

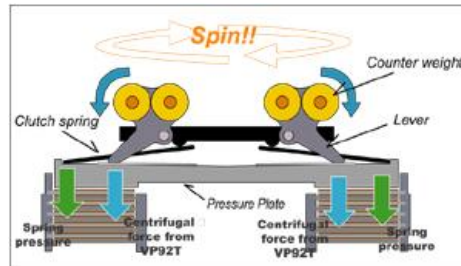
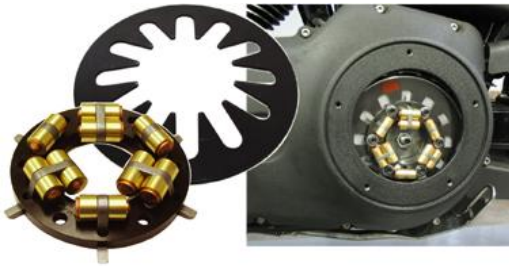


Advanced Innovative Machinery

Education Tip: Variable Pressure Clutches

EDUCATION TIP: VP 001.

VP PERFORMANCE KITS, VP-PROCHARGER KIT



AIM strongly recommend VP Performance Kits to upgrade '98 and later Harley-Davidson stock clutch for any performance engines, even a Screamin Eagle Stage 1 Kit (Exhaust pipe, Air cleaner, EFI tuner). Because as you know Harley-Davidson has reduced clutch lever effort from 2006 Big Twin model by reducing clutch spring pressure about 10%. Even though clutch performance is 10% less than before, the current engine size has been increase to 96ci. That means clutch performance may not be enough when you do any engine performance modifications.

VP Performance Kits are the best product to upgrade Harley-Davidson stock clutch and eliminate unnecessary heavy clutch pull (not like a regular heavy duty spring), but add up to 40% additional pressure to clutch as engine RPM increases (Centrifugal Force) to make very strong clutch clamping force. VP Performance Kit is including VP92T and Clutch spring.

Note: In the Chart, The clutch will not slip when there is your engine torque curve below the clutch pressure curve. These pressure and handling torque in the chart are calculated with stock primary and final gear ratio. These numbers will be change by primary and final gear ratio.

FIGURE 1.

Yellow line is showing pressure of Harley-Davidson stock clutch. Clutch pressure is always even from lower RPM to higher RPM. Red line is showing combined pressure of VP92T with H-D stock spring. VP92T creates additional pressure as engine RPM increases (Centrifugal Force) to make very strong clutch clamping force than just using clutch spring.

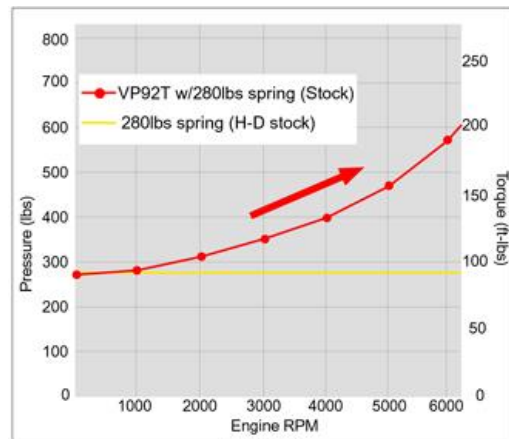


Figure 1.

FIGURE 2.

The clutch will not slip when there is your engine torque curve below the clutch pressure curve. Yellow line (use only clutch spring) intersects with Blue line (Engine torque curve) at 2000RPM. That means Clutch slips. Red line does not intersect with Blue line. That means clutch does not slip. Note: In the Chart, The clutch will not slip when there is your engine torque curve below the clutch pressure curve.

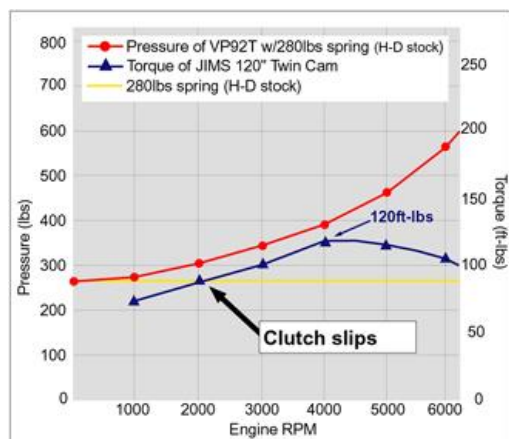


Figure 2.

