



**Recommended Installation, Maintenance,
and Inspection Instructions**
(For Ergo, Elite, Max 1, and 1A Nozzles)

SPOUT REPLACEMENT INSTRUCTIONS

MODEL: ERGO, ELITE, AND ELITE PREPAY (NEW AND REBUILT)

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| <ol style="list-style-type: none"> 1. Remove the screws at the bottom of the nozzle that holds the spout in place. 2. Remove the spout from the nozzle assembly. 3. Lubricate the O-ring surface with light oil. 4. Place the new large O-ring in the groove on the spout housing and the small O-ring on the skirt. | <ol style="list-style-type: none"> 5. Insert the new spout assembly into the body of the nozzle. 6. Replace the spout screws. 7. Test the nozzle as recommended (refer to "NOZZLE FLOW RATE TEST INSTRUCTIONS" on page 3). |
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MODEL: 1A (NEW AND REBUILT)

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| <ol style="list-style-type: none"> 1. Remove the spout locknut and the spout. 2. Remove and discard the two spout O-rings. 3. Lubricate the O-ring surface with light oil. 4. Place the new large O-ring in the groove on the spout housing and the small O-ring on the skirt. | <ol style="list-style-type: none"> 5. Insert the new spout assembly into the body of the nozzle. 6. Replace the existing spout locknut with the new locknut while holding the spout in proper alignment and securely tighten it. 7. Test the nozzle as recommended (refer to "NOZZLE FLOW RATE TEST INSTRUCTIONS" on page 3). |
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MODEL: MAX 1 (NEW AND REBUILT)

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| <ol style="list-style-type: none"> 1. Remove the three spout screws that hold the spout in place. 2. Remove and discard the two spout O-rings. 3. Lubricate the O-ring surface with light oil. 4. Place the new large O-ring in the groove on the spout housing and the small O-ring on the skirt. | <ol style="list-style-type: none"> 5. Insert the new spout assembly into the body of the nozzle. 6. Replace the new spout screws. 7. Test the nozzle as recommended (refer to "NOZZLE FLOW RATE TEST INSTRUCTIONS" on page 3). |
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INSTALLATION INSTRUCTIONS

⚠ WARNING

Read and understand the safety information before installing and operating this equipment. Installation and maintenance of all gasoline-handling equipment must be done by trained personnel ONLY.

To install the nozzle, proceed as follows:

Do not use wrench on nozzle body. Use wrench to tighten hose nut only.

1. Apply approved sealant to male threads of the hose. DO NOT USE TEFLON® TAPE.
2. Tighten the hose nut by hand first (Figure 1), and then using two wrenches (one on nut and one on fitting) to tighten until the fitting is secure, maximum of 30 ft-lbs/40.7 N-m or 1-2 turns past hand-tight. (Figure 2 on page 1). DO NOT OVERTIGHTEN.

⚠ WARNING

Do not step on nozzle while tightening. 

Figure 1: Hand Tighten the Fitting



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**MDE-5336B
(CAT-41)
January 2025**

Figure 2: Use Wrenches to Secure the Fitting



3. Check for leaks at all connections.
4. Test the nozzle flow rate by following the PEI/RP500-05-recommended test procedure (refer to ["NOZZLE FLOW RATE TEST INSTRUCTIONS"](#) on page 3).
5. Test the nozzle for proper automatic shutoff by following PEI/RP500-05-recommended test procedure (refer to ["NOZZLE FLOW RATE TEST INSTRUCTIONS"](#) on page 3).
6. Check for proper operation of the no pressure-no flow feature (if applicable), by following PEI/RP500-05-recommended test procedure (refer to ["NOZZLE FLOW RATE TEST INSTRUCTIONS"](#) on page 3).
7. Check for electrical continuity by following the PEI-recommended test procedure (refer to PEI-RP400-02).
8. Nozzles should be limited to applications as set forth in National Fire Protection Association (NFPA) 30A, Occupational Safety and Health Administration (OSHA) CFR1910.106, UFC Section 5202, and adhere to local and state codes.

