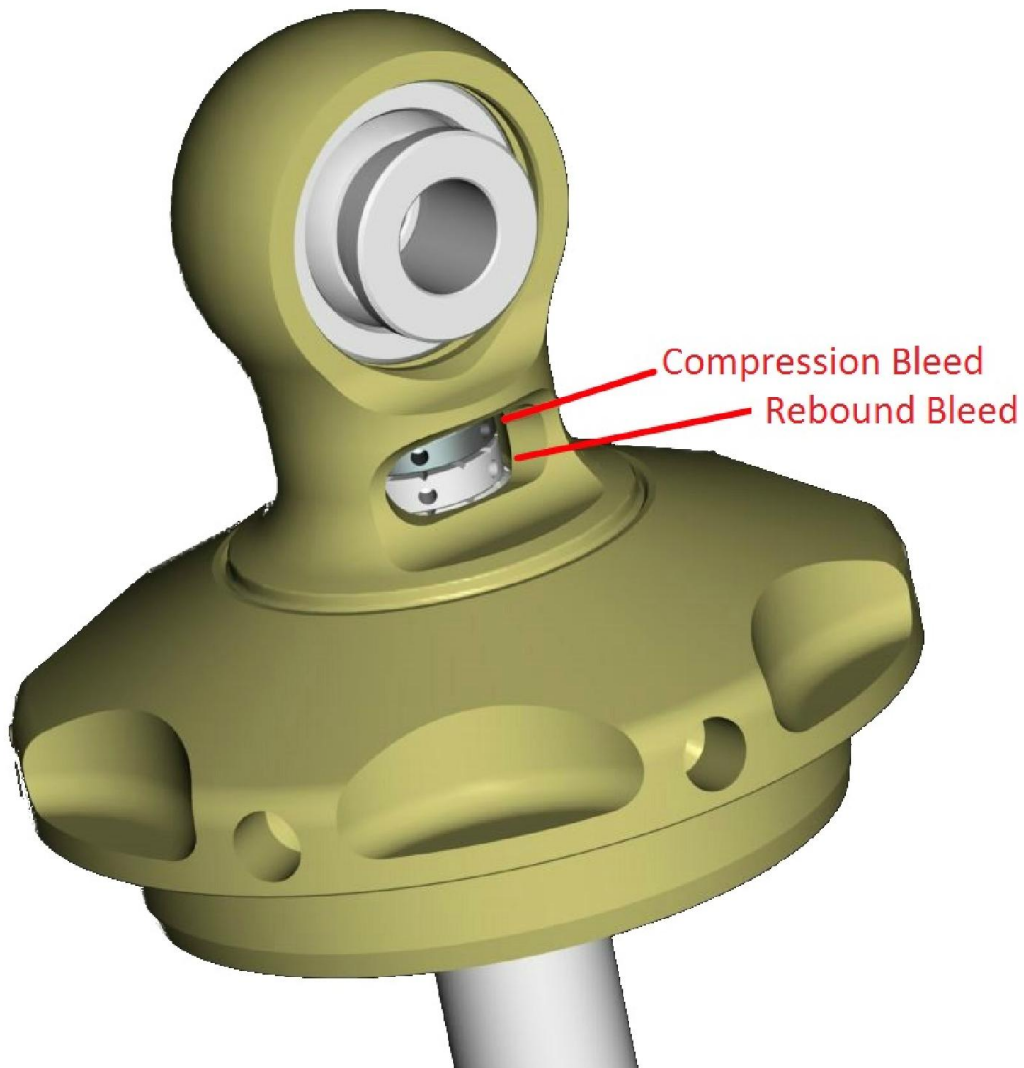


# ***PENSKE***

≡≡≡ **RACING SHOCKS** ≡≡≡



## ***DUAL-BLEED TECH SHEET***

### ***PS-6020-DB***

**Main Office**  
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Reading, PA 19602  
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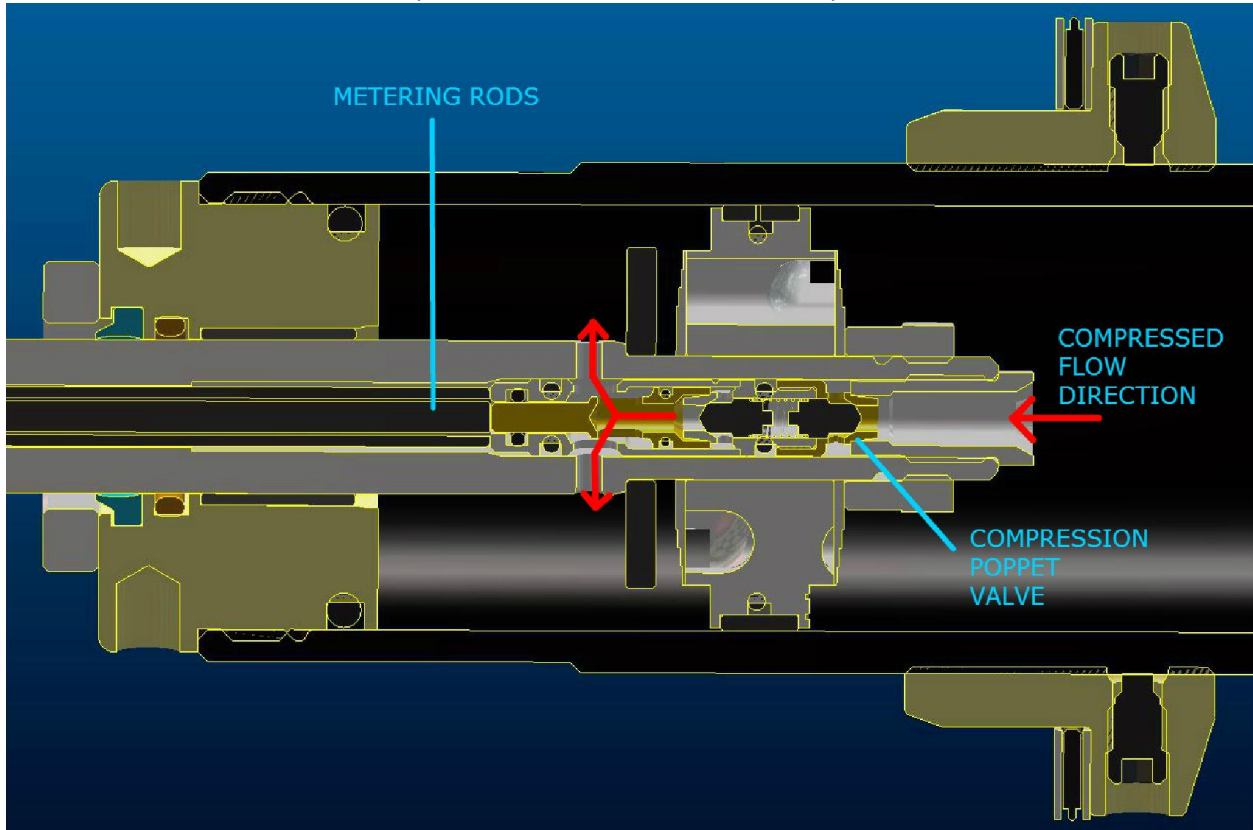
## Introduction

Penske Racing Shocks Dual Bleed (“DB”) system is a very powerful adjustment system which fits completely within the main shaft, making it a very light and compact addition to the damper. DB was developed to create independent low-speed compression and rebound bleed control (i.e. – main shaft force reduction in either compression or rebound) at the main piston. Having more control of the low speed forces at the main piston creates a very responsive adjustable system that can’t be matched in a reservoir adjuster and especially compared to twin-tube style shocks. This is also the area of the dyno curve that the driver can feel the most.

Of course, incorporating a DB adjuster would eliminate the need for expensive and heavy remote reservoirs in many 2-way and even some 3-way configurations. The DB shaft option is our latest offering and all of the fundamental attributes found in any Penske Racing Shock have been incorporated into the DB assembly including:

- *Adaptability across standard Penske piston sizes which allows use of wide array of piston types*
- *Hard-chromed 4130 hollow main shaft for strength, durability, and low breakaway friction*
- *Low-friction shaft and piston seals are retained*
- *Independent compression and rebound adjustment*
- *Anodized 6000 and 7000 series aluminum components for superior durability and performance*
- *Winning heritage – Penske Racing Shocks continue to help our customers win races and championships in all forms of Motorsport.*
- *Made in U.S.A.*

Compression Flow Path  
(Rebound Flow Path is Reversed)



**Terminology:**

DB Adjuster – The double stacked knobs you rotate to increase or decrease bleed through the poppet valves.

