



# **Installation And Parts Manual**

**Housing Replacement Kit  
Model T430A Engine Brakes**

**For Cummins  
NTC/88NT Series Engines**

TecBrake  
P.O. Box 27822  
Houston, Texas 77227

# BRAKE HOUSING INSTALLATION MANUAL

## TEC BRAKE MODEL T430A ENGINE BRAKE FOR CUMMINS NTC/88NT SERIES ENGINE

### SECTION 1- INTRODUCTION

The TecBrake T430A engine brake may be installed on popular versions of the Cummins NTC/88NT series engine. It can **not** be installed on earlier versions of the Cummins NTC series engine, which use a different cylinder head configuration. The TecBrake application chart can be used to identify the engine model and determine if the engine is approved for installation of an engine brake.

The Model T430A engine brake will fit on NTC/88NT engines equipped with either Fixed Timing or Step Timing Control (STC). Earlier STC engine applications required that the rear brake housing be connected to the Step Timing Control Valve. This is not required on the TecBrake Model T430A.

#### NOTICE

***The TecBrake Engine Brake is designed as a device for slowing a vehicle, not stopping it. It is to be used in conjunction with, but not a substitute for the vehicle's service brakes. The service brakes must be in good operating condition and used to bring the vehicle to a complete stop.***

#### Material Required

The TecBrake kit includes all of the parts required to make an installation on the most common engine configurations.

Prior to making installation, determine the engine CPL number to verify that the engine brake being installed is correct for the engine. The CPL number can be found on the engine identification plate, which is located on the engine gear case mounting flange.

#### Special Tools

The following special tools are required for installation:

1. Crowfoot wrench- 9/16"
2. Feeler gauge- 0.018"

#### Recommended Torque Values

Engine Brake Hold-down Nuts -	60 lbft (80 N*m)
Slave Piston Adj. Screw Nuts -	25 lbft (35 N*m)

### Section 2- Installing the Brake Housings-

1. Remove the existing engine brake housings. Save the housing hold-down nuts.
2. Make sure rocker housing surfaces are clean and smooth.



Figure 1-1

3. Install the engine brake housing gaskets. Make sure that the oil supply slots align correctly with the oil supply screws in the housings.
4. Before installing the brake housings, back out the slave adjusting screws (located above the slave piston) so that the slave pistons are fully retracted (up).



Figure 1-2

5. Place the engine brake housing on the rocker housing. Check rocker levers to be sure there is no interference.



Figure 1-3

6. A total of 4 spacers and 2 washers are provided with each kit. Install spacers on positions 1,2,3,6 (Fig. 1-5). Be sure spacers are installed with necked portion up. Use washers on positions 4,5.

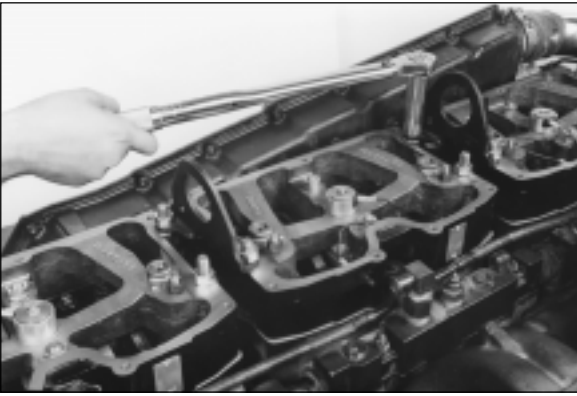


Figure 1-4

7. Install the nuts previously removed and tighten to 30 lbft (40 N\*m) in sequence as shown in Figure 1-5 then re-torque to 60lbft (80M\*m).

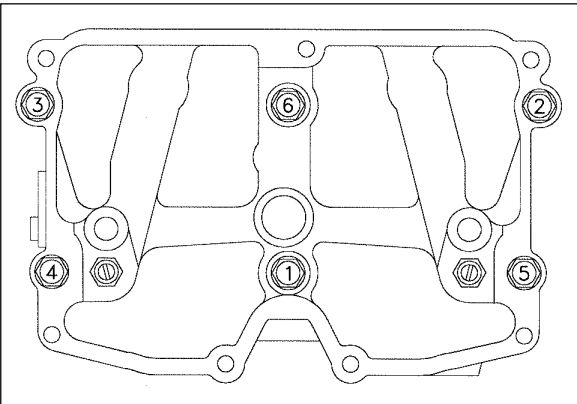


Figure 1-5

### Slave Piston Adjusting Screw

Two adjusting screws are provided with the kit. Refer to the Application chart shown in Figure 1-6 to identify which screw should be used. The most commonly used screws (black) are pre-installed in the brake. If the chart calls for the Beige adjusting screw, they should be installed in place of the other (black) screw.

