



by **ENOVATION** CONTROLS



# PowerView™ Display

## Model PV480 Kubota

### *Operations Manual*

00-02-0830  
2013-03-08  
Section 78

In order to consistently bring you the highest quality, full featured products, we reserve the right to change our specifications and designs at any time. The latest version of this manual can be found at [www.fwmurphy.com](http://www.fwmurphy.com).



Please read the following information before installing.

**BEFORE BEGINNING INSTALLATION OF THIS MURPHY  
PRODUCT:**

- Read and follow all installation instructions.
- Please contact FW MURPHY immediately if you have any questions.

## Table of Contents

<b>Introduction.....</b>	<b>1</b>
Gauge Screens .....	1
Soft Keys (Buttons) .....	2
Status Icons .....	3
Glossary of Terms and Acronyms .....	3
<b>Main Menu .....</b>	<b>4</b>
Gauges.....	5
Diagnostics.....	5
System Info .....	8
Lamp Info .....	9
User Settings.....	11
<b>Regen.....</b>	<b>15</b>
Parked Ready Regen.....	15
Regen Caution—Example.....	15
<b>Messages, Cautions, Warnings .....</b>	<b>18</b>

**(THIS PAGE INTENTIONALLY LEFT BLANK)**



## Introduction

The PV480 is a rugged CAN-based controller. This manual explains the functions of the unit, describes the display screens and gives details about the Kubota PV480 custom configuration.

### Gauge Screens

When turning the Controller to the ON position, a sequence of screens will display on the controller. First you will see a notation in the upper left corner, “Booting...” next the Murphy logo displays, and lastly the gauge screen is displayed. The lit status icons at the top of the screen will disappear momentarily.

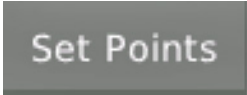

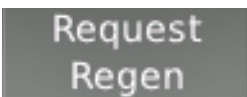









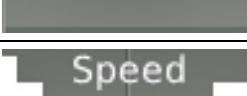


The gauge screen displays five (5) dial gauges and as many as seven (7) digital gauge options.

Dial Gauge	Digital Gauge
Engine Speed/RPM	Oil Pressure – Lamp Only
Engine Coolant Temperature	Fuel Level
After Treatment 1 Diesel Particulate Filter Outlet Gas Temperature	Hydraulic Pressure
Electrical Potential Voltage	Vehicle Speed
Actual Engine Torque %	Engine Total Hours of Operation
	Accelerator Pedal Position




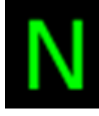



## Soft Keys (Buttons)

Your Soft Key choices are associated with the throttle source. Some throttle sources may not be present on your model.

Soft Key	Description
	Set Points—Displays the accelerator pedal positions or engine-requested rpm/speed quick set points
	DPF Commands—Displays the Diesel Particulate Filter (DPF) command to access the Un-inhibit Regen and Inhibit Regen
	Request Regen—Sends message to Engine Control Unit (ECU) to start regenerating the DPF when prompted by engine ECU.
	Stop Regen—Sends message to ECU to stop regenerating the DPF (should not be used unless necessary)
	Freeze Frame—Requests the freeze frame data from the ECU when faults are present
	Main Menu—Two full pages that list 6 action items to choose from: Gauges, Diagnostics, System Info, Lamp Info, User settings, Panel Configuration
	Down—Navigates the cursor (.↕.) downward through a list
	Up—Navigates the cursor (.↕.) upward through a list
	Select—Enters the action item next to the cursor in a list. Also used with the Main Menu soft key to get back to the Main Menu from any screen
	Deselect—Closes pop up messages
	Plus—Increase the accelerator pedal position/Increase the engine requested speed
	Minus—Decrease the accelerator pedal position/Decrease the engine requested speed
	Speed/Throttle—Opens the speed/throttle adjustment command and enables the Plus and Minus soft keys (+/-)

## Status Icons



The Status Icons are color-coded and light up when communicating to the operator. Pay close attention to any Status Icon and its color that may appear.