Metering Rods – The rods extending inside the main shaft from the DB adjuster to the poppet valves. These apply pressure to the poppet valve springs.

Bleed – When pressure is released from one side of the main piston to the other.

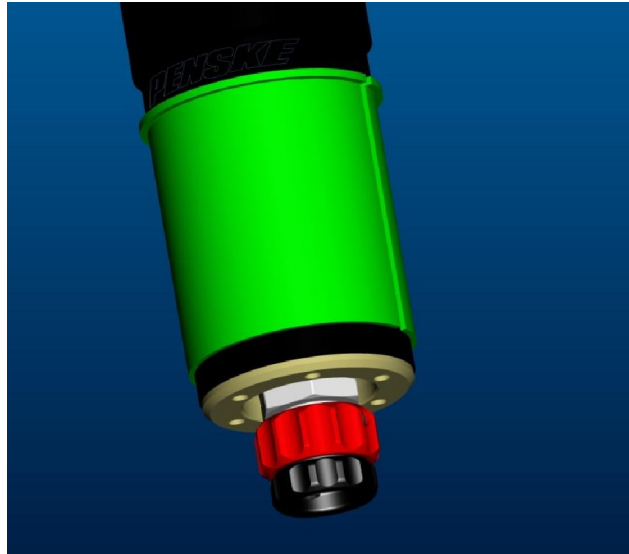
## Benefits:

1. Independent adjustment of low speed rebound and compression
  - a. Low speed adjustment affects critical aspects of chassis handling and driver comfort
2. A controlled rate of bleed can be applied to increase grip and better control transition forces during cornering
3. Response time is minimal compared to other shock designs
4. Reduced overall weight and complexity compared to 2-way reservoirs

## Adjusters:

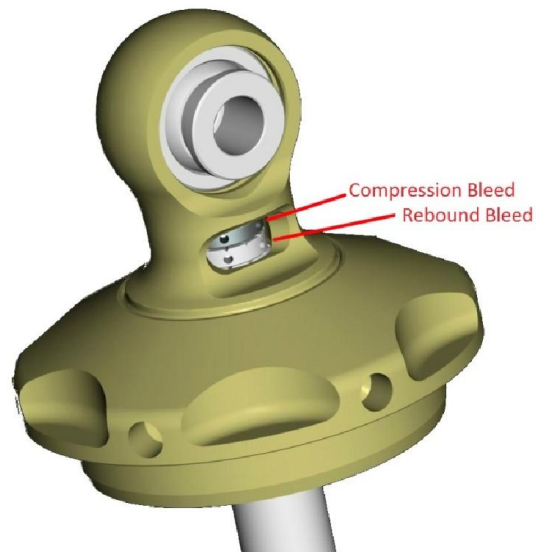
*Red & Black Strut Knob Adjuster / 40 clicks*

