

Introduction

Purpose

This manual provides instructions for replacing the battery in the nano Nozzle Reader (nNR) using the new battery replacement kit.

The new battery replacement kit includes a rubber gasket (seal cover), which improves the seal quality and insulation, as well as ease of installation.

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General

When replacing the battery, ensure to remove the old rubber gasket and replace it with the new one (see [Figure 1](#)).

Figure 1: Old and New Rubber Gasket



For further information pertaining to the nNR, refer to the *MDE-4851 Fuel Point Plus Station Equipment Manual*.

Related Documents

Document Number	Title	GOLD SM Library
MDE-4851	Fuel Point PLUS Station Equipment Manual	GASBOY
MDE-4868	Fuel Point Plus Vehicle Installation and Programming Manual	GASBOY

Abbreviations and Acronyms

Term	Description
ASC	Authorized Service Contractors
nNR	nano Nozzle Reader
P/N	Part Number
RMA	Return Material Authorization

Battery Replacement Policy

Battery replacement must be done according to the rules and instructions described in this manual. The batteries must be replaced by Gasboy, or an Authorized Service Contractors (ASCs), or a certified authorized technician. Gasboy will not be responsible for any damage caused directly or indirectly to the product, the environment, or to any third party that occurs during battery replacement as a result of any unauthorized modifications or replacements not performed by Gasboy or an ASC or by certified authorized technician.

Any warranty given by Gasboy Systems Ltd. with respect to the nNR and above mentioned approved batteries, express or implied, is subservient to this letter.

All remaining provisions of any warranty shall not be affected or impaired thereby.

nNR Battery Replacement Kit

The nNR battery replacement kit includes an internal battery pack and a rubber gasket (seal cover) (see below table).

Description	Part Number	Quantity
BATT. PACK 3.6V nNR	M09680B164	1
SEAL COVER nNR	812560020	1
Rubber Gasket (Seal Cover)	812560020	1

Important Safety Information

Notes: 1) Save this Important Safety Information section in a readily accessible location.

2) Although DEF is non-flammable, Diesel is flammable. Therefore, for DEF cabinets that are attached to Diesel dispensers, follow all the notes in this section that pertain to flammable fuels.

This section introduces the hazards and safety precautions associated with installing, inspecting, maintaining, or servicing this product. Before performing any task on this product, read this safety information and the applicable sections in this manual, where additional hazards and safety precautions for your task will be found. Fire, explosion, electrical shock, or pressure release could occur and cause death or serious injury, if these safe service procedures are not followed.


Preliminary Precautions


You are working in a potentially dangerous environment of flammable fuels, vapors, and high voltage or pressures. Only trained or authorized individuals knowledgeable in the related procedures should install, inspect, maintain, or service this equipment.

Emergency Total Electrical Shut-Off

The first and most important information you must know is how to stop all fuel flow to the pump/dispenser and island. Locate the switch or circuit breakers that shut off all power to all fueling equipment, dispensing devices, and Submerged Turbine Pumps (STPs).

⚠ WARNING

 The EMERGENCY STOP, ALL STOP, and PUMP STOP buttons at the cashier's station WILL NOT shut off electrical power to the pump/dispenser. This means that even if you activate these stops, fuel may continue to flow uncontrolled.

 You must use the TOTAL ELECTRICAL SHUT-OFF in the case of an emergency and not the console's ALL STOP and PUMP STOP or similar keys.

Total Electrical Shut-Off Before Access

Any procedure that requires access to electrical components or the electronics of the dispenser requires total electrical shut off of that unit. Understand the function and location of this switch or circuit breaker before inspecting, installing, maintaining, or servicing Gasboy equipment.

Evacuating, Barricading, and Shutting Off

Any procedure that requires access to the pump/dispenser or STPs requires the following actions:



- An evacuation of all unauthorized persons and vehicles from the work area
- Use of safety tape, cones, or barricades at the affected unit(s)
- A total electrical shut-off of the affected unit(s)

Read the Manual

Read, understand, and follow this manual and any other labels or related materials supplied with this equipment. If you do not understand a procedure, call the call a Gasboy Authorized Service Contractor or call the Gasboy Service Center at 1-800-444-5529. It is imperative to your safety and the safety of others to understand the procedures before beginning work.

