



# Installation Manual

**Model T680A/B Engine Brakes**

**For Mack  
6 Cylinder, 4 Valve Head  
E6 and E7  
Series Engines**

TecBrake  
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# INSTALLATION MANUAL

## TEC BRAKE T680A & T680B ENGINE BRAKES FOR MACK 6 CYLINDER, 4 VALVE HEAD E6 & E7 SERIES ENGINES

### SECTION 1- INTRODUCTION

The TecBrake T680A and T680B engine brakes may be installed on Mack model E6 and E7 six cylinder, four valve head engines. These engines, although similar, were produced with variations that affect the components required to make an engine brake installation.

#### 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

There are two model engine brakes for the 6 cylinder 4 valve cylinder head Mack engines. The T680A kit is designed to be used on the E6 series engine and the T680B kit is used on the E7 series engine.

**E6 engines-** The Model T680A engine brake kit is designed to be used on the E6 series engines. The E6 engine uses standard U.S. thread sizes. Either a Robert Bosch or American Bosch fuel pump may have been installed on these engines. The control group included in the T680A kit includes the parts necessary to install the brake on an engine that has a Robert Bosch fuel pump. The T680A kit also includes another control group which contains the additional parts required if the engine has an American Bosch fuel pump.

**E7 engines-** There is one T680B kit for the E7 engine. It does not contain a control group. Two control groups are available, one for engines equipped with the Robert Bosch mechanical fuel pump (Model P7 or P8 series), the other for engines equipped with the Mack electronic fuel system (V-MAC). These control groups must be ordered separately in addition to the basic kit.

Refer to the TecBrake Parts Manual for additional information.

#### Optional Parts

When either the T680A or the T680B kit is to be installed on an engine in an MH chassis, the optional air cleaner adapter kit must be ordered. This adapter kit raises the engine mounted air cleaner to provide clearance for the engine brake.

#### Special Tools

The following special tools are required for installation:

1. Crowfoot wrench- 9/16"
2. Crowfoot wrench- 5/8"
3. Feeler gauge- 0.080 « (2.03 mm)
4. Feeler gauge- 0.085 « (2.16 mm)

#### Recommended Torque Values

Rocker Brkt.Hold-down Bolts (E7)-	40 lbft (54 N*m)
Rocker Brkt. Hold-down Bolts (E6)-	55 lbft (75 N*m)
Brake Hold-downBolts (E7)-	45 lbft (61 N*m)
Brake Hold-downBolts (E6)-	55 lbft (75 N*m)
Rocker Arm Adj.Screw Nuts(E7)-	40 lbft (54 N*m)
Rocker Arm Adj.Screw Nuts(E6)-	26 lbft (35 N*m)
Valve Cover/ Spacer Bolts-	20 lbft (27 N*m)
Slave Piston Adj. Screw Nut-	20 lbft (27 N*m)
Compressor Hsg.Bolts F.P.SW.-	28 lbft (38 N*m)
Oil Supply Screw-	5 lbft ( 7 N*m)
Yoke adj. Screw Nuts-	33 lbft (45 N*m)
Throttle Switch Actuating Arm-	55 lbin ( 6 N*m)

### SECTION 2 - ENGINE PREPARATION

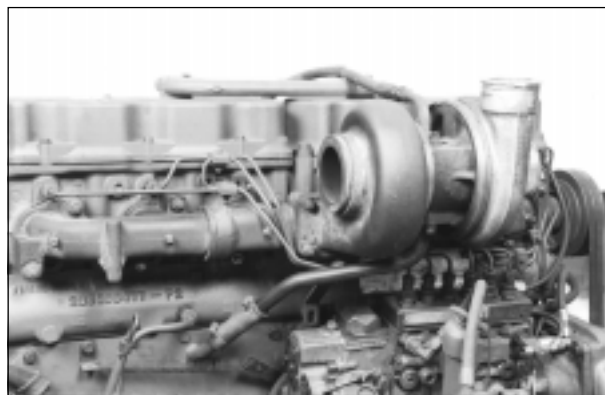


Figure 2-1

1. Thoroughly clean engine before beginning installation. Remove all engine components necessary to permit access to cylinder heads. Remove valve covers. Loosen intake and exhaust rocker lever adjusting screws.

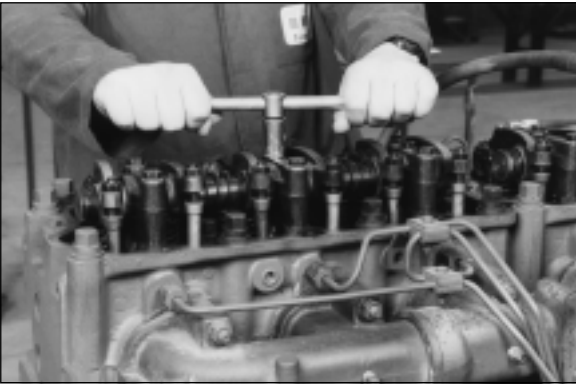


Figure 2-2

2. Remove rocker arm assembly.
3. Remove the rocker arm adjusting screws from the exhaust rocker levers. Retain the locknuts for use on the new adjusting screws.



Figure 2-3

5. Install the new TecBrake rocker lever adjusting screws, re-using the Mack locknuts.



Figure 2-4

6. Install yoke after applying oil on top of yoke in the yoke's bore, and on guide pin bore. Adjust yoke by pressing down on the top of the yoke pad, turn the adjusting screw until it makes contact with the valve stem, tighten 1/6 turn more, hold screw in position, then tighten lock nut. The TecBrake yoke includes the adjusting screw and nut.

