

# **Balcrank**

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## **PGE-55 ELECTRONIC CONTROL HANDLE**

**Model #3330-054**

**3330-055**

**3330-056**

**3330-057**

**3330-058**

**3330-059**



Thoroughly read and understand this manual before installing, operating or servicing this equipment.


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**OPERATION, INSTALLATION,  
MAINTENANCE AND REPAIR GUIDE**


# GENERAL SAFETY REQUIREMENTS


**NOTE: THOROUGHLY READ AND UNDERSTAND THIS MANUAL BEFORE INSTALLING, OPERATING, OR SERVICING THIS EQUIPMENT.**

- Please retain this instruction manual for future reference.
- Your safety is important to us. Please read, and follow all safety instructions listed below.
- Some of these instructions alert you to the potential for personal injury. “Warnings” listed throughout this manual advise of potential practices or procedures which may cause damage to your equipment.
- This control handle is not designed for in-line installation. Do not install with a shut-off valve on the outlet side of the meter. Such an installation could result in damage to the meter housing.
- Ensure all operators have access to adequate instructions about safe operating and maintenance procedures.
- Do not exceed the maximum working pressure of 1,500 psi.
- Do not strike the control handle if it fails to operate. Refer to the “trouble shooting guide” or return unit to your nearest Balcrank authorized service center.
- Never allow any part of the human body to come in contact with the control handle outlet.
- Never point the outlet nozzle at yourself or anyone else.
- Never exceed the pressure rating of any component installed in the System.
- Before each use check all hoses for signs of wear, leaks or loose fittings. Tighten all fluid connections regularly and replace weak or damaged hoses. Your personal safety and well-being are at stake.
- Before attempting any repairs or maintenance of this product disconnect the air supply on the pump, and release the line pressure by pressing the lever on your control handle.

	<b>! IMPORTANT</b>
	Read these safety warnings and instructions in this manual completely, before installation and start-up of the control handle. It is the responsibility of the purchaser to retain this manual for reference. Failure to comply with the recommendations stated in this manual will damage the control handle and void factory warranty.

	<b>! WARNING</b>
	Before doing any maintenance on the control handle, be certain all pressure is completely vented from the pump, suction, discharge, piping, and all other openings and connections. Be certain the air supply is locked out or made non-operational, so that it cannot be started while work is being done on the control handle. Be certain that approved eye protection and protective clothing are worn at all times in the vicinity of the control handle. Failure to follow these recommendations may result in serious injury or death.

	<b>! WARNING</b>
	Airborne particles and loud noise hazards.  Wear ear and eye protection.

	<b>! WARNING</b>
	<b>DANGER:</b> Not for use with fluids that have a flash point below 100°F (38°C). Examples: gasoline, alcohol. Sparking could result in an explosion which could result in death.

# GENERAL DESCRIPTION

This manual assists you in operating and maintaining your new PGE-55 Electronic Control Handle. The information contained will help you ensure many years of dependable performance and trouble free operation.

Please take a few moments to read through this manual before installing and operating your new control handle. If you experience problems with this product, refer to the trouble shooting sections of this manual. If you require further assistance please contact your local Balcrank distributor or Balcrank authorized service center.

# SPECIFICATIONS

<b>Accuracy:</b>	+ - 0.5% (of Reading)
<b>Flow Range:</b>	0.26 – 8 gal/min
<b>Maximum Operating Pressure:</b>	1,500 PSI
<b>Weight:</b>	2.55 lbs
<b>Inlet:</b>	1/2" NPT
<b>Outlet:</b>	3/8" NPT (prior to May 2003) 3/8" NPS (straight thread) (after May 2003)
<b>Operating Temperature:</b>	32° – 122°F
<b>Storage Temperature:</b>	14° - 122°F
<b>Battery:</b>	2 x 1.5 volt alkaline AA
<b>Wetted Parts:</b>	Aluminium, Acetal, Steel, Nitrile Rubber
<b>Fluid Compatibility:</b>	Engine Oil, Diesel Oil, Automatic Transmission Fluid, Anti-freeze
<b>Pressure Loss:</b>	14.4PSI at 3.2 US gal/min with calibration fluid (6 Centipoise viscosity) without extension.
<b>Dimensions:</b>	10 inch Long x 3.7 inch Wide, 4.33 inch High (Dimensions without extension)


