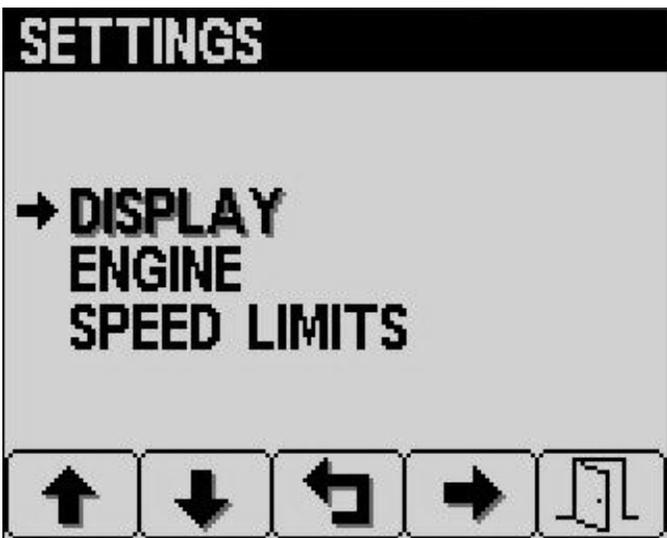
Figure 12

4. Press button 2 until you reach PIN Settings on the Display screen and press button 4 to select PIN Settings (Figure 13).

Figure 13

5. Press button 2 until you reach PIN Change on the PIN Settings screen and press button 4 to select PIN Change (Figure 14).
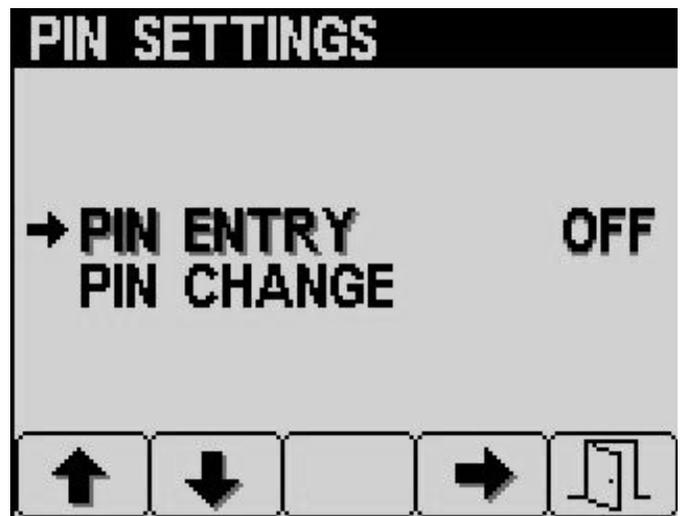

Figure 14

6. Enter your old PIN using buttons 1 to 4 and press button 5 when you complete the PIN (Figure 15).

   Note: The default PIN when you initially set up your PIN is 5900.
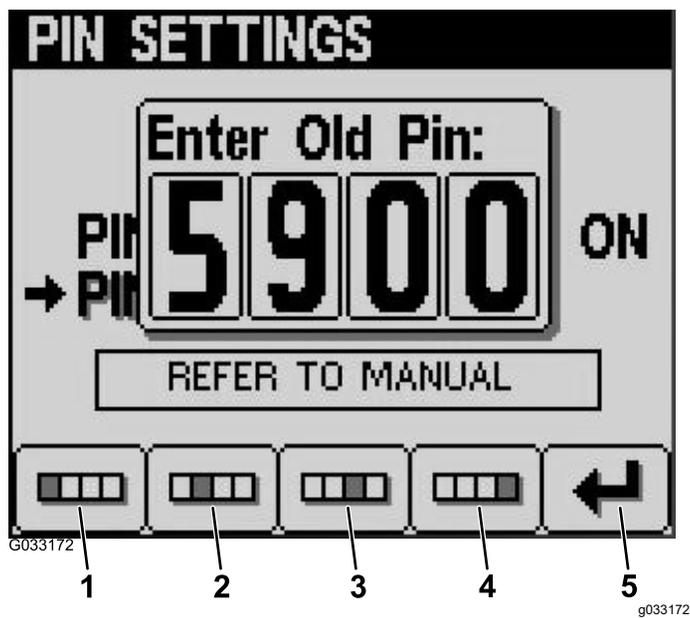
Figure 15

