

WFR-5000 4-Wheel Mini-Charger Training Manual

1. Introduction

1.1 Purpose of This Manual

- This manual is designed to provide operators with the necessary knowledge to safely and effectively use the **WFR-5000 4-Wheel Mini-Charger** equipped with the **Frontier 868 Fixed 1250 gpm Monitor** and **Frontier Selectable Flow Monitor Nozzle**. It covers setup, operation, safety measures, maintenance, and troubleshooting guidelines.

1.2 Product Description

- The WFR-5000 is a portable water manifold and monitor assembly designed for rapid deployment in firefighting and industrial scenarios. Its robust materials and 4-wheel design make it ideal for quick movement on flat surfaces.

2. Safety Information

1. **Wear Proper PPE:** Always use firefighting gear, helmets, gloves, and eye protection.
2. **Trained Operators Only:** Ensure all personnel operating the unit have received appropriate training.
3. **Pressurized System:** Open and close valves slowly to avoid pressure surges that can cause injury or equipment damage.
4. **Stable Surface:** Operate the unit on stable, level ground to prevent rolling or tipping.
5. **Pressure Limits:** Adhere to the manufacturer's recommended operating pressures and flow rates.
6. **Pre-Use Inspection:** Check for leaks, damage, or loose fittings before each use.

3. Key Components and Specifications

3.1 Mini-Charger Manifold Assembly

- **4" Schedule 40 Pipe Inlet Manifold**
 - Red powder-coated for corrosion resistance.
- **Inlets**
 - (2) 2.5" (65mm) NPT inlets:
 1. Both inlets to have a hydrant gate valve
 - Standard 65 mm swivel (BAT) on each inlet or optional 4" or 5" Storz available.
- **Wheels & Handle**
 - 4-wheel design for easy mobility.
 - Removable tee pull handle for compact storage.
- **Hose Rack and Pressure Gauge**
 - Built-in hose storage rack.
 - Pressure gauge for monitoring inlet pressure.
- **Optional Hose**
 - If hose is required, please specify (additional cost).

3.2 Frontier 868 Fixed 1250 gpm Monitor

- **Flow Capacity:** up to 1,250 GPM (4,800 LPM) at 100 psi.
- **Movement Range:** 360° horizontal rotation; 140° vertical travel.
- **Construction:** Aluminum alloy body, epoxy-coated exterior.
- **Hand-Wheel Control:** Single wheel for vertical positioning.
- **Full 3" (77 mm) Waterway**
- **Inlet:** 3" NPT (use Loctite for a secure seal).
- **Outlet:** 2.5" (65 mm) BAT or NHT threads.
- **Dimensions/Weight:** 12" H x 15" W (30cm x 38cm), ~20 lbs (9.1 kg).
- **Built-in Pressure Gauge**

3.3 Frontier Selectable Flow Monitor Nozzle

- **Flow Settings:** 250/300/500/700 GPM @ 100 psi (adjustable by baffle).
- **Stream Options:** Narrow fog, wide fog, or straight stream.
- **Built-In Stream Shaper** for maximum reach.
- **Lightweight Alloy Construction** with precision fog teeth.
- **Grease Fittings:** Easy lubrication and maintenance.
- **Custom Threads/Flows:** Available upon request.

4. Pre-Operational Checks

1. **Visual Inspection:** Ensure no visible damage or leaks on manifold, monitor, or nozzle.
2. **Wheel and Handle Function:** Check wheels roll freely; attach tee handle if needed.
3. **Valves:** Operate the hydrant gate valve and confirm the clapper valve is unobstructed.
4. **Pressure Gauge:** Verify it reads zero when depressurized.
5. **Thread Connections:** Check for correct thread fit or couplings, and apply Loctite on any 3" NPT thread.
6. **Nozzle Flow Setting:** Confirm the nozzle baffle is at the desired GPM setting (250/300/500/700).

5. Setup and Installation

5.1 Positioning the Mini-Charger

1. **Choose Location:** Place on level ground near the water supply.
2. **Secure It:** If wheel locks or stabilizing pins are present, engage them.
3. **Attach/Remove Tee Handle:** Use the handle to maneuver, then remove to save space if desired.

5.2 Connecting Water Supply

1. **Attach Supply Hoses:**
 - Use one or both 3" inlets as needed.
 - Ensure valves are closed before pressurizing.
2. **Clapper Valve Check:** Ensure it's clear of debris.
3. **Loctite on 3" NPT:** If connecting to NPT threads, apply thread-locking compound as per the instructions.