### **IMPORTANT**

***Make sure that there is a minimum of 0.025" clearance between the top of the valve spring retainers and the underside of the yoke.***



Figure 2-5

7. Re-install the rocker arm assembly. Make sure rocker lever adjusting screws are backed out and that the push rods are seated. Starting at the center, tighten to the required torque in two steps each of the three rocker bracket hold down bolts located next to the pushrods. Torque to:

E6 (680A) - 55 lbft (75 N\*m)  
E7 (680B) - 40 lbft (54 N\*m)



Figure 2-6

8. Remove the two hex head rocker shaft locking screw located on top of the front rocker shaft brackets.



Figure 2-7

9. Install o-rings in the grooves on each of the two oil supply screws provided in the kit. Apply oil to the o-rings and install the oil supply screws in place of the rocker shaft locking screws removed in step 8.

#### NOTE

***E6 engines manufactured after March 1986 used 3/8"-16 rocker shaft locking screws. The T680A kit (E6) includes 3/8"-16 oil supply screws. Earlier E6 engines used 1/4"-20 rocker shaft locking screws. The optional T680A mounting kit (TJ014417) contains 1/4" -20 oil supply screws and is required for installing the on the earlier E6 engines.***

### SECTION 3- BRAKE & SPACER INSTALLATION

1. Before installing the brake housings back out the slave adjusting screws (located on top of the casting above the slave piston) so that the slave pistons are fully retracted (up).



Figure 3-1

2. Position housing so that the oil supply bore is located over the oil supply screw. Push the housing down so that is flat against the rocker shaft bracket..

#### IMPORTANT

***The two engine brake housings are different. The housing marked "FRONT" must be installed over cylinders 1, 2 and 3. The housing marked "REAR" must be installed over cylinder 4, 5, and 6.***

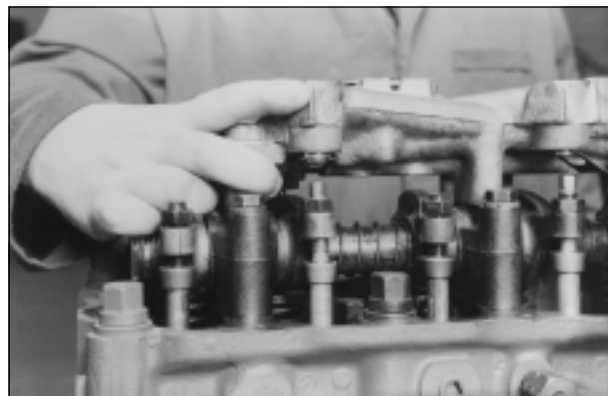


Figure 3-2

3. Using the six capscrews provided in the kit (Three for each housing), install the capscrews through the brake housing into the rocker shaft bracket. Do not tighten the capscrews. Position the housings so that the master pistons are centered over the exhaust rocker lever adjusting screws.



Figure 3-3

4. Starting in the center, tighten the brake housing mounting capscrews to 20 lbft (27 N.m), then re-torque to:

T680B (E7) -	45 lbft (61N*m)
T680A (E6) -	55 lbft (75N*m)

5. Check for interference between rocker arm and engine brake slave piston on all cylinders. If binding occurs, reposition housings.

## Valve Adjustment

Prior to adjusting the engine brake, the intake and exhaust valves must be adjusted following the procedures recommend in the Mack Service Manual.

### CAUTION

***The valve lash must be set while the engine is cold. Do not start the engine before setting the lash. Unadjusted valves may have insufficient clearance between the valves and pistons. Engine damage could result. It is important that the valves be adjusted carefully to assure maximum engine brake performance.***

1. If the engine does not have a timing indicator, one must be installed and the vibration damper marked in 120 degree increments.

2. Rotate the engine to locate the number one piston at top dead center (TDC) on the compression stroke. Adjust the intake and exhaust valves to the clearances indicated:

**Intake valve lash - 0.016"**  
**Exhaust valve lash - 0.024"**

3. Tighten the adjusting screw lock nut to 26 lbft (32 N\*m).

4. Rotate the engine clockwise 120 degrees in order to bring the number five piston to top dead center. Adjust the intake and exhaust valves of cylinder number five.

5. Continue to adjust the valve lash of the remaining cylinders by rotating the engine in 120 degree increments, bringing the next cylinder in firing order sequence (1-5-3-6-2-4) to TDC.

## Slave Piston Adjustment

1. Set engine brake slave piston lash using the adjusting screws located above the slave piston. Because the exhaust valve push tube acting on its master piston operates a slave piston on a different cylinder, care must be taken to adjust the proper slave piston. The engine must be rotated to allow the exhaust valve to be fully closed prior to making the adjustment on each cylinder.

2. Figure 3-7 identifies which push tube operates which slave piston. The same procedure for locating TDC for each piston when setting valve lash may be used when setting the engine brake slave piston lash on each cylinder.

