



# Parts Manual

**Model T680A /B Engine Brakes**

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

TecBrake  
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## TecBrake Engine Brake Model T680A and T680B For Mack 6 Cylinder, 4 Valve Head E6 & E7 Series Engines

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.

### Important: Information required to order engine brake kits.

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. The T680B is similar to the T680A kit except it uses metric threads for the mounting hardware and has a different control valve spring.

E6 and E7 engines installed in MH chassis are equipped with an engine mounted air cleaner. The air cleaner must be raised in order to accommodate the increased height of the engine after the engine brake is installed. Refer to the optional parts list for the kit part number and contents.

**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.

E6 engines manufactured prior to March 1986 utilized a rocker shaft locking screw having a 1/4-20 thread. Engines manufactured after that date use a screw with a 3/8-16 thread diameter. The T680A kit includes the 3/8-16 thread screws. If the kit is to be installed on engines having the older style rocker shafts, the optional T680A mounting kit (TJ014417) is required.

**E7 Engines-** There is one T680B kits for the E7 engine. This kit is a base kit which **does not** include a control group. Two control groups are available. One control group is for engines equipped with the Robert Bosch mechanical fuel pump (Model P7 or P8 series). The other control group is for engines equipped with the Mack electronic fuel system (V-MAC). The appropriate control group must be selected and used in addition to the base kit. For vehicles pre-wired equipped with V-MAC fuel system (built after 1993) only a wiring harness, relays and a dash switch is required. See optional parts list for part numbers and quantities.

### COMPONENTS NOT INCLUDED IN KIT:

When the T680A kit is to be installed on an E6 engine using the earlier style rocker shafts, the optional T680A mounting kit (TJ014417) must be ordered.

When a T680B kit is installed on an E7 engine The appropriate control group must be selected and used in addition to the base kit. When any kit is to be installed on either an E6 or E7 engine in an MH chassis, the optional air cleaner adapter kit (TB940047) must be ordered.

### OPTIONAL FOOT SWITCH:

An optional foot switch may be used in place of the clutch switch. The foot switch is not included and must be ordered separately.

## ENGINE BRAKE KITS, CONTROL GROUPS AND OPTIONAL PARTS

PART NO.	DESCRIPTION	QTY./ENGINE
TB960009	BRAKE KIT, T680A W/CTRL. GRP.	
TB940046	KIT, LITERATURE	1
TB940039	HOUSING ASSY., FRONT, T680A	1
TB940040	HOUSING ASSY., REAR, T680A	1
TB940041	ATTACHING PARTS GRP. T680A	1
TB940042	CTRL. GRP., T680A/B (R. BOSCH)	1
TB940048	CTRL. GRP., T680A (A. BOSCH)	1
TB960012	BRAKE KIT, T680B W/OUT CTRL. GRP.	
TB940046	KIT, LITERATURE	1
TB940043	HOUSING ASSY., FRONT, T680B	1
TB940044	HOUSING ASSY., REAR, T680B	1
TB940045	ATTACHING PARTS GRP. T680B	1
TB940042	CTRL. GRP., T680A/B (R. BOSCH)	1
TJ017945	CTRL. GRP., T680B (V-MAC)	1
TJ003586*	SWITCH, TOGGLE, HI-LO-OFF	1
TJ003777*	PLATE, SWITCH HI-LO-OFF	1
TB900016*	HARNES, ENGINE PRE-WIRED	1
TJ018257*	RELAY (MACK P/N 2MR2014)	2
TJ012260	FOOT SWITCH	1
TB900005	FEELER GAUGE (0.080")	1
TJ014177	FEELER GAUGE (0.085")	1
TJ014417	T680A MOUNTING KIT ( PRE-3/86 E6 )	1
TB940047	AIR FILTER ADAPTER KIT (MH CHASSIS)	1

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

\* For pre-wired V-Mac built after 1993.