FIGURE 3.

We have four different pressure clutch springs for any performance engines. '06 and later Big Twin Harley-Davidson stock clutch spring is 280lbs pressure (Yellow). 340lbs spring is about 20% heavier than stock (Blue). 380lbs spring is about 35% heavier than stock, same as a Screaming Eagle heavy duty spring (Green). 480lbs spring is the heaviest which we have (Orange). Note: '98 to '05 Big Twin Harley-Davidson stock clutch is 320lbs pressure.

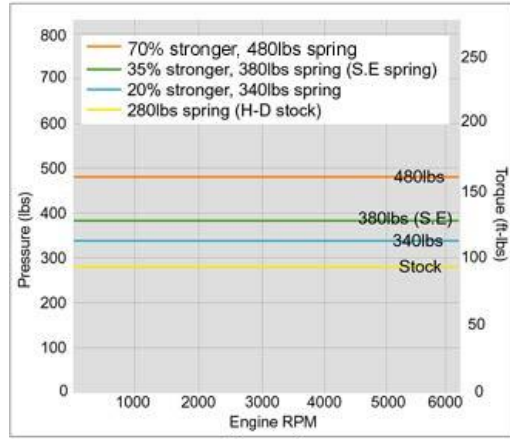


Figure 3.

FIGURE 4.

It is showing combined pressure with VP92T and clutch springs. More pressure means more strong clutch but Clutch pull also becomes heavier. Select best clutch setup for your engine without unnecessary heavy clutch pull.

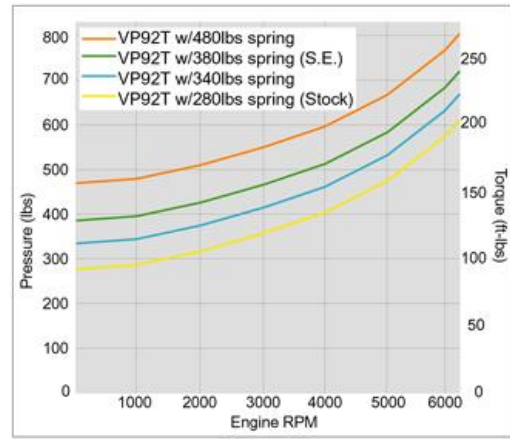


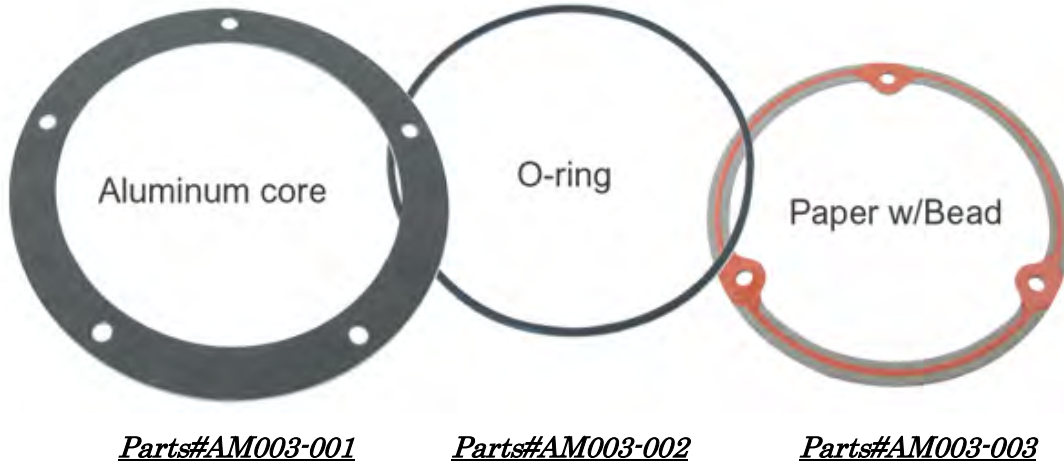
Figure 4.



Tech Information

Derby cover gasket

Use O-ring type derby cover gasket or our **"Our special Gasket (Parts#AM003-001)"** when installing VP clutch or cut inside derby cover gasket of Harley-Davidson made (part#25416-99C), because weight of VP clutch will be hit to derby cover gasket. (See picture)



Stock derby cover gasket modification

