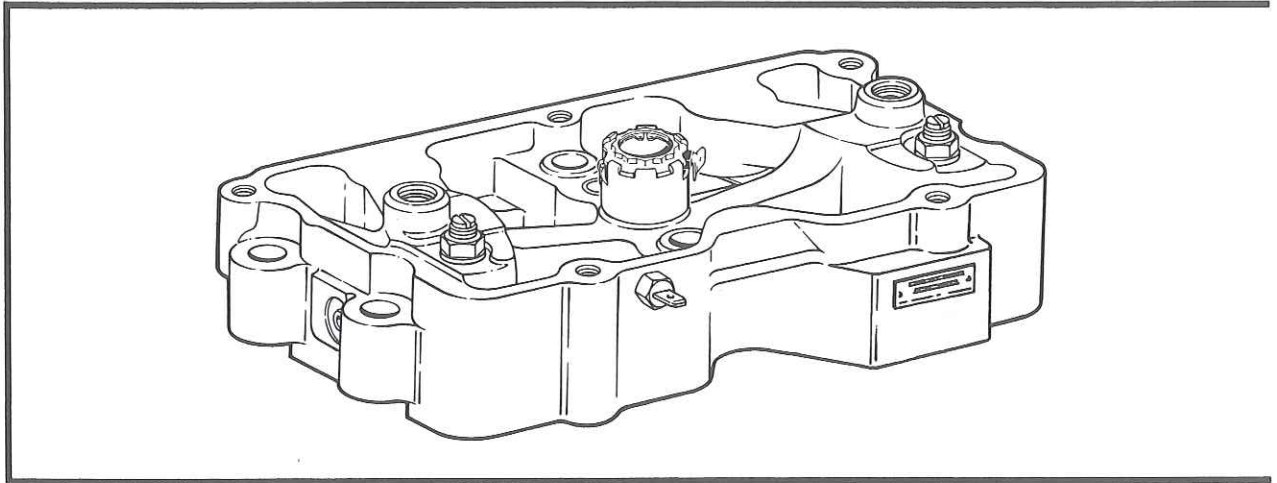




Parts Manual for Model 425A Engine Brake



The Model 425A *Jake Brake*® engine retarder is designed and approved for use on Cummins NT engines **except** 88/89 NT. The Model 425A replaces the Models 420 and 425. Parts information for service of these models is also included in this manual.

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

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***Jacobs*® Vehicle
Equipment Company**
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Models 420, 425 and 425A Housing Assemblies

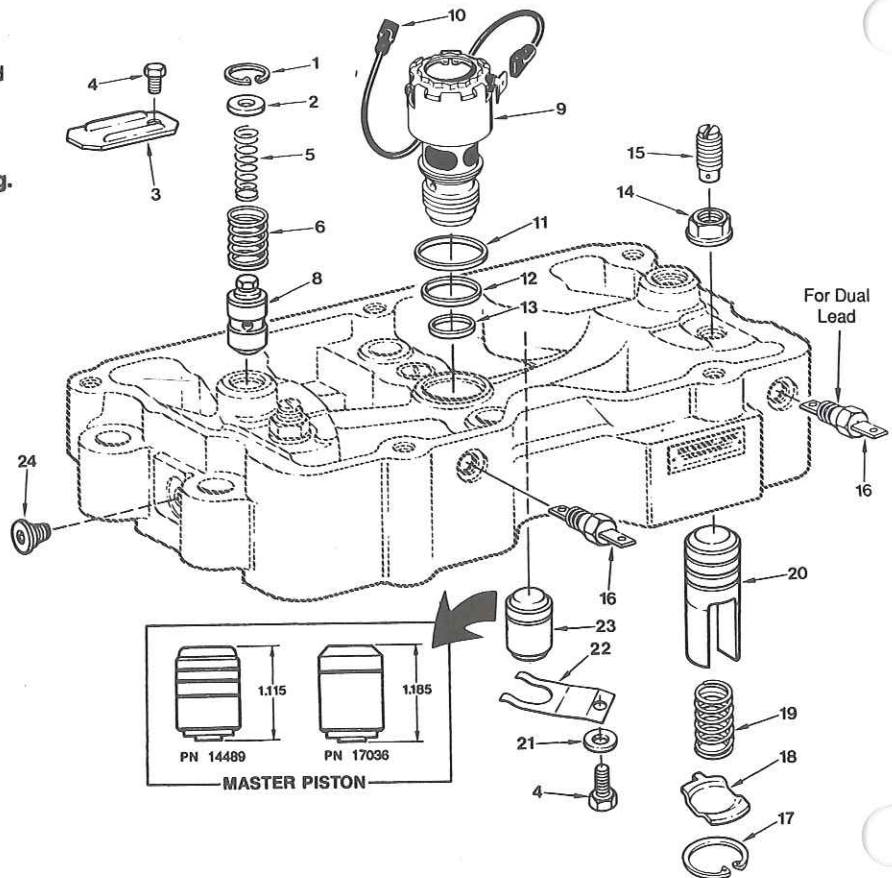
Engine Brake Model	Pkgd. Hsg. P/N	Description
420, 425, 425A	16656	Hsg. Assy. - 12 VDC
420, 425, 425A	16660	Hsg. Assy. - 24 VDC
425, 425A	16667	Hsg. Assy. - 24 VDC dual lead

