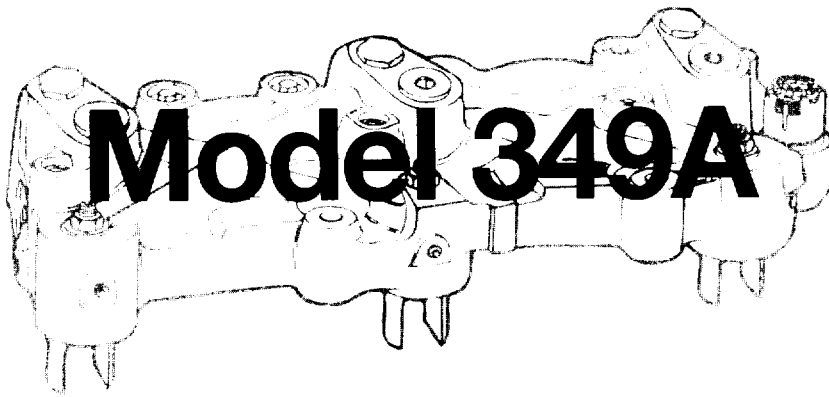




Jacobs Vehicle Systems™

Jacobs Engine Brake™

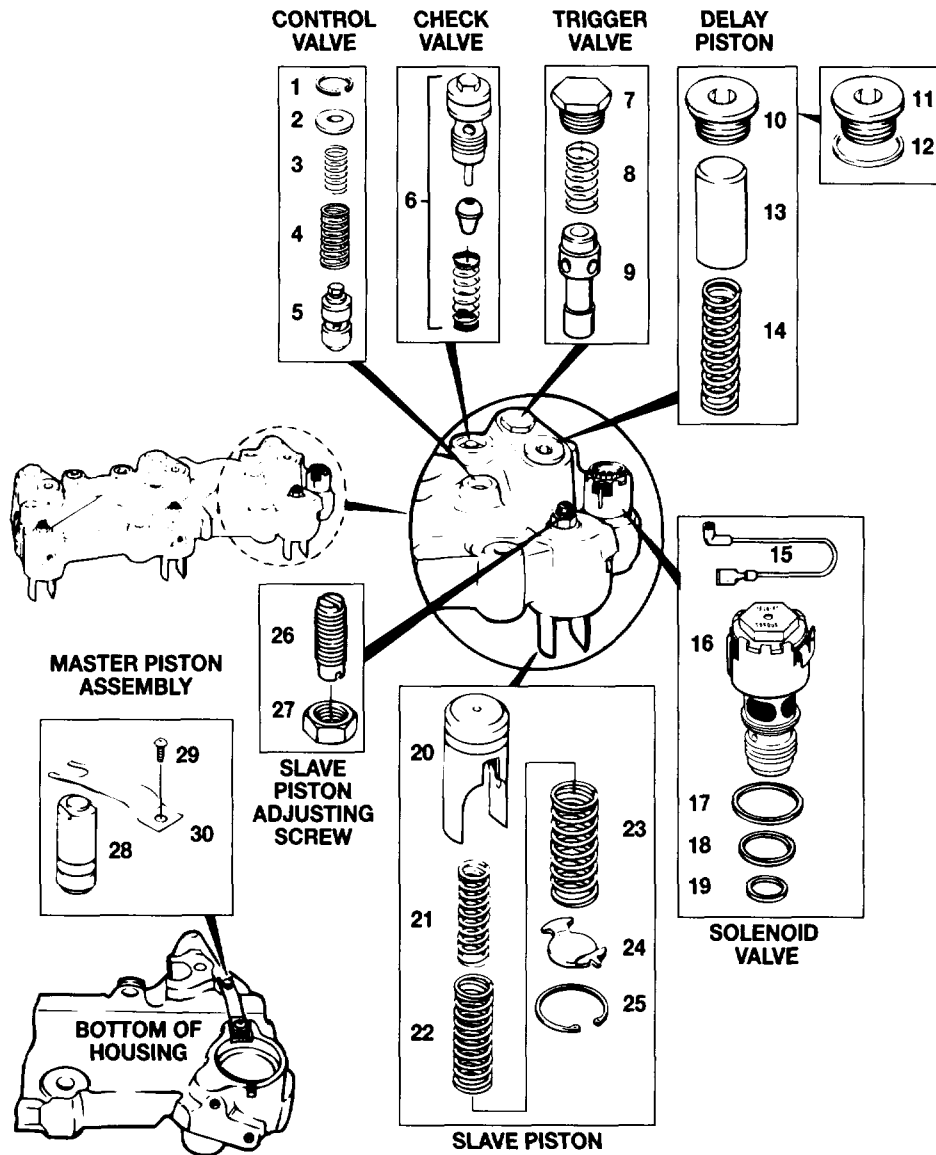


PARTS MANUAL

Refer to application brochure P/N 020995 for specific application information.