### Master / Slave Piston Actuating Relationship Listed in Engine Firing order Sequence

Master Piston Location	Slave Piston Location
No. 1 Pushrod	No. 3 Exhaust Valve
No. 5 Pushrod	No. 6 Exhaust Valve
No. 3 Pushrod	No. 2 Exhaust Valve
No. 6 Pushrod	No. 4 Exhaust Valve
No. 2 Pushrod	No. 1 Exhaust Valve
No. 4 Pushrod	No. 5 Exhaust Valve

Figure 3-4

3. The slave piston lash should be set as follows:

Model Year	Lash Setting
1991 & on- with S.N. 1B0001 & higher -	0.080"
1990- only S.N. listed in Chart below -	0.080"
All other 1990 not listed & pre 1990 -	0.085"

### THESE 1990 ENGINE SERIAL NUMBERS USE AN 0.080" SLAVE PISTON LASH ADJUSTMENT

0W1577	0X0549	0X1168	0Z0164	0Z0351	0Z0483	0Z0624	0Z0757	0Z0931	0Z1037
0X0114	0X0594	0X1169	0Z0166	0Z0352	0Z0484	0Z0655	0Z0758	0Z0939	0Z1038
0X0115	0X0595	0X1273	0Z0167	0Z0353	0Z0485	0Z0663	0Z0759	0Z0940	0Z1039
0X0116	0X0602	0X1274	0Z0192	0Z0357	0Z0486	0Z0674	0Z0760	0Z0983	0Z1040
0X0169	0X0603	0Z0009	0Z0193	0Z0358	0Z0487	0Z0675	0Z0761	0Z0984	0Z1041
0X0170	0X0604	0Z0028	0Z0194	0Z0359	0Z0488	0Z0690	0Z0762	0Z0985	0Z1043
0X0234	0X0605	0Z0029	0Z0205	0Z0360	0Z0497	0Z0745	0Z0763	0Z0986	0Z1044
0X0235	0X0637	0Z0030	0Z0206	0Z0361	0Z0498	0Z0746	0Z0765	0Z0987	0Z1045
0X0258	0X0638	0Z0031	0Z0207	0Z0391	0Z0553	0Z0747	0Z0766	0Z0989	0Z1046
0X0306	0X0639	0Z0056	0Z0208	0Z0392	0Z0554	0Z0748	0Z0768	0Z0992	0Z1047
0X0307	0X0640	0Z0064	0Z0227	0Z0393	0Z0564	0Z0749	0Z0843	0Z0993	0Z1048
0X0334	0X0646	0Z0089	0Z0228	0Z0405	0Z0579	0Z0750	0Z0848	0Z0995	0Z1049
0X0417	0X0647	0Z0090	0Z0229	0Z0406	0Z0580	0Z0751	0Z0882	0Z0996	0Z1050
0X0468	0X0720	0Z0092	0Z0230	0Z0426	0Z0581	0Z0752	0Z0899	0Z0997	0Z1051
0X0481	0X1134	0Z0093	0Z0231	0Z0427	0Z0582	0Z0753	0Z0900	0Z0998	0Z1052
0X0482	0X1157	0Z0094	0Z0244	0Z0428	0Z0586	0Z0754	0Z0928	0Z1003	0Z1053
0X0483	0X1158	0Z0148	0Z0284	0Z0429	0Z0597	0Z0755	0Z0929	0Z1035	0Z1054
0X0512	0X1159	0Z0163	0Z0286	0Z0430	0Z0604	0Z0756	0Z0930	0Z1036	



Figure 3-5

4. Insert a feeler gauge between the slave piston feet and the TecBrake yoke, then turn the slave piston adjusting screw until the correct lash is obtained.

5. Lock the adjusting screw in position by tightening the lock nut to 20 lbft (27 N\*m) torque. The adjusting screw should be held in position while the lock nut is tightened using a crowfoot wrench. Recheck the lash.

#### **CAUTION**

***For optimum performance and to prevent engine damage make sure that the correct lash is used and care is taken in adjustment procedure. Slave piston adjustment must be performed when with the engine not running. The engine temperature should be cold (below 140°F or 60°C) and stabilized.***

### **Brake Housing Spacer Installation**

1. Install the TecBrake plastic electrical lead out terminals into the spacer.

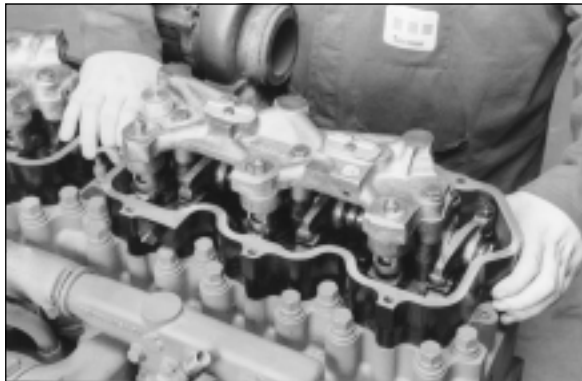


Figure 3-6

2. Clean the top of the cylinder heads. Without using gasket cement, install the TecBrake spacer gaskets. Place the spacer on the cylinder head and connect the solenoid wire to the inside of the spacer terminal and the solenoid.