Status Icon	Description
	Check Engine—Yellow icon is visible if the controller receives a DM1 (Active Diagnostic Trouble Code) message with an amber lamp command, the yellow icon displays
	Check Engine—Red icon is visible if the controller receives a DM1 message with a red lamp command, the red icon displays
	Parking Break Switch—Green icon displays when the parking brake is applied
	Transmission Neutral—Green icon displays when the transmission is in neutral
	Engine Exhaust High Temperature Lamp—Red icon displays during active DPF regeneration when the DPF outlet temperature is greater than 450°C and post engine fuel injection is occurring.
	Diesel Particulate Filter Lamp Command—Red icon is: (1) On solid during regeneration (2) Blinking to request parked regeneration. Yellow icon is on solid to request automatic active regeneration when regeneration is inhibited
	DPF Regeneration set to Inhibit—Displays when the machine or the operator has inhibited Regeneration

## Glossary of Terms and Acronyms

CAN – Controller Area Network  
DM1 – Diagnostic Message 1, Active Diagnostic Trouble Codes  
DM2 – Diagnostic Message 2, Previously Active Diagnostic Trouble Codes  
DM3 – Diagnostic Message 3, Diagnostic Data Clear/Reset for Previously Active DTCs  
DM4 – Freeze Frame Parameters  
DPF – Diesel Particulate Filter  
DTC – Diagnostic Trouble Code  
ECU – Engine Control Unit  
FMI – Failure Mode Identifier  
PGN – Parameter Group Number  
SPN – Suspect Parameter Number

## Main Menu



Press the Main Menu () soft keys to view the menu action items. Scroll through the Main Menu list, on two screens, using the UP/DOWN soft keys to maneuver the cursor () to the action item.

- Gauges (Main Menu default screen)
- Diagnostics
- System Info
- Lamp Info
- User Settings
- Panel Configuration (Not accessible by operators)
- Service



## Gauges

---

The Gauge Screen is the Main Menu default screen (home) and you may open it from any screen by pressing the Menu () soft key and then the select () soft key.



## Diagnostics

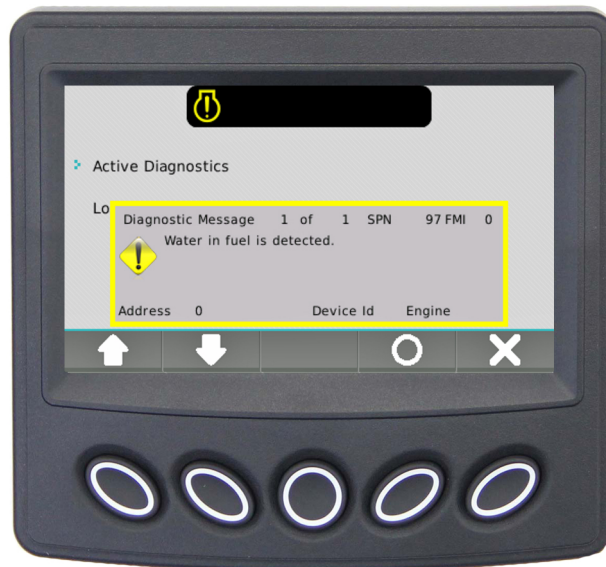
---

Scroll through the Main Menu list using the UP/DOWN soft keys and stop the cursor () next to the action item **Diagnostics**. Press the select () soft key. The screen displays the following items:


- Active Diagnostics
- Logged Diagnostics



**Active Diagnostics:** Use the UP/DOWN soft keys and stop the cursor (.) next to the action item **Active Diagnostics**. Press the select ( ) soft key .The screen displays active warnings or faults from the ECU. Each diagnostic is shown with the appropriate Suspect Parameter Number (**SPN**) and Failure Mode Indicator (**FMI**), Text Description (if available), and the ID/Name of the device that transmitted the DM1 message. Press the UP/DOWN soft keys to reach the next diagnostic in the list.





**Logged Diagnostics:** Use the UP/DOWN soft keys and stop the cursor (. . .) next to the action item **Logged Diagnostics**. Press the select (  ) soft key. The screen displays the controller requests DM2 (stored trouble codes, not active), warning or faults from the ECU. Each diagnostic is shown with the appropriate information:

- Suspect Parameter Number (**SPN**)
- Failure Mode Indicator (**FMI**)
- Text Description (if available)
- ID/Name of the device that transmitted the DM1 message



**NOTE:** Select the Freeze Frame Button to requests the freeze frame data from the ECU when faults are present.

## System Info

---

Scroll through the Menu list using the UP/DOWN soft keys and stop the cursor (.+) next to the action item **System Info**. Press the select ( ) soft key. The screen displays the following items:

- Engine Model
- Engine Serial Number
- ECU Software ID
- Fuel Rate
- Time since last active regen



Press the UP/DOWN soft keys to display a screen with application and configuration information.