Information in this manual was current at the time of printing and is subject to change without notice or liability. Jacobs Service Letters should be consulted for additional applications and updated information.

NOTE: ALL PARTS USED FOR THE MODEL 349 AND 349A MUST BE ORIGINAL JACOBS PARTS OR JACOBS APPROVED PARTS. USE OF OTHER THAN JACOBS APPROVED PARTS MAY RESULT IN SERIOUS ENGINE DAMAGE AND/OR LOSS OF ENGINE BRAKE WARRANTY.



CAUTION THE ORIGINAL MODEL 349 USED A SAFETY SCREW RATHER THAN THE POWER-LASH® TO ADJUST THE SLAVE PISTON. WHEN REPLACING EITHER THE ORIGINAL SAFETY SCREW OR THE ORIGINAL SLAVE PISTON, YOU MUST REPLACE BOTH THE ORIGINAL SAFETY SCREW AND SLAVE PISTON AT THE SAME TIME, USING POWER-LASH® P/N 018260 AND SLAVE PISTON P/N 018251. USE OF ANY OTHER COMBINATION MAY RESULT IN SERIOUS ENGINE DAMAGE.

Model 349 Series Housing Assemblies

III. Part No. No.	Part Name	Qty. per Hsg.		
		349	early 349A S/N to 04366	later 349A S/N after 04366
	019243 Housing assembly, 12 VDC, Front			
	019244 Housing assembly, 12 VDC, Rear			
	024640 Control Valve Spring Group	1 ¹	1 ¹	1 ¹
1	015561 Control valve retaining ring ²	3	3	3
2	014928 Control valve cover ²	3	3	3
3	021506 Inner control valve spring (green) ²	3	3	3
4	011434 Outer control valve spring ²	3	3	3
5	011930 Control valve	3	3	3
6	019957 Check Valve Group	3	3	3
7	016709 Trigger cap	3	3	3
8	016706 Trigger spring	3	3	3
9	016710 Trigger valve	3	3	3
10	015316 Delay piston plug			3
11	016860 Delay piston cap	3	3	
12	016861 Seal ring	3	3	
13	015476 Delay piston	3	3	3
14	015786 Delay piston spring	3	3	3
15	015843 Solenoid harness	1	1	1
	<i>(horizontal blade solenoid to blade spacer terminal)</i>			
	017775 Solenoid harness	1	1	1
	<i>(horizontal blade solenoid to bullet spacer terminal)</i>			
	020977 Solenoid harness	1	1	1
	<i>(vertical blade solenoid to bullet spacer terminal)</i>			
	021075 Solenoid harness	1	1	1
	<i>(vertical blade solenoid to blade spacer terminal)</i>			
16	01-020239 Solenoid assembly	1	1	1
17	020229 Upper seal ring	1	1	1
18	001082 Center seal ring	1	1	1
19	001083 Lower seal ring	1	1	1
20	018251 Slave piston ³	3	3	3
21	011433 Inner slave piston spring	3	3	3
22	007832 Center slave piston spring	3	3	3
23	007833 Outer slave piston spring	3	3	3
24	005610 Spring retainer	3	3	3
25	005611 Retaining ring	3	3	3
NI	021406 D-LASH assembly 6-pack		1 ¹	1 ¹
26	020631 D-LASH assembly		3	3
27	011395 Hex jam nut		3	3
26	018260 POWER-LASH® assembly³	3		
27	001026 Hex jam nut ³	3		
	017996 Master Piston Repair Group	3	3	3
28	NSS Master piston	3	3	3
NI	012810 Rocker arm adjusting screw	3	3	3
	017999 Flat Spring Group	3	3	3
29	003790 Buttonhead screw	3	3	3
30	NSS Flat spring	3	3	3