### APPLICATION CHART

SCREW CPL NO.	ENGINE MODEL	ADJUSTING	
		PART NO.	COLOR
827	NTC400 88NT	TB924921	BEIGE
838	NTC315 88NT	TB924922	BLACK
840	NTC350 88NT	TB924922	BLACK
910	NTC444 88NT	TB924921	BEIGE
1185	NTC400 88NT	TB924921	BEIGE
1187	FLEET 285 88NT	TB924922	BLACK
1188	NTC350 88NT STC	TB924921	BEIGE
1210	NTC444 88NT STC	TB924921	BEIGE
1211	NTC400 88NT STC	TB924921	BEIGE
1256	NTC444 88NT	TB924921	BEIGE
1280	NTC444 88NT	TB924921	BEIGE
1285	NTC444 88NT	TB924921	BEIGE
1286	NTC444 88NT	TB924921	BEIGE
1352	FLEET 300 88NT	TB924922	BLACK

Figure 1-6

### Slave Piston Adjustment

Adjustment of the slave piston adjusting screw is critical. Proper adjustment is necessary in order to provide peak braking efficiency without over stressing the engine.

**Slave piston adjusting screw adjustment must be made with the engine stopped and engine temperature stabilized below 140°F.**

1. Set engine brake valve lash using the adjusting screw located above each slave piston. The engine crankshaft must be rotated to allow the exhaust valve to be fully closed prior to making adjustment on each cylinder.
2. Back out the adjusting screw on each cylinder to be adjusted. Using a 0.018" feeler gauge between the slave piston and the exhaust crosshead, turn in the slave piston adjusting screw until a slight drag is felt on the gauge.
3. Tighten the adjusting screw lock nut to 25 lbft (35 N\*m) torque. Rotate the crankshaft, adjusting each adjusting screw in firing order sequence.

### Operational Check

Installation of the brake housings is now complete. Functioning of the brakes should be checked before proceeding further.

1. Start the engine and let it idle for a short time.

### CAUTION

**Wear eye protection. When engine is running with valve covers removed, oil splashing will occur. Take precautions to prevent oil contaminating engine and engine compartment.**

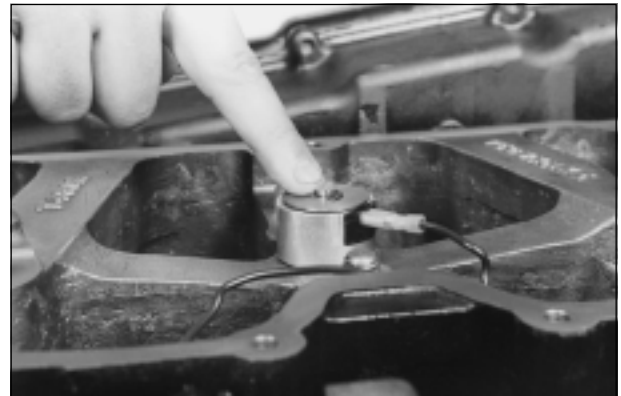


Figure 1-7

2. At idle; manually depress solenoid cap a few times. Repeat this procedure until the oil being exhausted down the control valve is free of air.
3. Connect the housing assemblies to the existing wiring. Use the Bullet to Spade adapter if necessary.

