

BLACK HAWK® 9300 Series

Radial Bypass Off-Road Racing Shocks

- One piece 6061 extruded aluminum body with hard anodized finish
- Radial Bypass Damping™ (RBD) technology*
- Incremental Bypass Flow Metering Valves™ (IFMV) with 9 adjustable settings
- 30% faster heat dissipation than steel with up to 100° cooler peak operating temperatures
- 10% - 25% lighter than similar welded bypass steel shocks without the distortion from welding
- 1-1/8" O.D. hard chromium plated piston rod
- 3" type III hard anodized piston with high flow ports and 1" tall low friction bronze backed wear band with O-ring seal
- Massive 4-1/2" x 12" 6061-T6 aluminum reservoir housing with anti-cavitation valve (ACV)*



*Patented

9300 Series Coilover
Also Available

DISTRIBUTED BY:

For more information on the full line of Bilstein shocks, call 1-800-537-1085, or visit bilsteinUS.com

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BILSTEIN® OFF-ROAD SHOCKS



Bilstein Gas Pressure Shock Absorbers
ThyssenKrupp Bilstein of America



THE ADVANTAGE OF BILSTEIN'S MONOTUBE DESIGN



Heat is one of the major detractors to the performance and longevity of any shock absorber. Conventional twin tube designed shocks trap the heat within the shock body and do not let it adequately dissipate, making them prone to heat build-up, fade and eventual failure.

By contrast, BILSTEIN's technically superior, monotube high gas pressure charged design allows the excessive heat from the oil to transfer to the outer surface of the shock body and dissipate more efficiently. The dividing piston also permits the oil to expand as heat builds, preventing aeration (foaming) and viscosity loss. This allows the shock to maintain full damping characteristics as temperatures rise.

Bilstein Shocks are true high pressure gas shocks, no emulsion, no foam cells, just pure performance. Available for Lifted Truck & SUV, Custom Truck, Rock Crawling and Off-Road Racing Applications

One Piece Aluminum Rod Guide & Seal

Keeps dirt out and maintains a nearly friction-free surface for longer life.

Hard Chrome Piston Rod

Features a super finished hard chrome plated surface with a maximum peak-to-valley measurement of .0002mm.

Massive 46mm Self-Adjusting Digressive Piston

Instantly reacts and adjusts for any road surface irregularity. Provides maximum vehicle body motion control while maintaining superior comfort.

BILSTEIN's Industry Leading Monotube Design

Provides superior tube strength while maximizing heat dissipation and shock life.

High Pressure Nitrogen Gas & "Floating" Dividing Piston

Nitrogen gas maintains constant pressure against the low mass "floating" dividing piston and column of hydraulic oil, eliminating the possibility of oil foaming and performance loss.



Non-pressurized shock, foaming



Gas pressure shock, no foaming

Pressure Differentials

Shock oils contain roughly 10% gas molecules. The compression and rebound strokes of the shock piston in the oil column cause pressure differentials. When the piston rod is forced quickly into the shock tube, the pressure increases in front of the piston and decreases behind it.

These pressure differentials release gas molecules from the oil which forms small bubbles (foaming). The foaming can become so excessive that the damping force is severely reduced resulting in loss of vehicle control.

In a monotube gas pressure shock absorber, the nitrogen separated from the oil by a dividing piston keeps the oil column under pressure at all times to prevent the release of gas molecules. This enables the shock to deliver consistent performance under all driving conditions.



BILSTEIN Piston

Twin Tube Piston

Monotube VS. Twin Tube Working Piston

BILSTEIN's piston has 228% larger surface area than the average piston found in a typical "twin tube" shock offering greater sensitivity and superior vehicle control.



Compression Valving Disks

Teflon (PTFE) Piston Band

Large Flow Digressive Piston

Rebound Valving Disks

BILSTEIN's Digressive Working Piston Assembly

The piston head design allows independent tuning of the compression and rebound damping forces to provide optimum ride comfort and performance without compromise. It features fewer parts than most conventional twin tube and so called "road sensing" shock designs. This simple, yet exceptionally functional digressive design contributes to the extreme durability and long life of BILSTEIN shocks.

OFF-ROAD SHOCKS

DIRECT FIT



5100 Series For Lifted Trucks & SUVs

- Specifically designed and manufactured for lifted pickups and SUVs
- 46mm piston diameter provides superior handling and performance
- Patented digressive valving instantly reacts to changing surface conditions for maximum comfort and control on or off-road
- Split compression and rebound valving tuned for each specific application
- O.E. certified shock mounts
- Available for 2"-6" suspension lifts
- Limited lifetime warranty

5125 Series (Custom Fit):

- Available in various lengths and valvings for use on modified or specialty vehicle applications

5100 Series Height Adjustable Leveling Shocks

- Designed for front coilover style pickup suspensions
- Multiple snap-ring grooves allow different spring seat positions providing 0" to 2.75" of front end lift, depending on application
- Utilizes the vehicle's stock front coil springs
- An extremely affordable and practical alternative to coil spring spacers, with the benefit of BILSTEIN's superior monotube design
- Increases suspension travel
- Limited lifetime warranty

5160 Series Stock Location Remote Reservoir Shocks

- Easily installs in the stock shock mounting location on pickups and SUVs – *no cutting or welding required*
- Remote reservoir dramatically increases shock oil capacity for even greater heat dissipation and damping sensitivity
- Included reservoir mounting kit designed specifically for each application (*does not include optional billet aluminum mounting clamp shown above*)
- For increased wheel travel and more shaft movement, the "floating" dividing piston is located in the reservoir

5165 Series (Custom Fit):

- Available in various lengths and valvings for use on modified or specialty vehicle applications

CUSTOM FIT



5150 Series

- Race inspired fixed *CrossFlow* reservoir
- Adjustable shock mount allows unlimited reservoir positioning
- Advanced design split valving
- Huge 46mm working piston
- Maintenance free design
- Valving for single or multiple shock applications
- Platinum powdercoat finish
- Available in 6.5" - 14" travel
- For use on modified or specialty vehicle applications

7100 Series

- Self-adjusting deflective disc valving
- Multiple valvings available
- 5" - 14" travel lengths
- 46mm diameter shock body
- Independent rebound & compression tuning
- High flow piston reduces harshness
- 1/2" heim ends
- Easily customer rebuildable
- True high pressure gas shock, *no emulsion*
- Schrader valve and remote reservoir models available

RACING



9100 Coilover

- Available in 60mm and 46mm
- Threaded body with dual rate spring hardware kit
- 10", 12", 14" & 17" travel lengths
- 22mm case hardened piston rod
- Heim ends in 1/2" or 3/4"
- 60mm Reservoir
- Rebuildable
- Custom valvings available for race or rockcrawling
- Electroless nickel plated finish

Smooth body model also available

9100 Bypass

- Externally adjustable and position sensitive
- Available in 60mm 4-Tube (2 rebound and 2 compression) or 46mm 2-Tube (1 rebound and 1 compression)
- 60mm Reservoir
- 22mm case hardened piston rod
- High flow Chromoly adjusters
- Heim ends in 1/2" or 3/4"
- Rebuildable
- Electroless nickel plated finish
- Custom bypass tube layouts available