5.3 Installing the Monitor

- 1. Mount the Monitor:**

- Align the monitor's inlet with the manifold outlet.
- Use Loctite if it's an NPT connection.
- Tighten with a wrench, avoiding cross-threading.

- 2. Movement Check:**

- Rotate horizontally to confirm full 360° movement.
- Move vertically via the hand-wheel to confirm 140° travel.

5.4 Attaching the Nozzle

- 1. Thread Nozzle On:**

- Align the nozzle with the monitor's 2.5" outlet (BAT or NHT).
- Hand-tighten, then secure with a spanner, avoiding over-tightening.

- 2. Flow Rate Adjustment:**

- Adjust the nozzle baffle to the appropriate flow setting.
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6. Operation

- 1. Slow Pressurization:**

- Open the water supply valve(s) gradually to avoid pressure shock.
- Monitor the pressure gauge to maintain recommended psi levels.

- 2. Aim the Stream:**

- Use the hand-wheel for vertical adjustments.
- Manually rotate the monitor horizontally as needed.

- 3. Nozzle Pattern Control:**

- Choose narrow fog, wide fog, or straight stream.
- Flow remains constant in all patterns, though range and coverage vary.

- 4. Observe Flow & Pressure:**

- Ensure the system stays within safe operating limits (~100 psi).
- Do not exceed 1,250 GPM flow rating.

- 5. Shut Down Procedure:**

- Slowly close the supply valve(s).
 - Relieve residual pressure via a bleed valve or the nozzle.
 - Once depressurized, disconnect hoses and store properly.
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7. Maintenance and Inspection

- 1. Post-Use Cleaning:**

- Rinse with fresh water to remove debris or corrosives.
- Dry thoroughly to prevent rust.

- 2. Lubrication:**

- Use grease fittings on the nozzle and monitor pivot joints.
- Adhere to recommended grease type and schedule.

- 3. Check Seals & Valves:**

- Inspect O-rings and seals for wear; replace if necessary.
- Confirm hydrant gate and clapper valve function smoothly.

4. Thread Care:

- Inspect threads for damage; reapply Loctite if the monitor is removed/reinstalled.
- Keep threads clean and free of debris.

5. Storage:

- Remove the tee handle if needed for space.
- Store in a dry, secure place, and cover if left unused for extended periods.

8. Troubleshooting

Issue	Possible Cause	Solution
Low or No Water Flow	<ol style="list-style-type: none">1. Closed/partially closed valves2. Debris in clapper3. Kinked or loose hose	<ol style="list-style-type: none">1. Open valves fully2. Clear valve of debris3. Straighten hose/reconnect
Excessive Vibration or Movement	<ol style="list-style-type: none">1. Uneven ground2. Flow exceeds rated limit3. Loose connections	<ol style="list-style-type: none">1. Reposition on level surface2. Reduce flow3. Tighten connections
Leaks at Connections	<ol style="list-style-type: none">1. Insufficient thread sealant2. Damaged threads or gaskets	<ol style="list-style-type: none">1. Reapply thread-locking compound2. Replace worn parts
Monitor Hard to Rotate	<ol style="list-style-type: none">1. Lack of lubrication2. Debris in pivot	<ol style="list-style-type: none">1. Grease fittings2. Clean and remove obstructions
Faulty Pressure Gauge Reading	<ol style="list-style-type: none">1. Damaged gauge2. Air in system	<ol style="list-style-type: none">1. Replace gauge2. Bleed air from system

9. Best Practices and Additional Tips

- **Regular Training:** Conduct ongoing drills to ensure operators are comfortable with setup and control.
- **Maintenance Log:** Keep a record of all inspections, repairs, and parts replacements.
- **Flow Testing:** Perform periodic flow tests to confirm the monitor and nozzle are delivering proper GPM.
- **Secure During Transport:** If the unit is moved by vehicle, ensure it's well-secured to prevent damage.

10. Contact and Support

- **Manufacturer/Distributor:** WFR
- **Model:** WFR-5000 4-Wheel Mini-Charger
- **Technical Support:**
 - Phone: (403) 279-0400

- Email: salessupport@wfrfire.com
- Website: <https://www.wfrfire.com/>

If you have any questions or need further assistance, please contact WFR's support team or your authorized distributor.

Disclaimer: This manual is provided as a general guide. Always follow your department's specific operational protocols and safety procedures. Installation and usage may vary depending on local regulations and site conditions.