IF A DRIVE OFF OCCURS

Test Procedure: (Reference PEI/RP500-05)

To test the nozzle in case a drive off occurs, proceed as follows:

1. Inspect for broken spout at the shear groove.
2. Ensure that the vacuum tip at the bottom of the spout is not cracked, blocked, or dislodged.
3. Check for leaks.
4. Ensure that the spout screw(s)/locknut is tight.
5. Check the hold-open latch to ensure that it works freely with no restriction (if applicable).
6. Perform a flow test for proper automatic shutoff by following PEI/RP500-05-recommended test procedure (refer to ["NOZZLE FLOW RATE TEST INSTRUCTIONS"](#) on page 3).
7. Perform test for proper operation of the no pressure-no flow feature, if applicable (refer to ["NOZZLE FLOW RATE TEST INSTRUCTIONS"](#) on page 3).
8. Check for electrical continuity by following PEI-recommended test procedure (reference PEI/RP400-02).

If the nozzle fails any of these check points, replace the nozzle (Reference PEI/RP500-05):

- **Daily:**
 - Check for leaks.
 - Check for loose or worn out spouts.
 - Check for any damage.
- **Monthly:**
 - Check no pressure-no flow (if applicable).
 - Check the nozzle automatic shutoff.
 - Check flow rate to verify the minimum flow rate.
- **Annually:**
 - Check electrical continuity as stated above.
 - Lubricate the valve stem with a drop of light oil.

*Notes: 1) All drive offs, maintenance, and inspections must be recorded.
2) All city, state, or federal testing regulations and codes must be followed where applicable.*



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GENERAL WARNINGS/INSTRUCTIONS

WARNING

ALWAYS ADHERE TO INSTALLATION AND USAGE INSTRUCTIONS AND WARNINGS.
Improper use may result in injury, damage, hazardous spill, or death.

- Observe all warnings and instructions for this equipment included with the product.
- Use of equipment is at individual's own risk.
- Always abide and adhere to city, state, and federal regulations regarding the use and installation of dispensing equipment.
- Always follow the dispenser manufacturer's instructions.
- Always turn OFF all power to the dispenser during maintenance and inspection.
- Always close the shear valves during maintenance and inspection activities.
- Always relieve pressure from the system prior to performing maintenance on equipment.
- Always check continuity after installation by following PEI-recommended test procedure (reference PEI/RP400-02).
- Always replace or remove damaged or leaking equipment from service immediately.
- Always record and report all occurrences of leaks, spills, and accidents to appropriate authorities.
- Always have appropriate fire extinguishing equipment within 10 feet of dispensers.
- Always wear appropriate safety equipment during maintenance activities.
- Always use approved sealant for gasoline service.
- Always place containers on the ground before filling.
- Always discharge static electricity before using or servicing equipment by touching a metal part of the dispenser or by touching any grounded metal before and after fueling vehicle.
- Never smoke within 20 feet of dispensers.
- Never keep an equipment in service beyond its recommended life.
- Never leave the nozzle unattended while dispensing fuel.
- Never use sparking or flaming devices within 20 feet of dispensers.
- Never use power tools near dispensers or to aid in the installation process.
- Ensure that the warnings written on the handwarmer are followed.
- To avoid distractions, turn OFF cell phones within 20 feet of dispensers.
- Do not re-enter your vehicle while refueling vehicle.
- Do not allow gasoline to touch eyes or skin. Avoid breathing vapors. Benzene can be harmful to your health.
- Never dispense at a flow rate less than 3 GPM with a standard nozzle and 5 GPM with a high-flow diesel nozzle.
- Never use flow rates in excess of regulatory guidelines.
- Do not fill portable containers on or in your vehicle. Fill an approved portable container on the ground. Keep nozzle in contact with the container at all times until the container is filled to a desired level.
- Turn OFF the vehicle while refueling and do not restart the vehicle's engine while refueling.
- Do not use any object to hold open a nozzle. This could cause the nozzle to fail to shut off properly.
- Do not allow children to pump gasoline. Only persons of legal driving age should use dispensers.

CAUTION

DO NOT TOP OFF!
Topping off can lead to spills and splashbacks.

LIMITED WARRANTY

GILBARCO® CATLOW LLC expressly warrants that its products shall be free from defects in material and workmanship for a period of one year from the date of manufacture. This warranty is limited to repair or replacement by GILBARCO CATLOW LLC upon return of the product to the GILBARCO CATLOW LLC factory. This warranty does not apply in the event of misuse or neglect of the product. The foregoing warranty is the exclusive remedy of purchasers of GILBARCO CATLOW LLC products. GILBARCO CATLOW LLC expressly disclaims any warranties, other than the foregoing express warranty, including the implied warranties of merchantability and fitness for a particular purpose, and disclaims any and all liability for consequential damages resulting from the use of its products.



