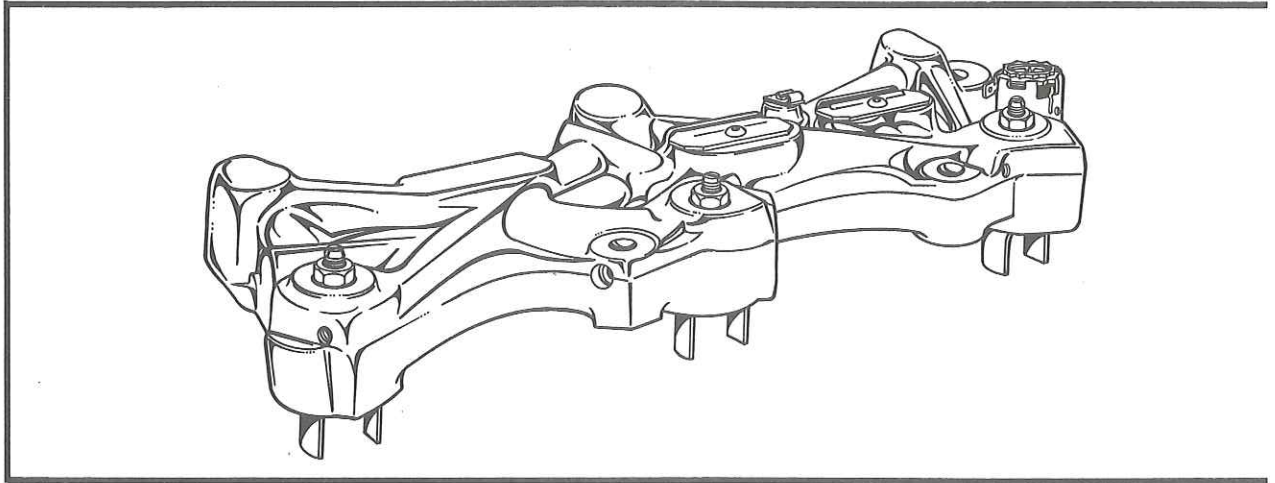




Parts Manual for Models C346C and 346D Engine Brakes



The Model 346D Jake Brake® compression engine retarder replaces the former Models C346, C346A, C346B and C346C. Service parts for Model C346C engine brakes are included in this manual; service parts for Models C346, C346A and C346B are listed in parts manual, P/N 17068.

The Model 346D is designed and approved for use on Caterpillar 3406B series engines and is the current production model Jake Brake® for this application, including the 1991 model year engine. The S/N prefixes for the 1991 model year engines are: Mechanical Control - 3ZJ; PEEC Control - 2EK.

Information contained in this manual was current at the time of printing and is subject to change without notice or liability.

Refer to Jacobs Service Letters and instructional literature for specific application information.

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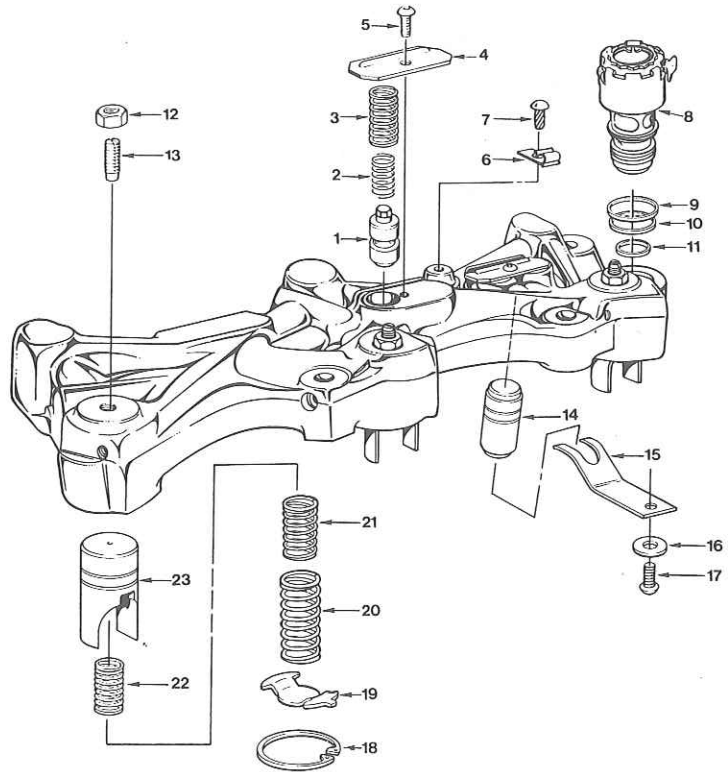