Follow the Regulations

Applicable information is available in National Fire Protection Association (NFPA) 30A; *Code for Motor Fuel Dispensing Facilities and Repair Garages*, NFPA 70; *National Electrical Code (NEC)*, Occupational Safety and Health Administration (OSHA) regulations and federal, state, and local codes. All these regulations must be followed. Failure to install, inspect, maintain, or service this equipment in accordance with these codes, regulations, and standards may lead to legal citations with penalties or affect the safe use and operation of the equipment.

Replacement Parts

Use only genuine Gasboy replacement parts and retrofit kits on your pump/dispenser. Using parts other than genuine Gasboy replacement parts could create a safety hazard and violate local regulations.

Federal Communications Commission (FCC) Warning

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Safety Symbols and Warning Words

This section provides important information about warning symbols and boxes.

Alert Symbol



This safety alert symbol is used in this manual and on warning labels to alert you to a precaution which must be followed to prevent potential personal safety hazards. Obey safety directives that follow this symbol to avoid possible injury or death.

Signal Words

These signal words used in this manual and on warning labels tell you the seriousness of particular safety hazards. The precautions below must be followed to prevent death, injury, or damage to the equipment:



DANGER: Alerts you to a hazard or unsafe practice which will result in death or serious injury.



WARNING: Alerts you to a hazard or unsafe practice that could result in death or serious injury.



CAUTION with Alert symbol: Designates a hazard or unsafe practice which may result in minor injury.

CAUTION without Alert symbol: Designates a hazard or unsafe practice which may result in property or equipment damage.

Working With Fuels and Electrical Energy

Prevent Explosions and Fires

Fuels and their vapors will explode or burn, if ignited. Spilled or leaking fuels cause vapors. Even filling customer tanks will cause potentially dangerous vapors in the vicinity of the dispenser or island.

DEF is non-flammable. Therefore, explosion and fire safety warnings do not apply to DEF lines.

Important Safety Information

No Open Fire



Open flames from matches, lighters, welding torches or other sources can ignite fuels and their vapors.

No Sparks - No Smoking



Sparks from starting vehicles, starting or using power tools, burning cigarettes, cigars or pipes can also ignite fuels and their vapors. Static electricity, including an electrostatic charge on your body, can cause a spark sufficient to ignite fuel vapors. Every time you get out of a vehicle, touch the metal of your vehicle, to discharge any electrostatic charge before you approach the dispenser island.

Working Alone

It is highly recommended that someone who is capable of rendering first aid be present during servicing. Familiarize yourself with Cardiopulmonary Resuscitation (CPR) methods, if you work with or around high voltages. This information is available from the American Red Cross. Always advise the station personnel about where you will be working, and caution them not to activate power while you are working on the equipment. Use the OSHA Lockout/Tagout procedures. If you are not familiar with this requirement, refer to this information in the service manual and OSHA documentation.

Working With Electricity Safely

Ensure that you use safe and established practices in working with electrical devices. Poorly wired devices may cause a fire, explosion or electrical shock. Ensure that grounding connections are properly made. Take care that sealing devices and compounds are in place. Ensure that you do not pinch wires when replacing covers. Follow OSHA Lockout/Tagout requirements. Station employees and service contractors need to understand and comply with this program completely to ensure safety while the equipment is down.

Hazardous Materials

Some materials present inside electronic enclosures may present a health hazard if not handled correctly. Ensure that you clean hands after handling equipment. Do not place any equipment in the mouth

WARNING

In the event of inclement weather, including snow, ice, or flooding that makes driving conditions dangerous, please avoid servicing units. Always use available door stops to secure upper doors against unwanted/unexpected movement, especially during high winds. If necessary, reschedule service to avoid damage to the equipment. Weather may change unexpectedly; be aware of local weather conditions. During service, if conditions develop making service unsafe, close the unit(s) and proceed to a safe location.

WARNING

The pump/dispenser contains a chemical known to the State of California to cause cancer.

WARNING

The pump/dispenser contains a chemical known to the State of California to cause birth defects or other reproductive harm.



Gilbarco Veeder-Root encourages the recycling of our products. Some products contain electronics, batteries, or other materials that may require special management practices depending on your location. Please refer to your local, state, or country regulations for these requirements.

