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BD Engine Brake



Pac Brake



**Cummins/
Jacobs
Ram Brake**



US Gear Decelerator

Applications

- Cummins 5.9, 8.3 turbomount & remote mount stock or heavy duty valve spring kits.
- Ford Power Stroke 7.3 DI Turbo mount, 6.9/7.3 idi, 6.6 & 7.8 Remote Mount Chevy 6.5.
- Navistar DT 466, 530, T444E, Cat 3208T, 3116, 3126.
- Other's available in 3" or 4" remote vacuum and air engaged
- EGR Kit for California Dodge Ram 5.9

- Cummins 5.9, 8.3 stock & heavy duty kit. Ford Power Stroke 7.3 DI/Cat 3208T, 3126/Navistar DT 466 & 530 / Other 3-5" remote air controlled kits.
- No optional stick mounted switch available.
- No EGR Kit for California vehicles

- Cummins 5.9 turbo mount & 8.3/ Cat 3116, 3126 / Navistar DT 466 and 530
- 5.9 Cummins Kit requires engine valve spring installation
- Only one kit for both manual or automatic transmission
- No stick mounted switch available
- No EGR kit for California Dodges

- 3.5" casting with pipe adapters welded on will fit many exhaust pipe applications.
- 3.5" valve is only available in electric, 55 amp solenoid engagement.
- Mounts under truck body. (Exposed to water, salt, etc.)
- On/Off FM transceiver fits numerous vehicles.
- No standard accelerator control switch included.
- System is NOT hard wired.

Design Highlights

- Built to Last
- Exclusive alumibronze bushing for butterfly shaft that has piston ring seals to prevent leakage.
- Extensive use of stainless steel not only for brake hardware, but all related switch brackets.
- 3" vacuum cylinder with progressive spring loaded piston assure peak hold back performance. (100 psi apply & release pressure)
- Engine over pressure safety protection switch insures peak retarding performance, without exceeding it.
- Largest exhaust bore capacity in turbo mount industry that exceeds the engine's exhaust flow requirements.

- Centered butterfly on stainless steel shaft with seals to prevent exhaust leaks.
- Cast iron housing without bushing for shaft to turn in.
- Vacuum cylinder is only 2.5" in diameter with basic, 2 position piston (open/closed).
- Provides only 75 lbs of opening and closing force.
- Brackets are made of painted, cold roll metal.

- Cast Iron valve plate. (Thicker, allows less air through casting in the valve open position. More restrictive than others.)
- Minimal use of stainless steel (if any)
- Large vacuum diaphragm area consumes a lot of Vacuum to operate and results in less than 40lbs opening/closing force
- An established name in the industry specifically in the area of larger commercial vehicles. The adaptation of brakes for personal use vehicles followed market launch of BD's brake design.

- 2 butterfly action, 2nd butterfly is a bypass that opens once system pressure is attained. Result is similar to that of a variable orifice unit.
- Main butterfly support is by a 2 piece, stainless shaft welded to butterfly.
- Stainless steel bushing prevent casting wear.
- Electric pull solenoid uses 55 amps to create only 75 pounds of closing force. Return spring force of 35 psi opens butterfly.

Performance

Stainless steel offset butterfly builds high controllable pressure at mid range rpm. Variable orifice control is accomplished by the spring loaded piston in the vacuum cylinder that allows the butterfly to open incrementally as required to attain the highest pressure possible at 1800-2300 rpm. Air engage kits also have variable orifice design through use of air pressure regulator.

- Non-contact, butterfly design with fixed orifices only is only able to attain peak retarding power at peak RPM.
- Stainless steel shaft on cast iron bore may result in butterfly valve sticking or seizing resulting in a loss of retarding power or inability to disengage.

- The fixed orifice butterfly offers peak performance ONLY at peak engines RPM's.
- Vacuum-on, spring release cylinder design has lowest engagement & release force in the industry.

- Bypass butterfly results in good low-engine RPM back pressure. Stainless shaft on stainless bushing can gall causing the butterfly valve to stick.
- Low opening force of 35 psi can result in sticky butterflies
- Electric terminal corrosion results in low power supply

Reliability

The exclusive alumibronze bushing design casting with piston seals on the stainless steel shaft virtually eliminates sticking. BD has the strongest opening and closing force. 100 psi insures the butterfly opens and closes on demand. Compare this to others you will be confident BD's will be the lowest maintenance for the longest time.

- Popular name in the industry. The second one's design and market exhaust brakes for personal-use vehicles. A basic exhaust brake.
- Can be prone to operating problems due to carbon build-up & corrosion.
- Painted brackets blister, peel and lose colour

- The name "implies" quality.

- Amount of voltage available can be affected by the heat from a hot exhaust, magnetic field also brakes down from heat.
- Electric's engagement is intermittent due to terminal corrosion and power supply, through relay points.
- Wire connections are prone to corrosion from salt, etc. and the 40 amp relay points may erode requiring replacement.

Warranty

- 2-Year parts, 1 year labour
- 30 day money back satisfaction guarantee.

- 30 day money back
- 2 year guarantee.

- 2 year warranty through Cummins dealers only.
- No money back guarantee.

- Only a 1 year warranty through Camping World, and few other gear shops.

Factory Approval

Don't be fooled by claims suggesting that any vehicle manufacturer has officially or otherwise authorized the use of an exhaust brake on a warranted vehicle. If you have any doubts, call the factory. That's why BD designs their brakes to operate well within manufacturers specifications and why we take great care to produce a quality, reliable product.

“The Biggest Difference of all... Only BD Brake is designed and manufactured by the “original” designers of exhaust brakes for personal-use vehicles. BD engineers were the innovators that brought you the first pick-up application brake units.”