**Jacobs® Vehicle
Equipment Company**
22 East Dudley Town Road
Bloomfield, CT 06002
860-243-1441

Models C346C and 346D Housing Assemblies

Engine Brake Model	Pkgd. Hsg. P/N	Description
C346C	017271	Housing assy., front - 12V DC (pkg)
C346C	017272	Housing assy., rear - 12V DC (pkg)
346D	017770	Housing assy., front - 12V DC (pkg)
346D	017771	Housing assy., rear - 12V DC (pkg)

Ill. No.	Part No.	Part Name	Qty./Hsg.
1	011930	Spool assy., control valve	3
2	011435	Inner spring, control valve	3
3	011434	Stop spring, control valve	3
4	017922	Cover, control valve - 346D	2
4	017925	Cover, control valve - C346C	2
5	001722	Buttonhead screw	2
6	017259	Clip, wire harness	1
7	017303	Drive screw	1
8	016440	Solenoid valve -12V	1
9	001081	Seal, upper	1
10	001082	Seal, center	1
11	001083	Seal, lower	1
12	001026	Hex nut	3
13	013177	Screw assy., plunger	3
14	005612	Master piston	3
15	013158	Flat spring	3
16	001030	Washer	3
17	003790	Buttonhead screw	3
18	005611	Retaining ring	3
19	005610	Spring retainer	3
20	007833	Outer spring, slave piston	3
21	007832	Center spring, slave piston	3
22	011433	Inner spring, slave piston	3
23	010830	Slave piston	3