In an Emergency

Inform Emergency Personnel

Compile the following information and inform emergency personnel:

- Location of accident (for example, address, front/back of building, and so on)
- Nature of accident (for example, possible heart attack, run over by car, burns, and so on)
- Age of victim (for example, baby, teenager, middle-age, elderly)
- Whether or not victim has received first aid (for example, stopped bleeding by pressure, and so on)
- Whether or not a victim has vomited (for example, if swallowed or inhaled something, and so on)

WARNING



Gasoline/DEF ingested may cause unconsciousness and burns to internal organs. Do not induce vomiting. Keep airway open. Oxygen may be needed at scene. Seek medical advice immediately.

WARNING

DEF generates ammonia gas at higher temperatures. When opening enclosed panels, allow the unit to air out to avoid breathing vapors. If respiratory difficulties develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention.

WARNING



Gasoline inhaled may cause unconsciousness and burns to lips, mouth and lungs. Keep airway open. Seek medical advice immediately.

WARNING



Gasoline/DEF spilled in eyes may cause burns to eye tissue. Irrigate eyes with water for approximately 15 minutes. Seek medical advice immediately.

WARNING



Gasoline/DEF spilled on skin may cause burns. Wash area thoroughly with clear water. Seek medical advice immediately.

WARNING

DEF is mildly corrosive. Avoid contact with eyes, skin, and clothing. Ensure that eyewash stations and safety showers are close to the work location. Seek medical advice/recommended treatment if DEF spills into eyes.

IMPORTANT: Oxygen may be needed at scene if gasoline has been ingested or inhaled. Seek medical advice immediately.

Lockout/Tagout

Lockout/Tagout covers servicing and maintenance of machines and equipment in which the unexpected energization or start-up of the machine(s) or equipment or release of stored energy could cause injury to employees or personnel. Lockout/Tagout applies to all mechanical, hydraulic, chemical, or other energy, but does not cover electrical hazards. Subpart S of 29 CFR Part 1910 - Electrical Hazards, 29 CFR Part 1910.333 contains specific Lockout/Tagout provision for electrical hazards.

nNR Battery Replacement

General

The following section describes the procedure to replace the battery in nNR units.

Replacing nNR Battery

WARNING

- Replacing the nNR battery must be done in a non-hazardous area only.
- The use of different batteries other than the specified above cause a great safety hazard.
- Gasboy's warranty does not cover the nNR, or provide RMA service, if non-approved batteries are used.

- 1 Remove the unit from the nozzle. For more details, refer to the *MDE-4851 Fuel Point Plus Station Equipment Manual*.

a Remove the M3 screws that secure the front cover to the nNR assembly and detach the cover.

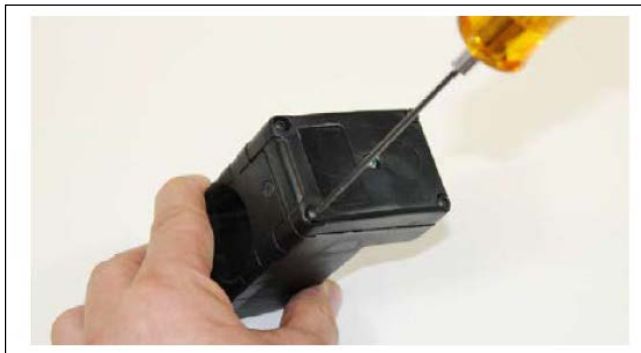
b Remove the four M3 screws that secure the nNR assembly to the spout adapter.

c Take the nNR assembly out from the nozzle.

Note: Service personnel must open the unit in a non-hazardous area.

- 2 Remove the four M3 screws that secure the top cover to the nNR assembly (see [Figure 2](#)).

Figure 2: Removing the Top Cover Screws



- 3 Take the cover out. The battery pack and rubber gasket are located on the inner side of the top cover (see [Figure 3](#)).

Figure 3: Removing the Top Cover



- 4 Disconnect the battery pack and remove the rubber gasket (see [Figure 4](#) and [Figure 5](#)).

Figure 4: Disconnecting the Battery Pack



Figure 5: Removing Rubber Gasket

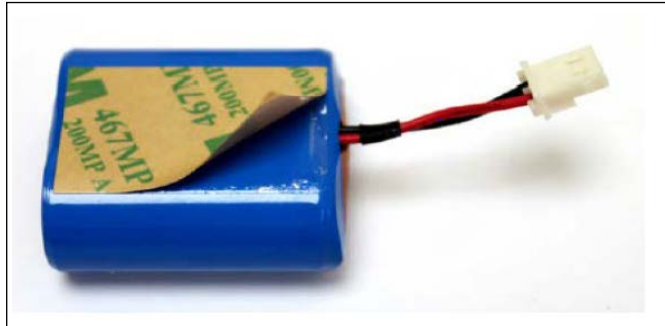


- 5 Discard the old battery pack and the rubber gasket.

