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World American WA289714

World American WA289714 QR1C Air Brake Quick Release Valve User Manual

Model: WA289714 | Brand: World American

1. Product Overview

The World American WA289714 QR1C Quick Release Valve is a critical component for air brake systems, engineered to facilitate rapid air release and enhance braking efficiency. This valve is suitable for a variety of heavy-duty vehicles, providing reliable performance under demanding operational conditions. It features a compact design with a height of 2.68 inches and is equipped with NPT-threaded ports for secure and straightforward connections. This versatile valve is applicable for trucks, buses, and trailers in diverse braking system configurations.

2. Features

- Type QR-1C Quick Release Valve with 0 PSI differential.
- Precision Port Sizes: Supply port diameter 0.25 inch, delivery port diameter 0.375 inch, balance port diameter 0.25 inch.
- NPT Thread Type: Ensures secure connection and leak-free operation.
- Compact Design: 2.68-inch height allows for installation in confined spaces.
- Durable Construction: Built with high-quality materials for long-lasting performance in heavy-duty applications.
- Reliable Brake Release: Designed for fast and consistent brake disengagement.

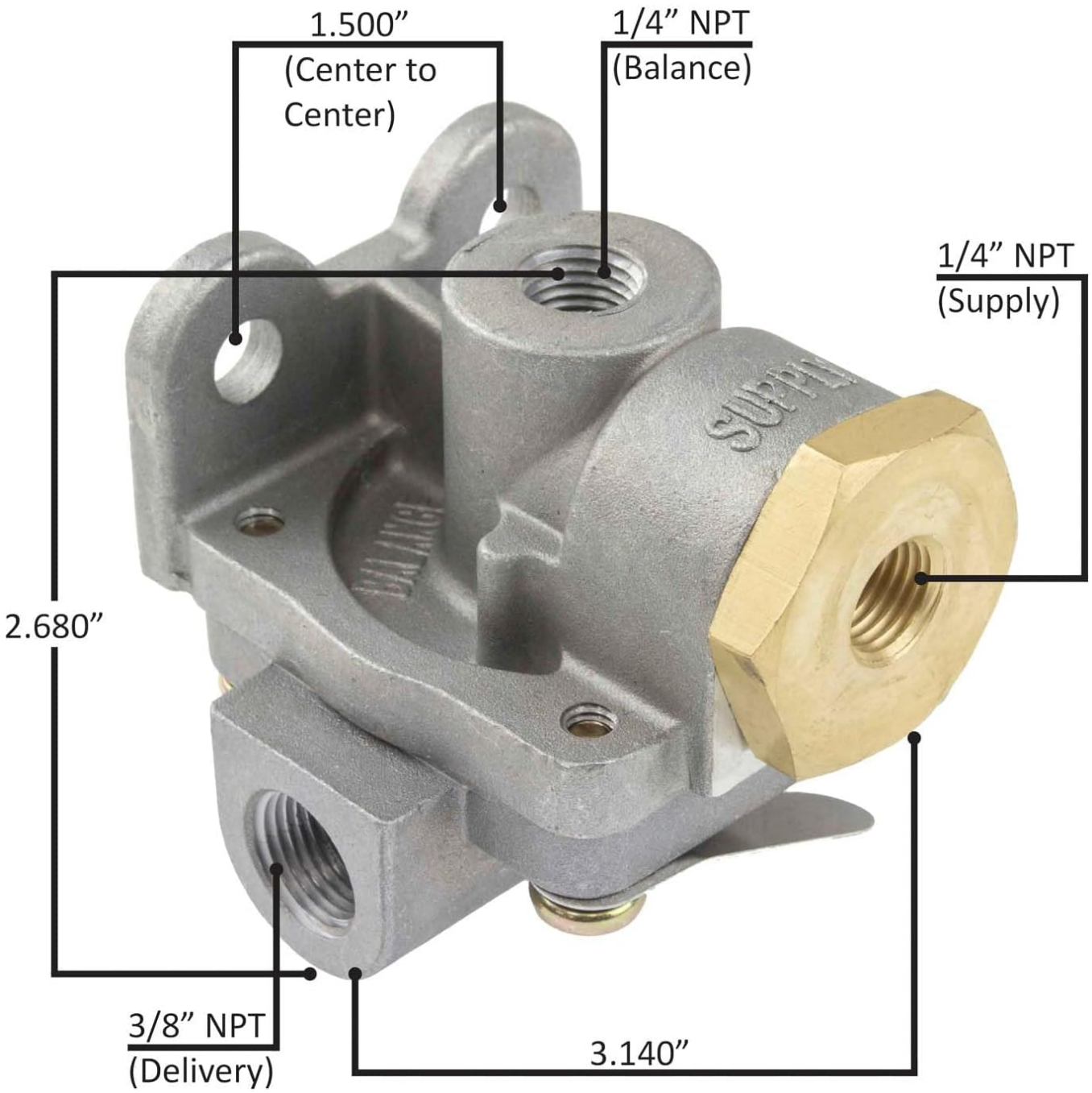
3. What's in the Box

- 1 x World American WA289714 QR1C Air Brake Quick Release Valve

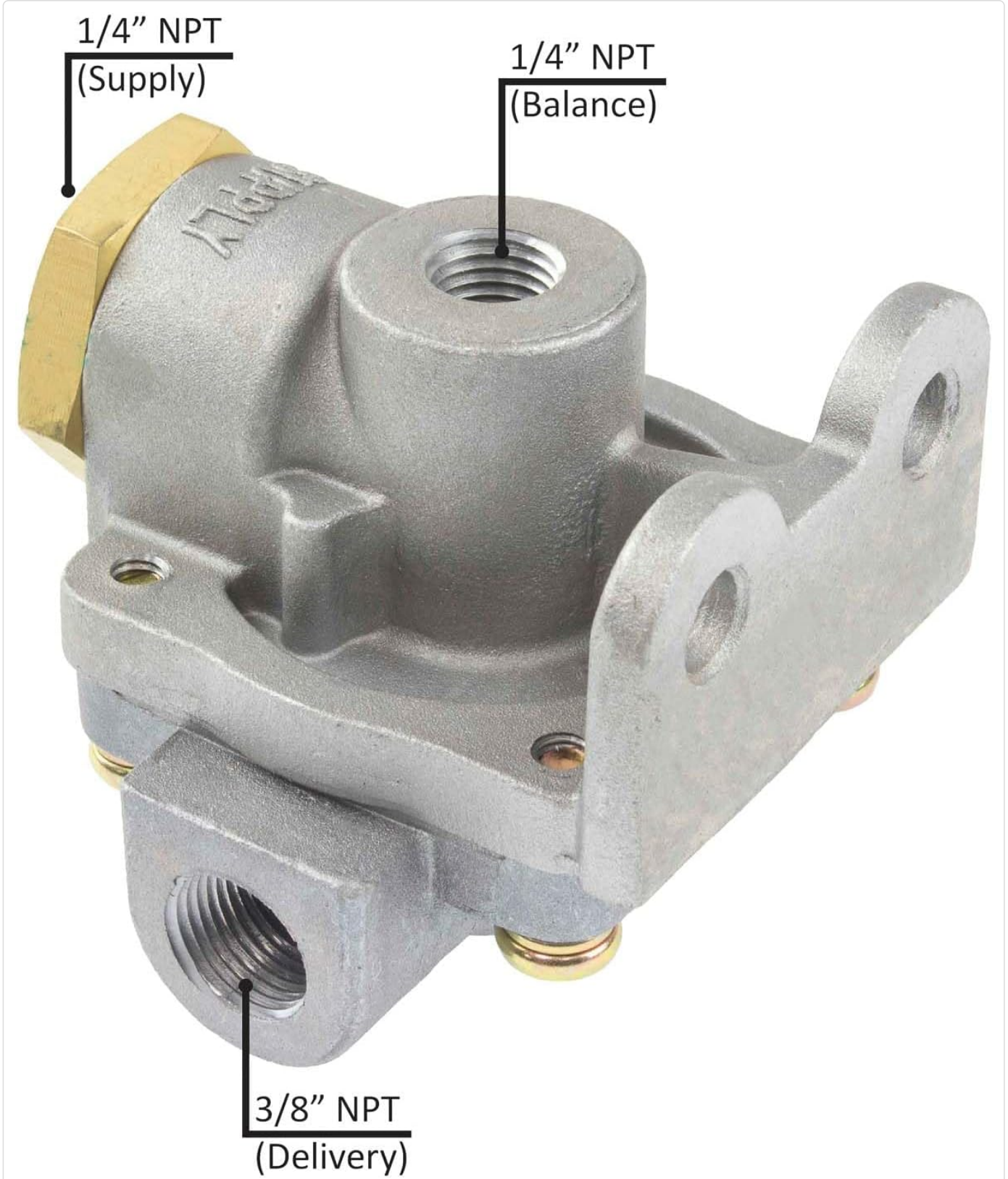
4. Product Images



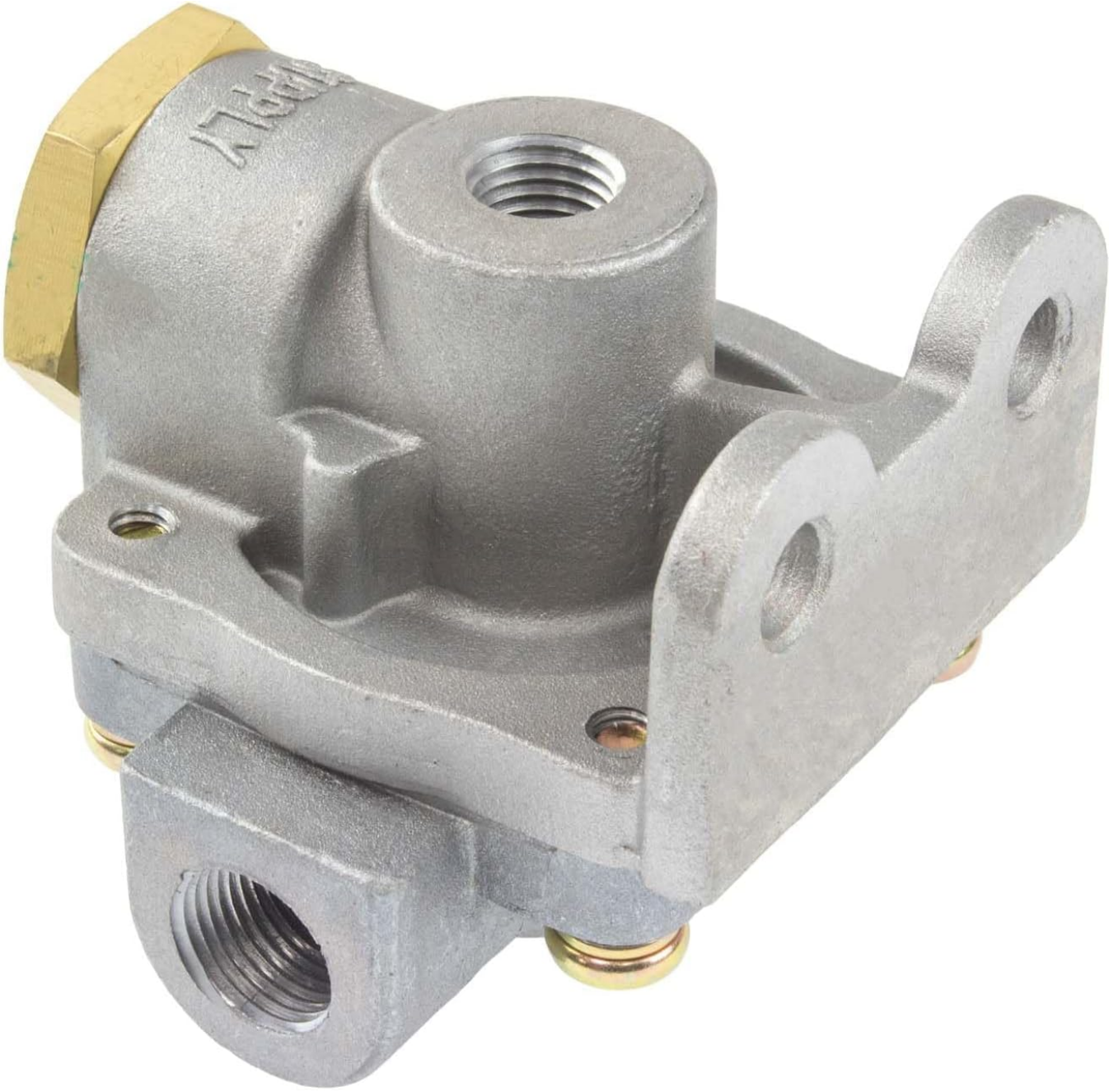
A general view of the World American WA289714 QR1C Air Brake Quick Release Valve, showcasing its robust metal construction and port configurations.