(See list of obsolete 420 and 425 housings on page 4.)

Ill. No.	Part No.	Part Name	Qty./Hsg.
1	15561	Retaining ring - 425A	2
2	14928	Cover, control valve - 425A	2
3	4136	Cover, control valve - 420, 425	2
4	1492	Capscrew - 420, 425	4
4	1492	Capscrew - 425A	2
5	7500	Spring, inner	2
6	1519	Spring, outer	2
8	11930	Control valve - 425A	2
8	11283	Control valve - 420, 425	2
9	16440	Solenoid valve (12 VDC)	1
9	16441	Solenoid valve (24 VDC)	1
9	16442	Solenoid valve (24 VDC) - 2 wire	1
10	14619	Harness, solenoid	1
11	1081	Seal ring, upper	1
12	1082	Seal ring, center	1
13	1083	Seal ring, lower	1
14	9353	Nut, hex	2
15	15790	Auto-Lash adj. screw - 425, 425A	2
15	14604	Auto-Lash adj. screw - 420	2
16	2299	Terminal assy.	1
17	1023	Retaining ring	2
18	8895	Retainer, spring - 420, 425	2
18	14849	Retainer, spring - 425A	2
19	14867	Spring, slave piston - 425, 425A	2
19	1022	Spring, slave piston - 420	2
20	14864	Piston, slave - 425, 425A	2
20	7623	Piston, slave - 420	2
21	1030	Washer, plain	2
22	11841	Spring, flat	2
23	17036	Piston, master - 425**, 425A	2
23	14489	Piston, master - 420, 425*	2
24	14506	Hex Plug w/O-ring	1

* For use with 425 Hsgs. lower than SN B862754

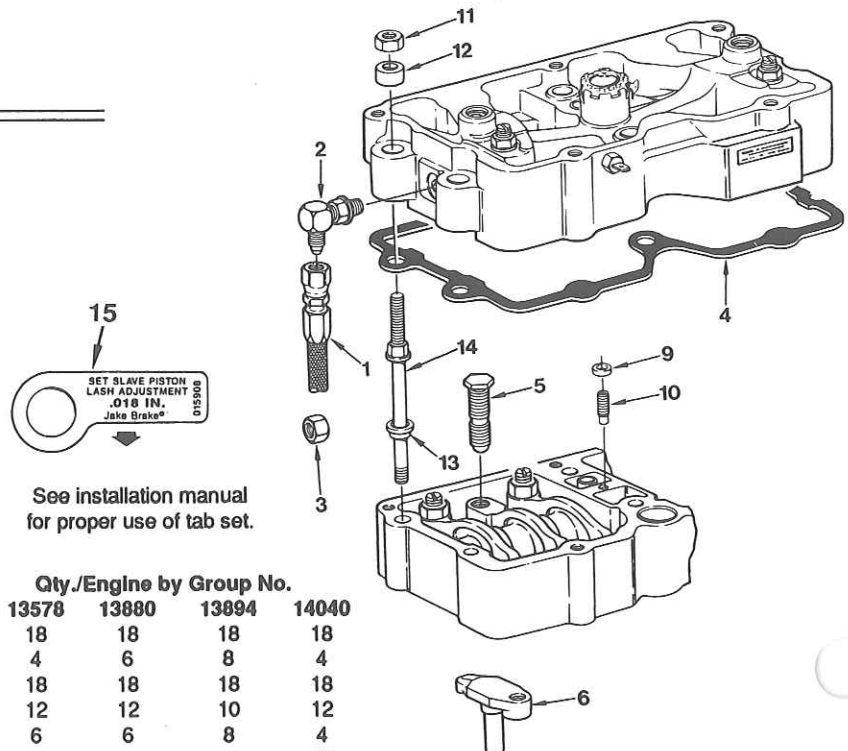
** For use with 425 Hsgs. SN B862754 and higher