### **Operational Check**

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

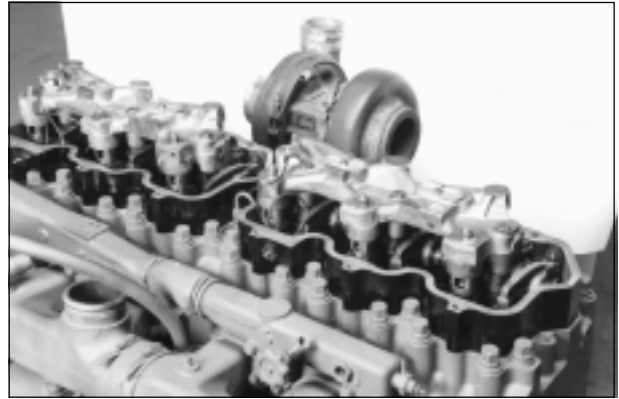


Figure 3-7

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

#### **CAUTION**

***Wear eye protection when running engine with valve cover removed. Take precautions to prevent oil splashing from contaminating engine compartment.***

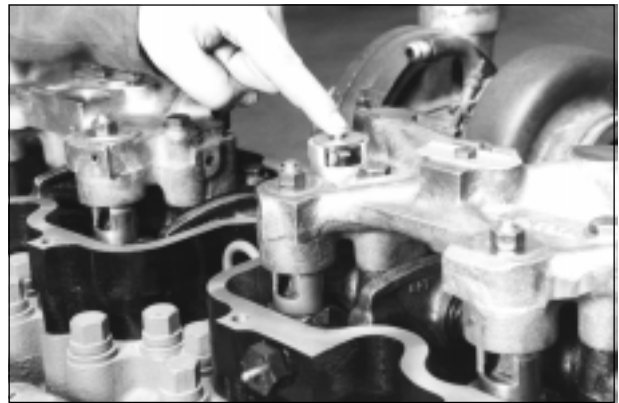


Figure 3-8

2. Bleed air from the engine brake housing. Accelerate the engine to about 1800 RPM then release the throttle. Quickly depress the solenoid as shown to cause the brake to operate. This process should be repeated 5-6 times on each brake assembly in order to fill the housings with lube oil. When all of the air has been removed the brake should operate immediately when the solenoid is depressed.

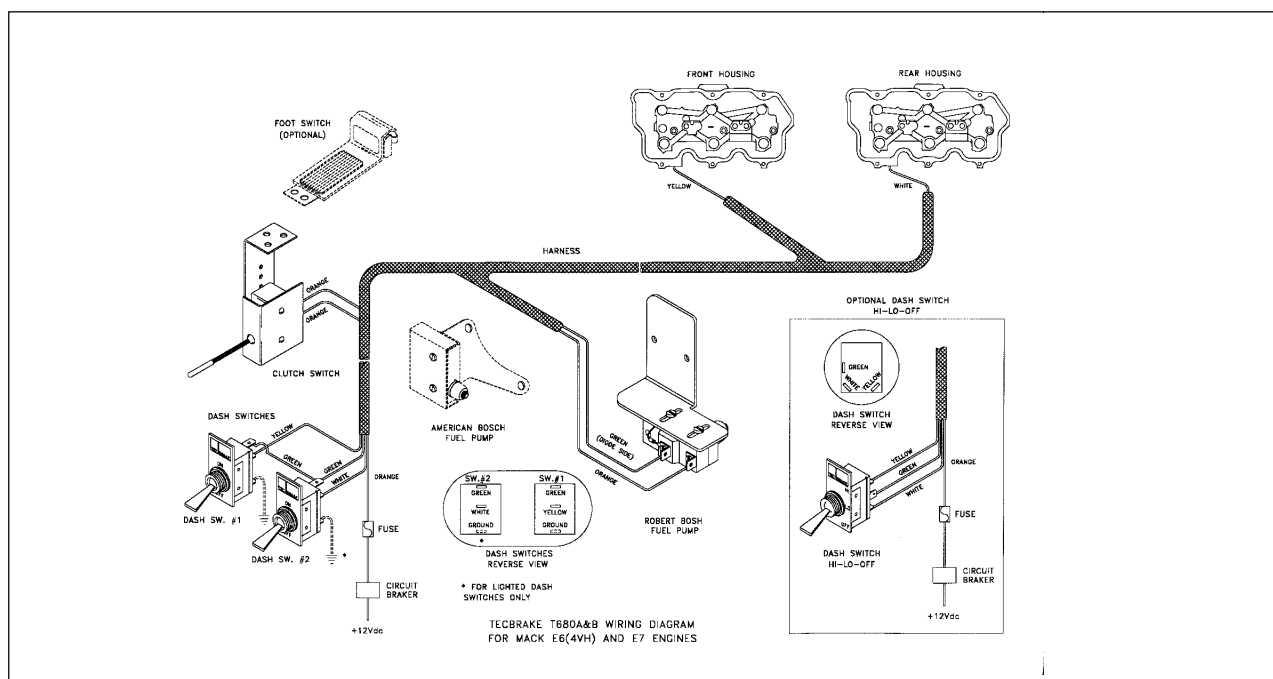


Figure 4-1

Installation of the electrical system involves the mounting of dash switches, a clutch switch, and a fuel pump switch. An optional foot switch may be installed in place of the clutch switch. Wiring harnesses are provided in the kit to complete the installation. Refer to the wiring diagram Figure 4-1.

### Dash Switches

1. Dash switches should be installed in dash where they are visible and convenient to operate. Drill holes in dash to accommodate switches and install switches with proper name plates.

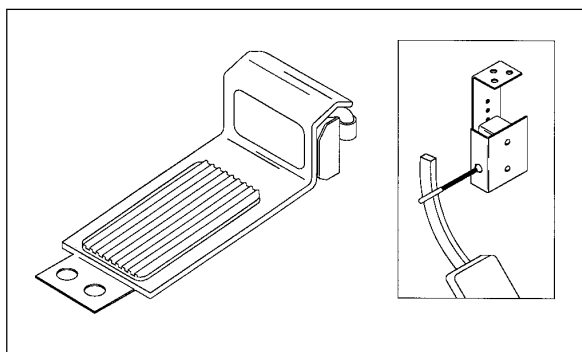


Figure 4-2

### Clutch Switch

1. Mount the clutch switch in a convenient location near the clutch pedal so that the clutch switch actuator arm will be contacted by movement of the clutch pedal. See Figure 4-2.
2. Adjust the clutch switch so that the actuator arm is deflected from 1" to 1.5" (25 mm to 38 mm) when the clutch is in the up (clutch engaged) position.
3. Check the switch by depressing the clutch. The switch should "click" to an open electrical position as soon as the free play in the clutch is taken up. When the clutch is released, the switch should "click" to a closed electrical position.