- Located at the base of the strut outer body
- Large easy-grip design

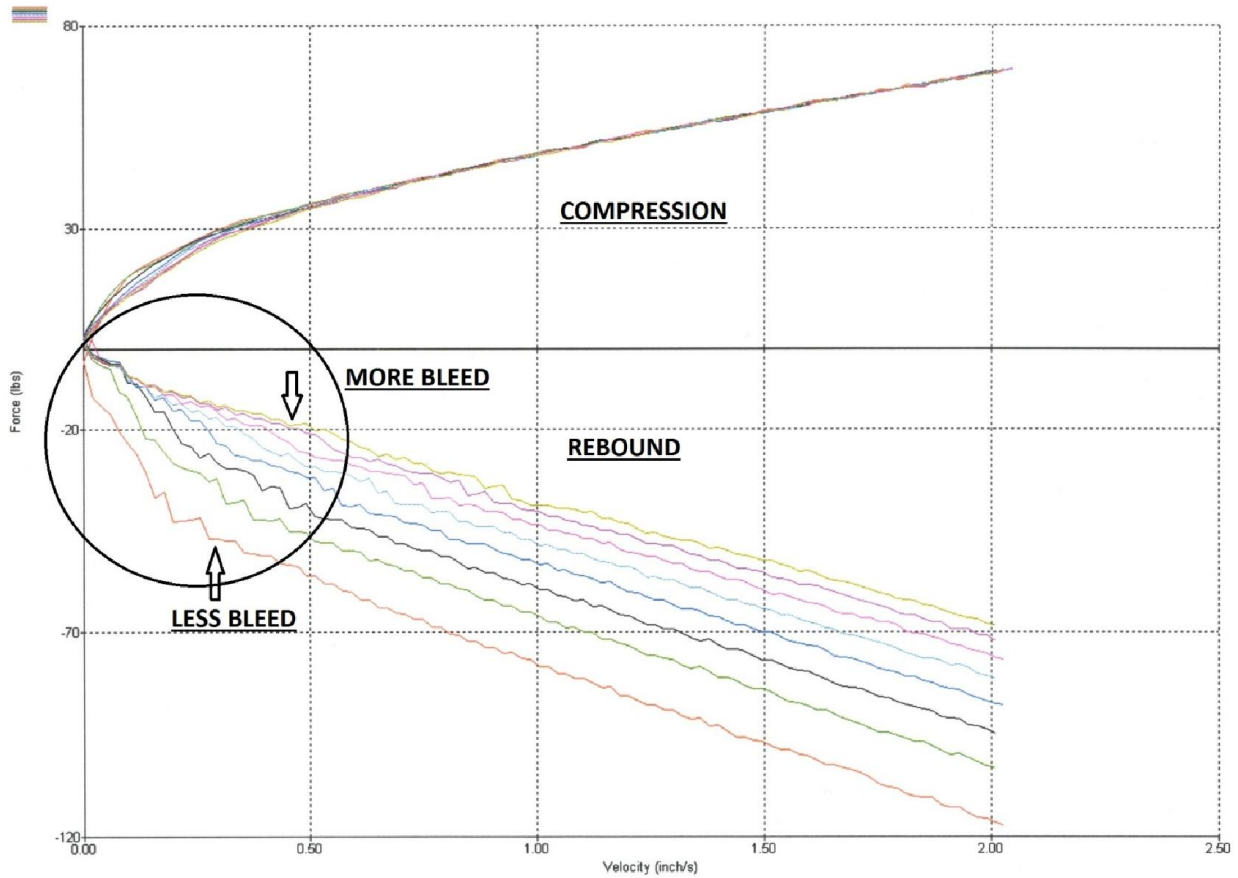


*Pin style knobs / 40 clicks of adjustment*

- Located in the main shaft eyelet
- Easy to see window
- Requires pin tool to make adjustments
- 1 “sweep” with the pin tool across the window allows 2-clicks of adjustment
- The standard window is located in-line (0°). Limited eyelet lengths are also available 90° around for better access on some applications