1. Digit 1
2. Digit 2
3. Digit 3
4. Digit 4
5. Enter PIN

7. Enter your new PIN using buttons 1 to 4 and press button 5 when you complete your new PIN (Figure 16).
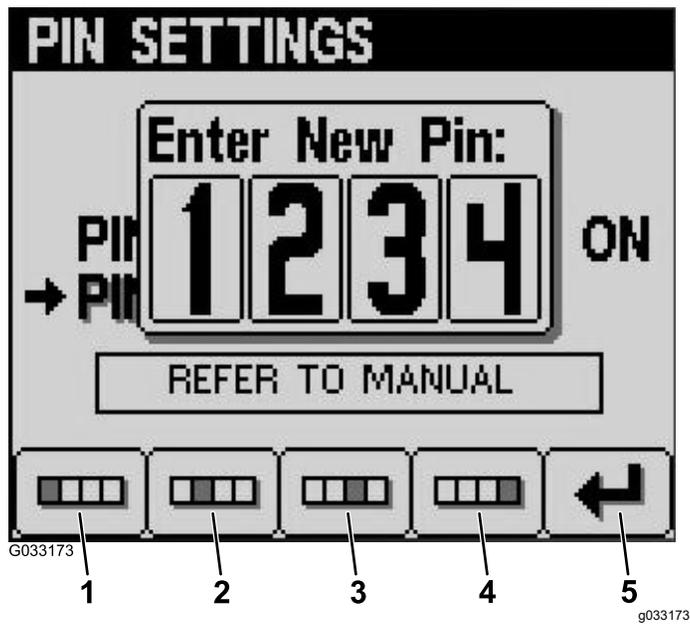
Figure 16

1. Digit 1
2. Digit 2
3. Digit 3
4. Digit 4
5. Enter PIN

8. Confirm your new PIN using buttons 1 to 4 and press button 5 when you complete the PIN (Figure 17).

Figure 17

1. Digit 1
2. Digit 2
3. Digit 3
4. Digit 4
5. Enter PIN

Setting the Service Due Timer

1. After you complete entering the PIN number for the protected menus, press button 5.

2. Scroll up or down to SERVICE in the main menu (Figure 18).

Figure 18

3. Press the side arrow button.

4. Scroll up or down to HOURS.

5. In the HOURS menu select the middle button to select RESET HOURS.

6. Scroll up or down to select the correct hours.

7. Press the side arrow button.

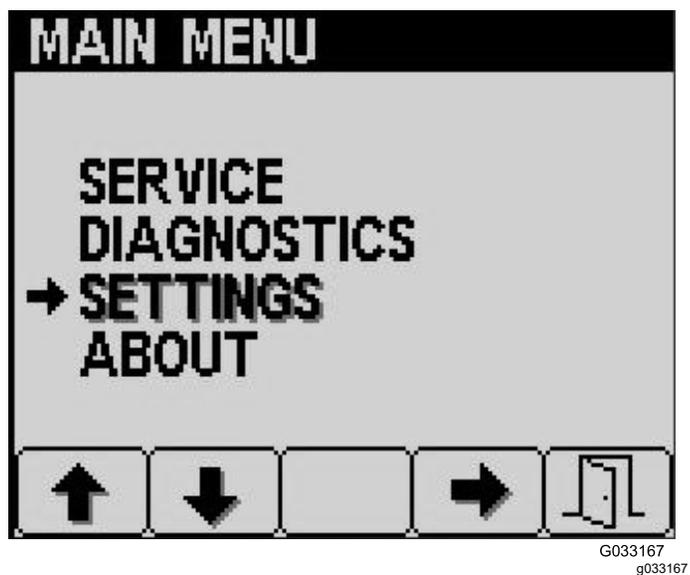8. Exit the menu by selecting the EXIT (door) button (Figure 18 or Figure 19).