Note: Discharged Lithium and Lithium Ion batteries are currently designated to be disposed off in normal trash. However, you should contact your municipal waste disposal facility prior to discarding any used battery in normal trash.

- 6 Peel off the protective sticker from the new battery (see [Figure 6](#)).

Figure 6: Peel Off Protective Sticker



- 7 Place the new rubber gasket on the inner side of the top cover, and then connect the new battery pack. Push the cable in between the battery pack and the plastic piece (see [Figure 7](#) and [Figure 8](#)).

Figure 7: Connecting a New Battery



Figure 8: New Battery Placement



- 8 Place the top lid on the nNR assembly. Verify that the new rubber gasket is in place.
- 9 Secure the top lid using the four M3 screws.
- 10 Re-install the unit on the nozzle.
 - a Slide the nNR assembly over the spout and place on the spout adapter.
 - b Secure the nNR assembly to the spout adapter using the four previously removed M3 screws.
 - c Replace the front cover and secure it using the previously removed M3 screws.

Resetting nNR Battery Status

After the battery is replaced with a new pack, use the Wireless Programmer to reset the battery status.

Resetting nNR Battery Status

Turn on the Wireless Programmer and follow the instructions that appear on the display as described in the table below. Press **ENTER** to select the options and advance to the next screen.

Step	Display	Description
1	Enter User Name	Enter your username.
2	Enter Password	Enter your password.
3	<ul style="list-style-type: none">• Program String Read String• Initialize NR Calibrate DP	The main menu is displayed. Use the UP/DOWN arrow keys to scroll-down to select Initialize NR option and press ENTER .
4	Init NR Read Init Param	Press ENTER to select the Init NR option.
5	Attach NR and Press SEND!	Shake the Nozzle Reader lightly (or press the nNR + Switch activation switch) and hold up against the rear cover of the Programmer. Press SEND .
6	Wait	Wait a few seconds while the programmer identifies the unit.
7	SXXXXX PYYYY NZZZ Change? Y/N	The unit's parameters are displayed. Press N .
8	New Battery was Inserted? Y/N	Press Y .
9	Change Battery Level to 100%? Y/N	Press Y .
10	SXXXXX PYYYY NZZZ Press SEND!	Verify that all the parameters are correct and press SEND .
11	Attach NR to WP Then tilt NR	Shake the Nozzle Reader lightly (or press the nNR + Switch activation switch) and hold up against the rear cover of the Programmer. Press SEND .
12	Programmed OK!	A success message is displayed.

Resetting nNR Battery Status - Homebase Solution

Turn on the Wireless Programmer and follow the instructions that appear on the display as described in the table below. Press **ENTER** to select the options and advance to the next screen.

Step	Display	Description
1	Enter User Name	Enter your username.
2	Enter Password	Enter your password.
3	<ul style="list-style-type: none"> • Prog FP/FP+DP Read FP/FP+DP • Initialize NR Calibrate DP 	The main menu is displayed. Use the UP/DOWN arrow keys to scroll-down to select Initialize NR option and press ENTER .
4	Init NR Read Init Param	Press ENTER to select the Init NR option.
5	Attach NR and Press SEND!	Shake the Nozzle Reader lightly (or press the nNR + Switch activation switch) and hold up against the rear cover of the Programmer. Press SEND .
6	Wait	Wait a few seconds while the programmer identifies the unit.
7	SXXXXX PYYYY NZZZ Change? Y/N	The unit's parameters are displayed. Press N .
8	New Battery was Inserted? Y/N	Press Y .
9	Change Battery Level to 100%? Y/N	Press Y .
10	SXXXXX PYYYY NZZZ Press SEND!	Verify that all the parameters are correct and press SEND .
11	Attach NR to WP Then tilt NR	Shake the Nozzle Reader lightly (or press the nNR + Switch activation switch) and hold up against the rear cover of the Programmer. Press SEND .
12	Programmed OK!	A success message is displayed.

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GASBOY

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7300 West Friendly Avenue · Post Office Box 22087

Greensboro, North Carolina 27410

Phone (800) 444-5529 · <http://www.gasboy.com> · Printed in the U.S.A.

MDE-5691A Nano Nozzle Reader Battery Replacement Instructions · May 2024