

# Models 680A/B

The Model 680A Jake Brake® engine retarder is designed and approved for use on Mack® E6 engines with four-valve cylinder head configuration. The Model 680B is designed and approved for use on Mack E7 engines. Information in this manual was current at the time of printing and is subject to change without notice or liability.

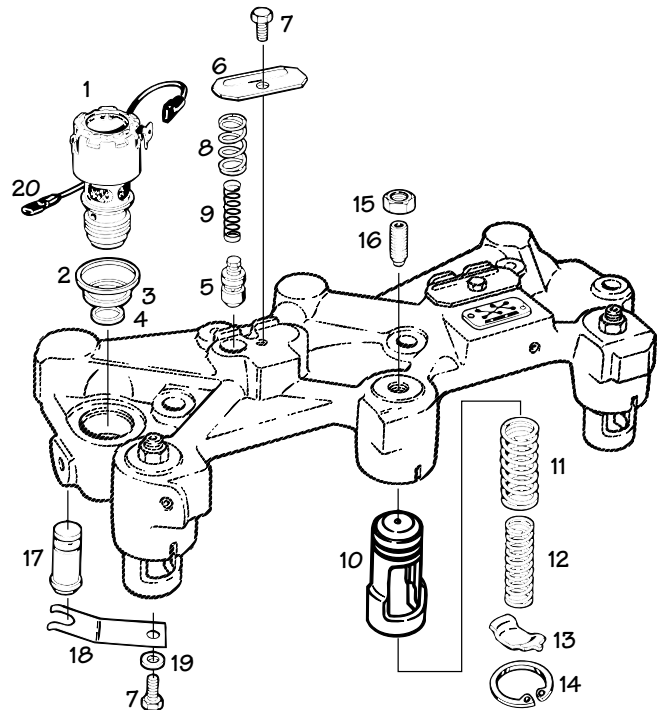
Refer to the Installation Manual, P/N 018061, Jacobs Service Letters and instructional literature for specific application information.

# PARTS MANUAL

# Models 680A and 680B Housing Assemblies

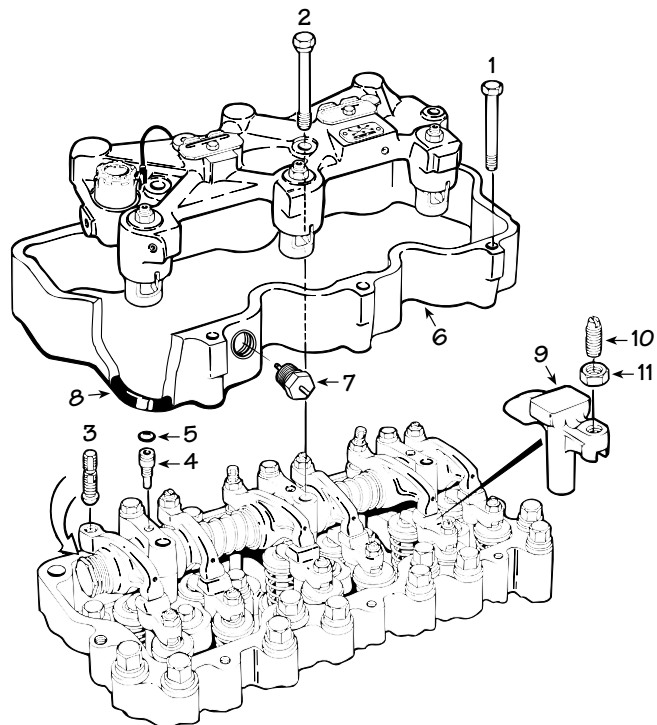
Engine Brake Model	Packaged Housing P/N	Description
680A	017045	Front housing assembly
680A	017046	Rear housing assembly
680B	01-017013	Front housing assembly
680B	01-017014	Rear housing assembly

Ill. No.	Part No.	Part Name	Qty./Hsg.
1	016440	Solenoid valve assembly	1
2	001081	Upper seal ring	1
3	001082	Center seal ring	1
4	001083	Lower seal ring	1
5	011930	Control valve spool assy.	3
6	012757	Control valve cover	2
7	001492	Hex head screw	5
8	010843	Stop spring	3
9	003109	Inner spring, <b>680A</b>	3
9	007500	Inner spring, <b>680B</b>	3
10	017008	Slave piston	3
11	013418	Outer spring	3
12	013417	Inner spring	3
13	014247	Spring retainer	3
14	001023	Retaining ring	3
15	001026	Hex nut	3
16	016997	Safety screw	3
17	014103	Master piston	3
18	002030	Flat spring	3
19	001030	Flat washer	3
20	017368	Harness	1