Changing the InfoCenter Display Brightness/Contrast

1. From the startup screen, press button 5 to access the brightness/contrast pop-up-menu bar (Figure 19).
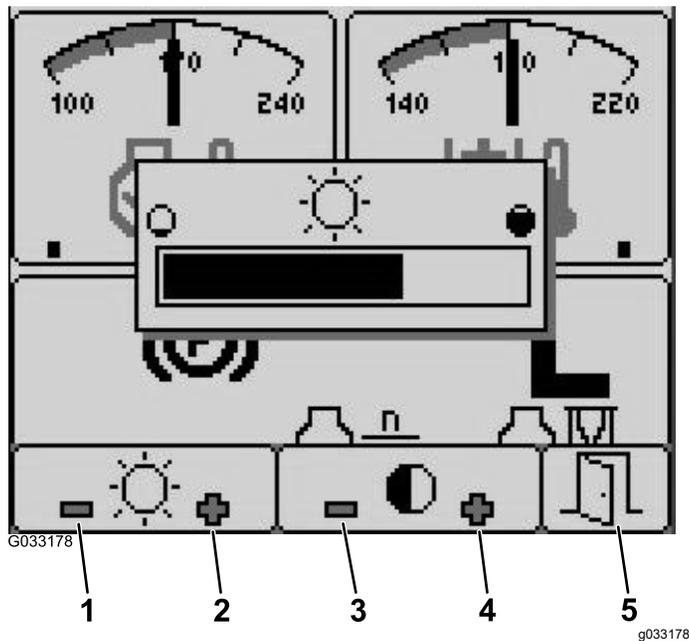
Figure 19

1. Decrease brightness	4. Increase contrast
2. Increase brightness	5. Exit
3. Decrease contrast	

2. Press button 1 to decrease brightness, button 2 to increase brightness, button 3 to decrease contrast, and button 4 to increase contrast (Figure 19).

3. When you have set your brightness/contrast, press button 5 to exit (Figure 19).

Setting the Cruise-Control Speed

The cruise-control switch sets your desired speed of the machine.

1. Move the cruise-control switch to the center position to turn the cruise control to the ON position.

2. Press the switch forward to set the speed.

3. From the Cruise Control screen, press button 1 to decrease the cruise control speed or button 2 to increase the cruise control speed (Figure 20).

4. When you have set your desired cruise control speed, press button 5 to exit (Figure 20).

5. Press the cruise-control switch rearward to disengage the cruise control.

   Note: Foot pedal movement also disengages the cruise control.

Figure 20

1. Decrease cruise control speed	3. Exit
2. Increase cruise control speed	

InfoCenter Advisories

Operator advisories automatically display on the InfoCenter screen when a machine function requires additional action. For example, if you attempt to sta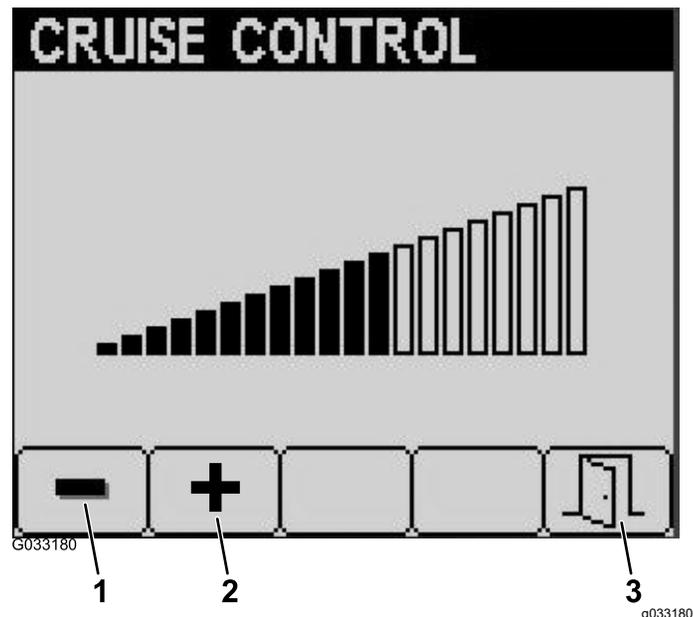rt the engine while pressing the traction pedal, an advisory displays, indicating that the traction pedal must be in the NEUTRAL position.