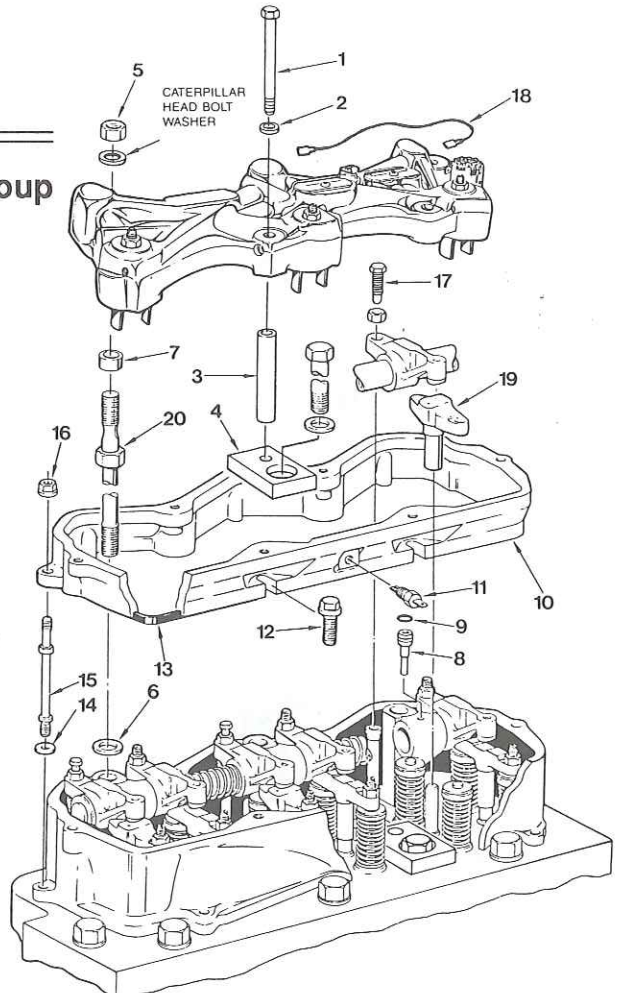


Attaching Parts Group

P/N 017273 Attaching Parts Group

Ill. No.	Part No.	Part Name	Qty./Engine
1	016642	Bolt, hex head 6 in.	4
2	016742	Flat washer	4
3	016625	Tube, support	4
4	016939	Base, support	4
5	013094	Hold-down nut	4
6	013695	Washer, marked "A"	4
7	013696	Spacer, marked "B"	4
8	005647	Oil supply adaptor	2
9	002411	O-ring	2
10	017767	Spacer	2
11	017657	Terminal assy.	2
12	005653	Screw, serrated	4
13	005639	Seal	2
14	005656	Plain washer	8
15	011470	Stud, spacer mount	8
16	005654	Nut, serrated	8
17	012810	Adjusting screw	6
18	015843	Harness, solenoid	2
19	013469	Bridge	6
20	016681	Mounting stud	4

P/N 011722
Oil Breather
Pipe Extension
Hose

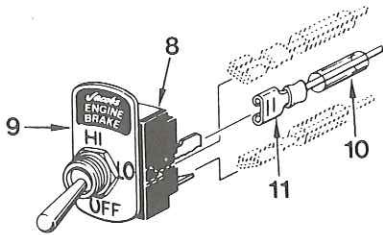
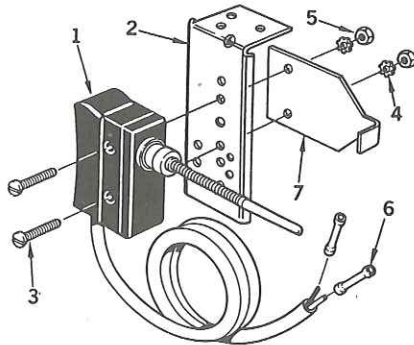


3406B engines prior to serial number 7FB39279 **MUST** use (8) P/N 006837 shims and (4) P/N 013695 washers in place of the 4 spacers, P/N 013696. The shim and washer group, P/N 013677, can be ordered to install both engine brake housings.

Control Groups

NOTE:
Controls installed by vehicle OEMs may be different than controls supplied by Jacobs.

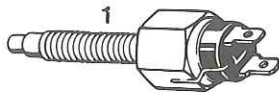
005898 Cab Control Group



Ill. No.	Part No.	Part Name	Qty./Grp.
	012261	Switch Assy., Clutch	1
1	012246	Clutch switch	1
2	012269	Switch mount bracket	1
3	005377	Pan head screw	2
4	005378	Lockwasher	2
5	003306	Hex nut	2
6	013708	Butt splice	2
7	012262	*Overtravel bracket	1
NI	013674	Instruction sheet	1
	003776	Switch Assy., Dash	1
8	003586	Toggle switch	1
9	003777	Dash plate	1
10	003707	Shrink tube	1
11	002014	Receptacle	2
NI	007221	Harness	1
NI	003780	Harness	1
NI	005660	Wiring diagram	1
NI	006833	Cable tie	12
NI	003708	Shrink tube	2

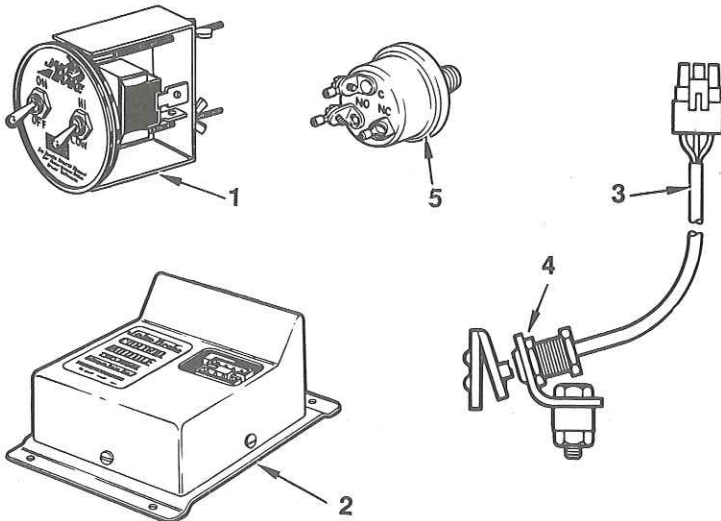
*Optional item not included in group
NI = Not Illustrated