### Optional Foot Switch

1. An optional foot switch may be used in place of the clutch switch. The foot switch should be mounted on the cab floor to the left of the clutch pedal and should be located so that it can be conveniently operated with the drivers left foot.

## Fuel Pump Switch

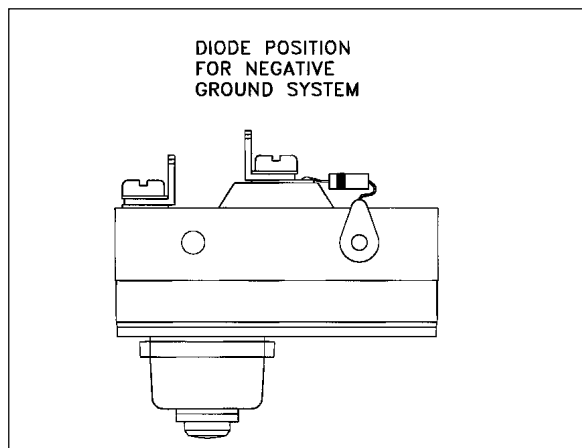


Figure 4-3

1. Diode on fuel pump switch is wired for a negative ground electrical system. If vehicle uses a positive ground system, the diode must be removed and reversed. See Figure 4-3.

## Installation of the T680A kit on E-6 engines with a Robert Bosch Fuel Pump-

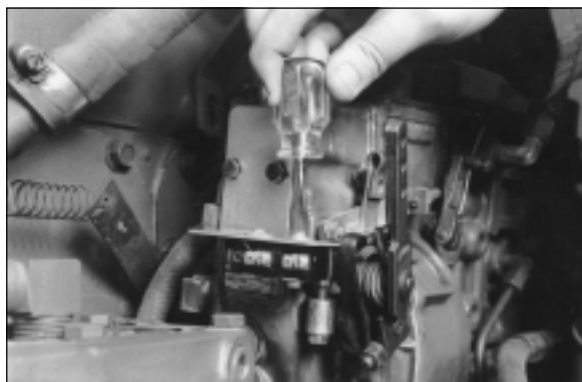


Figure 4-4

1. Remove the two screws, washers and cover plate from the rear of the fuel pump. Attach the fuel pump switch assembly to the rear of the pump using the screws and washers supplied with the kit. Tighten the screws to 55 lbin (6N.m)

2. Adjust the switch to activate when the throttle lever is in the idle position. Loosen the screws holding the switch to the bracket, allowing the switch to slide back and forth on the bracket. Make sure the throttle is in the idle position when making the adjustment. Re-tighten the screws.

## Installation of the T680A kit on E-6 engines equipped with an American Bosch fuel pump-

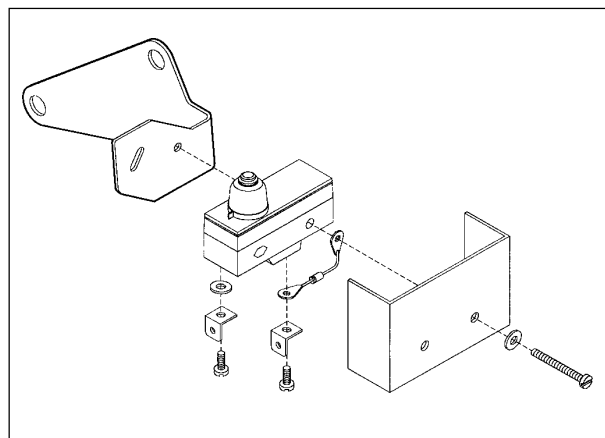


Fig. 4-5

1. A different switch mounting bracket is required for the American Bosh type pump. Remove the switch from the bracket supplied in the kit and install it on the bracket with the cover provided in the optional control group included with kit.



Figure 4-6

2. Remove two fuel pump mounting screws from rear of fuel pump as shown.

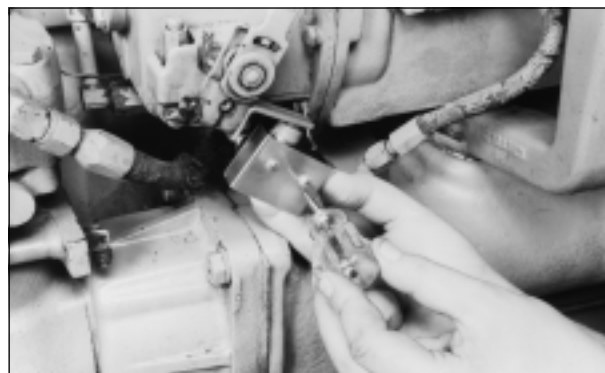


Figure 4-7

3. Attach the fuel pump switch and mounting bracket to the fuel pump using the screws just removed. Tighten to 100 lbin (11N\*m) torque.



4. Install the fuel pump switch actuating arm provided in the optional kit. Attach the actuating arm to the fuel control throttle lever using the nut, bolt and washer previously removed.

