

## ACDelco 504-517

# ACDelco Specialty 504-517 Rear Air Lift Shock Absorber Instruction Manual

Model: 504-517

## 1. INTRODUCTION

---

ACDelco Specialty Air Lift Shocks are engineered to enhance vehicle handling in temporary heavy load or towing situations. These shocks feature adjustable air pressure, ranging from 25 to 200 psi, and offer up to 1,100 lbs of additional load-carrying capacity per pair. They assist in maintaining level vehicle height under loaded conditions by adjusting air pressure, which helps stabilize alignment angles, reduce wear on other suspension components, improve handling, and minimize the risk of bottoming out. These air lift shocks are particularly suitable for temporary load hauling, including towing boats and trailers. It is crucial not to exceed the vehicle's Gross Vehicle Weight Rating (GVWR), as this product does not increase the vehicle's payload capacity.

### Key Features:

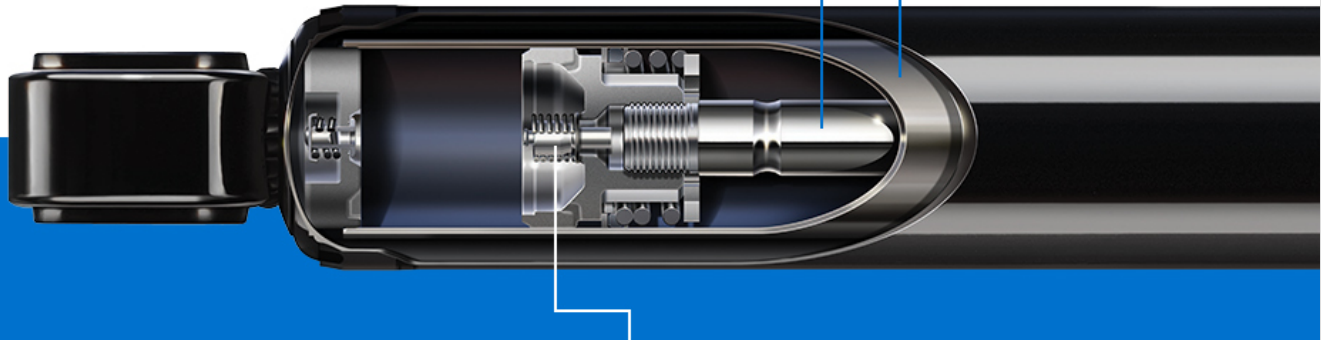
- Maintains ride height with up to 1,100 lbs (per pair) of additional temporary leveling capacity.
- Adjustable air pressure allows custom tuning for individual load weights.
- Super finished chromed piston rod provides anti-corrosion support, consistent wear surface, proper seal lubrication, and extended product life.
- Real-world tested to ensure compatibility with intended vehicles and applications.
- Designed for vehicle-specific fitment.
- Compressed Length: 14.29 inches; Extended Length: 23.27 inches.

# Enhancing Your Control

ACDelco Gold (Professional) Premium Gas-Charged Shocks are twin-tube passive replacement shocks for passenger cars, vans, SUVs, and light-duty trucks. These shocks have a high-pressure nitrogen gas charge along with chrome-finished piston rods and drawn-over mandrel (DOM) pressure cylinders.

Chrome-finished piston rod helps prevent corrosion

Drawn-over mandrel (DOM) pressure cylinder



For additional ride support, ACDelco Gold (Professional) Premium Gas-Charged Shocks utilize premium road-response valving technology that automatically adjusts to help provide comfort and control by responding to changing road conditions during normal driving situations, as well as offering improved handling under extreme road conditions.

Figure 1: Internal components of an ACDelco shock absorber, showing the chrome-finished piston rod and drawn-over mandrel (DOM) pressure cylinder, designed for enhanced control and durability.