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TEST PROCEDURES

OPERATING INSTRUCTIONS

1. Remove the nozzle from the dispenser.
2. Insert the spout completely into the fill pipe opening of the vehicle.
3. Push the nozzle so the spout spring catches the inside lip of the fill pipe.
4. Activate the dispenser, lift the lever, and begin fueling.
5. Nozzle will automatically shut off when the tank is full.
6. Wait at least 15 seconds to allow any fuel remaining in the spout to drain.
7. Remove the nozzle from fill pipe.
8. Return the nozzle to the boot of the dispenser.

NOZZLE FLOW RATE TEST INSTRUCTIONS

To test the nozzle flow rate (Reference RP500 8.6.1), proceed as follows:

Note: Use a stopwatch and five gallon grounded and vented metal test container.

1. Start the stopwatch and initiate the flow of fuel into an approved five gallon metal test container with the nozzle in the full open position. Calculate the value for Gallons per minute (GPM).
2. For standard gasoline nozzles, check each hold-open clip point to verify a minimum flow rate of 3 GPM and the maximum flow rate of 10 GPM.
3. For high-flow diesel nozzles, check each hold-open clip point to verify a minimum flow rate of 5 GPM. The maximum flow rate is not applicable for these nozzles.

NO PRESSURE/NO FLOW ACTIVATION TEST INSTRUCTIONS (Reference RP500 8.6.3)

1. Verify that the nozzle has a hold-open device.
2. Verify that the dispenser is turned on.
3. Place the nozzle spout into an approved metal test can.
4. Lift the lever and latch clip. A small amount of fuel may flow until the line pressure is relieved.
5. Turn ON the dispenser and select the grade of fuel. The nozzle should not dispense fuel.
6. Release the lever.
7. Lift the lever and latch the clip on the nozzle. Nozzle should dispense fuel.
8. Turn OFF the dispenser. Nozzle should stop dispensing fuel.
9. Wait minimum 10 seconds for the pressure in the hose to decrease and the fuel-flow valve in the nozzle to close.
10. Turn ON the dispenser and select the fuel grade. The nozzle should not dispense fuel.

Note: If the nozzle fails #5 or 10, verify that the dispenser is not allowing constant pressure to the hose. If the dispenser tests OK, replace the nozzle.

TROUBLESHOOTING GUIDE

Nozzle keeps shutting off or does not dispense.	<ol style="list-style-type: none"> 1. Reposition the nozzle in the fill pipe. 2. Ensure that the dispenser is on and activated. 3. Slow down the flow rate using lower latch on the clip. 4. Clean the spout tip. 5. Check flow rates and replace filters. 6. Inspect the breakaway for partial separation. 7. Replace the spout assembly (refer to "SPOUT REPLACEMENT INSTRUCTIONS" on page 4). 8. Check the dispenser pressure - 19 PSI to activate nozzle. 9. If nozzle fails these steps, replace the nozzle.
Nozzle does not shut off	<ol style="list-style-type: none"> 1. Check the flow rate (minimum of 3 GPM for standard nozzles and minimum of 5 GPM for high-flow diesel nozzles). 2. Conduct nozzle shutoff test (reference PEI/RP500 8.6.2). 3. Remove the nozzle and drain the hose.
Nozzle leaks	<ol style="list-style-type: none"> 1. Check for loose spout. 2. Check the stem for leakage. If leaking, replace the nozzle. 3. Check the hose connection. 4. Check for cracks in nozzle and hose threads. 5. Replace the nozzle if leak cannot be fixed.
Low flow rate	<ol style="list-style-type: none"> 1. Verify that the dispenser is not in slow flow rate mode. 2. Remove the Governor Flow Limiter if equipped. 3. Check for system leak. (Confirm line leak detector activation.) 4. Check the dispenser filter.
Flow rate above 10 GPM	<ol style="list-style-type: none"> 1. Install the Governor Flow Limiter. 2. Check the Governor Flow Limiter for debris.