### HOUSING ASSEMBLY

<b>Part No. TB940039</b>	<b>T680A</b>	<b>Housing - Front</b>
<b>Part No. TB940040</b>	<b>T680A</b>	<b>Housing - Rear</b>
<b>Part No. TB940043</b>	<b>T680B</b>	<b>Housing - Front</b>
<b>Part No. TB940044</b>	<b>T680B</b>	<b>Housing - Rear</b>

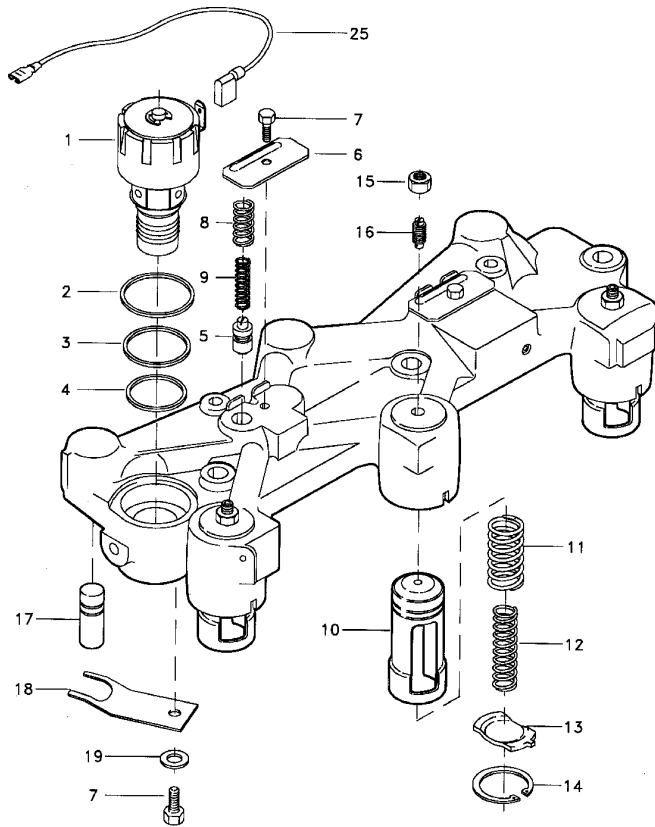
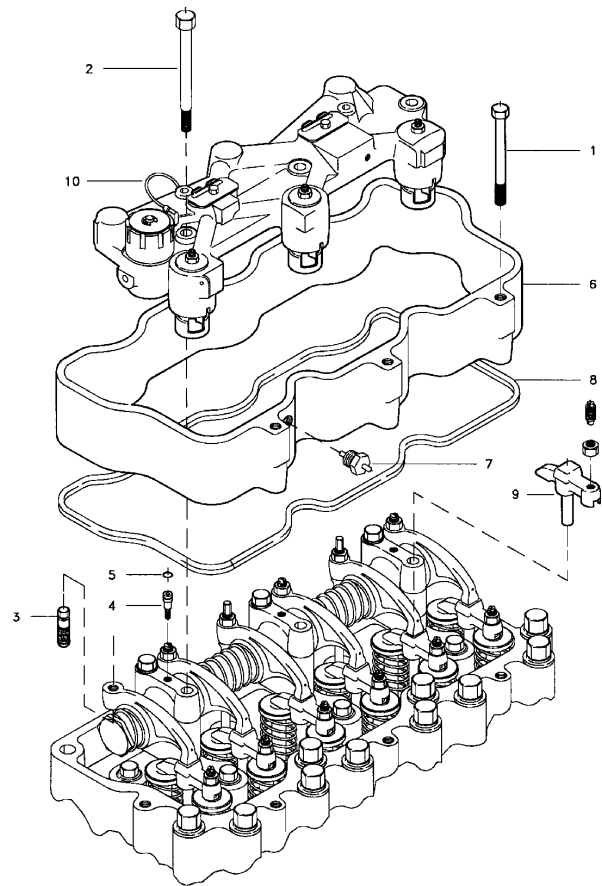
REF.	PART NO.	DESCRIPTION	QTY./HSG.
1	TJ016440	SOLENOID VALVE (12 VOLT)	1
2	TJ001081	SEAL RING, UPPER	1
3	TJ001082	SEAL RING, MIDDLE	1
4	TJ001083	SEAL RING, LOWER	1
5	TJ011930	CONTROL VALVE	3
6	TJ012757	COVER, CONTROL VALVE	2
7	TJ001492	SCREW, HEX	5
8	TJ010843	SPRG., CTRL. VALVE, OUTER	3
9	TJ003109	SPRG., CTRL. VALVE, INNER T680A	3
9	TJ007500	SPRG., CTRL. VALVE, INNER T680B	3
10	TJ017008	SLAVE PISTON	3
11	TJ013418	SPRING, SLAVE PISTON, OUTER	3
12	TJ013417	SPRING, SLAVE PISTON, INNER	3
13	TJ014247	RETAINER, SPRING	3
14	TJ001023	RING, RETAINER	3
15	TB909354	NUT, JAM	3
16	TJ016997	SCREW ASSEMBLY, PLUNGER	3
17	TJ014103	MASTER PISTON	3
18	TJ002030	SPRING, FLAT	3
19	TJ001030	WASHER, FLAT	3

