

**P**edal ratio, or mechanical leverage, is calculated using the distance (A) from the pedal's pivot point (P) to the center of the foot pad, divided by the distance (B) from the same pivot point (P) to the master cylinder pushrod.

- P = Pivot point**
- A = Distance from pivot to middle of push/pull**
- B = Distance from pivot to point of push on master cylinder**
- F = Force or push**

**Pedal Ratio Calculation Worksheet  
Page 2**

Mechanical leverage is gained by increasing the brake force without increasing your leg effort. As (A) gets longer and (B) gets shorter, the mechanical leverage increases the pressure at the caliper from the same amount of force applied to the pedal. The disadvantage

is the pedal stroke increases, requiring you to push the pedal a further distance.

A driver's leg (or arm) effort is multiplied by the ratio of the pedal. Assuming a 6:1 ratio, 100 lbs of force on the pedal produces 600 lbs of force on the pushrod. The ratio also relates to pedal travel. With 6" of pedal travel creating 1" of pushrod travel.

For manual brake applications, Wilwood recommends a pedal ratio around 6:1. For power brakes (hydroboost or vacuum assist), Wilwood recommends a pedal ratio around 4:1. Pedal ratio and front caliper piston size must be known to choose a master cylinder bore size that will likely provide the best balance between firmness, pedal travel, and pressure generation.

See also: [Pedal Ratio Pressure Chart](#)

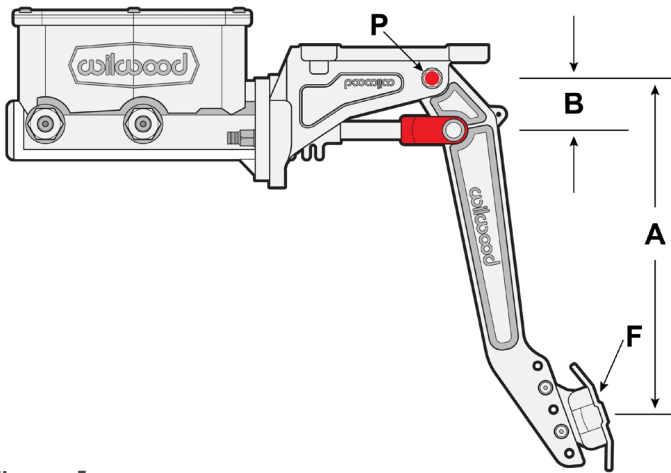


Figure 1

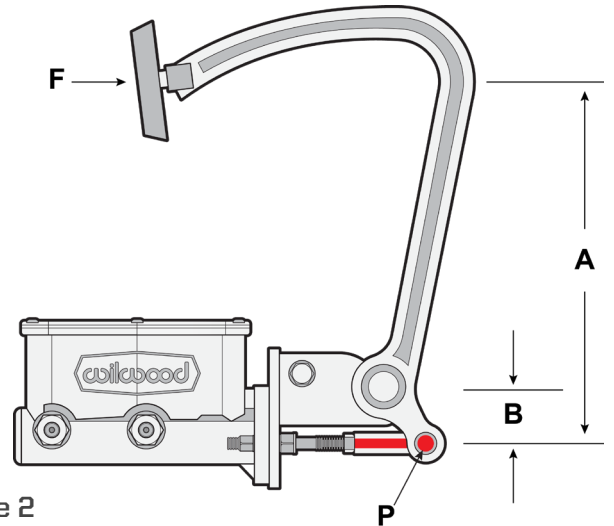


Figure 2

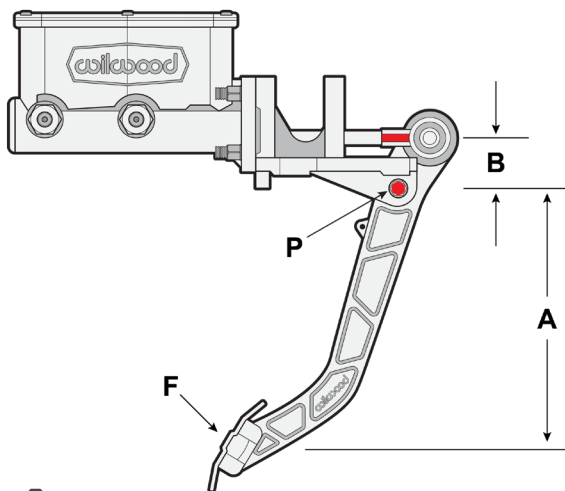


Figure 3

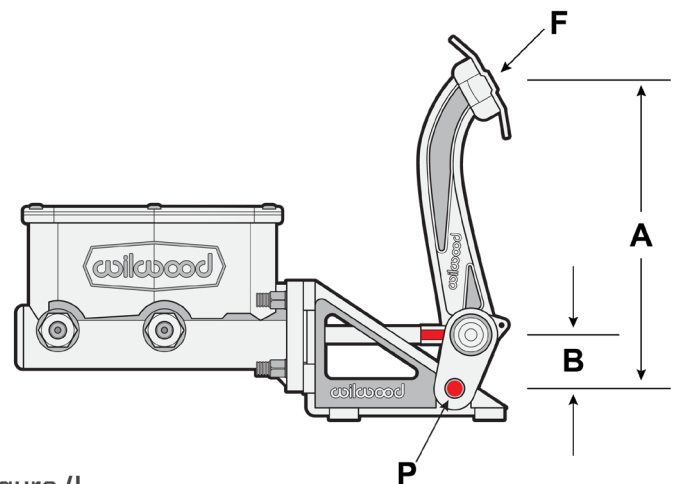


Figure 4

Complete this form to determine an appropriate bore size for your master cylinder. Note, pedal pressure and pedal travel distance will affect pedal effort which varies by driver preference. Example, a smaller bore size will mean less effort with more travel to build pressure.

