Jacobs Exhaust Brake®

For Dodge Ram Trucks

Driving Instructions

Please See Web Site for latest information
www.jakebrake.com

Operation

⚠ WARNING THE JACOBS EXHAUST BRAKE IS A VEHICLE SLOWING DEVICE, NOT A STOPPING DEVICE. IT IS NOT A SUBSTITUTE FOR THE VEHICLE'S SERVICE BRAKES. USE OF THE JACOBS EXHAUST BRAKE FOR VEHICLE DOWNHILL CONTROL AND SLOWING DOWN ON LEVEL TERRAIN WILL ALLOW THE SERVICE BRAKES TO REMAIN COOL AND READY FOR AN EMERGENCY.

To get the best results for the Jacobs Exhaust Brake, it is necessary to observe several simple operating procedures. The Jacobs Exhaust Brake is activiated when the following conditions are met:

1. The system ON/OFF switch is in the ON position

2. The engine is not being fueled.

There will be a one or two second delay between the time when the accelerator pedal is released and the Jacobs Exhaust Brake is commanded closed by the Engine Control Module. This delay is programmed into the Engine Control Module and is not adjustable. The purpose of this delay is to prevent unintended activation of the exhaust brake during gear change events.

Driving with the Jacobs Exhaust Brake

To obtain the optimum braking performance from the Jacobs Exhaust Brake, it is necessary to keep engine speeds as high as possible, but NOT TO EXCEED 3200 RPM. As can be seen in Figure 1, more braking power is available at higher engine speeds.

When decelerating the vehicle, select a gear that will cause the engine to operate near to, but still below, the 3200 RPM redline speed. Only change gears as driving conditions permit. Once the desired vehicle speed is reached, no further downshifts are required. If the vehicle speed becomes lower than desired, either depress the accelerator pedal to increase engine speed or shift up into a higher gear.

⚠ CAUTION DO NOT OPERATE THE JACOBS EXHAUST BRAKE AT ENGINE SPEEDS ABOVE 3200 RPM.

Manual Transmissions

Manual gear selection will be necessary to operate the engine at the levels producing maximum braking power. This occurs approximately between engine speeds of 1900 and 3200 RPM. If more braking power is desired, manually downshift to the next lowest gear from the present gear when engine RPM decreases to approximately 1900 RPM, as shown in Figure 2.

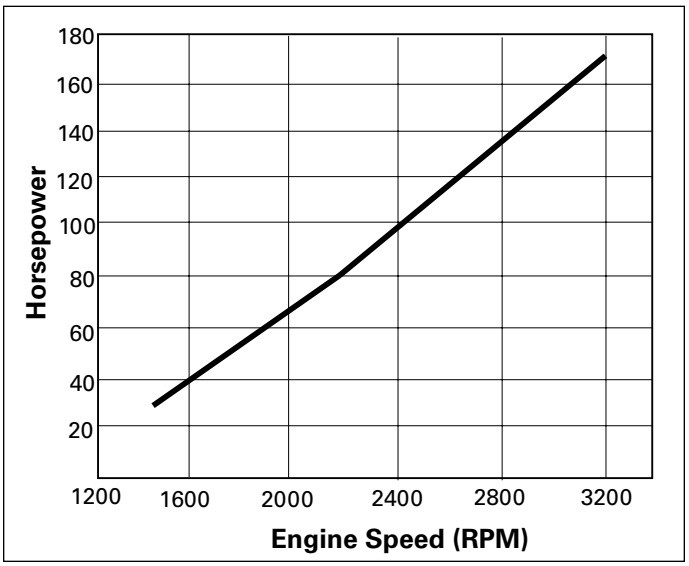

Figure 1
Braking Horsepower for Jacobs Exhaust Brake

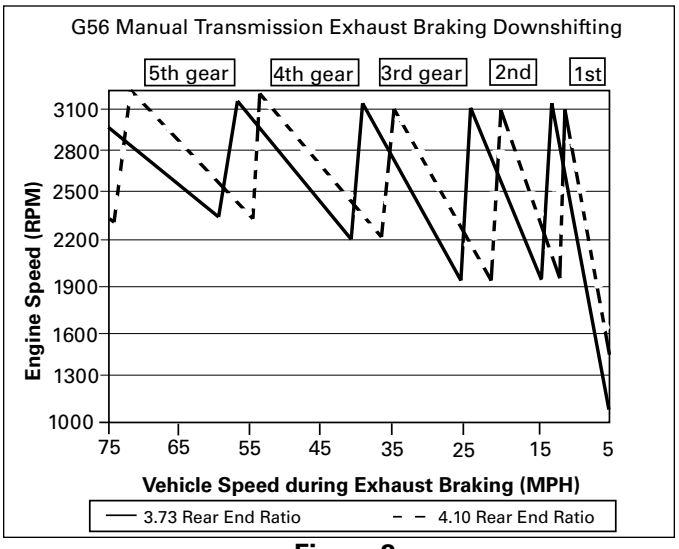

Figure 2
Shift Chart for NVG 5600 6-speed Manual Transmission

48RE Automatic Transmission

Starting in Model Year 2006, the Jacobs Exhaust Brake is approved by Dodge warranty for use on vehicles equipped with 48RE automatic transmissions. Application on earlier model year vehicles in not approved by Dodge warranty.