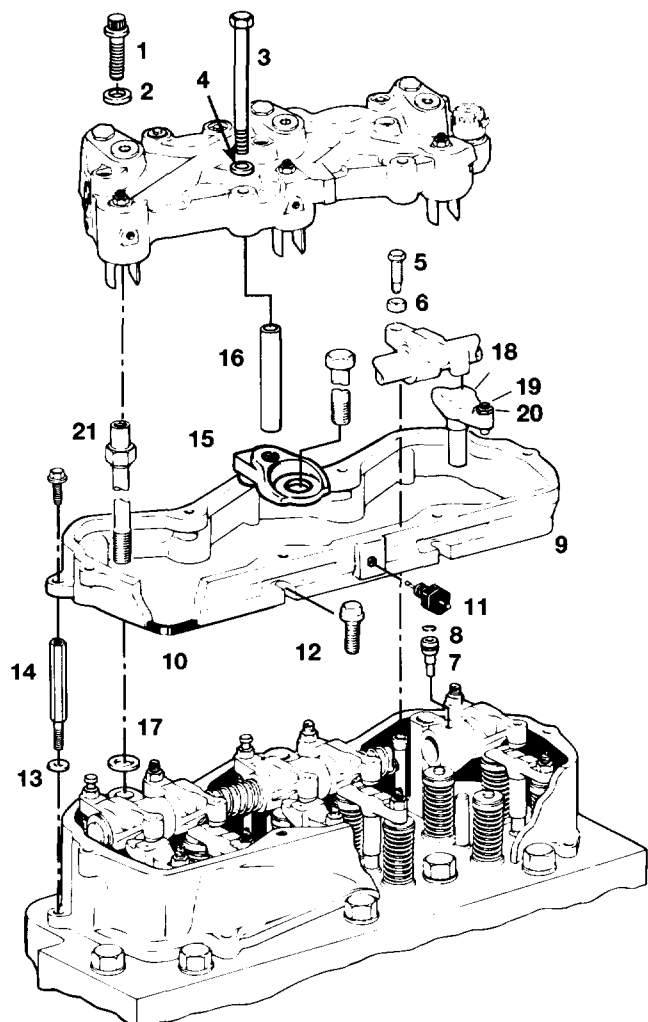
¹Quantity required *per engine*

²These part numbers must be installed as a group. They should not be intermixed with previously used parts.

³See caution note on page 2 regarding upgrade of Model 349 Slave Piston and Power-Lash®.

NI = Not Illustrated
NSS = Not Sold Separately

Attaching Parts Group



22



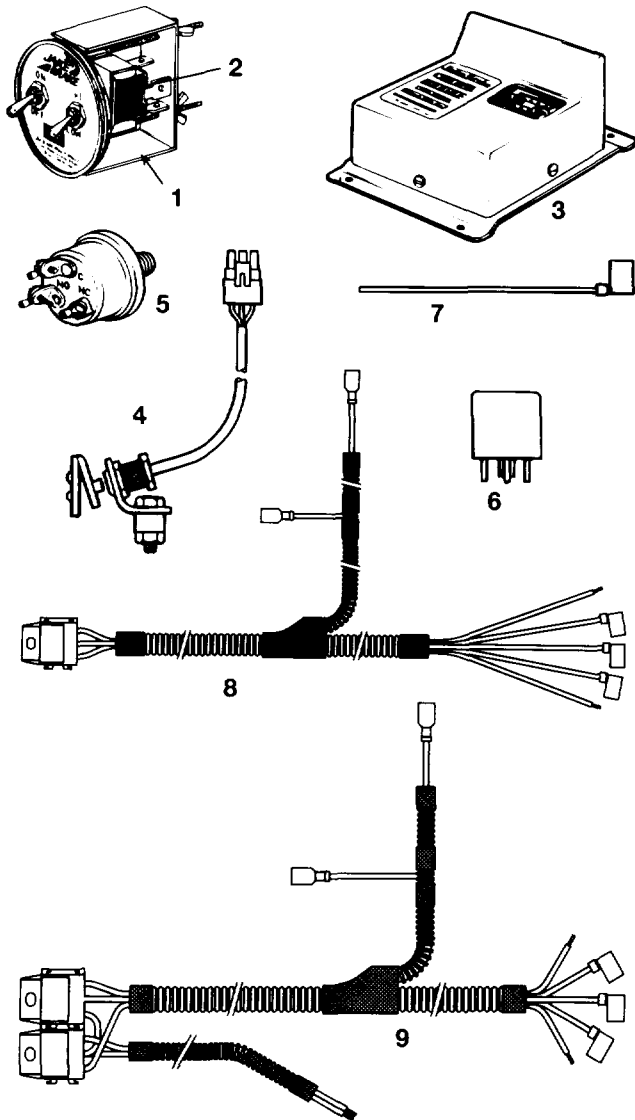
III. Part No. No.	Part Name	Qty. per Engine
1	017563 Flanged screw, 12 pt.	4
2	016375 Flat washer	4
3	017909 Hex head bolt	4
4	016742 Flat washer	4
5	012810 Rocker arm adjusting screw	6
6	9L7712 ¹ Jam nut	6
7	005647 Oil supply adapter	2
8	002411 "O" ring	2
	019142 Spacer Group	2
9	NSS Spacer	2
NI	018105 Bullet to spade adapter	2
NI	020977 Solenoid harness	2
	<i>(vertical blade solenoid to bullet spacer terminal)</i>	
10	005639 Seal	2
11	017366 Connector, single lead, bullet	2
11	017657 Connector, single lead, blade	2
12	005653 Hex screw	4
13	005656 Flat washer	8
14	016078 Spacer mounting stud	8
15	019031 Support base	4
16	016625 Support tube	4
17	016497 Washer (marked "A")	4
18	018023 Exhaust Valve Bridge Assembly	6
19	2N5842 ¹ Leveling screw	6
19	011426 Leveling screw	6
	<i>use with old bridge 017361</i>	
20	9L7712 ¹ Jam nut	6
20	001026 Jam nut	6
	<i>use with old bridge 017361</i>	
21	015529 Mounting stud	4
22	011722 Oil breather pipe ext. hose	1