## Lamp Info

---

Scroll through the Menu list using the UP/DOWN soft keys and stop the cursor (.+) next to the action item **Lamp Info**. Press the select ( ) soft key

This screen shows the Diesel Particulate Filter (DPF) Lamp symbols and provides a description and cautionary information for each symbol. Use the UP/DOWN soft keys to scroll to each symbol.

### High Exhaust Temperature Due to DPF Regeneration:



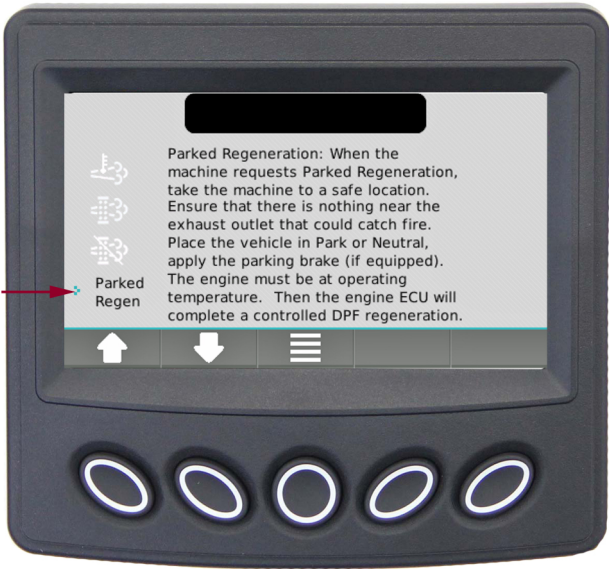
### Needs Regenerating:



**Machine is inhibiting DPF regeneration:**



**Parked Regeneration overview:**



## User Settings

---

Scroll through the Menu list using the UP/DOWN soft keys and stop the cursor (.+) next to the action item **User Settings**. Press the select ( ) soft key. The screen displays the following action items:

- Colors
- Brightness
- Language
- Units
- Date
- Time

**Screen Color:** Use the UP/DOWN soft keys and stop the cursor (.+) next to the action item **Colors**. Set your preference for day or night vision by using the +/- soft keys.



**Screen Brightness:** Use the UP/DOWN soft keys and stop the cursor (.⌄.) next to the action item **Brightness**. Set the brightness of the backlight by using the +/- soft keys.



**Language:** Use the UP/DOWN soft keys and stop the cursor (.⌄.) next to the action item **Language**. Set your language preference using the +/- soft keys.

- English
- French
- German
- Spanish
- Italian
- Japanese



**Units:** Use the UP/DOWN soft keys and stop the cursor (.⬅.) next to the action item **Units**. Set your unit preference using the +/- soft keys.

- USA Standard
- Metric kPa
- Metric Bar





**Date Setting:** Use the UP/DOWN soft keys and stop the cursor (⬅️) next to the action item

**Date.** Press the select (⊙) soft key to initiate change to the month value. Use the (+/–) soft keys to increment or decrement the number. Use the DOWN arrow to reach the day value and year value and the +/- soft keys to make changes.

**Time Setting:** Use the UP/DOWN soft keys and stop the cursor (⬅️) next to the action item

**Time.** Press the select (⊙) soft key to initiate change to the hour value. Use the (+/–) soft keys to increment or decrement the number. Use the DOWN arrow to reach the minutes value and the +/- soft keys to make changes.

**NOTE:** A reboot is required for changes to the Date Setting to take effect.



# Regen

## Parked Ready Regen

Machine is in an operating condition such that the DPF can regenerate.

Parked Ready Regen	
Action	Description
Cancel Regen	Communicates with the engine that Regen is not wanted or is unsafe to regenerate at this time.
Regen Mode Inhibit	Communicates with the engine that Regen is not wanted or is unsafe to regenerate at this time.
Request Regen	Communicates with the engine that Regen is safe to regenerate at this time.