**ATTACHING PARTS GROUP**

Part No. TB940041 T680A  
 Part No. TB940045 T680B

REF.PART NO.	DESCRIPTION	QTY./ENGINE
1	TJ013535 BOLT, (5/16" UNC) T680A	12
1	TJ019298 BOLT, (M8X1.25) T680B	12
2	TJ013569 BOLT, (7/16" UNC) T680A	6
2	TJ017009 BOLT, (M10X1.5) T680B	6
3	TJ013414 SCREW, ADJ. EXH. (7/16 UNF) T680A	6
3	TJ017011 SCREW, ADJ. EXH (M12X1.25)T680B	6
4	TJ013736 SCREW, OIL SUPPLY (3/8")	2
5	TJ002411 O-RING	2
6	TJ017712 SPACER	2
7	TB917366 TERMINAL, ASSEMBLY	2
8	TJ013411 GASKET, SPACER	2
9	TJ014173 YOKE ( W/ SCREW & NUT)	6
10	TJ015843 HARNESS, SOLENOID	2
NI	TJ014690 HOSE (3/16" x 31")	1
NI	TJ005639 SEAL, VALVE COVER	2

NI.- Not Illustrated.



**OPTIONAL T680A MOUNTING KIT**  
 Part No. TJ014417

PART NO.	DESCRIPTION	QTY./ENGINE
TJ014043	SCREW, OIL (1/4-20)	2
TJ014104	WASHER, OIL	2
TJ002411	O-RING	2

**OPTIONAL AIR FILTER ADAPTER KIT**  
 Part No. TB940047

PART NO.	DESCRIPTION	QTY./ENGINE
TJ015868	BRACKET	1
TJ013799	WASHER, PLAIN	4
TJ015869	CARRIAGE BOLT	2
TJ015870	WASHER, LOCK	2
TJ016555	NUT, HEX (1/2-13 UNC)	2
TJ017703	SPACER (1/2" LONG)	2
TJ015871	SPACER (1 1/2" LONG)	2
TJ015872	SPACER (1 3/8" LONG)	3
TJ017704	WASHER, PLAIN	5
Use this group with Model T680A brake on E6 Engines		
TJ016394	BOLT, HEX (1/2-13 UNC X 1 1/2")	2
TJ015873	BOLT, HEX (3/8-16 UNC X 2 1/2")	2
TJ015874	BOLT, HEX (3/8-16 UNC X 2 1/4")	3
Use this group with Model T680B brake on E7 engines		
TJ017575	BOLT, HEX (M12 -1.75 X 35MM)	2
TJ017577	BOLT, HEX (M10 -1.5 X 60MM)	2
TJ017576	BOLT, HEX (M10 -1.5 X 55MM)	3

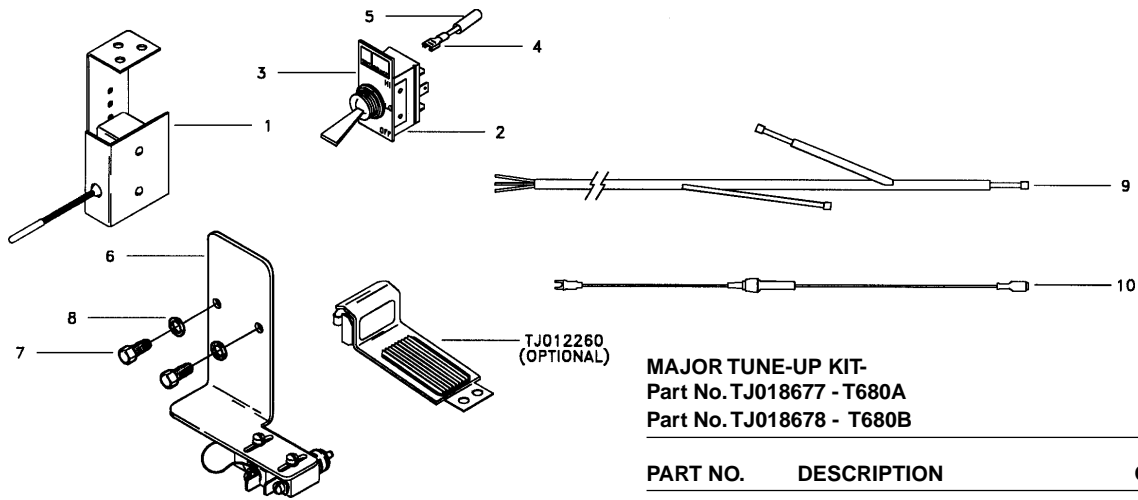
**CONTROL GROUP**

**Part No. TB940042**

For Robert Bosch fuel pumps.  
Included in the T680A engine brake kit. TB960009.  
Not included in the T680B engine brake kit TB960012.