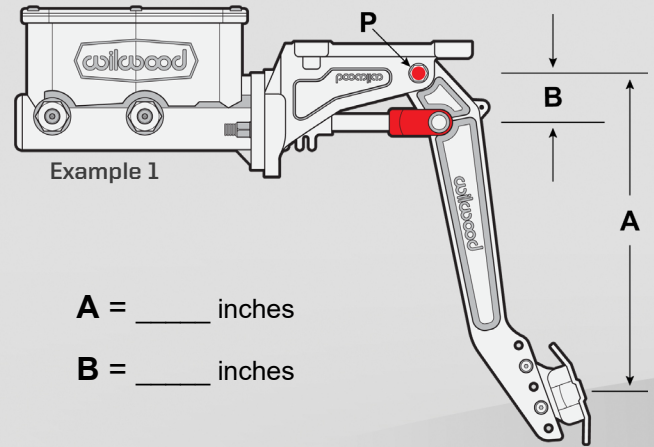
### 1 PEDAL RATIO

$$PR = (A \div B) = \text{_____} : 1$$

P = Pivot point

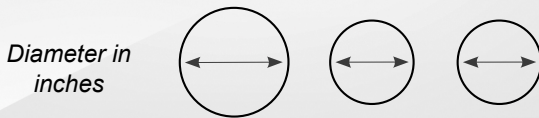
A = Distance from pivot point (P) to middle of foot pad or handle

B = Distance from pivot point (P) to master cylinder connection point

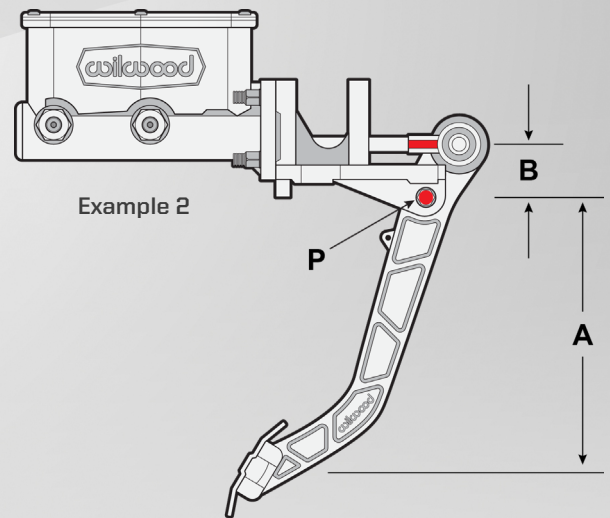


### 2 PISTON SIZES / AREA

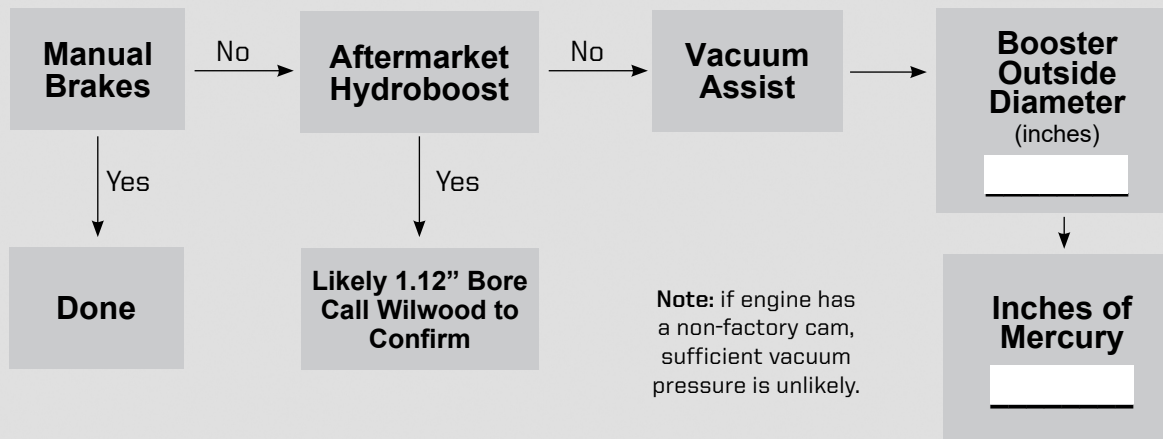
Measure Diameter of Each Piston On One Side of a Front & Rear Caliper



	Piston 1	Piston 2	Piston 3
Front Caliper			
Rear Caliper			



### 3 MANUAL vs. POWER BRAKES



Note: if engine has a non-factory cam, sufficient vacuum pressure is unlikely.

Date: \_\_\_\_\_ Vehicle Y/M/M: \_\_\_\_\_ Intended Use: \_\_\_\_\_

Name: \_\_\_\_\_ Best Contact Info: \_\_\_\_\_