## Regen Caution—Example

The operator may experience a Regen Caution message popup on the controller screen. “See Messages, Cautions, Warnings” for more examples.



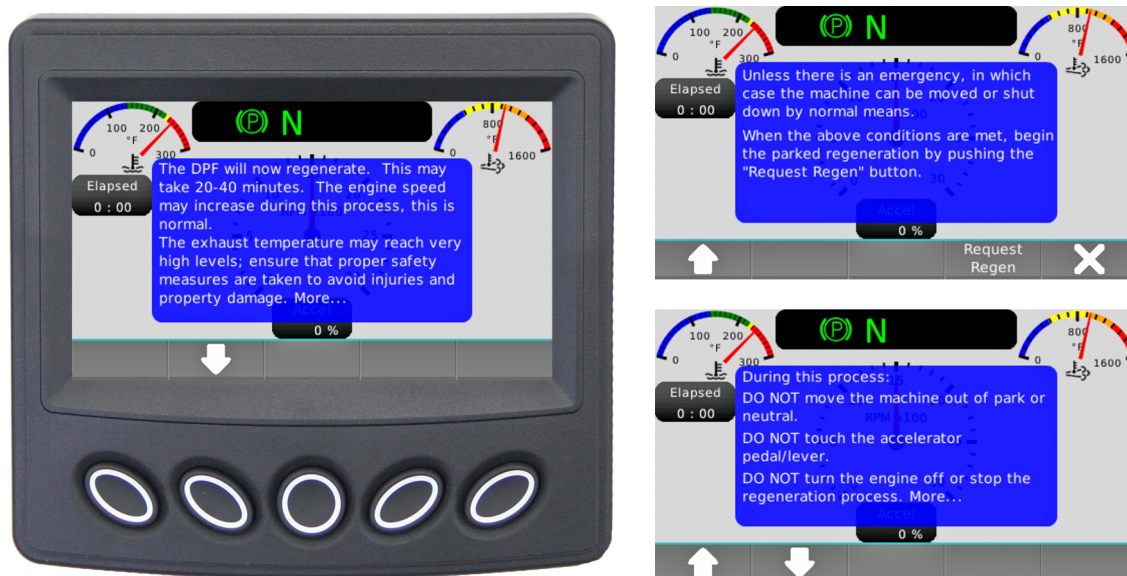
The message requires an active response by the operator so it is important that the operator reads the entire popup message.

The message explains the situation and may list instructions for the operator. Some messages require using the UP/DOWN soft keys to maneuver through the entire message.



**If the operator does not wish to complete a Parked Regeneration at this time**—click on the **X** soft key. This action Cancels Regen, removes the popup, and takes the operator back to the Gage Screen.

**If the operator would like to complete a Parked Regeneration**—Move the machine to a safe location and put the machine in park; the blue message will appear. Using the UP/DOWN soft keys, maneuver through the entire message and follow the instructional steps. Pressing the Request Regen **Request Regen** soft key will start the Parked Regeneration.






Once the Parked Regen has started it can be shut down by pressing the Stop Regen soft key. However, do not shut down unless it is absolutely necessary.

Stop  
Regen



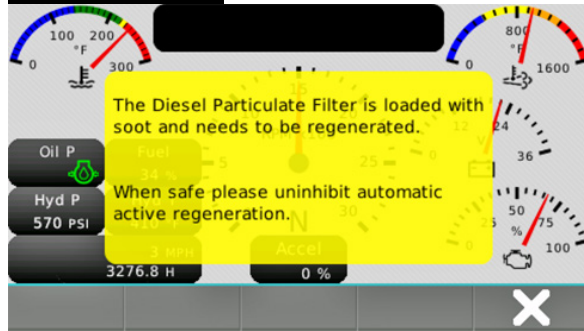
Parked Regeneration is complete when the controller screen shows the following green popup message. Click on the  soft key to remove the popup message. The machine can return to normal usage.



