

## ATD 3410

# ATD-3410 Air Operated Vacuum Pump Instruction Manual

MODEL: ATD-3410

## 1. Introduction

This manual provides essential instructions for the safe and effective operation and maintenance of your ATD-3410 Air Operated Vacuum Pump. This tool is designed for automotive air conditioning systems, compatible with R-134a and R-12 refrigerants. It operates using compressed shop air to create a vacuum, which is crucial for evacuating moisture and non-condensable gases from A/C systems before recharging. Please read this manual thoroughly before using the product to ensure proper function and to prevent damage or injury.

## 2. Safety Information

Always observe the following safety precautions when operating the ATD-3410 Air Operated Vacuum Pump:

- **Eye Protection:** Always wear ANSI-approved safety goggles or a face shield when operating or servicing the vacuum pump.
- **Hearing Protection:** Use hearing protection in noisy environments, especially when operating air compressors.
- **Respiratory Protection:** Avoid inhaling refrigerant vapors. Work in a well-ventilated area or use appropriate respiratory protection.
- **Compressed Air Safety:** Ensure your air compressor is properly maintained and equipped with a pressure regulator. Never exceed the maximum recommended air pressure for the vacuum pump.
- **Refrigerant Handling:** Handle refrigerants with care. Refer to local regulations and safety data sheets (SDS) for specific handling procedures. Avoid skin contact with liquid refrigerant, as it can cause frostbite.
- **System Pressure:** Ensure the A/C system is depressurized before connecting the vacuum pump.
- **Tool Condition:** Inspect the vacuum pump and all hoses for damage before each use. Do not use damaged equipment.
- **Ventilation:** Operate the vacuum pump in a well-ventilated area to dissipate any refrigerant vapors.

### 3. Package Contents

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Upon unpacking, verify that all components are present and undamaged:

- ATD-3410 Air Operated Vacuum Pump Unit
- Fittings for R-134a and R-12 automotive use

If any items are missing or damaged, contact your supplier immediately.

### 4. Setup

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Proper setup is crucial for the efficient operation of the vacuum pump.

1. **Air Compressor Requirements:** Ensure your air compressor is rated for at least 4.2 CFM (Cubic Feet per Minute) at 90 PSI (Pounds per Square Inch). The pump requires a minimum of 75 PSI and a maximum of 180 PSI for optimal performance. A larger compressor with a high volume tank is recommended to maintain consistent airflow.
2. **Connect Air Supply:** Connect your shop air line to the "Air In" port on the vacuum pump. This port is typically a brass fitting.
3. **Connect to A/C System:** Connect a service hose from your A/C manifold gauge set to the "Vacuum" port on the front of the vacuum pump. Ensure all connections are tight to prevent air leaks.



Figure 1: The ATD-3410 Air Operated Vacuum Pump, showing the 'Air In' connection point and product label.

### 5. Operating Instructions

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Follow these steps to evacuate an automotive A/C system:

1. **Prepare A/C System:** Ensure the A/C system is completely depressurized and any remaining refrigerant has been recovered according to environmental regulations.
2. **Connect Manifold Gauges:** Connect your A/C manifold gauge set to the high and low-pressure service ports of the vehicle's A/C system.
3. **Connect Vacuum Pump:** Connect the center service hose from your manifold gauge set to the vacuum pump's "Vacuum" port.
4. **Open Valves:** Open both the high and low-side valves on your manifold gauge set.
5. **Activate Air Supply:** Turn on the air compressor and ensure it is supplying air to the vacuum pump within the specified pressure range (75-180 PSI). The vacuum pump will begin to operate, drawing a vacuum on the A/C system.
6. **Monitor Vacuum:** Observe the vacuum gauge on your manifold set. The pump is capable of pulling a vacuum of up to 28.3 inches of Mercury (inHg) at sea level with 90 PSI air supply. Allow the pump to run until the desired vacuum level is reached and held for a specified period (typically 30-60 minutes, or as recommended by the vehicle manufacturer).
7. **Isolate System:** Once the desired vacuum is achieved, close the high and low-side valves on your manifold gauge set. Then, turn off the air supply to the vacuum pump.
8. **Check for Leaks:** Monitor the vacuum gauge for at least 15-30 minutes. If the vacuum level drops, it indicates a leak in the A/C system or connections. Identify and repair any leaks before proceeding.
9. **Disconnect:** After confirming the system holds vacuum, disconnect the vacuum pump and manifold gauge set from the vehicle. The system is now ready for recharging.

## 6. Maintenance

The ATD-3410 Air Operated Vacuum Pump is designed for minimal maintenance due to its air-operated nature. It does not require oil or specific lubrication.