¹Caterpillar Part Number. Order directly from Caterpillar.

NI = Not Illustrated
 NSS = Not Sold Separately

Electronic Fuel Control Groups

PEEC Retarder Control Group, (P/N 017375)



III. Part No. No.	Part Name	Qty. per Hsg.
1	017346 Switch group, 2 mode	1
2	001304 Dash switch	2
3	014367 Control module assembly	1
NI	014383 Wire harness, ALIPS to main	1
4	014819 ALIPS sensor group	1
5	014890 Pressure switch	1
NI	014365 Wire harness, main	1
NI	017374 Wire harness, jumper	1
NI	017888 Instructions/wiring diagram	1

PEEC III Retarder Control Group – for non-ABS vehicles (P/N 018242)

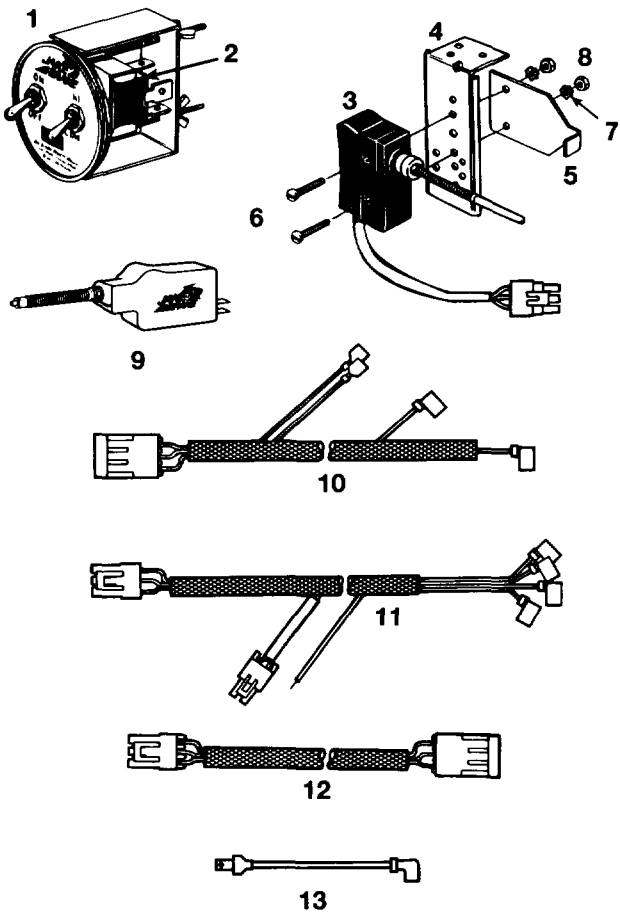
III. Part No. No.	Part Name	Qty. per Hsg.
1	017346 Switch group, 2 mode	1
2	001304 Dash switch	2
6	016933 Relay	1
7	017594 Power lead harness	1
8	018483 Wire harness/relay base	1

PEEC III Retarder Control Group – for ABS-equipped vehicles (P/N 018243)

III. Part No. No.	Part Name	Qty. per Hsg.
1	017346 Switch group, 2 mode	1
2	001304 Dash switch	2
6	016933 Relay	2
7	017594 Power lead harness	1
9	018486 Wire harness/relay base	1

NOTE: CONTROLS INSTALLED BY VEHICLE OEMS MAY BE DIFFERENT THAN CONTROLS SUPPLIED BY JACOBS.

