

Gates 22299

Gates 22299 Premium Modular Coolant Hose Instruction Manual

Brand: Gates | Model: 22299

1. PRODUCT OVERVIEW

The Gates 22299 Premium Modular Coolant Hose is designed for specific automotive applications. This hose is engineered to meet or exceed original equipment manufacturer (OEM) specifications, incorporating essential integrated components such as hose branches, quick-connectors, sensors, and restrictors where applicable. It is a critical component in your vehicle's cooling system, facilitating the flow of coolant between the engine and radiator.



Figure 1: Gates 22299 Premium Modular Coolant Hose. This image displays the black, multi-branched hose with various connection points, designed for a specific vehicle cooling system layout.

2. KEY FEATURES

- **Collapse Resistance:** Constructed with specifically-engineered materials to resist collapse under vacuum conditions, ensuring consistent coolant flow.
- **Electrochemical Degradation Resistance:** Designed to resist electrochemical degradation, which is a primary cause of hose failure in automotive cooling systems.
- **Durable Material Composition:** Features an EPDM (Ethylene Propylene Diene Monomer) tube, synthetic fiber knit reinforcement, and an EPDM cover resistant to heat, ozone, and chemical coolants.
- **OEM-Exact Components:** Manufactured with precise OEM-equivalent hose components, including quick connects, branch connectors/tees, and sensors, for a direct fit and reliable performance.
- **SAE Standards Compliance:** Meets SAE 20R3 EC Class D1 standards for hoses under 25mm (1 inch) inner diameter and SAE 20R4 EC Class D1 for hoses 25mm (1 inch) and over.

3. WHAT'S IN THE BOX

Upon opening the packaging, you will find the following item:

- One (1) Gates 22299 Premium Modular Coolant Hose

4. INSTALLATION INSTRUCTIONS

Installation of the Gates 22299 Premium Modular Coolant Hose requires specific automotive knowledge and tools. It is recommended that installation be performed by a qualified automotive technician. If you choose to perform the installation yourself, please follow these general guidelines:

1. **Safety First:** Ensure the vehicle's engine is cool and the ignition is off. Disconnect the battery's negative terminal. Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
2. **Drain Coolant:** Place a suitable drain pan under the radiator and open the drain cock to drain the coolant. Be prepared for spills and dispose of used coolant responsibly.
3. **Remove Old Hose:** Loosen the clamps securing the old coolant hose to the engine and radiator. Carefully detach the old hose, being mindful of any remaining coolant.
4. **Inspect Connections:** Clean the connection points on the engine and radiator. Inspect for any corrosion or damage that might prevent a proper seal.
5. **Install New Hose:** Position the new Gates 22299 hose, ensuring it matches the routing of the original hose. Secure the hose ends with new or properly functioning clamps. Ensure all quick-connects, sensors, or branch connections are correctly seated and secured.
6. **Refill Coolant:** Close the radiator drain cock. Refill the cooling system with the manufacturer-recommended coolant mixture.
7. **Bleed Air:** Start the engine and allow it to reach operating temperature with the heater on full. Monitor the coolant level and add more as needed to remove any trapped air from the system. Refer to your vehicle's service manual for specific air bleeding procedures.
8. **Check for Leaks:** After the engine has cooled, recheck the coolant level and inspect all connections for leaks.

Note: Always consult your vehicle's specific service manual for detailed instructions and torque specifications relevant to your make and model.

5. OPERATION AND FUNCTION

The Gates 22299 Premium Modular Coolant Hose is an integral part of your vehicle's cooling system. Its primary function is to transport hot coolant from the engine to the radiator for cooling, and then return the cooled fluid to the engine. This continuous circulation helps maintain optimal engine operating temperatures, preventing overheating and ensuring efficient performance. The modular design ensures precise fitment and integration with other cooling system components.

6. MAINTENANCE

Regular inspection and maintenance of your coolant hose are crucial for the longevity and reliability of your vehicle's cooling system. Follow these maintenance guidelines:

- **Visual Inspection:** Periodically inspect the hose for signs of wear, cracks, bulges, hardening, softening, or leaks. Pay close attention to the areas near clamps and connections.
- **Hose Condition:** Squeeze the hose when the engine is cool. It should feel firm but pliable. A hose that is excessively hard, soft, or spongy may indicate internal degradation.
- **Clamp Security:** Ensure all hose clamps are tight and secure. Loose clamps can lead to leaks.
- **Coolant Level and Quality:** Regularly check your coolant level and ensure it is at the recommended

mark. Also, verify the coolant's condition; discolored or contaminated coolant can accelerate hose degradation.

- **Replacement Schedule:** While this hose is designed for durability, all automotive hoses have a finite lifespan. Consult your vehicle's maintenance schedule or an automotive professional for recommended replacement intervals.

7. TROUBLESHOOTING

If you experience issues with your vehicle's cooling system, consider the following troubleshooting steps related to the coolant hose:

- **Coolant Leaks:**
 - **Cause:** Loose clamps, damaged hose, or improper installation.
 - **Solution:** Tighten clamps, inspect the hose for damage and replace if necessary, ensure proper seating during installation.
- **Engine Overheating:**
 - **Cause:** Blocked hose, collapsed hose (under vacuum), low coolant level, or air in the system.
 - **Solution:** Inspect hose for blockages or collapse, check and refill coolant, bleed air from the system. If the hose is collapsed, it may need replacement.
- **Hose Swelling or Bulging:**
 - **Cause:** Internal damage, excessive pressure, or chemical degradation.
 - **Solution:** Replace the hose immediately. This indicates a weakened hose structure that could burst.

Warning: If your engine is overheating, pull over safely and allow the engine to cool before attempting any inspection or repairs. Opening a hot cooling system can cause severe burns.

8. SPECIFICATIONS

Attribute	Detail
Brand	Gates
Model Number	22299
Material	EPDM, Synthetic Fiber
Color	Black
Item Weight	Approximately 16 ounces (1 pound)
Nominal Wall Thickness	2 millimeters
Specific Uses	Automotive cooling system applications
OEM Part Numbers	F65A8B273AE, F65Z8286AB, F65Z8286AD, F75A8B273SB, F85A8B273FB (Note: Verify compatibility with your specific vehicle.)

Attribute	Detail
UPC	072053283181

9. SAFETY INFORMATION

When working with automotive cooling systems and components, always observe the following safety precautions:

- Always allow the engine to cool completely before working on the cooling system. Hot coolant and engine components can cause severe burns.
- Wear appropriate personal protective equipment (PPE), including safety glasses and chemical-resistant gloves.
- Coolant is toxic. Avoid contact with skin and eyes. Do not ingest. Keep out of reach of children and pets.
- Dispose of used coolant and any contaminated materials according to local environmental regulations.
- Ensure the vehicle is securely supported on jack stands if lifting is required.
- Disconnect the vehicle's battery before starting any electrical work or major component replacement.
- If you are unsure about any step of the installation or maintenance process, consult a qualified automotive technician.

Proposition 65 Warning: This product may contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

10. WARRANTY AND SUPPORT

Gates products are manufactured to high-quality standards. For specific warranty information regarding your Gates 22299 Premium Modular Coolant Hose, please refer to the warranty documentation included with your purchase or visit the official Gates website. For technical support or inquiries, please contact Gates customer service through their official channels.

You can find more information and contact details on the [Gates Store on Amazon](#).