# ASSEMBLY

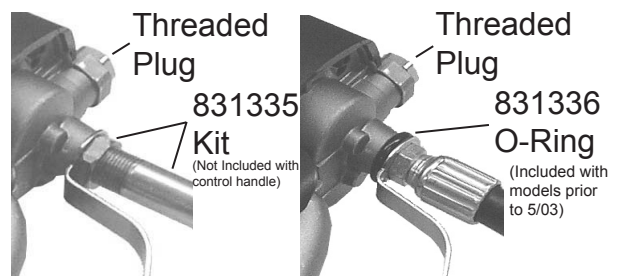
Use Teflon® tape (or suitable thread sealant) when connecting the control handle to the hose connection.

# Outlet Extension

The outlet extension can be fitted either inline (forward) or on the outlet port "pistol style" located under the meter.

**Note:** The threaded plug removed from the outlet port on the underside of the meter, is used to seal the outlet port not in use.

	<b>WARNING</b> Manual tip cannot be used on PGE-55 control handle. An auto tip or semi-auto tip must be used. Use of manual tip can result in overpressurization, which can cause control handle to crack.
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# METER INTRODUCTION

## *Operating mode description.*

**Sleep Mode:** To minimize battery consumption the meter will revert to sleep mode if left idle for more than 2 minutes, and will automatically “power up” when the *reset* button is pressed or there is flow through the meter.

## Operation of Buttons

The control buttons can be used in two ways

- 1) **Press:** Press & release the button.
- 2) **Double click:** Press & release the button twice quickly.

## Totalizers

There are three totalizers built in to your meter

- 1) **Reset batch total:** To reset batch total press the *reset* button.
- 2) **Non-reset accumulative total:** This is located below the batch total and displays the total volume the meter has dispensed.
- 3) **Reset accumulative total:** Is hidden from view and is used to track daily, weekly, or monthly usage.

## To View or Reset Total

- A) *Double* click the *reset* button (the display will enter the reset total mode)
- B) To reset the resettable total, press and hold the *reset* button (3 seconds) until the total zeros.
- C) The display will automatically return to manual mode after 5 seconds.

## Changing Units

- 1) Press and hold the *reset* button for five seconds. (The units segment starts flashing.)
- 2) Press the *reset* button to cycle through the unit options.
- 3) Stop at the required setting.

### Batch Total - Accumulative Total

Liter	Liter
Pint	Gallon
Quart	Gallon
Gallon	Gallon

- 4) To store the selected units, press and hold down the *Reset* button for five seconds until the batch and accumulative totals appear. If the *reset* button is not held down for 5 seconds, the original settings will be stored.

## Low Battery

The battery segment will flash when the battery is low and needs replacing.

**NOTE:** *When the battery segment starts flashing replace the battery as soon as possible. Use only Alkaline AA batteries.*

## Battery Replacement

- 1) Remove the protective rubber boot.
- 2) Remove the battery cover screw located near the inline (forward) outlet port and remove the battery cover.
- 3) Replace the two AA Alkaline batteries. (Check + - are correct)
- 4) Inspect the battery cover seal for damage and replace if necessary.
- 5) Replace battery cover and tighten screw, while pressing cover in place.

## Error Message

If an error is detected in meter operation, the following error codes will appear on the display.

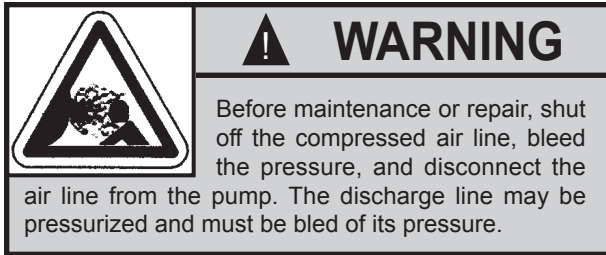
**Err1 – Sensor error**

**Err3 – Flow rate too high**

**Err4 – Calibration error**

**Err5 – Computer error**

To reset the meter after an error message press *reset*.



## Maintenance

Inspect your control handle daily for any signs of damage. Replace any damaged parts or components as required.

## Handle Disassembly

Use a clean work area to carry out maintenance.

- A) Remove the fluid hose from the control handle inlet swivel (31).
- B) Unscrew and remove swivel (31), washer (29), and o-ring (30) from the control handle inlet. Clean or replace the strainer and o-ring.