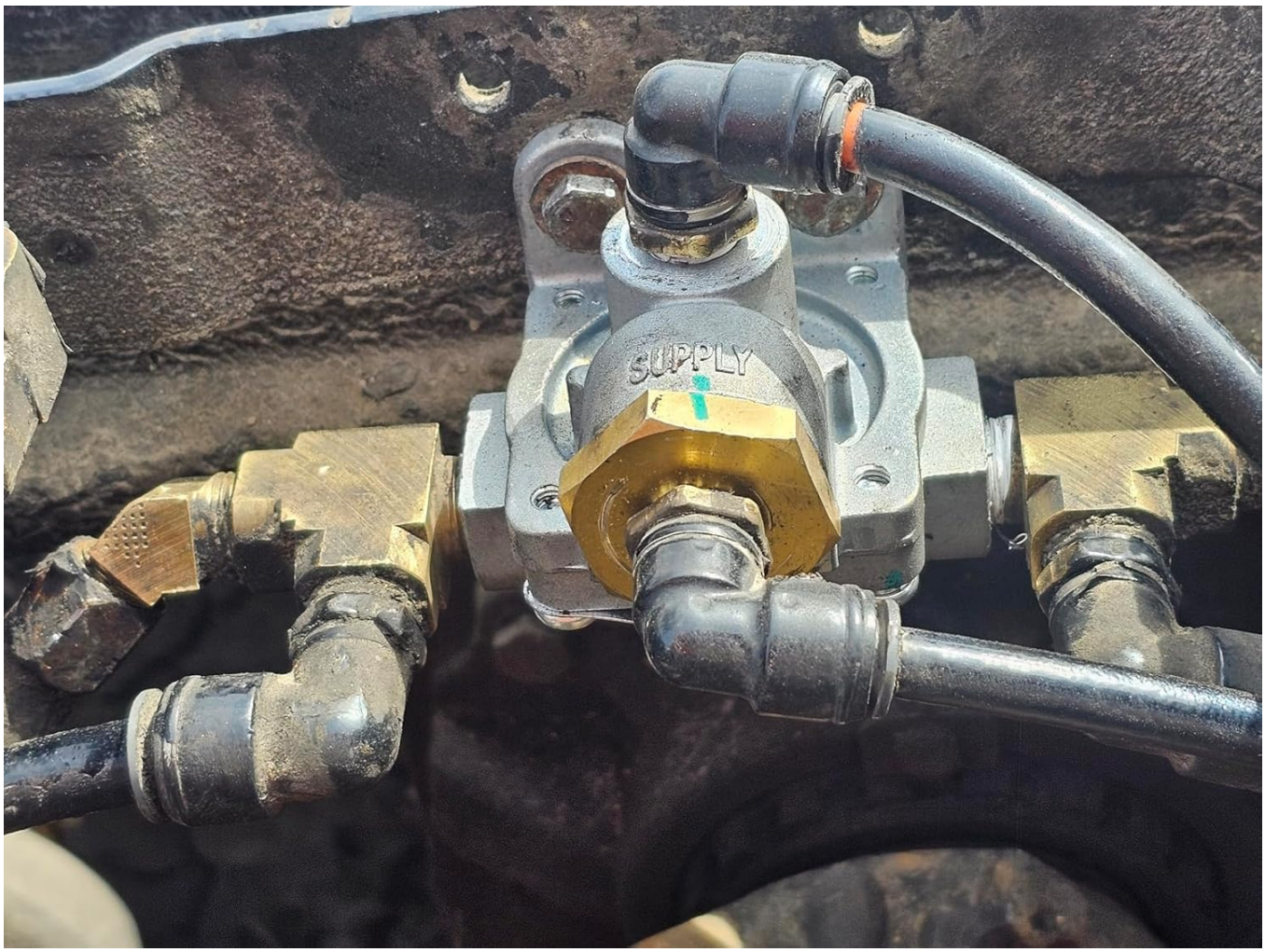
An annotated image of the World American WA289714 QR1C valve, highlighting key dimensions including 2.68 inches height, 3.140 inches length, and 1.500 inches mounting hole spacing. Port sizes are also indicated: 1/4 inch NPT for Supply and Balance, and 3/8 inch NPT for Delivery.