For each advisory that occurs, there is a **condition** (e.g., start denied, PTO denied, cruise control denied), an advisory **code** (number), a **qualifier** (the cause of the advisory displayed), and a **display text** (what the advisory displays as text on the screen) as shown in Figure 21.
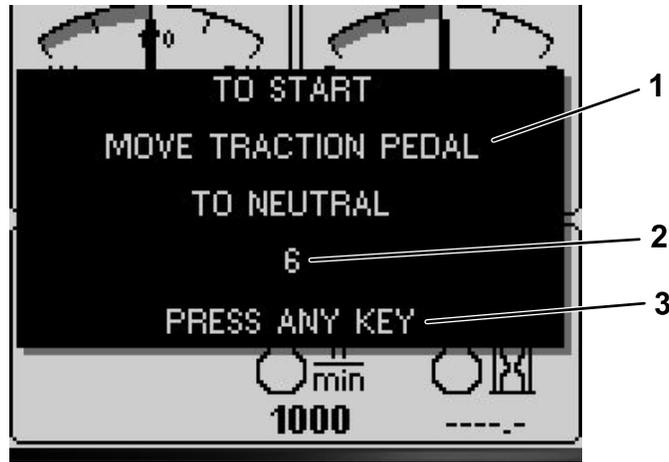
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Figure 21

| 1. | Display text | 3. | Press any key on the InfoCenter to clear the text from the display screen. |
| 2. | Code | | |

Note: Advisories do not log into the fault log.

Note: You can clear an advisory from the display screen by pressing any of the InfoCenter keys.

Refer to the following table for all the InfoCenter advisories:

Condition	Code	Qualifier	Display Text
Start Denied	4	Teach engaged	N/A
Start Denied	5	PTO engaged	To start, disengage PTO
Start Denied	6	Not in NEUTRAL	To start, move traction pedal to NEUTRAL
Start Denied	7	Neither in seat nor parking brake applied	To start, must be seated or set parking brake
Start Denied	8	Deck switch engaged	To start, disengage deck switch
Start Denied	9	Recycle power	To start, turn key switch off, then on
PTO Denied	102	In high range (only cut in low)	To engage PTO, must be in low range
PTO Denied	106	Out of seat	To engage PTO, operator must be seated
PTO Denied	107	No decks floating (hit a down key)	To engage PTO, lower decks
PTO Denied	108	Engine hot	To engage PTO, let engine cool
PTO Denied	109	Loss of CAN bus (service required)	To engage PTO, requires service