**CAUTION:** The swivel is under spring tension.

- C) Slide of the handle sleeve (28).
- D) Remove valve spring (27), seal/valve body assembly (25, 26) and plunger (24).

## Lever and Valve Removal

- A) Using a 2.5mm allen wrench, remove the two handle screws (32).
- B) Remove lever (34).
- C) Remove the washer (20) and o-ring (19), then push the valve cam (16) from the handle body (15), and remove o-ring (19).

## Handle Reassembly

- A) Clean and inspect all parts. Replace any suspect, worn, or damaged components.

**NOTE:** Lightly lubricate the valve cam before assembly.

- B) Place o-ring (19) onto valve cam (16).

**NOTE:** The cutout section in the middle of the valve cam (16) must face the inlet swivel (31).

- C) Replace the valve cam (16) into the body (15). Note the orientation shown on the assembly drawing. Fit the second o-ring (19) and washer (20).
- D) Slide lever assembly (34) into position and replace the two allen screws (32). Use Loctite or similar sealant.
- E) Replace plunger (24).

**NOTE:** The end hole in the plunger must face the meter.

- F) Assemble the seal/valve body (25, 26) and spring (27) and replace into the handle body.

**NOTE:** Install the spring, small end first.

- G) Replace handle sleeve (28).
- H) Replace washer (29), o-ring (25), and swivel assembly (31) and screw firmly into place. Use Loctite or similar sealant.

## Meter Disassembly

- A) Unscrew the swivel assembly (31) two complete turns to allow easy disassembly and reassembly of the meter and remove boot (1).
- B) Remove battery cover screw (5) and batteries (9).
- C) Remove the three screws (11) and the calibration port screw (18) from the underside of the meter.
- D) Carefully remove the computer module (2) from the module housing (10).

**NOTE:** The computer module is non repairable and will need to be replaced if damaged.

- E) Remove the four allen screws (17) from the underside of the meter and remove the module housing (10).

## Meter Reassembly

- A) Clean and inspect all parts. Replace any suspect, worn, or damaged components.  
 B) Replace rotors (13).

NOTE: Ensure the rotor with the magnets is assembled with the magnets facing up and positioned on the correct side of the meter. Both rotors must also be positioned at 90 degrees to each other.

- C) Replace the handle body o-ring (14).  
 D) Carefully position the module housing (10) on top of the handle body (15), replace and tighten the four allen screws (17).  
 E) Test the control handle for correct operation.  
 F) Replace the computer module (2).  
 G) Replace and tighten the three phillips head screws (11) and calibration port screw (18).  
 H) Replace the two AA Alkaline batteries (9). Use the directions on the label found inside the battery housing for correct battery orientation.  
 I) Replace battery cover assembly (6, 7, and 8) and tighten the screw (5).  
 J) Firmly tighten the swivel assembly (31)  
 K) Replace the boot (1).  
 L) Test the control handle for correct operation.

## PGE-55 Parts List

ITEM	PART NO.	QTY.	IN KIT	DESCRIPTION
1	830727	1	-	Boot
2	831251	1	-	Electronic Module
3	-	-	N/A	
4	-	-	N/A	
5	-	1	-	Battery Cover Screw
6	-	1	-	O-Ring
7	-	1	-	Battery Cover
8	-	1	-	O-Ring
9	-	2	-	AA Alkaline Batteries
10	-	1	-	Module Housing
11	-	3	-	M 3x6 Taptite Screws
12	-	2	-	Magnets
13	-	2	-	Oval Gear Set
14	-	1	-	O-Ring
15	-	1	-	Control Handle Body
16	-	1	-	Valve Cam
17	-	4	-	M 6x20 Taptite Screws
18	-	1	-	Calibration Screw
19	-	2	■	O-Ring
20	-	1	■	Washer**
21	-	1	-	Latch Plate Assembly
22	-	1	-	Latch Pivot Pin
23	-	1	-	Spring
24	-	1	-	Plunger
25	-	1	■	Seal
26	-	1	-	Valve Body
27	-	1	■	Valve Spring
28	-	1	-	Handle Sleeve
29	-	1	-	Washer
30	-	1	■	O-Ring
31	830728	1	-	Swivel, Control Handle
32	-	2	■	M4x6 C/Sunk Screws
34	-	1	-	Lever Latching
35	-	1	-	Button Spring
36	-	1	-	Lever Plug
37	-	1	■	Mesh
38	-	1	■	O-Ring
39	-	1	-	O-Ring*