REF.	PARTNO.	DESCRIPTION	QTY./ KIT
1	TJ012261	SWITCH ASSEMBLY, CLUTCH	1
	TB901216	SWITCH (BARE , FOR TJ012261)	1
2	TJ001304	SWITCH, TOGGLE, DASH	2
3	TJ001305	PLATE, SWITCH (ON-OFF)	2
4	TJ003278	TERMINAL (FAST ON)	6
5	TJ003707	SHRINK TUBE	4
6	TJ017028	SW. ASSY, F. PUMP (R. BOSCH)	1
	TJ017026	BRACKET	1
	TJ001534	DIODE	1
	TJ018188	SWITCH (BARE)	1
7	TJ017029	SCREW, HEX HEAD	2
8	TJ017034	WASHER, LOCK	2
9	TB900017	HARNESS CAB/ENGINE	1
10	TJ015759	HARNESS, FUSE HOLDER	1
NI	TJ006833	TIE, CABLE	10
*	TB900001	HARNESS, GROUND	1

Indented part numbers are included in parts under which they are indented.  
NI.- Not Illustrated.  
\* For lighted dash switches only.



**CONTROL GROUP- American Bosch Fuel Pump**  
**Part No. TB940048**

Included in the T680A engine brake kit TB960009. Contains additional parts required to install the engine brake on an E6 engine with an American Bosch fuel pump. Must be used with the TB940042 control group.

PART NO.	DESCRIPTION	QTY./ KIT
TJ012411	BRACKET, SW. (A. BOSCH)	1
TJ012413	ARM , SW. ACTUATING (A. BOSCH)	1
TJ001180	COVER, SWITCH	1

**CONTROL GROUP**

**Part No. TJ017945**

For V-Mac engines installed on vehicles not pre-wired.  
Not included in the T680B engine brake kit TB960012

PART NO.	DESCRIPTION	QTY./ KIT
TJ001304	SWITCH, TOGGLE, DASH	2
TJ001305	PLATE, SWITCH (ON-OFF)	1
TJ003707	SHRINK TUBE	4
TB900009	PLATE, (HI-LOW)	1
TJ018130	HARNESS, ENGINE TO CAB	1
TJ018131	HARNESS, ENGINE	1
TJ018132	HARNESS, CAB	1
TJ018257	RELAY (MACK NO. 2MR2014)	1
TJ007810	TERMINAL	2
TJ006833	TIE, CABLE	12

**V-MAC PRE-WIRED VEHICLES**

For V-Mac engines installed on vehicles pre-wired. built after May 1993 .  
Not included in the T680B engine brake kit TB960012

PART NO.	DESCRIPTION	QTY./ ENGINE.
TJ003586	SWITCH, TOGGLE (HI-LO-OFF)	1
TJ003777	PLATE, SWITCH (HI-LO-OFF)	1
TJ018257	RELAY (MACK NO. 2MR2014)	2
TB900016	HARNESS, ENGINE	1

**MAJOR TUNE-UP KIT-**  
**Part No. TJ018677 - T680A**  
**Part No. TJ018678 - T680B**

PART NO.	DESCRIPTION	QTY./ KIT
TJ012757	COVER, CTRL. VALVE	4
TJ002299	TERMINAL ASSY.	2
TJ001030	WASHER	6
TJ001081	SEAL RING, UPPER	2
TJ001082	SEAL RING, MIDDLE	2
TJ001083	SEAL RING, LOWER	2
TJ001492	CAPSCREW	10
TJ002030	SPRING, FLAT	6
TJ002411	O-RING	2
TJ003109	SPRING, C.V., INNER (T680A)	6
TJ007500	SPRING, C.V., INNER (T680B)	6
TJ010843	SPRING, C.V. OUTER	6
TJ011930	CONTROL VALVE	6
TJ001023	RING, RETAINING	6
TJ015843	HARNESS, SOLENOID (FAST ON)	2
TJ017368	HARNESS, SOLENOID (BULLET)	2