PTO Denied	110	Hydraulic fluid too cold	To engage PTO, let hydraulic fluid warm up
Cruise Control Denied	202	Too slow to capture cruise control	Increase ground speed
Deck Lower Denied	302	Can't lower in transport	To lower deck, return traction pedal to NEUTRAL
Deck Lower Denied	303	Out of seat	To lower deck, operator must be seated
Deck Lower Denied	304	Service required	To lower deck, requires service
Deck Not Floating (on engine start)	402	Advise operator to press down switches	To float, lower decks
Range Hi Denied	502	Left deck not up	To set high range, lift left deck
Range Hi Denied	503	Center deck not up	To set high range, lift center deck
Range Hi Denied	504	Right deck not up	To set high range, lift right deck
Range Hi Denied	505	Left deck floating	To set high range, lift left deck fully
Range Hi Denied	506	Center deck floating	To set high range, lift center deck fully
Range Hi Denied	507	Right deck floating	To set high range, lift right deck fully
Range Hi Denied	508	PTO switch engaged	To set high range, disengage PTO
Range Hi Denied	509	Cruise control engaged	To set high range, disengage cruise
Range Hi Denied	510	Speed too high	To set high range, reduce ground speed
Range Hi Denied	511	Loss of CAN bus (service required)	To set high range, requires service
Range Hi Denied	512	Hydraulic fluid too cold	To set high range, let hydraulic fluid warm up
Range Lo Denied	602	Cruise control engaged	To set low range, disengage cruise
Range Lo Denied	603	Speed too high	To set low range, reduce ground speed
Range Lo Denied	604	Loss of CAN bus (service required)	To set low range, requires service
Traction Disabled	804	Parking brake ON	For traction, release parking brake
Traction Disabled	805	Not in NEUTRAL	For traction, move traction pedal to NEUTRAL
Traction Disabled	806	Out of seat	For traction, operator must be seated
Engine Advisory	1205	Starter has been active for 30 seconds	Engine 30 second starter time out
Engine Advisory	1206	Replace engine air filter	Check the air filter
Engine Advisory	1207	Service due	Engine service due approaching
Engine Advisory	1208	Service past due	Engine service past due
Engine Advisory	1209	DPF service required	Regeneration required within 30 minutes

Engine Advisory	1210	Engine derate due to high temperature	Let engine cool
Engine Advisory	1211	Engine speed restricted: hydraulic fluid too cold	Hydraulic fluid is less than 4°C (40°F), so derate the engine speed to 1,650 rpm
Fuel Level	1302	Fuel level is low	Add fuel
TP Not Calibrated	1402	Traction pedal is out of calibration	Calibrate the traction pedal
Teach	1500	Entered teach mode	Entered traction pedal teach—please wait
Teach	1502	Traction pedal is out of NEUTRAL	Return traction pedal to NEUTRAL
Teach	1503	Slowly move the traction pedal forward	Slowly move the traction pedal forward
Teach	1504	Neutral forward capture passed	Neutral forward capture passed
Teach	1505	Neutral forward capture failed—too fast	Neutral forward capture failed—movement too fast; try again
Teach	1506	Neutral forward capture failed (out of range)—voltage captured was out of specification	Restart teach mode
Teach	1507	Move traction pedal to MAX FORWARD and hold	Move traction pedal to MAX FORWARD and hold
Teach	1508	Max forward capture passed	Max forward capture passed
Teach	1509	Max forward capture failed (out of range)—voltage captured was out of specification	Restart teach mode
Teach	1510	Slowly move the traction pedal in REVERSE	Slowly move the traction pedal in REVERSE
Teach	1511	Neutral rev capture passed	Neutral rev capture passed
Teach	1512	Neutral rev capture failed—too fast	Neutral rev capture failed—movement too fast; try again
Teach	1513	Neutral rev capture failed (out of range)—voltage captured was out of specification	Restart teach mode
Teach	1514	Move traction pedal to MAX REVERSE and hold	Move traction pedal to MAX REVERSE and hold
Teach	1515	Max reverse capture passed	Max reverse capture passed
Teach	1516	Max reverse capture failed (out of range)—voltage captured was out of specification	Restart teach mode
Teach	1517	TP teach done/values stored	Exit teach
Teach	1518	TP teach was unsuccessful	Exit teach and try again
Deck Raise Denied	1602	Out of seat	Operator must be seated
Deck Raise Denied	1603	Parking brake not set	Set parking brake
Deck Raise Denied	1604	Not in NEUTRAL	Return traction pedal to NEUTRAL

Deck Raise Denied	1605	Service required	Contract your Toro distributor
Deck Raise Denied	1606	All decks not raising together	Increase the engine speed to 2,000 rpm, and the decks will raise one at a time when all 3 switches are held down simultaneously

Notes:

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Count on it.