Outlet Extensions	Model Number	Nozzle / Tip	Extensions	
			Before 5/03 3/8" NPT	After 5/03 3/8" NPS
Rigid	3330-054	3332-086	829648	831471 plus sealing nut 831470
Flex	3330-055	3332-086	829973	831469*
Flex 90°	3330-057	3332-086	830276	831429*
Straight	3330-059	3332-086	81334 plus jam nut 831333	831472 plus sealing nut 831470

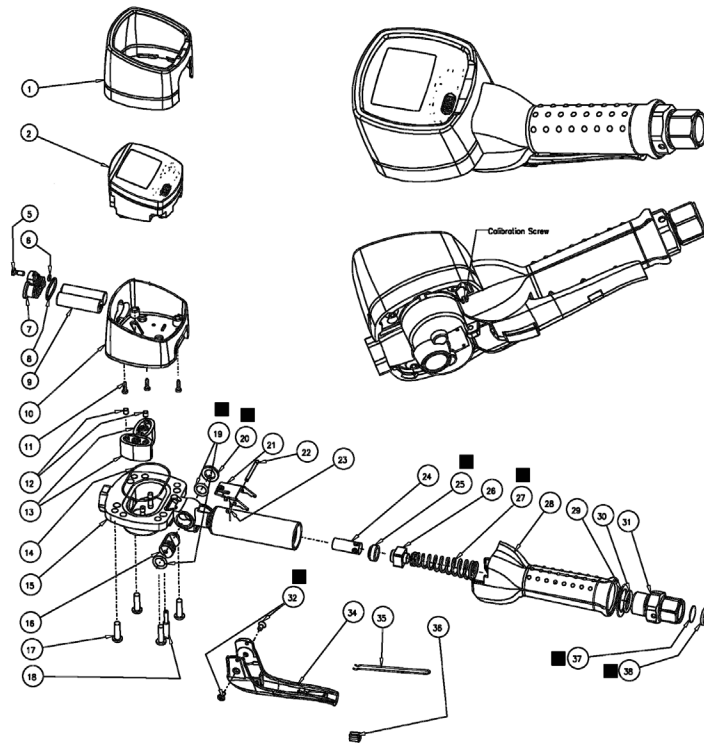
\* To be used with flexible hose outlet when used as pistol style. (see page 3) for control handles prior to 5/03 only)

\*\* Prior to 7/03 (stamped on handle 0283) use metal washer. After 7/03 (stamped on handle 0293) use plastic washer.

■ Control Valve Service Kit (Order 900013)

\* 806895 (-112) o-ring included with extension.

# PGE-55 Electronic Control Handle Parts Diagram



TROUBLE	CAUSE	REMEDY
No fluid passing through the meter	A. Blocked strainer	A. Clean or replace strainer
	B. Dirt particles jamming the rotors	B. Dismantle meter assembly and clean
	C. Damaged plunger seal	C. Replace damaged plunger seal
The meter is not registering fluid output	A. Dead battery	A. Replace battery
	B. No signal from the magnets	B. Check magnets
	C. Damaged computer module	C. Replace computer module
Meter display reads Err 1	Sensor error	Press the reset button to reset the computer (If the error repeats, check the magnets in the rotor)
Meter display reads Err 3	Flow rate too high	Adjust the flow rate to 0.26-8 US gal/min
		Eliminate air from the system
Meter display reads Err 4	Calibration error	Press the reset button to reset the computer
Meter display reads Err 5	Computer error	Press the reset button to reset the computer
Constant oil leak from the tip	Damaged plunger seal	Replace plunger seal (check for damage)
Intermittent drip from the tip	Dirt in the tip	Remove the tip and blow out any dirt particles, replace if necessary
Oil leak from the lever assembly area	Damaged o-rings	Replace damaged o-rings
Oil leak from between the body casting and the computer module casting	Damaged o-rings	Replace damaged o-rings
Low flow rate	Blocked strainer	Replace strainer (Item 37)
Oil leaking from the swivel inlet	Damaged o-ring or swivel	Replace o-ring or swivel

## Balcrank Lubrication Equipment Warranty Statement

All Balcrank equipment sold by authorized Balcrank distributors is warranted to their original customer to be free from defects in materials and workmanship for a period of one year from the date of sale to that customer. Selected Balcrank equipment carries warranty terms for a more extended period as defined in the Balcrank Lubrication Equipment & Accessories User Price List, wherein a "lifetime" warranty represents a warranty period of thirty years. Within the initial one-year warranty period, Balcrank will repair or replace all Balcrank equipment determined by Balcrank to have defective materials or workmanship. For equipment carrying more extended warranties, Balcrank will repair or replace the product including parts and labor during the first full year and will provide parts only for the remainder of the warranty period.