5. Adjust the switch to contact the actuating arm when the throttle is in idle position. Tighten switch screws. Switch should "click" as soon as throttle lever is moved off of idle position.

#### **IMPORTANT**

***Check to be sure throttle linkage moves freely after installation of fuel pump switch.***

#### **Installing the T680B kit on E-7 engines with mechanical fuel pump-**

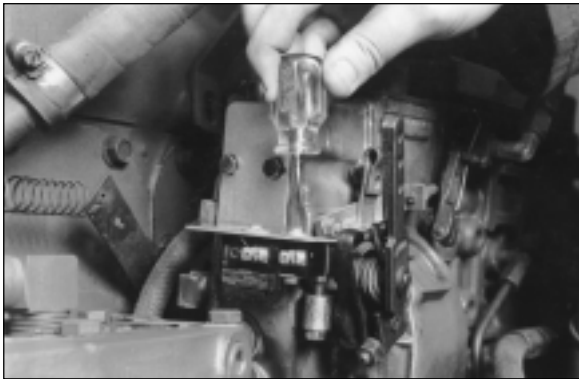


Figure 4-8

1. Remove the two screws , washers and cover plate from the rear of the fuel pump. Attach the fuel pump switch assembly to the rear of the pump using the screws and washers supplied with the kit. Tighten the screws to 55 lbin (6N.m).

2. Adjust the switch to activate when the throttle lever is in the idle position. Loosen the screws holding the switch to the bracket, allowing the switch to slide back and forth on the bracket. Make sure the throttle is in the idle position when making the adjustment. Re-tighten the screws.

#### **Installation of T680B kit on E-7 engines with V-MAC electronic fuel systems**

A special TecBrake control group kit is available for installing brakes on engines equipped with the V-MAC fuel system. Refer to the special V-MAC control group wiring diagram and installation instructions in the last section of this manual.

No fuel pump switch or clutch switch is required on installations where the V-MAC fuel system is used.

#### **Wiring**

Miscellaneous wiring materials and a universal wiring harness are included in the kit.

1. Install the solenoid harness by connecting one end to the solenoid valve and the other to the inside of the terminal in the spacer assembly.

2. Install the remainder of the wiring following the instructions included with the universal wiring harness and wiring diagram shown in Figure 4-1.

3. All wiring should be routed to avoid areas of high heat and mechanical interference where chaffing could occur.

4. Check system to determine if voltage is present at terminals in engine brake spacer assembly. Voltage should be present when engine is not running, with ignition on, clutch disengaged, throttle in idle position, and all dash switches in the "on" position.

5. While monitoring voltage at terminals in the engine brake spacer, operate the switches to determine if they are functioning properly. Depressing either the clutch or the throttle pedal should cause the voltage to be interrupted.

#### **SECTION 5- COMPLETION OF INSTALLATION**



Figure 5-1

1. Remove the Mack cylinder head valve cover seals from the valve covers.

2. Install the new valve cover seals provided in kit. The seals should be cut to provide a 1" overlap.

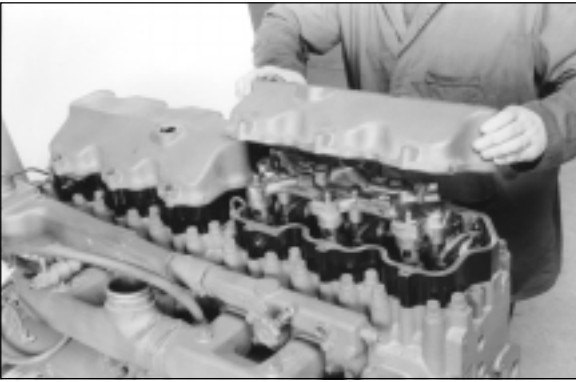


Figure 5-2

3. Install the valve covers on the engine brake spacers. Use the TecBrake capscrews provided to hold down the valve cover and spacer. Torque the capscrews to 20 lbft (27 N.m).

### Installing the optional MH chassis adapter kit

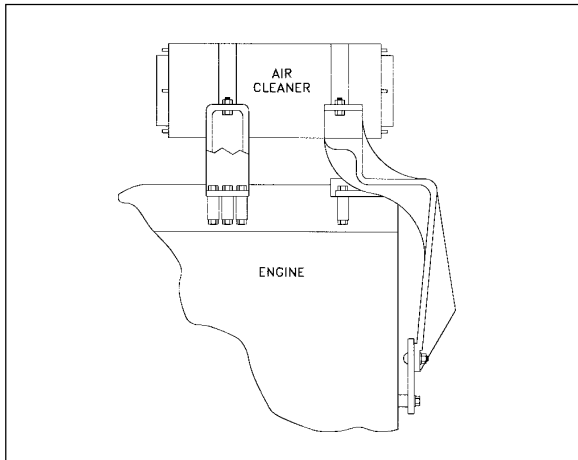


Figure 5-3

When either the T680A or 680B kit is installed on an engine in an MH chassis, the optional air cleaner mounting kit is required to provide clearance for the engine brake. All the necessary mounting hardware, brackets and installation instructions are included in the kit.

## SECTION 6 - ENGINE BRAKE MAINTENANCE

The engine brake is designed to be trouble free and does not require special maintenance. During regularly scheduled maintenance, or if a problem occurs, the procedures described below should be followed.