The transmission computer fully coordinates exhaust brake application and transmission shifting. The exhaust brake will not be activated until the computer detects that the transmission has achieved lock-up mode. The computer will automatically downshift from 4th gear to 3rd gear when the appropriated conditions are detected. During this downshift, the exhaust brake will disengage and will not re-engage until torque converter lock-up in the next lowest gear is achieved. If lock-up cannot be achieved, the exhaust brake will not re-engage.

To achieve increased braking performance, the transmission can be manually downshifted into the next lowest gear under the correct conditions. The transmission can be downshifted from 4th gear to 3rd gear by depressing the "tow/haul" button on the end of the shift lever. To downshift from 3rd to 2nd, the transmission lever must be moved manually to the next lowest gear setting. The downshift may not occur immediately and may be delayed until engine speed and vehicle speed reach an acceptable level. If more braking power is desired, manually downshift to the next lowest gear from the present gear when engine RPM decreases to approximately 1900 RPM, as shown in Figure 3.

NOTE: The exhaust brake and transmission are not designed to offer significant retarding in 1st gear.

Cruise Control Interaction

The exhaust brake is designed to operate in conjunction with cruise control to maintain a constant vehicle speed. To use this feature, the vehicle cruise control must be active and the exhaust brake switch must be in the ON position. Under these conditions, if the vehicle starts to accelerate above the cruise control set speed, the exhaust brake will engage to counteract the vehicle acceleration. Please note, depending on vehicle weight, the vehicle may still accelerate above the target speed requiring use of the vehicle brakes. If the vehicle slows below the cruise control target speed, the exhaust brake will be disengaged. The cruise control and exhaust brake will work together to try to prevent vehicle speed going above or below the target speed.

Operation on Wet or Icy Roads

Use of your Jacobs Exhaust Brake under low traction conditions, such as wet or icy roads, is not recommended. The vehicle may become unstable if the exhaust brake is engaged during a low traction situation. Under these conditions, the Jacobs Exhaust Brake system ON/OFF switch should be in the OFF position. Operation of the Jacobs Exhaust Brake is recommended only when the vehicle has adequate traction with the road surface.

Engine Warm-Up Capability

The Jacobs Exhaust Brake has the ability to reduce the time required to warm your truck's engine to normal operating temperature. This is especially useful when first starting the engine during cold weather conditions. To use this feature, simply allow the engine to idle with the Jacobs Exhaust Brake switch in the ON position (do not apply any pressure to the accelerator pedal, or the exhaust brake will be temporarily deactivated).

Starting in MY2003, at idle, the exhaust brake will deactivate once coolant temperature reaches a pre-determined limit. This is to prevent unnecessary fuel consumption at idle once the engine has reaches operating temperature. The brake will re-activate if coolant temperature drops below the predetermined level. For MY2003 vehicles this temperature is around 220 degrees F; for MY2003.5 and later vehicles the temperature is around 170 degrees F.

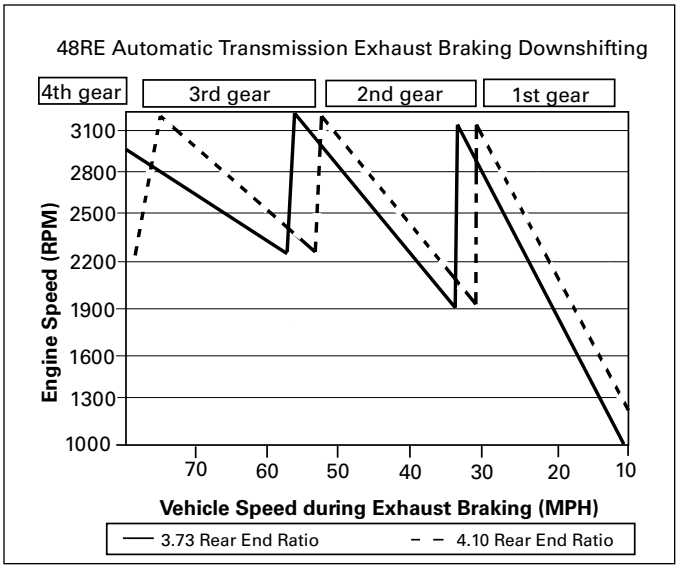

Figure 3
Shift Chart for 48RE 4-speed Automatic Transmission

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