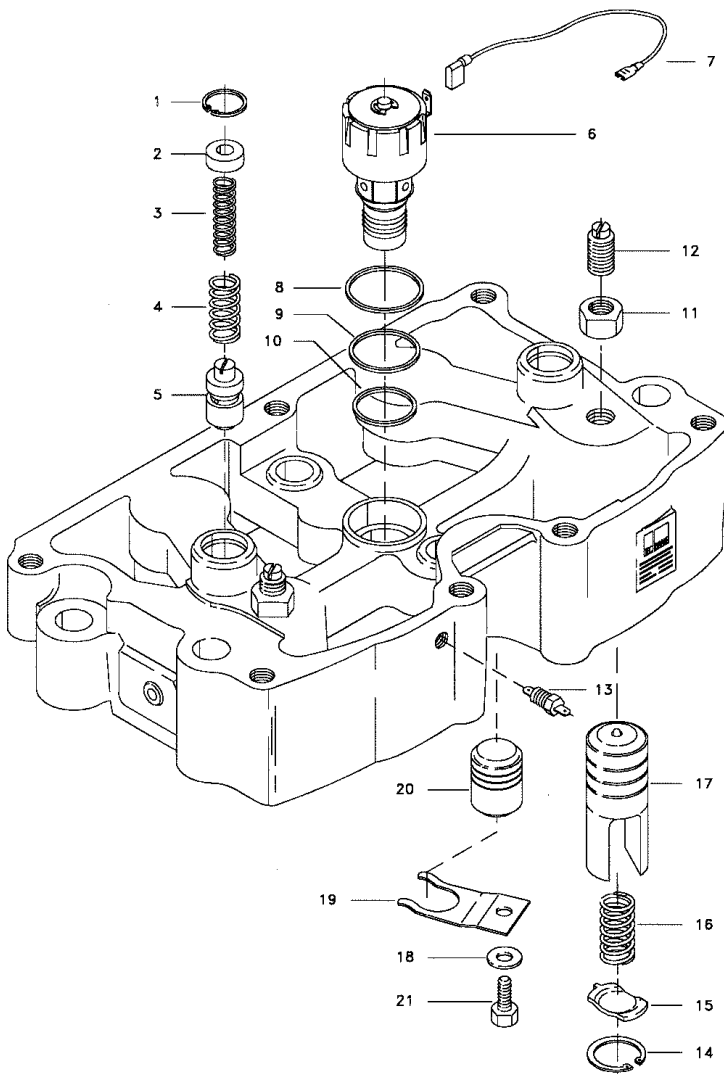
## HOUSING REPLACEMENT KIT CONTENTS:

PART NO.	DESCRIPTION	QTY./KIT
TB960015	HOUSING REPLACEMENT KIT	1
TB940150	PARTS & INSTALLATION MANUAL	1
TB940037	HOUSING ASSEMBLY T430A	1
TB900018	SPACER (0.800")	4
TB900019	WASHER (0.120")	2
TJ018105	HARNESS ADAPTER	1
TJ014848	GASKET, BRAKE HOUSING	1
TB924921	BRAKE ADJUSTING SCREW (BEIGE)	2

Indented part numbers are included in parts under which they are indented.

## ADJUSTING SCREWS

SCREW PART NO.	COLOR	RECESS DEPTH
TB924922	BLACK	0.017"
TB924921	BEIGE	0.118"



## MODEL T430A HOUSING ASSEMBLY Part No. TB940037

REF.	PART NO.	DESCRIPTION	QTY./HSG.
1	TJ015561	RING, RETAINER	2
2	TJ014928	COVER, CONTROL VALVE	2
3	TJ007500	SPRING, CONTROL VALVE, INNER	2
4	TJ010843	SPRING, CONTROL VALVE, OUTER	2
5	TJ011930	CONTROL VALVE	2
6	TJ004205	SOLENOID VALVE (12 VOLT)	1
7	TJ014619	HARNESS, SOLENOID	1
8	TJ001081	SEAL RING, UPPER	1
9	TJ001082	SEAL RING, MIDDLE	1
10	TJ001083	SEAL RING, LOWER	1
11	TB909354	NUT, JAM	2
12	TB924922	ADJUSTING SCREW (BLACK)	2
13	TJ002299	TERMINAL ASSEMBLY	1
14	TJ001023	RING, RETAINER	2
15	TJ014849	RETAINER, SPRING	2
16	TJ014867	SPRING, SLAVE PISTON	2
17	TB924865	SLAVE PISTON ASSEMBLY	2
18	TJ001030	WASHER, PLAIN	2
19	TJ007447	SPRING, FLAT	2
20	TJ017124	MASTER PISTON (0.688")	2
21	TJ001492	CAPSCREW	2

## HOUSING ASSEMBLY

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