### **CAUTION**

***Do not remove any engine brake component while the engine running. This may result in personal injury. Use only OSHA approved cleaning solvent when cleaning parts.***

### Solenoid Valve

1. Disconnect the electrical lead from the solenoid and remove solenoid with a spanner wrench. Remove and discard the three rubber seal rings.
2. Clean the filter screen and solenoid with solvent.
3. Dry solenoid with low air pressure.
4. Clean solenoid bore in brake with solvent and wipe dry with paper towel. Be careful not to leave any lint or residue in bore that may contaminate brake hydraulic components.



Figure 6-1

5. Reinstall solenoid valve using three new o-rings. Coat solenoid body with engine lube oil and install upper and center seal rings on solenoid body. Seat lower seal ring in bottom bore of brake.
6. Carefully screw in solenoid valve, using care to assure O-rings remain in position and are not twisted or "rolled".

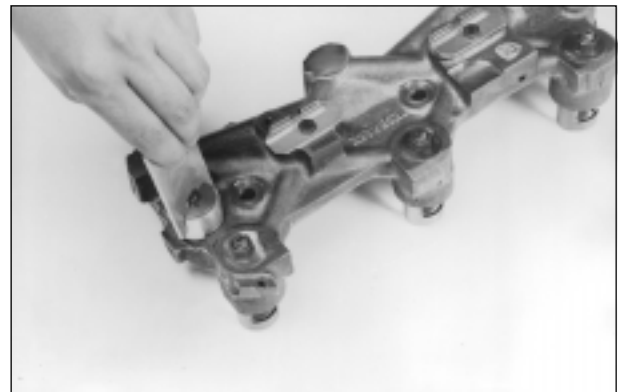


Figure 6-2

7. Tighten solenoid valve to 5 lbft (7 N\*m) torque.

## Control Valve

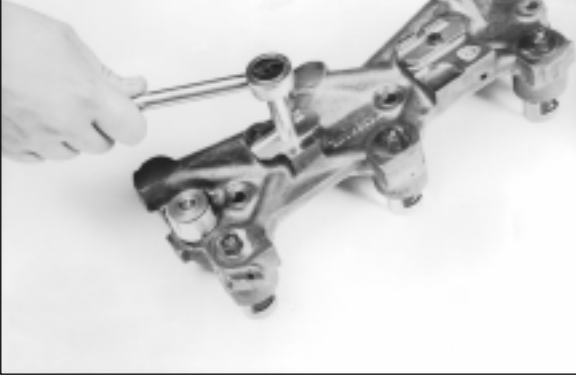


Figure 6-3

1. Remove hex head capscrews from control valve covers.

### **CAUTION**

***When removing the control valve covers wear eye protection. Control valve covers are under load from control valve springs. Care must be used when removing covers to avoid personal injury.***



Figure 6-4

2. Remove control valve using needle nose pliers.
3. Wash control valve with solvent.
4. Push on the check valve ball with a small wire through the hole in the bottom of the control valve to make sure that there is spring tension on the ball. The ball should lift freely with a small amount of force and return quickly to the seat when the force is removed. Replace the control valve if it is defective.
5. Dip the control valve in engine lube oil and install in brake housing. Control valve should slide in without any binding. Replace control valve if binding occurs.

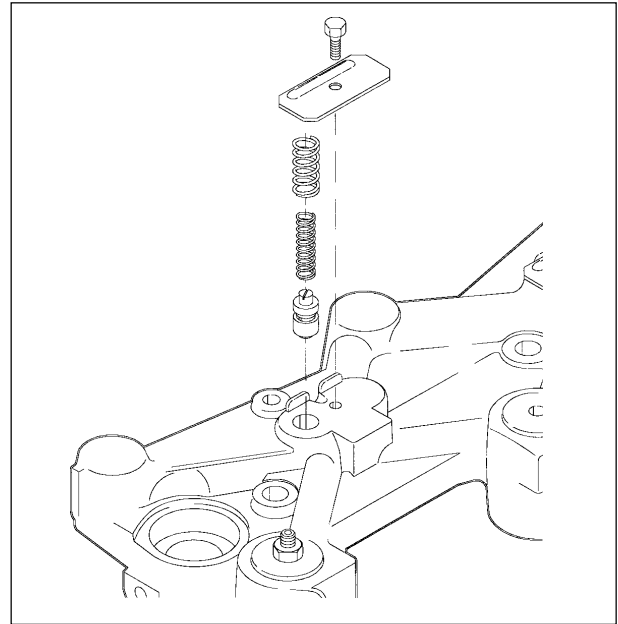


Figure 6-5

6. Install both control valve springs in control valve bore and install cover with hex head capscrew.

## Slave Piston

1. Remove jam nut from slave piston adjusting screw and loosen the adjusting screw until slave piston seats on bottom of bore.



Figure 6-6

### **CAUTION**

***Wear eye protection and use proper tools when removing slave pistons. Slave piston springs are highly compressed and can cause serious personal injury.***

2. Install slave piston spring removal tool as illustrated. Turn tool screw until all force is removed from spring retainer.

3. Using retaining ring pliers, orient the retaining ring end near slot in brake housing.
4. Compress the retaining ring with the retaining ring pliers and remove it from the groove in the housing.
5. Loosen screw in spring removal tool slowly and carefully to remove the spring tension. Remove the retainer, springs and slave piston.
6. Check slave piston outside diameter ground surface for burrs or defects.
7. Clean all parts with approved solvent and lubricate with engine oil.



Figure 6-7

8. Insert piston in bore. Piston must slide in bore without binding. Replace if binding occurs.
9. Reassemble all parts in reverse order from disassembly procedure.