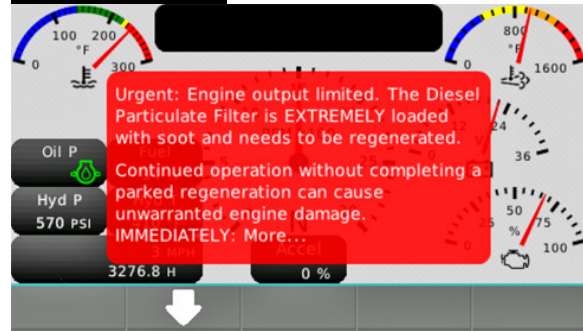
## Messages, Cautions, Warnings

Please pay attention to all messages on the controller for the safety of personnel and to prevent engine and property damage if DPF regeneration is needed.

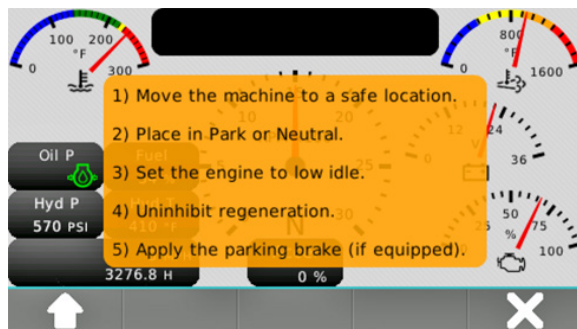
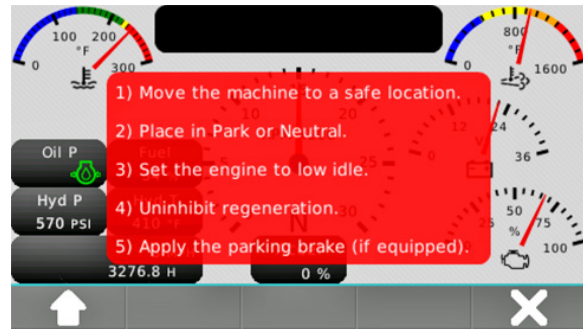
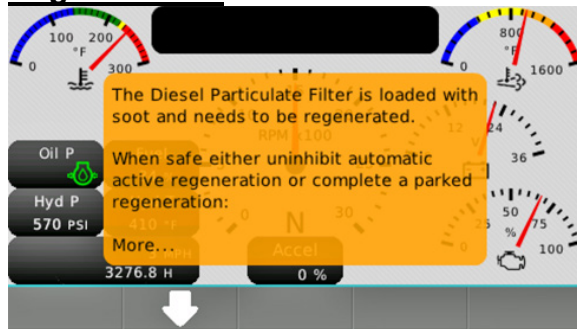
### Regen Level 1



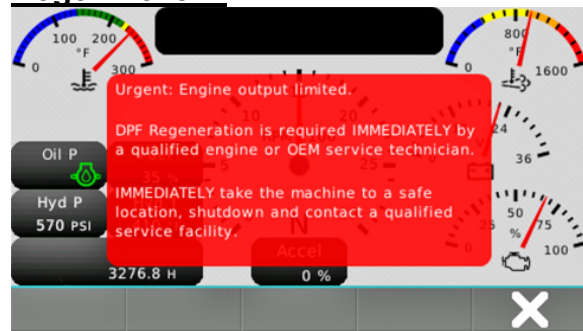
### Regen Level 3



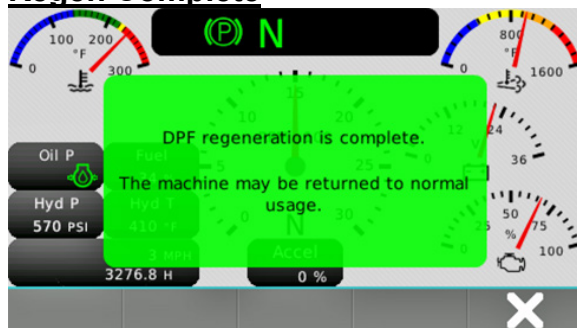
### Regen Level 2



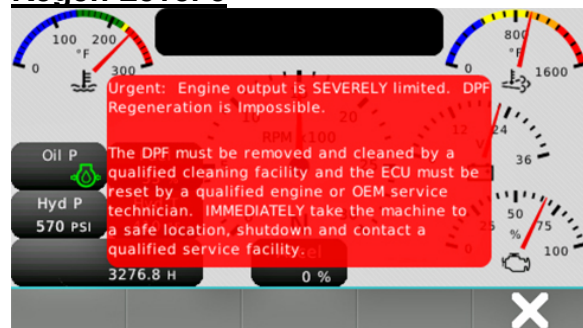
### Regen Level 4



### Regen Complete



### Regen Level 5



[illegible]