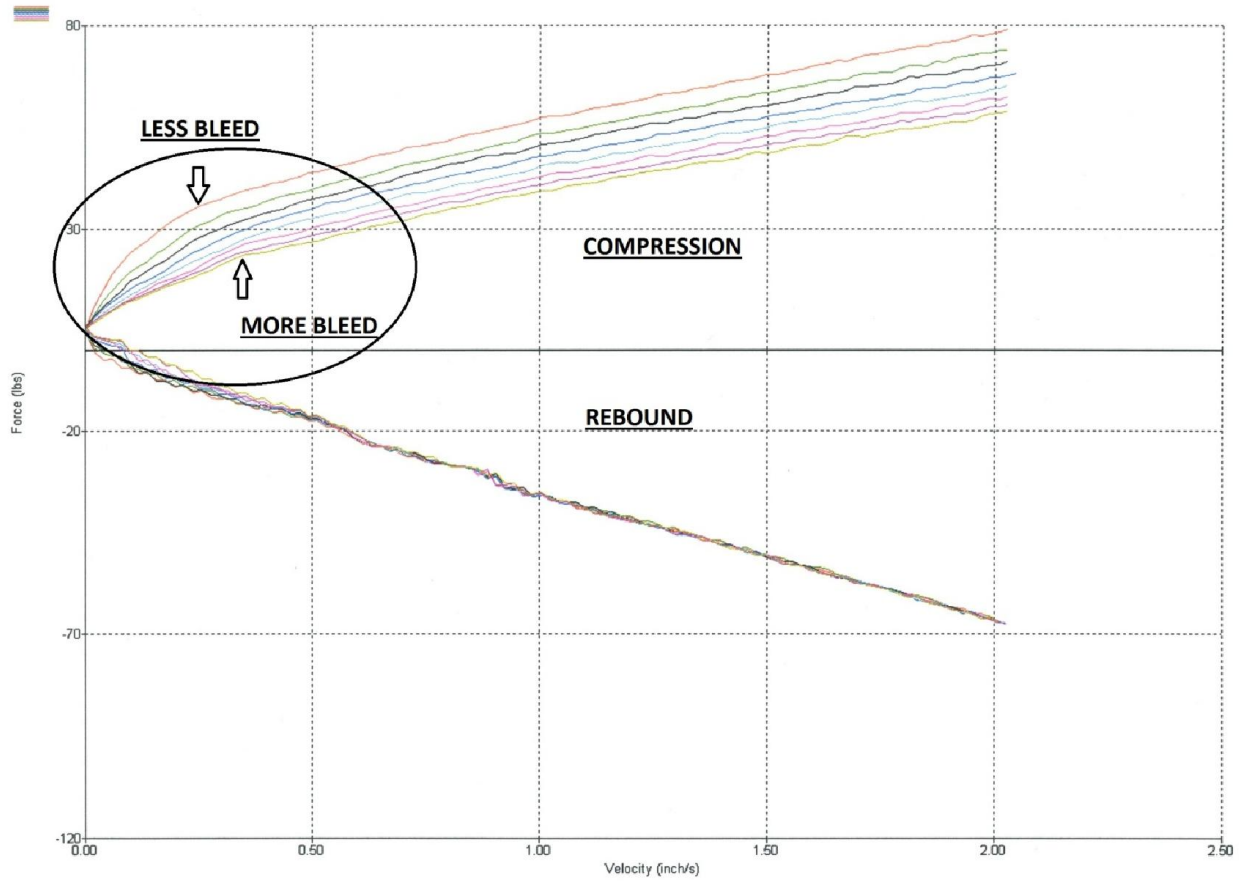


Rebound Bleed Effect:



\*\*EXAMPLE DAMPING CURVE. CURVE PROFILE DEPENDS ON BUILD SPEC.

**Compression Bleed Effect:**



\*\*EXAMPLE DAMPING CURVE. CURVE PROFILE DEPENDS ON BUILD SPEC.

### To Set Adjusters:

All of our adjusters work similar, in that “clockwise” is stiffer or more damping, “counter clockwise” is softer or less damping.

When you receive a dyno sheet, it will display your damping curve in full stiff, full soft, and shipped settings. You will notice the (-) before the setting; this identifies how many clicks **off of** full hard the adjuster was set to achieve this curve. Typically the graph will have a “C” for compression and “R” for rebound before the setting. If it doesn’t as an industry standard, compression is always referred to first, followed by rebound. So to set to specific setting, you would first wind adjuster to full hard, then count the number of clicks off of full hard until the desired setting is reached.

### Factory Settings:

Adjusters:

- Typically from the factory we will set the adjusters in the “mid-range” of the damper. This may be different depending on specific set ups. The preset stiffness will be documented on your build sheet and dyno sheet.
- Gas Pressure- This can vary depending on application. This could range from 50 psi to 200 psi depending on what type of vehicle or type of racing. Again this will be specified on your spec sheet and or dyno sheet.



**Technical Support:**

8:30 AM – 5:00 PM (EST)

Penske Racing Shocks – Technical Center  
150 Franklin Street  
Reading, PA 19602  
United States

610.375.6180

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