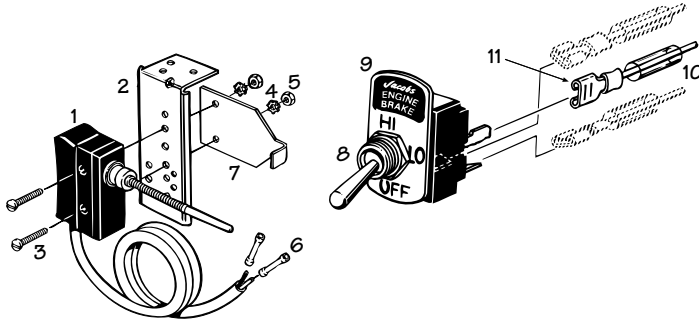
## Attaching Parts Group

Ill. No.	Part No.	Part Name	Qty./Hsg.
	<b>013716</b>	<b>Hsg. Attach. Parts Grp. - 680A</b>	<b>1</b>
1	013535	• Hex head bolt, SAE	12
2	013569	• Hex head bolt, SAE	6
3	013414	• Adjusting screw, SAE	6
4	013736	• Oil supply screw (3/8 x 16)	2
5	002411	• "O" ring	2
	<b>017015</b>	<b>Hsg. Attach. Parts Grp. - 680B</b>	<b>1</b>
1	019298	• Hex head bolt, metric	12
2	017009	• Hex head bolt, metric	6
3	017011	• Adjusting screw, metric	6
4	013736	• Oil supply screw (3/8 x 16)	2
5	002411	• "O" ring	2
	<b>020453</b>	<b>Spacer Group, 680A &amp; 680B</b>	<b>2</b>
6	018663	• Spacer	1
7	017366	• Electrical connector	1
8	019841	• Gasket	1
NI	014690	Hose, 3/16 ID x 31 long	1
	<b>020407</b>	<b>Yoke Group, 680B</b>	<b>1</b>
9	017710	• Yoke	6
	<b>019470</b>	<b>Yoke Group, 680A</b>	<b>1</b>
9	017710	• Yoke	6
10	019467	• Adjusting screw	6
11	019468	• Hex nut	6



# Control Groups

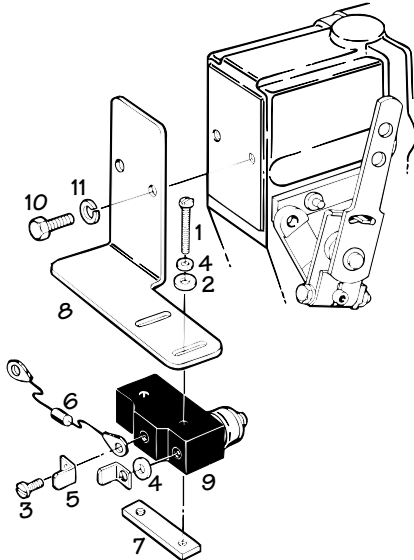
**NOTE:**  
Controls installed by Mack Trucks, Inc. may be different than controls supplied by Jacobs.



## 003975 Cab Control Group

Ill. No.	Part No.	Part Name	Qty./Kit
1	012246	Clutch switch	1
2	012269	Switch mount bracket	1
3	005377	Pan head screw	2
4	005378	Lock washer	2
5	003306	Hex nut	2
6	013078	Butt splice	2
NI	013674	Instruction sheet	1
7	013387	Overtravel bracket*	1
8	003586	Switch, 3-position	1
9	003777	Switch plate	1
10	003707	Shrink tube	3
11	003278	Receptacle	3
NI	003781	Harness	1
NI	006833	Cable tie	12
NI	016556	Wiring diagram	1
NI	015758	Wire, 96" long	1
NI	003778	Loom	1

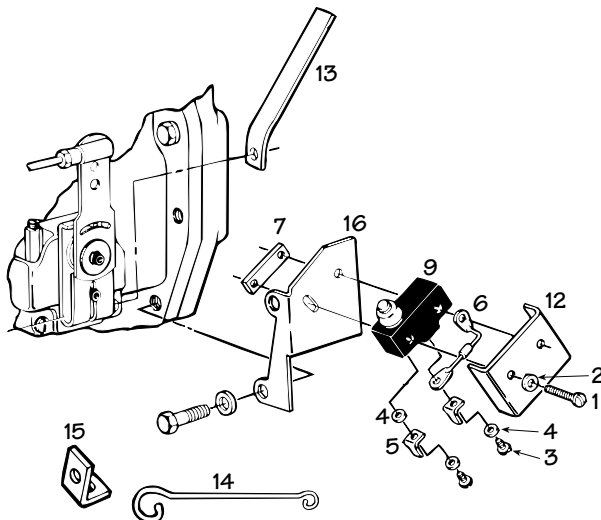
\*Optional item not included in group



## 017025 Engine Control Group, 680B

Ill. No.	Part No.	Part Name	Qty./Kit
	<b>017028</b>	<b>Fuel Pump Switch Assembly</b>	<b>1</b>
1	002744	• Screw	2
2	001538	• Plain washer	2
3	001558	• Binder head screw	2
4	001559	• Lock washer	3
5	001512	• Quick disconnect tab	2
6	001534	• Mach. assy. diode	1
7	001531	• Switch clamp	1
8	017026	• Switch bracket	1
9	018188	• Switch	1
10	017029	Hex head screw	2
11	017034	Lock washer	2
NI	002014	Receptacle	2
NI	003708	Shrink tube	2
NI	003881	Harness	2
NI	017885	Connector	2