#### **Master Piston**

1. Remove button head screw, washer and flat spring from brake housing.
2. Remove master piston from bore.
3. Check master piston outside diameter ground surface for nicks or burrs. Piston must slide in bore without binding. Replace if binding occurs. Check top surface of piston. Replace piston if there are cracks or pitting.
4. Clean all parts with approved solvent and lubricate with engine oil.

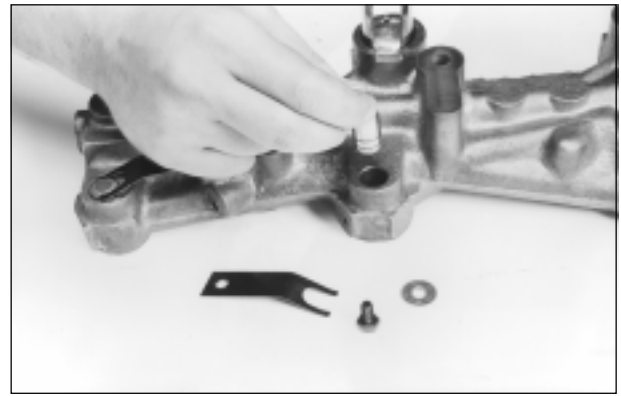


Figure 6-8

5. Insert piston in bore. Piston must slide in bore without binding. Replace if binding occurs.
6. Reassemble all parts in reverse order from disassembly procedure.
7. Make sure spring tabs are aligned with raised surface on end of piston.

#### **Slave Piston Adjusting Screw**



Figure 6-9

1. Remove slave piston adjusting screw from brake housing.
2. Check adjusting screw to be sure plunger is free to move in both directions when light force is applied. Internal spring force must hold the plunger in an extended position. Do not disassemble the adjusting screw. Replace screw assembly if defective.

## Control Group Installation Instructions

### TecBrake Model T680B Engine Brake used on Mack E7 Engines with V-MAC Electronic Fuel System Controls

#### CONTROL GROUP-

Part No. TJ017945

Use on Mack E7 engines with V-MAC fuel system

PART NO.	DESCRIPTION	QTY./ENGINE
TJ001304	SWITCH, TOGGLE, DASH(SPST)	2
TJ001305	PLATE, SWITCH (ON-OFF)	1
TJ003707	SHRINK TUBE	4
TJ018105	HARNESS, ADAPTER	2
TJ900009	PLATE, (HI-LOW)	1
TJ018130	HARNESS, ENGINE TOCAB	1
TJ018131	HARNESS, ENGINE	1
TJ018132	HARNESS, CAB	1
TJ018257	RELAY (MACK NO.2MR2014)	1
TJ007810	TERMINAL	2
TJ006833	TIE, CABLE	12

This control group is used to install the TecBrake Model T680B engine brake on Mack E7 engines equipped with the V-MAC electronic controls. Installation of the engine brake on the Mack E7 engines is the same for both V-MAC and non-V-MAC except for the controls. V-MAC equipped engines do not require the installation of a fuel pump or clutch switch. All trucks equipped with V-MAC engines are pre-wired to accept the additional wiring included in the TecBrake control group.

#### INSTALLATION IN MODEL CH CHASSIS

1. Install the engine brake On-Off switch and Hi-low switch in a convenient location in the dash.
2. Locate the two existing unused wires behind the center dash panel and connect them to the On-Off switch.
3. Locate the relay mounting base behind the dash marked "engine brake". Remove the wire from the terminal marked #87. Cut off the wire approximately two inches from the connector.
4. Using cab harness (TJ018132), connect the green wire to a ground stud located behind the dash. Cut the gray wire to length and attach connector and wire you just cutted off, using the butt connector provided. Re-attach the connector to terminal #87 on the relay base. Connect the grey wire to the Hi-Low switch. The two black wires in the harness are not used.
5. Install relay (TJ018275) into the relay base.

6. At the rear of the fuel pump, locate Mack wire coded 22-D-0.8. Cut off the connector. Using the TecBrake engine-to-cab wiring harness (TJ018130), splice the blue wire to the wire coded 22-D-0.8.

7. Run the yellow wire located in the engine-to-cab wiring harness (TJ018130) to the High-Low switch. Connect the wire to the switch then use the cable ties to secure the wiring in position.

8. Install the TecBrake engine wiring harness (TJ018131), attaching one end to the plug on the engine-to-cab wiring harness (TJ018130) and the other end to the connectors in the front and rear engine brake spacers.

#### INSTALLATION IN MODEL RW, RD, & RB CHASSIS

1. Same as Step 1 of CH chassis installation.
2. Same as step 2 of CH chassis installation, plus, also remove the short jumper wire from the two wires that connect to the On-Off switch.
3. Same as step 3 and 4 of CH chassis instructions.
4. On the outboard dash panel junction box, locate terminal #12 and confirm that the original Mack wire coded 3-H-16 is connected to it.
5. Run the gray wire in the cab harness (TJ018132) from the #12 terminal to the Hi—Low dash switch. Crimp a terminal onto the gray wire and connect it to the switch terminal .
6. Crimp a terminal to the Blue wire in the engine-to-cab harness (TJ018130) and clamp it to terminal No. 12 of the outboard dash panel junction box.
7. Run the yellow wire in the engine-to-cab harness (TJ018130) up to the Hi-Low dash switch and connect it to the switch terminal.
8. Install the TecBrake engine wiring harness (TJ018131), attaching one end to the plug on the engine-to-cab wiring harness (TJ018130) and the other end to the connectors in the front and rear engine brake spacers.