Attaching Parts Groups

Ill. No.	Part No.	Part Name	Qty./Eng.
	14582	STC Interface Group	1
1	14545	Hose Assembly	1
2	14542	Adaptor	1
3	14565	Cap, nut	1
4	13294	Gasket	3
5	12292	Screw, injector adj. 5/8 in. hex hd.	6
	16965	Housing Attaching Parts	1
6	17017	Crosshead	6
9	10180	Seal Ring	3
10	2969	Screw, oil supply	3
	15930	Tab Set, Slave Lash - 425, 425A	1
15	15908	Tab, slave lash (.018 in.)	1
NI	15909	Tab, slave lash (.030 in.)	1
NI	15910	Tab, slave lash (.037 in.)	1

Ill. No.	Part No.	Part Name	13538	13578	13880	13894	14040
11	15901	Hex nut	18	18	18	18	18
12	1234	Spacer (Used with all lifting eyes)	8	4	6	8	4
13	2514	Bearing Washer	18	18	18	18	18
14	1199	Stud, 7 1/8 in. (181 mm)	8	12	12	10	12
14	13542	Stud, 8 1/8 in. (206 mm)	8	6	6	8	4
14	13540	Stud, 8 5/8 in. (219 mm)	2	-	-	-	2



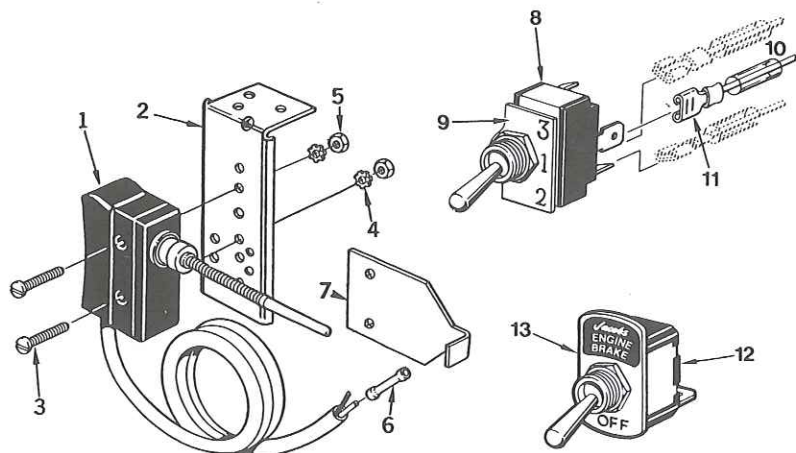
See installation manual for proper use of tab set.

Control Groups - Model

NOTE:

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

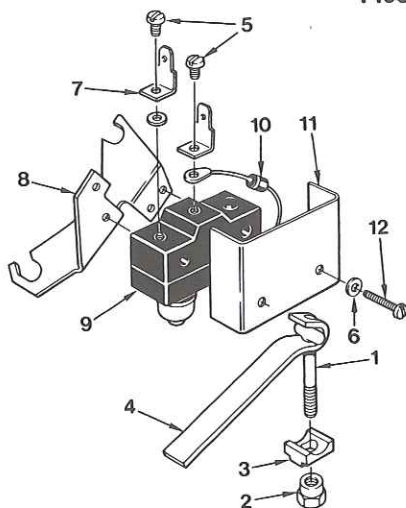
3965 Cab Control Group



Ill. No.	Part No.	Part Name	Qty./Grp.
	12261	Switch Group - Clutch	1
1	12246	Clutch switch	1
2	12269	Switch mount bracket	1
3	5377	Pan head screw	2
4	5378	Lockwasher	2
5	3306	Hex nut	2
6	13078	Butt splice	2
7	12262	Overtravel bracket*	1
NI	13674	Instruction sheet	1
	2970	Switch Group - Dash	1
8	2957	Switch, toggle	1
9	2959	Plate, dash	1
10	3707	Shrink tube	4
11	3278	Receptacle	4
12	1304	Dash switch	1
13	1305	Plate, dash switch	1
NI	3781	Harness, wire	1
NI	16564	Diagram, wiring	1
NI	6833	Tie, cable	12
NI	15759	Wire	1
NI	2782	Receptacle	1

* Optional Item not included in group.

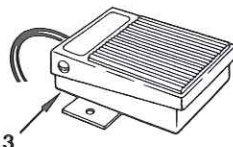
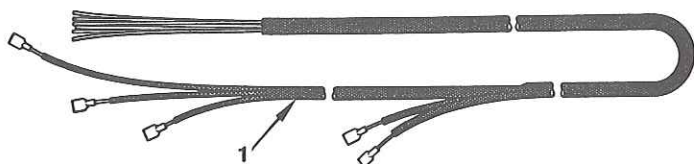
14035 Engine Control Group



Ill. No.	Part No.	Part Name	Qty./Grp.
1	14028	Tee bolt	1
2	14030	Tee bolt nut	1
3	3768	Tee bolt guide	1
4	14027	Switch actuating lever	1
	7671	Switch Assy. - Neg. Grnd	1
5	1558	Screw, binder head	2
6	1559	Washer, lock	3
7	1512	Tab, quick disconnect	2
8	6796	Bracket, switch mount	1
9	18188	Switch	1
10	1534	Diode	1
11	1180	Cover, switch	1
12	1244	Screw, tapping	2
NI	3708	Shrink tube	3
NI	2014	Receptacle	3
NI	3881	Harness	3
NI	3778	Loom	1
NI	13997	Instruction Sheet	1

NI = Not Illustrated

Control System Options



Ill. No.	Part No.	Part Name
1	14196	Wiring Harness Group
2	15644	Low Engine Speed Retarder Cut-off Group
NI	15645	Control module, 1 per group
NI	16175	Wiring harness, 1 per group
NI	16177	Wiring harness, 1 per group
3	12260	Foot Switch Group
NI	18250	Engine Control Group - dual lead
(see above)	7671	Switch Assy., Neg Grnd
NI	3881	Harness (3)
NI	1955	Harness, switch to brake
NI	13997	Instruction sheet

