



## **Jacobs Engine Brake™ Service Letter E480**

**SUBJECT: Engine Brake Auto-Lash® Adjustment Procedure**

**MODELS AFFECTED: Cummins 425,430,440,450 Series**

**DATE: March 20, 1998**

### **Introduction**

The procedure for setting slave piston lash (clearance) on Model 425,430,440,450 Series Engine Brakes has been changed. The new procedure is outlined below. This new procedure will help improve the accuracy of slave piston lash adjustment and supersedes previously published adjustment procedures.

### **Impact**

This procedure should be followed whenever engine brake lash or engine valve lash adjustment is required. In addition, the setting of engine valve and engine brake lash should be verified when investigating performance or engine overhead noise complaints. An incorrect lash setting can result in an increase in housing pressures and high loading of the engine overhead components. Incorrect settings may also cause poor engine brake performance.

### **Service Information**

Lash settings have not been changed with this procedure. Refer to the proper installation manual for proper adjustment procedure.

Model	Jacobs P/N	Cummins P/N
425 series	15864	None
430 series	15626	None
440 series	18102	None
450 series	21670	3698825

### **Slave Piston Clearance (Lash) Adjustment Procedure**

1. Adjust the engine valve clearances, following Cummins recommended procedures.
2. The engine brake housings should be installed on the engine, and the housing hold-down bolts torqued.

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3. Back out the Auto-Lash adjusting screws until they no longer compress the slave piston spring.
4. Rotate the engine to the correct position for setting the exhaust valve clearance on the cylinder to be adjusted.
5. Turn in the Auto-Lash<sup>®</sup> adjusting screw until the slave piston foot contacts the exhaust cross head and the valve springs begin to compress, then turn in one (1) additional turn. Wait at least 30 seconds for oil to be purged from the Auto-Lash adjusting screw.

**NOTE:** ALL OIL MUST BE PURGED FROM THE AUTO-LASH ADJUSTING SCREW. OIL REMAINING IN THE AUTO-LASH SCREW WILL CAUSE INACCURATE CLEARANCE ADJUSTMENT, POSSIBLY LEADING TO DAMAGE TO THE ENGINE OR ENGINE BRAKE. IF OIL IS BELOW ROOM TEMPERATURE (BELOW 65° F), WAIT AT LEAST TWO MINUTES FOR OIL TO BE PURGED FROM THE AUTO-LASH ADJUSTING SCREW.

6. After the time interval specified in step 5, back out the adjusting screw **ONLY** until the correct size feeler gage can be inserted between the slave piston foot and the exhaust cross head. Adjust the Auto-Lash so that a light drag is felt on the feeler gage. Do not back out the Auto-Lash more than required to obtain a light drag on the feeler gage. Use a screwdriver to hold the Auto-Lash in place and torque the lock nut to 25 lb–ft (34 N•m).

**NOTE:** IF THE AUTO-LASH SCREW IS BACKED OUT UNTIL IT NO LONGER COMPRESSES THE SLAVE PISTON SPRING, OIL WILL ENTER THE SCREW AND THE ADJUSTMENT WILL BE INCORRECT. IF THIS OCCURS, REPEAT STEPS 5 AND 6 ABOVE.

7. Recheck lash settings. If clearance setting is incorrect, repeat steps 5 and 6 above.
8. Repeat steps 4-7 for the remaining cylinders.

**NOTE:** ONCE THE ENGINE BRAKE HAS BEEN RUN YOU WILL NOT BE ABLE TO CHECK THE ENGINE BRAKE ADJUSTMENT. THIS IS BECAUSE OF OIL IN THE AUTO-LASH SCREW. IF UNSURE OF THE ADJUSTMENT, YOU MUST REPEAT STEPS 4 THROUGH 7 ABOVE.

## Warranty Information

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The Standard Jacobs Warranty applies.

This is a Jacobs Vehicle Systems product improvement. No products are subject to campaign as a result of this introduction.