

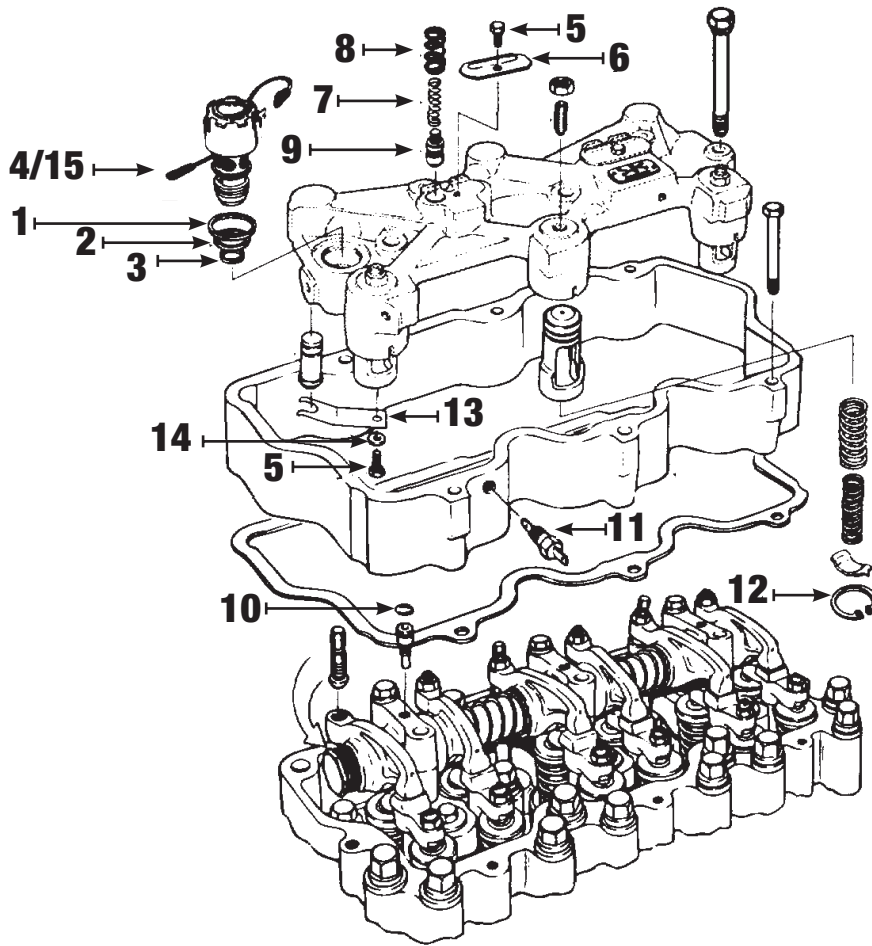
# Part No. P18678 TUNE-UP KIT

Engine Application:

**MACK E7**

Fits Models:

**Jacobs 680B**



ILLUS.#	PART #	DESCRIPTION	QTY.
1	P01081	Seal Ring - Upper	2
2	P01082	Seal Ring - Center	2
3	P01083	Seal Ring - Lower	2
*4	P14619	Solenoid Harness	2
5	P01492	Capscrew	10
6	P34650	Control Valve Cover	4
7	P39100	Spring-Inner	6
8	P10843	Spring-Outer	6
9	P11930	Control Valve	6
10	P02411	O-Ring	2
11	P02299	Terminal Assembly Leadout	2
12	P01023	Retaining Ring	6
13	P02030	Flat Spring	6
14	P01030	Washer	6
*15	P17368	Harness	2

NOTE: Valve cover gaskets are not supplied.

\*Use appropriate harness.

# Part No. P18678

# TUNE-UP KIT

## Installation Instructions

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### Removal Of The Housings From The Engine

- A) Clean the engine around both valve covers and engine brake spacers. Remove valve covers and spacers. Inspect gaskets and replace if necessary.
- B) Loosen the slave piston adjusting screw lock-nuts.
- C) Remove both solenoid wires and discard.
- D) Remove the housing hold down capscrews, then remove both housings.

### Disassembly And Assembly Of The Brake Housings

- A) Place the housings on a clean work bench.  
**Note:** When removing all parts keep them in order of their original location for assembly later.
- B) Remove the slave piston adjusting screws and inspect the plungers for spring pressure or damage.
- C) Using the proper tool, remove both solenoids. Adjustable pliers can damage the coil. Remove and discard all 3 seals on each solenoid.
- D) Remove the control valve covers. **Use caution** and wear eye protection, as the covers are under spring pressure! Remove the springs and control valves. The control valves should slide out easily using needle nose pliers or a magnet. If not, inspect the bore and control valve for damage. Discard control valves, springs, covers and screws.
- E) Turn the housings over and remove the master piston springs. Remove the master pistons. The pistons should slide out easily. If not, inspect the bore and piston for damage. Discard the springs washers and screws. Check the master pistons and exhaust valve adjusting screw surfaces for wear, replace both if necessary.
- F) **Slave piston removal.**  
**Use caution** and wear eye protection, as the slave piston return springs are under extreme pressure! Use a "C" clamp and a socket slightly smaller than I.D. of the slave fork. Position the socket between the legs of the fork. Using the "C" clamp, compress the retainer just enough to remove the spring pressure, then remove retaining ring. Slowly back off the "C" clamp. Remove the retainer, springs, and slave pistons. The slave pistons should slide out easily. If not, inspect the bore and piston carefully for damage. Removal of the slave piston assemblies is for cleaning and inspection only.
- G) Wash all the housings and parts in clean OSHA approved solvent, keeping the parts in relation to their original position. Wash the parts individually to avoid damage by contact with hardened surfaces.
- H) Assemble all parts into the housing using clean engine oil in the reverse procedure. Make sure all retaining rings are seated in their groove. During solenoid installation, it is important not to twist or cut the seals. Lubricate the seals with clean engine oil and torque to 60 lb in. (7 N•m). Reconnect solenoid lead wires using wire leads provided.
- I) Master piston return spring fork must be centered evenly on the raised wear surface.
- J) Install the seals provided on the oil supply tube. Lubricate the seal with clean engine oil before installing the engine housings.
- K) Clean all gasket surfaces, install gaskets.
- L) Install on engine as per manufactures specifications.

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