## 2. SETUP AND INSTALLATION

This section provides general guidance for the installation of ACDelco Specialty Air Lift Shock Absorbers. Professional installation is recommended. Always refer to your vehicle's service manual for specific instructions and safety precautions.

### Components Included:

- Two (2) ACDelco Specialty Air Lift Shock Absorbers
- Air lines and fittings
- Mounting hardware (nuts, washers, bolts, T-fitting)



Figure 2: Contents of the ACDelco Specialty Air Lift Shock Absorber kit, including the shocks, air lines, and mounting hardware.

### General Installation Steps:

1. **Safety First:** Park the vehicle on a level surface, engage the parking brake, and use wheel chocks. Lift the vehicle using a hydraulic jack and support it securely with jack stands.
2. **Remove Old Shocks:** Carefully remove the existing shock absorbers from the vehicle. Note the orientation of the mounting hardware.
3. **Install New Shocks:** Mount the new ACDelco air lift shock absorbers using the provided hardware. Ensure all bolts are tightened to the manufacturer's specified torque settings.
4. **Route Air Lines:** Connect the air lines to the fittings on the shocks. Route the air lines away from hot exhaust components, sharp edges, and moving parts. Secure the lines with clips or zip ties to prevent chafing or damage.
5. **Install Air Valve:** Install the air fill valve in an accessible location, such as the rear bumper or trunk area. Connect the air lines to the T-fitting, and then connect the T-fitting to the air fill valve.
6. **Check for Leaks:** Inflate the shocks to a low pressure (e.g., 50 psi) and check all connections for air leaks using a soapy water solution. Bubbles indicate a leak.
7. **Final Check:** Lower the vehicle and ensure proper clearance and function.

**Important Note:** Some users have reported issues with the provided mounting hardware or bushing fitment on certain vehicle models. Ensure the hardware is compatible with your specific vehicle's requirements. If the bushing lacks a metal sleeve, it may require a different bolt or sleeve for proper installation and longevity.

## 3. OPERATING INSTRUCTIONS

---

ACDelco Specialty Air Lift Shocks allow for adjustable air pressure to optimize your vehicle's ride height and handling under varying load conditions.

### Adjusting Air Pressure:

- **Pressure Range:** The recommended adjustable air pressure range is between 25 psi and 200 psi. Do not exceed 200 psi.
- **Inflation:** Use a standard air compressor with a tire chuck to inflate the shocks via the installed air fill valve.
- **Deflation:** To release air, gently depress the pin in the center of the air fill valve.
- **Load Adjustment:**
  - For heavy loads or towing, increase the air pressure to achieve the desired ride height and stability.
  - For lighter loads or normal driving, reduce the air pressure to maintain a comfortable ride.
- **Monitoring:** Periodically check the air pressure, especially before and after hauling heavy loads or towing. Temperature changes can affect air pressure.

**Caution:** Always ensure that the vehicle's Gross Vehicle Weight Rating (GVWR) is not exceeded. These shocks provide leveling assistance and do not increase the vehicle's payload capacity. Over-inflation can damage the shocks or other suspension components.

## 4. MAINTENANCE

---

Regular inspection and maintenance of your air lift shock absorbers are crucial for optimal performance and longevity. While shocks slowly deteriorate over time, regular checks can prevent additional wear on other vehicle components.



Figure 3: A shock absorber on a workbench, illustrating the context of maintenance and inspection.

### Recommended Inspection Practices:

It is recommended to inspect your vehicle's shocks annually. Always refer to your vehicle's Owner's Manual for additional maintenance practices. A qualified technician should check for the following:

- **Leaking Oil or Wetness:** Inspect along the body of the shock for any signs of oil leaks or wetness.
- **Broken Mounts:** Check the shock mounting points for any cracks, damage, or looseness.
- **Damaged Hardware:** Ensure all mounting hardware is present, intact, and properly secured.
- **Dented Reservoir Tube:** Examine the shock body for any dents or deformities.
- **Bent or Scratched Piston Rod:** Inspect the piston rod for any bends, scratches, or pitting, which can compromise seal integrity.
- **Air Line Integrity:** Check air lines for cracks, chafing, or loose connections.
- **Tire Wear:** Uneven or "cupped" tire wear can be an indication of worn or malfunctioning shocks.

