



NTSB National Transportation Safety Board

Office of Highway Safety

Motorcoach Braking

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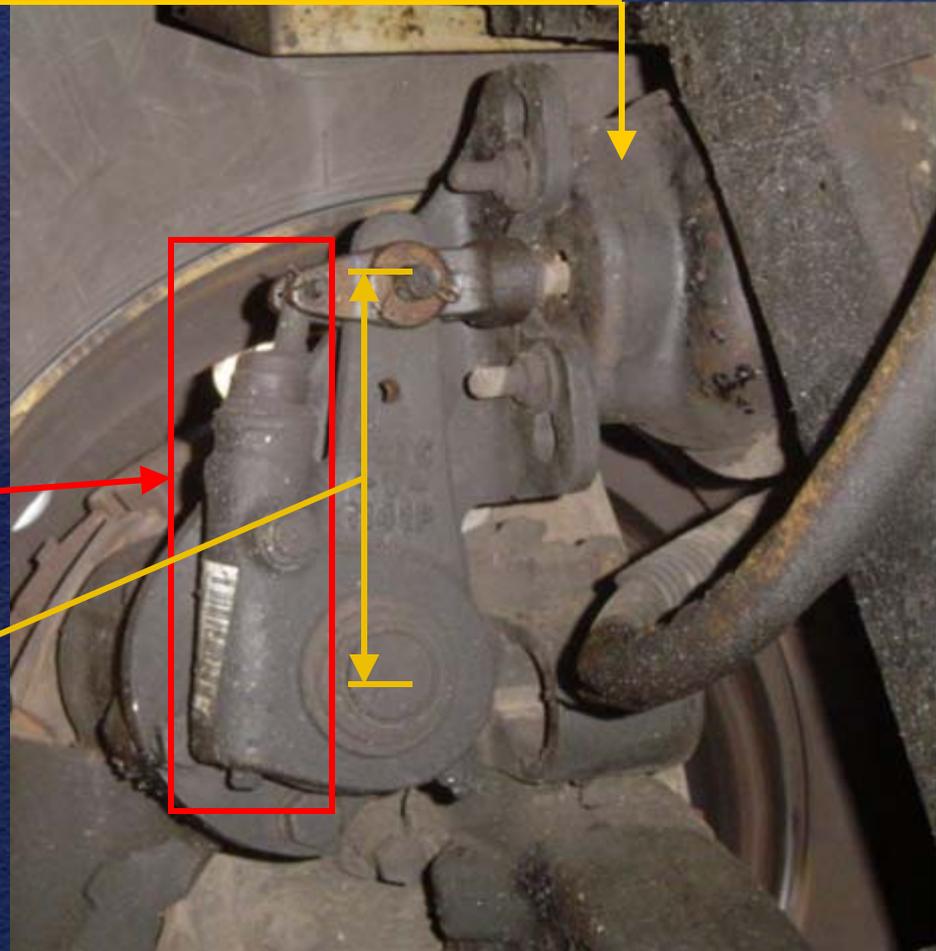
1993 MCI DL-3 Motorcoach



Brake Adjustment

Brake Chamber Type

Automatic Slack Adjuster Length



Brake Adjustment, Cont'd.

Axle	Push Rod Travel (inches)	Adjustment Limit (inches)
Left steer	1 1/2	1 3/4
Right steer	1 3/4	1 3/4
Left drive	2 7/8	2 1/4
Right drive	2 3/4	2 1/4
Left tag	1 3/4	1 3/4
Right tag	1 5/8	1 3/4

Maintenance

- Out-of-adjustment automatic slack adjusters
- Play in the foundation brakes
- July 2005 inspection
 - 3 motorcoaches placed out of service
 - Including the accident motorcoach
 - Out-of-adjustment drive axle brakes
- Chippewa Trails was unaware of proper automatic slack adjuster maintenance

NTSB Recommendations

- Since this accident:
 - Recommendations from Glen Rock, PA
 - 2-fatality dump truck accident
 - To the FMCSA and CVSA
 - H-06-1 Open–Acceptable Response
 - H-06-7 Open–Initial Response Received
- Progress is being made
- CVSA article

Effects of Out-of-Adjustment Brakes

	Real Condition of the Accident Motorcoach	Ideal Conditions
Pre-Impact Deceleration	0.369	0.587
Braking Efficiency	54%	85%
Distance for a Complete Stop (from 70 mph)	442 feet	278 feet



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