A side view of the QR1C valve, clearly labeling the 1/4 inch NPT Supply port, 1/4 inch NPT Balance port, and 3/8 inch NPT Delivery port.



An alternative perspective of the World American WA289714 QR1C valve, providing a comprehensive view of its design and connection points.



The World American WA289714 QR1C Air Brake Quick Release Valve shown installed in a heavy-duty vehicle's air brake system, demonstrating its integration with existing air lines and mounting hardware.

5. Installation and Setup

Proper installation is crucial for the safe and effective operation of the air brake system. If you are unfamiliar with air brake system components, it is recommended to seek professional assistance.

5.1. Safety Precautions

- Always depressurize the air brake system before beginning any work.
- Wear appropriate personal protective equipment, including safety glasses and gloves.
- Ensure the vehicle is properly secured to prevent accidental movement.

5.2. Installation Steps

1. **Preparation:** Clean the mounting surface thoroughly. Inspect all air lines and fittings for damage or wear.
2. **Mounting the Valve:** Securely attach the WA289714 QR1C valve to the designated mounting location using appropriate hardware. Ensure it is stable and free from vibration.
3. **Connecting Air Lines:** Connect the air supply line to the 1/4 inch NPT supply port, the brake chamber lines to the 3/8 inch NPT delivery port, and the balance line to the 1/4 inch NPT balance port. Use a suitable thread sealant (e.g., PTFE tape or liquid sealant) on all NPT connections to prevent air leaks.
4. **System Re-pressurization:** Slowly re-pressurize the air brake system.
5. **Leak Check:** Apply a soapy water solution to all connections and the valve body to check for air leaks. Bubbles indicate a leak that must be addressed.
6. **Functional Test:** Perform a thorough functional test of the air brake system to ensure proper operation and brake release.

6. Operating Principles

The QR1C Quick Release Valve is designed to expedite the release of air from the brake chambers when the service brakes are disengaged. This rapid exhaust of air is crucial for reducing brake lag and ensuring quick brake response, which contributes to vehicle safety and efficiency.

- **Brake Application:** When the brake pedal is pressed, air pressure from the control valve flows through the supply port of the QR1C valve and then through the delivery port to the brake chambers, applying the brakes.
- **Brake Release:** When the brake pedal is released, the pressure at the supply port drops. The QR1C valve senses this pressure differential and opens a direct exhaust path from the brake chambers to the atmosphere, bypassing the longer return path through the control valve. This allows for immediate air evacuation from the brake chambers, quickly releasing the brakes.

7. Maintenance

Regular inspection and maintenance can extend the life of your QR1C valve and ensure optimal performance of your air brake system.

- **Periodic Inspection:** Routinely check the valve and all connected air lines for any signs of physical damage, corrosion, or wear.
- **Leak Detection:** Periodically perform a leak check using a soapy water solution on all connections and the valve body. Address any detected leaks promptly.
- **Cleaning:** Keep the exterior of the valve clean from dirt, grime, and road debris to prevent potential blockages or damage to seals.
- **Replacement:** Replace the valve if it exhibits symptoms of malfunction, such as persistent air leaks, excessively slow brake release, or visible damage that could compromise its integrity.

8. Troubleshooting

This section outlines common issues and potential solutions for the QR1C Quick Release Valve.

