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Coding Information

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Title: Engine Brake Retrofit for A26 Engines

Applies To: A26 Engines in LT and RH Chassis

CHANGE LOG

Please refer to the change log text box below for recent changes to this article:

09/12/2017 - Initial Article Release

DESCRIPTION

This document will guide the user through engine brake installation on the A26 engine in vehicles not factory equipped.

SPECIAL TOOL(s) / SOFTWARE

Tool Description	Comments
Navistar Engine Diagnostics (NED)	Used to program engine parameters
Diamond Logic Builder (DLB)	Used to program Body Controller

ENGINE SERVICE PARTS INFORMATION

The parts list below will be required to retrofit the engine itself regardless of what chassis type it is in.

Description	Part Number	Quantity
Housing Assy, Engine Brake	3007628C93	2

Bolt, Hex Flange M10 X 90	1822018C1	6
Screw, Hex Soch Cap M12 X 100	30996R1	6
Harness Assy, Eng Inj W/Eng Brk	7099265C91	1
Bridge Assy, Exh Valve Eng Brake	3007627C1	6
Gasket, Lower Frame	3018365C2	1
Gasket, Upper Cover	3018366C2	1

CAB CONTROL SERVICE PARTS INFORMATION

NOTE:

The parts list below provides several different switching options to operate the engine brakes. Switch selection is dependant on customer preference, transmission style, and factory equipped options already in the vehicle.

Description	Part Number	Quantity	Notes
Universal Stalk Shifter W/Low range, Engine Brake (RNDL & EB)	2518034C1	1	Eaton
Universal Stalk Shifter WO/Low range, Engine Brake (RND & EB)	2518036C1	1	Allison
MUX Switch, Electronic, Engine Brake On/Off	3766064C1	1	
MUX Switch, Electronic. Engine Brake Level Selector	3766065C1	1	
MUX Housing	4057689C1	1	If Needed

INSTALLATION PROCEDURE

WARNING! To prevent property damage, personal injury, and / or death, park vehicle on a hard, flat surface, turn the engine off, set the parking brake, and install wheel chocks to prevent the vehicle from moving in either direction.

WARNING! To prevent property damage, personal injury, and / or death, if the vehicle must be raised, do not work under the vehicle supported only by jacks. Jacks can slip or fall over.

WARNING! To prevent personal injury and / or death, always wear safe eye protection when performing vehicle maintenance.

WARNING! To prevent property damage, personal injury, and / or death, keep flames or sparks away from vehicle and do not smoke while servicing the vehicle's batteries. Batteries expel explosive gases.

WARNING! To prevent property damage, personal injury, and / or death, remove the ground cable from the negative terminal of the battery box before disconnecting any electrical components. Always connect the ground cable last.

GENERAL NOTES ON ENGINE BRAKE INSTALLATION AND OPERATION:

The detailed instructions on disassembly and assembly of the engine, interior, necessary switch installation and all torque specifications can be found in the manuals linked in the "**Reference Information**" section below. There is also detailed documentation on setting up the engine brake parameters in the ECM per the customers request. A complete understanding must be known of how the customer wants the engine brakes to operate, and what his or her switching preference is prior to performing any programming. **Programming of both the engine ECM, and Body Controller using DLB and NED, will be required.**

1. Park vehicle on a flat surface, turn engine off, set the parking brake, and install wheel chocks.
2. Disassemble interior for removal of the dog house assembly per the LT RH Technician Manual linked below. This is required to gain access to the rear of the engine.
3. Open the hood, and remove the air cleaner assembly and air intake piping. Make certain to cap any intake openings that may allow debris to enter the turbo.
4. Remove the valve cover and all rocker arm assemblies.
5. Disconnect the internal wiring harness from all 6 injectors and the ECM. Remove the lower valve cover base and wiring harness assembly.
6. Remove and discard all 6 EXHAUST valve bridges only as they will not be reused. The INTAKE valve bridges can remain in place.
7. With the lower valve cover base off, remove the original internal wiring harness from the base and discard. Secure the new harness to the base in the same manner as the original one was. The new harness will have the two extra leads to connect to the engine brake solenoids.
8. Install the 6 new engine brake EXHAUST valve bridges.
9. Install the lower valve cover base and new harness assembly, torque to specifications (See Service Manual).
10. Install all 6 rocker arm assemblies and torque to specification (See Service Manual).
11. Connect all 6 injector leads and torque the nuts to specification (See Service Manual, Do Not Over Tighten).
12. Follow the assembly section of the service manual to complete the engine brake installation procedure. Be certain to torque all fasteners to specifications listed in the manual.

NOTE:

A complete engine valve lash, and engine brake lash adjustment must be made prior to installing the valve cover. See Service Manual for instructions and lash specifications.

13. Install intake air piping and air cleaner assembly in reverse order.

14. Install dog house assembly and interior trim in reverse order.

CAB CONTROLS

The engine brakes can be controlled via dash switches typically located in the center panel, or via the stalk shifter if so equipped (See parts list above).

STALK SHIFTER - If the truck has an automated manual, or fully automatic transmission and is factory equipped with a stalk shifter on the right side of the steering column, the engine brakes can be controlled from there if desired. To do this, remove the original stalk shifter (See LT RH Technician Manual), and install the required stalk shifter from the parts list above that has the integrated engine brake controls.

- Program the body controller using DLB to "enable" 0597012 BCM PROG, ENG COMPRESSION BRAKE (Universal Shifter).

NOTE: The customer can still choose to install dash switches to control the engine brakes even if a stalk shifter is present. It is a customer option to control them either way.

DASH SWITCHES - An on off switch and a range selector switch will need to be installed for this option, which is typically located in the center panel (See parts list above). There may be open locations already in the dash that will accept the switches, or the MUX housing can be used if nothing is available.

- Program the body controller using DLB to "enable" 0597013 BCM PROG, ENG COMPRESSION BRAKE (Center Panel).

ENGINE PARAMETERS

See the link below for the "A26 Engine Brake Parameters" document. There are several different ways the engine brakes can be set up to operate based on customer preference. Using the service tool NED (Navistar Engine Diagnostics), the ECM will need to be programmed to enable the engine brakes using the customer requested mode of operation.

REFERENCE INFORMATION

Below are links to useful information needed to perform the procedure above.

- [A26 Service Manual](#)

- [LT RH Technician Manual](#)

- [A26 Engine Brake Parameters](#)

Standard Repair Time(s):

Refer to the [SRT Manual](#) for Repair Times

OTHER RESOURCES

[Master Service Information Site](#)

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