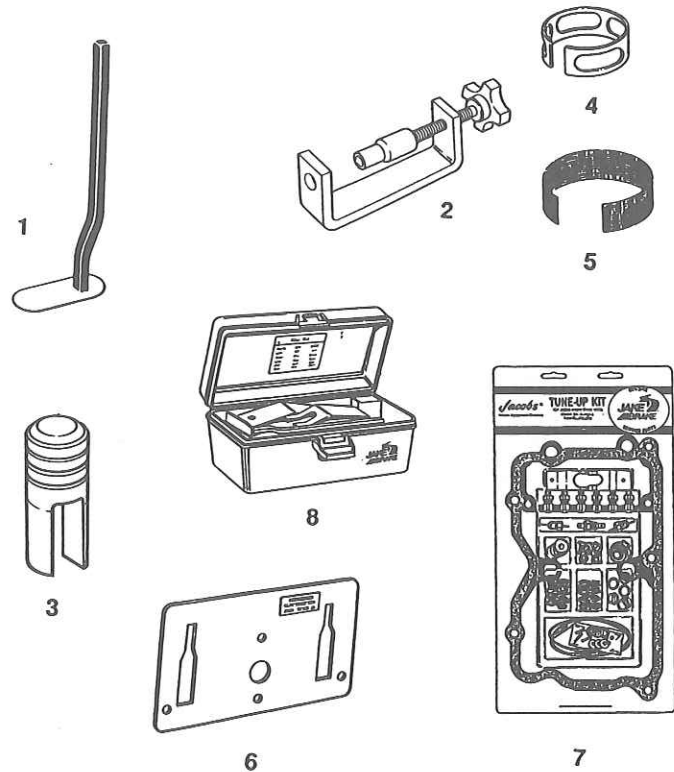
Service Tools and Parts

Ill. No.	Part No.	Part Name
1	3087	Feeler gauge .018 in. (.457 mm)
1	15877	Feeler gauge .030 in. (.762 mm)
1	15878	Feeler gauge .037 in. (.940 mm)
2	17397	Slave piston removal tool
3	17078	Short slave piston* - 425A
4	1283	Solenoid screen retainer
5	1282	Solenoid screen
6	1153	Exhaust rocker lever grinding gauge
7	17689	Tune-up Kit
8	17468	Tool Kit

*Slave piston 1/16 in. shorter than standard. For engines with exhaust valve seats that have been ground.

Obsolete 420 and 425 Housings
(Use P/N 01-16656 (425A) for replacement.
See S.L. 351 for details.)

Engine Brake	Pkgd.	
Model	Hsg. P/N	Description
420	14491	Hsg. Assy. - 12 VDC
420	14587	Hsg. Assy. - 24 VDC
425	15860	Hsg. Assy. - 12 VDC
425	15940	Hsg. Assy. - 24 VDC
425	16632	Hsg. Assy. - 12 VDC
425	16646	Hsg. Assy. - 24 VDC
425	16651	Hsg. Assy. - 24 VDC dual lead

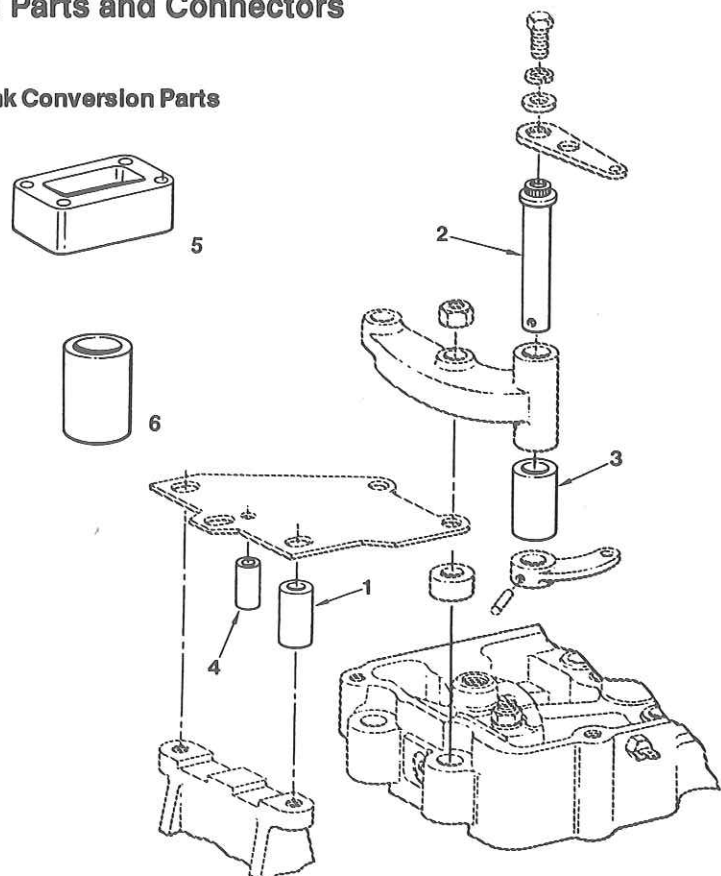


Optional Conversion Parts and Connectors

Compression Release Bell Crank Conversion Parts

Ill. No.	Part No.	Part Name	Qty./Eng.
1	1236	Spacer, fan bracket	2
2	3254	Shaft, compression release 12-pt head	1
3	1235	Spacer, compression release lower lever	1
4	*3285	Support, fan bracket brace	1

*For engines with 7/16" - 14 fan support bracket bolts and 12-pt. head compression release shaft.



Ill. No.	Part No.	Part Name
5	1226	Spacer, 2 3/8 in. (Air Intake Manifold Connector)
6	1229	Air Outlet Connector, 3 3/8 in. I.D. For T50, VT50 or T590 Turbo
6	1255	Air Outlet Connector, 3 in. I.D. For T506 Turbo