Symptom	Possible Cause	Solution
Slow Brake Release	Internal valve malfunction, restricted exhaust port, or air line obstruction.	Inspect the valve for debris or damage. Check exhaust port for blockages. Verify air line integrity. Consider valve replacement if internal failure is suspected.
Constant Air Leak	Loose or improperly sealed connections, damaged O-rings/seals, or cracked valve body.	Tighten all connections. Reapply thread sealant if necessary. Inspect and replace damaged O-rings or seals. Replace the valve if the body is cracked.
No Brake Application (Valve related)	No air supply to the valve, internal blockage, or incorrect plumbing.	Verify air pressure at the supply port. Check for internal blockages. Confirm correct air line connections according to the installation guide.

9. Specifications

Specification	Detail
Model	WA289714 (QR-1C)
Type	QR-1C Quick Release Valve

Specification	Detail
Differential Pressure	0 PSI
Supply Port Diameter	0.25 Inch NPT
Delivery Port Diameter	0.375 Inch NPT
Balance Port Diameter	0.25 Inch NPT
Height	2.68 Inch
Product Dimensions	3.5 x 3.1 x 3.8 inches
Item Weight	1 pound
Manufacturer Part Number	WA289714

10. Application and Compatibility

The World American WA289714 QR1C Quick Release Valve is designed for universal fit across a wide range of heavy-duty commercial vehicles equipped with air brake systems.

10.1. Compatible Vehicle Types

- Heavy-duty trucks (e.g., Freightliner, Mack, Volvo, Kenworth, Peterbilt, International/Navistar)
- Bus and transit vehicles
- Trailers with air brake systems
- Recreational vehicles (RVs) and specialty commercial chassis with air brakes

10.2. Replaces / Interchanges With

This valve is a direct replacement for numerous OEM and aftermarket part numbers, ensuring broad compatibility:

- **Bendix Models:** 0R289714BXR, 104576, 109089, 289714, 289714BXW, 289714CX, 289714N, 289714OR, 289714P, 289714RX, 289714X, 6300WKN32041, 800539, 8235R955289714N, BER289714, BOR289714X, BW289714, BW289714N, BW OR289714, BW OR289714X, BW-289714N, BW104576, BW109089, BX104576, BX109089, BX289714, BX289714N, BX289714X, BX800539, BXOR289714, BXW289714, OR289714X, PD 289714P, TDARKN32041
- **Automann:** 170.289714, 170289714, AM170289714, 8235RKN32041
- **OE Aftermarket:** 0587-289714P, 14233, 1899664717, 3501023, 90015034, F224699
- **Velvac:** 034012
- **Navistar / International:** 1676-745-C, 1676745C, 1676745C1, BAN289714, BX289714, BX289714N, NS289714, NSDS1676745C1, ZAC289714
- **Mack:** 20-QE-2288, 20QE2288, 2QE2288, 25175160, 745-289714N, 745-289714RX
- **Wabco:** 4735050030, 9340990100, 9340990150, 9340990200, WAB4735050030, WABWKN32041, WKN32041
- **Freightliner:** 729013401, 9242 289714, 9246 289714, 9645 289714, 9646 289714, A12-14980-000, A12-14980-001, A12-14980-002, A12-14980-003, BW 289714, BW 289714N, WWS 289714, WWS 72901-3401, F3HZ 2K119 A
- **Volvo:** 8071356, 85150276
- **PAI:** 626, 36260, EM36260, LQV-3626
- **Euclid:** E-BN289714N
- **Dayton Parts:** AV289714
- **Haldex:** KN-32041, KN32041
- **Fleetcraft:** FC289714

- **Perkins:** 4820-01-095-1697
- **Meritor:** R955289714N, R955289714X, RKN32041, TDAR955289714N
- **Genuine Newstar:** BER-289714, S-9749, S9749
- **Tectran:** 14477, TV289714
- **World American:** QR-1C
- **BWP:** M-289714
- **Torque:** TR289714

11. Official Product Videos

No official seller-provided product videos are available for this item at this time.

12. Warranty and Support

The World American WA289714 QR1C Air Brake Quick Release Valve is backed by a 1-year manufacturer's warranty. Each unit is manufactured to meet or exceed OEM standards and undergoes quality testing for performance, fitment, and durability to ensure reliable operation in commercial fleets and applications. For support or warranty claims, please contact World American customer service.

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