Addressing these issues promptly can prevent further damage to your suspension system, including ball joints, other suspension components, brakes, and tires.

## 5. TROUBLESHOOTING

---

This section addresses common questions and issues related to air lift shock absorbers.

### Frequently Asked Questions (FAQ):

**Q: Is there a difference between a shock and a strut?**

A: Yes. While both perform similar functions, a strut is a structural part of the vehicle's suspension system and affects alignment angles, whereas a shock is not. Air lift shocks are designed to assist with load leveling, not to replace structural struts.

**Q: Should I have my vehicle aligned after replacing my shocks or struts?**

A: You should have your vehicle aligned if you are replacing your vehicle's struts. It is generally not necessary to get your vehicle aligned when replacing only shocks, unless there was a pre-existing alignment issue or if the installation process significantly altered suspension geometry.

**Q: Do I need different shocks for front, rear, left, or right applications?**

A: Yes. It's important to choose the correct shock or strut for your vehicle model and year, as well as for the specific location (front, rear, left, or right) in the vehicle. The ACDelco 504-517 is a Rear Air Lift Shock Absorber.

### Common Issues and Solutions:

- **Shock Not Holding Air:**
  - **Check Air Line Connections:** Ensure all air line connections are tight and free from leaks. Use soapy water to identify bubbles.
  - **Inspect Air Lines:** Look for kinks, cuts, or chafing in the air lines. Replace damaged lines.
  - **Valve Stem Leak:** Check the air fill valve for leaks.
  - **Internal Shock Leak:** If the shock itself is leaking air (e.g., from the top), it may be defective and require replacement.
- **Incorrect Fitment / Hardware Issues:**
  - **Verify Compatibility:** Double-check that the shock absorber model (504-517) is indeed compatible with your specific vehicle year, make, and model.
  - **Bushing/Bolt Compatibility:** If the provided hardware or bushings do not fit correctly or lack a metal sleeve, consult a professional mechanic or ACDelco support for alternative solutions or compatible parts. Using incorrect hardware can lead to premature wear and failure.

## 6. SPECIFICATIONS

---

| Attribute            | Value                               |
|----------------------|-------------------------------------|
| Brand                | ACDelco                             |
| Model                | 504-517 (Absorber Asm, Rr Lvlg Shk) |
| Auto Part Position   | Rear                                |
| Style                | Adjustable                          |
| Vehicle Service Type | Trailer                             |
| Exterior Finish      | Machined                            |

| Attribute                     | Value                      |
|-------------------------------|----------------------------|
| Material                      | Chrome                     |
| Extended Length               | 23.27 Inches               |
| Compressed Length             | 14.29 Inches               |
| Adjustable Air Pressure Range | 25 - 200 psi               |
| Load-Carrying Capacity        | Up to 1,100 lbs (per pair) |
| Item Weight                   | 12.23 pounds               |
| Product Dimensions            | 19.4 x 6.5 x 3.9 inches    |
| OEM Part Number               | 88946604                   |
| UPC                           | 021625322568               |
| ASIN                          | B0012PRZKU                 |
| Date First Available          | October 10, 2007           |

## 7. WARRANTY AND SUPPORT

---

For specific warranty information regarding your ACDelco Specialty 504-517 Rear Air Lift Shock Absorber, please refer to the documentation included with your purchase or contact ACDelco directly. Warranty terms and conditions may vary.

### Customer Support:

For further assistance, technical support, or to inquire about genuine ACDelco parts, please visit the official ACDelco website or their brand store:

- [ACDelco Brand Store on Amazon](#)
- Consult a certified automotive technician for professional installation and maintenance.