013178 Engine Control Group



Ill. No.	Part No.	Part Name	Qty./Grp.
1	017470	Internal switch	1
NI	003881	Harness	2
NI	003708	Shrink tube	2
NI	002014	Receptacle	2
NI	003778	Loom, auto	1

PEEC Retarder Control Group

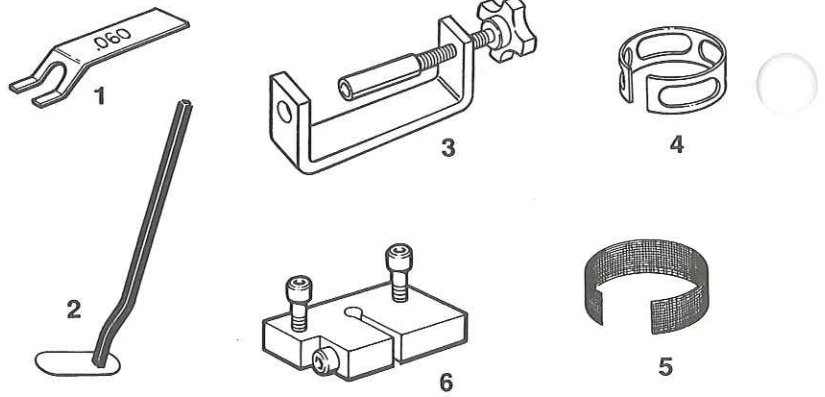


017375 PEEC Retarder Control Group

Ill. No.	Part No.	Part Name	Qty.
1	017346	Switch group, 2 mode	1
NI	017374	Wire harness, jumper	1
2	014367	Control module assy.	1
3	014383	Wire harness, Allips to main	1
4	014819	Allips sensor group	1
5	014890	Press switch	1
NI	013902	Screw	1
NI	014365	Wire harness, main	1
NI	014369	Inst./wire diagram	1

Service Parts

III. No.	Part No.	Part Name	Qty.
1	007446	Feeler gauge .060 in. (1.52 mm)	1
2	017099	Feeler gauge .080 in. (2.03 mm)	1
2	017920	Feeler gauge .067 in. (1.70 mm)	1
3	012398	Slave piston removal tool	1
4	001283	Solenoid screen retainer	1
5	001282	Solenoid screen	1
6	007397	Dowel pin extractor	1
	013677	Shim and Washer Group	1
NI	006837	Shim, laminated	8
NI	013695	Washer, stud	4
NI	014087	Tune-up Kit	1



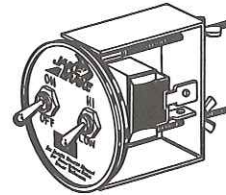
Recommended Torque Values

P/N	Part	Torque	Caterpillar Part	Torque
013094	EB housing hold-down nuts	100 lbf. (135 N·m)	Exhaust valve bridge locknut	24 lbf. (32 N·m)
016642	EB housing hold-down capscrews	60 lbf. (82 N·m)	Head bolts	330 lbf. (450 N·m)
016681	Rocker assy. stud	330 lbf. (450 N·m)	Fuel line nuts	30 lbf. (41 N·m)
011470	Studs, cover base	10 lbf. (13.5 N·m)	Rocker lever adj. screw locknuts	22 lbf. (30 N·m)
001026	Slave piston adjusting screw locknut	16 lbf. (22 N·m)	Cover capscrews and nuts	13 lbf. (18 N·m)
005653	Spacer capscrews and nuts (005654)	13 lbf. (18 N·m)	Switch locknut (for fuel pump switch)	5 lbf. (7 N·m)

Control System Options

017376 Cab Control Group

III. No.	Part No.	Part Name	Qty.
1	017346	Switch Group, 2 mode	1
NI	017374	Wire harness, jumper	1
NI	003707	Shrink tube	1
NI	002014	Receptacle	2
NI	007221	Harness	1
NI	015758	Harness	1
NI	017382	Wiring diagram	1



015644 Low Engine Speed Retarder Cut-off Group

Part No.	Part Name	Qty./Grp.
015645	Control module	1
016175	Wiring harness	1
016177	Wiring harness	1



012260 Foot Switch Group