This warranty applies only to equipment installed and operated according to applicable Balcrank Service Bulletins and Installation Instructions.

Any equipment claimed to be defective must be returned, freight prepaid, to an Authorized Balcrank Service Center (ASC). Upon receiving candidate warranty equipment from a customer, ASC will: 1) diagnose to determine the warrantable condition of the equipment, 2) submit, prior to repair or replacement, a request to Balcrank for warranty authorization, then 3) in cooperation with Balcrank, proceed with repair locally or forward the equipment to Balcrank and obtain replacement. If the part(s) or equipment items are found defective upon inspection by Balcrank, they will be repaired or replaced, and then will be returned to the ASC. If Balcrank finds the claimed part(s) or equipment not to be defective, the ASC will receive written authorization from the original customer, and then repair them for a reasonable charge to the customer, which will include all applicable parts, labor, and return transportation costs.

Optionally, the customer may submit certain eligible products directly to Balcrank for warranty return by using Balcrank Lubrication Equipment Direct Service Warranty Procedure. Eligible products are defined in the Balcrank Lubrication Equipment & Accessories User Price List. Refer to the Balcrank web site [www.balcrank.com](http://www.balcrank.com) for a copy.

Any equipment returned to Balcrank must have the Warranty Service Claim number (WSC#) clearly marked on the outside of the carton. Balcrank's sole responsibility is for defects in material and workmanship, and Buyer's sole and exclusive remedy hereunder, shall be limited to repair or replacement of the defective part or equipment.

This warranty does not cover, nor shall Balcrank be liable for repair or replacement of parts or equipment resulting from general wear and tear through use, or damage or failure caused by improper installation, abuse, misapplication, abrasion, corrosion, insufficient or improper maintenance, negligence, accident, alteration, or substitution of non-Balcrank parts.

Furthermore, the Warranty for Lubrication Equipment and Accessories does not cover the following specific conditions:

- Failure or damage to equipment caused by dirt or debris in compressed air lines and fluid lines. This includes, but is not limited to, clogged inlet filters, strainers, or regulators; fluid meters; control handles; fluid tips; and valves.
- Failure of normal wear parts including but not limited to: o-rings, packings, seals and valves unless originally improperly installed by the factory.
- Products placed in applications for which their use was not intended. Examples include but are not limited to Lubricant pump being used to pump solvents, or placing equipment intended strictly for indoor use outdoors
- Damage to equipment resulting from operation above and beyond Balcrank's recommendations.
- Leaks at air and fluid fittings and connections.
- Damage caused by thermal expansion whenever adequate pressure relief was not included in the system.
- Loose suction tubes on pumps.
- Incorrect hose reel spring tension, requiring adjustment.

THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL BALCRANK BE LIABLE FOR ANY SPECIAL, CONSEQUENTIAL, OR OTHER DAMAGES OF SIMILAR NATURE, INCLUDING BUT NOT LIMITED TO LOST PROFITS, LOST PRODUCTION, PROPERTY DAMAGE, PERSONAL INJURY, WHETHER SUFFERED BY BUYER OR ANY THIRD PARTY, IRRESPECTIVE OF WHETHER CLAIMS OR ACTIONS, LEGAL OR EQUITABLE, FOR SUCH DAMAGES ARE BASED UPON CONTRACTS, WARRANTY, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE. ANY CLAIM OR ACTION FOR BREACH OF WARRANTY MUST BE BROUGHT WITHIN TWO (2) YEARS FROM THE DATE OF SALE TO THE ORIGINAL CUSTOMER.

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Rev. D 11/09  
831152

Distributed by:

### Revision Log:

- Rev. A - Added item 39 and 831335 kit
- Rev. B - Changed from 3/8" NPT to 3/8" NPS on outlet port.
- Rev. C - Added note on washer (item 20).
- Rev. D - Removed semi-automatic tip models and changed part number for automatic tip to 3332-086.