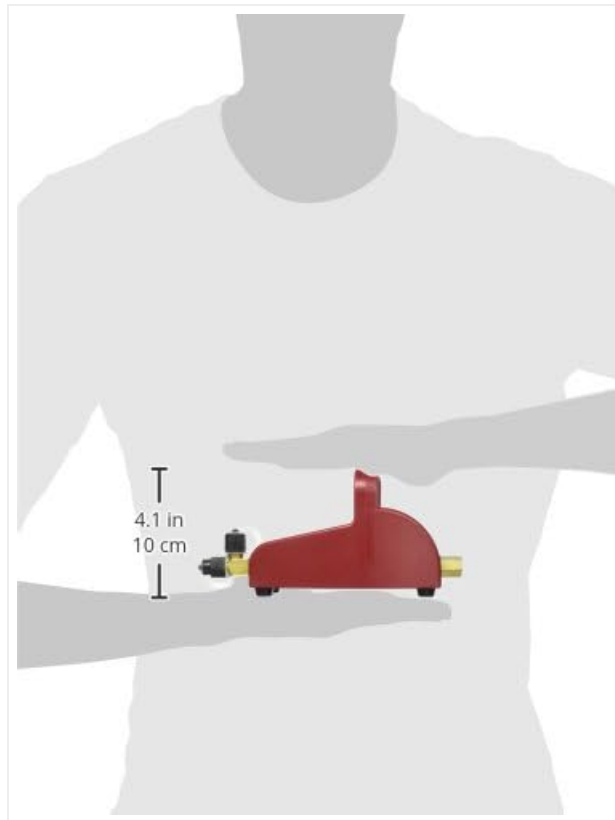
- **Cleaning:** Keep the exterior of the pump clean and free from dirt and debris. Use a damp cloth for cleaning.
- **Storage:** Store the vacuum pump in a clean, dry environment when not in use.
- **Inspection:** Periodically inspect the air inlet and vacuum ports for any obstructions or damage. Ensure all fittings are secure.

## 7. Troubleshooting

Problem	Possible Cause	Solution
Pump not pulling sufficient vacuum	Insufficient air pressure or CFM from compressor	Verify compressor meets 4.2 CFM at 90 PSI minimum. Use a larger compressor if possible.
	Air leak in connections or A/C system	Check all hose connections and A/C system for leaks.
	Obstructed air inlet or vacuum port	Inspect ports for debris and clear any obstructions.
Compressor cycles frequently during operation	Air compressor tank capacity is too small	This is normal for smaller compressors. Allow compressor to recover pressure.
	Air compressor cannot maintain required CFM	Consider using a compressor with a larger tank or higher CFM output for continuous operation.

## 8. Specifications

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*Figure 2: Approximate dimensions of the ATD-3410 Air Operated Vacuum Pump.*

- **Model:** ATD-3410
- **Operation:** Air Operated
- **Minimum Air Pressure:** 75 PSI
- **Maximum Air Pressure:** 180 PSI
- **Air Consumption:** 4.2 CFM at 90 PSI
- **Vacuum Capacity:** 28.3" of Mercury (at sea level, 90 PSI)
- **Compatibility:** R-134a and R-12 automotive A/C systems
- **Material:** High Impact Nylon case
- **Product Dimensions:** Approximately 24 x 10.49 x 12.5 cm (9.45 x 4.13 x 4.92 inches)
- **Item Weight:** Approximately 245 g (0.54 lbs)




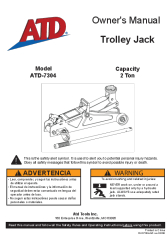


## 9. Warranty and Support

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For warranty information and technical support, please refer to the documentation provided at the time of purchase or contact ATD Tools directly. You may also reach out to your authorized dealer or the seller for assistance.

Manufacturer: ATD Tools

Place of Business: LARGO, FL, 33777 US

	<p><a href="#">ATD-80365 LED Underhood Light: Owner's Manual &amp; Warranty</a></p> <p>Owner's manual and warranty details for the ATD-80365 2,000 Lumen Corded/Cordless LED Underhood Light. Features include a human body sensor, 25' cord, and adjustable hooks. Covers operation, safety, replacement parts, and warranty terms.</p>
	<p><a href="#">ATD Bench Grinder Owner's Manual: ATD-10556 &amp; ATD-10558</a></p> <p>Comprehensive owner's manual for ATD Bench Grinders, models ATD-10556 (6-inch) and ATD-10558 (8-inch). Covers safety, operation, maintenance, troubleshooting, and parts. Features detailed instructions for safe and effective use.</p>
	<p><a href="#">ATD-5926 Rechargeable 12 Volt Jump Starter with Air Compressor - Owner's Manual</a></p> <p>This owner's manual provides instructions and safety information for the ATD-5926 Rechargeable 12 Volt Jump Starter with built-in 260 PSI Air Compressor. Learn about its features, operation, charging, and maintenance.</p>
	<p><a href="#">ATD ATD-7304 Trolley Jack Owner's Manual</a></p> <p>Comprehensive owner's manual for the ATD ATD-7304 Trolley Jack, covering safety precautions, operating instructions, maintenance procedures, troubleshooting common issues, replacement parts, and warranty information.</p>
	<p><a href="#">ATD-7328B 22-Ton Low Profile Axle Jack Owner's Manual &amp; Operation Guide</a></p> <p>Comprehensive owner's manual for the ATD-7328B 22-Ton Low Profile Axle Jack, covering features, specifications, safety guidelines, assembly procedures, operation, maintenance, troubleshooting, and warranty. Includes detailed parts lists and diagrams.</p>
	<p><a href="#">ATD-30335A 30-Inch Oscillating Pedestal Fan - User Manual &amp; Safety Guide</a></p> <p>Comprehensive owner's manual for the ATD-30335A 30-inch oscillating pedestal fan, covering features, specifications, safety warnings, assembly, operation, cleaning, maintenance, and warranty.</p>