*In order to consistently bring you the highest quality, full-featured products, we reserve the right to change our specifications and designs at any time. MURPHY products and the Murphy logo are registered and/or common law trademarks of Enovation Controls, LLC. This document, including textual matter and illustrations, is copyright protected by Enovation Controls, LLC, with all rights reserved. (c) 2013 Enovation Controls, LLC. A copy of the warranty may be viewed or printed by going to <http://fwmurphy.com/warranty>.*

**ENOVIATION CONTROLS GLOBAL HEADQUARTERS**

5311 S 122ND EAST AVENUE  
TULSA, OK 74146

**ENOVIATION CONTROLS – SAN ANTONIO OFFICE**

5757 FARINON DRIVE  
SAN ANTONIO, TX 78249

**ENOVIATION CONTROLS – HOUSTON OFFICE**

105 RANDON DYER RD  
ROSENBERG, TX 77471

**FW MURPHY, LTD. – UNITED KINGDOM**

CHURCH ROAD LAVERSTOCK  
SALISBURY SP1 1QZ UK

**MURPHY ECONTROLS TECHNOLOGIES (HANGZHOU) CO, LTD.**

77 23RD STREET  
HANGZHOU ECONOMIC & TECHNOLOGICAL DEVELOPMENT AREA  
HANGZHOU, ZHEJIANG 310018 CHINA

**DOMESTIC SALES & SUPPORT****ECONTROLS PRODUCTS**

PHONE: 210 495 9772  
FAX: 210 495 9791  
EMAIL: [INFO@ECONTROLS.COM](mailto:INFO@ECONTROLS.COM)  
[WWW.ECONTROLS.COM](http://WWW.ECONTROLS.COM)

**MURPHY PRODUCTS**

PHONE: 918 317 4100  
FAX: 918 317 4266  
EMAIL: [SALES@FWMURPHY.COM](mailto:SALES@FWMURPHY.COM)  
[WWW.FWMURPHY.COM](http://WWW.FWMURPHY.COM)

**MURPHY CONTROL SYSTEMS & SERVICES**

PHONE: 281 633 4500  
FAX: 281 633 4588  
EMAIL: [CSS-SOLUTIONS@FWMURPHY.COM](mailto:CSS-SOLUTIONS@FWMURPHY.COM)

**MURPHY INDUSTRIAL PANEL DIVISION**

PHONE: 918 317 4100  
FAX: 918 317 4124  
EMAIL: [IPDSALES@FWMURPHY.COM](mailto:IPDSALES@FWMURPHY.COM)

**INTERNATIONAL SALES & SUPPORT****UNITED KINGDOM**

PHONE: +44 1722 410055  
FAX: +44 1722 410088  
EMAIL: [SALES@FWMURPHY.CO.UK](mailto:SALES@FWMURPHY.CO.UK)  
[WWW.FWMURPHY.CO.UK](http://WWW.FWMURPHY.CO.UK)

**CHINA**

PHONE: +86 571 8788 6060  
FAX: +86 571 8684 8878  
EMAIL: [APSALES@FWMURPHY.COM](mailto:APSALES@FWMURPHY.COM)

**LATIN AMERICA & CARIBBEAN**

PHONE: 918 317 2500  
EMAIL: [LASALES@FWMURPHY.COM](mailto:LASALES@FWMURPHY.COM)

**SOUTH KOREA**

PHONE: +82 70 7951 4100  
EMAIL: [SKOREASALES@FWMURPHY.COM](mailto:SKOREASALES@FWMURPHY.COM)

**INDIA**

PHONE: +91 91581 37633  
EMAIL: [INDIASALES@FWMURPHY.COM](mailto:INDIASALES@FWMURPHY.COM)

**ISO 9001**  
REGISTERED



USA (TULSA) - ISO 9001:2008 FM 28221  
USA (ROSENBERG) - ISO 9001:2008 FM 28221  
UK-ISO 9001:2008 FM 29422  
CHINA-ISO 9001:2008 FM 52385  
Registered Facilities

Printed in the USA