NI = Not Illustrated
 NSS = Not Sold Separately



Mechanical Fuel Control Groups

Mechanical Fuel Control Group – for bullet type connectors on spacer (P/N 018533)

III. Part No. No.	Part Name	Qty. per	Hsg.
1	017346 Two Mode Switch Group		1
2	001304 Dash Switch		2
	018020 Clutch Switch Group		1
3	014437 Clutch switch		1
4	012269 Switch mounting bracket		1
5	012262 Overtravel bracket		1
6	005377 Pan head screw		2
7	005378 Lock washer		2
8	003306 Hex nut 2		
9	01-022325 Internal fuel pump switch		1
10	018619 Engine wire harness, bullet type		1
11	018019 Cab wire harness		1

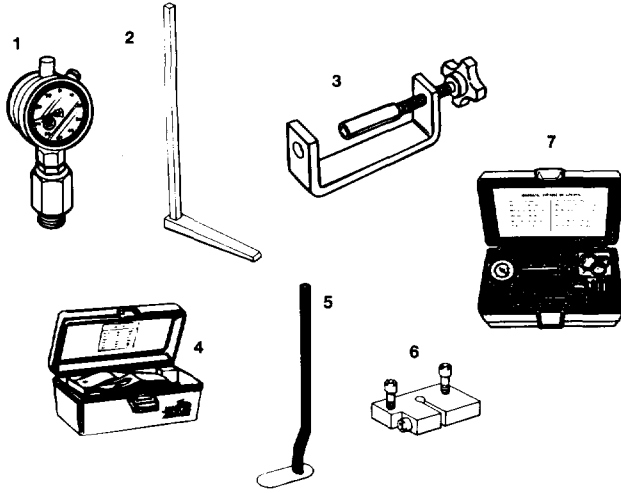
Mechanical Fuel Control Group – for spade type connectors on spacer (P/N 018010)

Same as above, substituting the following for wire harness P/N 018619:

10	018018 Engine wire harness, spade type	1
----	--	---

Optional Control Group Equipment

12	018017 Cab wire harness extension	1
13	018105 Bullet to spade adapter	1



Service Tools and Parts

III. Part

No.	No.	Part Name
	018196	Trigger Adj. Group
1	NSS	Dial Indicator
2	018279	Master piston holding wedge
3	018238	Slave piston removal tool
4	017465	Jacobs Engine Brake™ Tool Kit (For all Caterpillar Models)
5	003087	Feeler gage, 0.018" (0.457 mm)
6	007397	Dowel pin extractor
7	018280	Oil pressure test kit

Tune-up Kit for Models 349/349A

Part No.	Part Name	Qty. per Engine
019461	Tune-up Kit	1

Tune-up Kits include:

Part No.	Part Name	Qty. per Engine	See Page
020229	Upper seal ring	2	3
001082	Center seal ring	2	3
001083	Lower seal ring	2	3
002411	O-ring	2	4
011930	Control Valve	6	3
003790	Buttonhead screw	6	3
NSS	Flat Spring (master piston)	6	3
015843	Solenoid harness	2	3
	<i>(horizontal blade solenoid to blade spacer terminal)</i>		
017775	Solenoid harness	2	3
	<i>(horizontal blade solenoid to bullet spacer terminal)</i>		
020977	Solenoid harness	2	3
	<i>(vertical blade solenoid to bullet spacer terminal)</i>		
016709	Trigger cap	6	3
016706	Trigger spring	6	3
016861	Seal ring	6	3
017657	Connector, single lead, blade	2	4
019957	Check valve group	6	3
015561	Control valve retaining ring	6	3
014928	Control valve cover	6	3
021506	Inner control valve spring	6	3
011434	Outer control valve spring	6	3

NI = Not Illustrated

NSS = Not Sold Separately

Jacobs Vehicle Systems
22 East Dudley Town Road
Bloomfield, CT 06002



Jacobs Vehicle Systems™

Visit us on the Internet:
www.jakebrake.com