## Bosch Fuel Systems, 680A & 680B Mechanical



## 020605 Engine Control Group, 680A

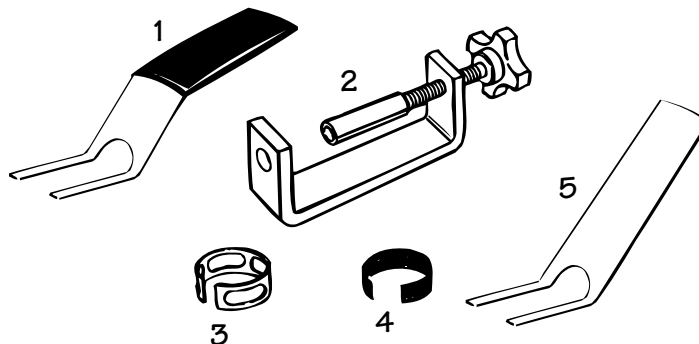
Ill. No.	Part No.	Part Name	Qty./Kit
	<b>017028</b>	<b>Fuel Pump Switch Assembly</b>	<b>1</b>
1	002744	• Screw	2
2	001538	• Plain washer	2
3	001558	• Binder head screw	2
4	001559	• Lock washer	3
5	001512	• Quick disconnect tab	2
6	001534	• Mach. assy. diode	1
7	001531	• Switch clamp	1
8	017026	• Switch bracket	1
9	018188	• Switch	1
10	017029	Hex head screw	2
11	017034	Lock washer	2
NI	002014	Receptacle	2
NI	003708	Shrink tube	2
NI	003881	Harness	2
12	001180	Switch cover	1
13	002615	Actuator arm	1
14	013862	Spring wire	1
15	013863	Spring bracket	1
16	002614	Switch bracket	1
17	020624	Instruction sheet	1
NI	017885	Connector	2
NI	003778	Loom-Auto	1

## UTD Fuel Systems, 680A

NI = Not Illustrated

## Service Parts

Ill. No.	Part No.	Part Name
1	014177	Feeler gage 0.085" (2.16 mm)
2	017397	Slave piston removal tool
3	001283	Solenoid screen retainer
4	001282	Solenoid screen
5	018781	Feeler gage 0.080" (2.03 mm)
NI	018677	680A Tune-up kit
NI	018678	680B Tune-up kit



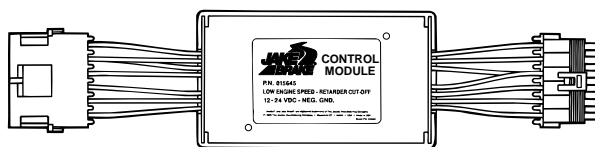
## Control System Options

### Control Group for V-MAC®, 680B

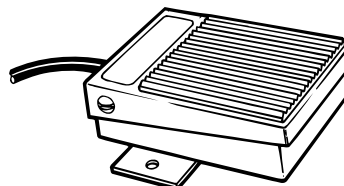
Part No.	Part Name	Quan./Group
017945	Control group V-MAC Applications	1

### 015644 Low Engine Speed Retarder Cut-off Group (Non V-MAC applications only)

015645	Control module	1
016175	Wiring harness	1
016177	Wiring harness	1



### 012260 Foot Switch Group



## Installation Options

### 014417 Housing Attaching Parts Group for Pre-March, 1986 Engines (680A)

(Rocker shaft holes drilled for 1/4 x 20 screws)

Part No.	Part Name	Quan./Group
014043	Oil supply screw (1/4 x 20)	2
002411	"O" ring	2
014104	Washer	2
014418	Instructions	1

### MH Chassis Air Cleaner Adapter Kits

Part No.	Description
017700	Adapter kit, <b>Model 680B</b> on E7 Engine
015875	Adapter kit, <b>Model 680A</b> on E6 Engine

# Jacobs®

Jacobs® and Jake Brake® are registered trademarks of  
Jacobs Vehicle Equipment Company  
22 East Dudley Town Road  
Bloomfield, CT 06002

Mack® and V-MAC® are registered trademarks of Mack Trucks, Inc.