

Fig. 8.21 Close up of commercially available seismic restraint on fan (Fig. 8.20).

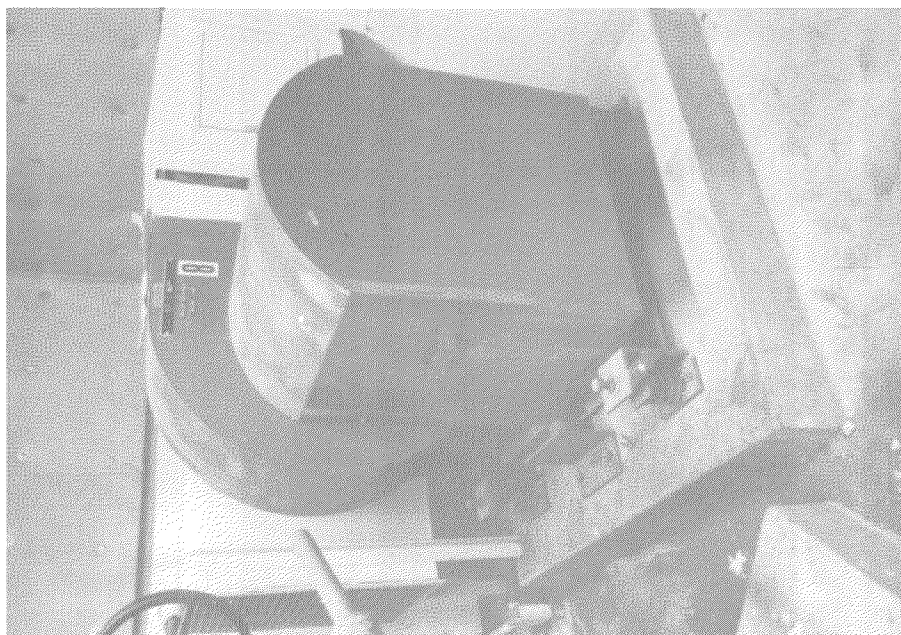


Fig. 8.20 Fan in basement of four-story Library IV Building, UCSB. Vibration supports were not damaged.

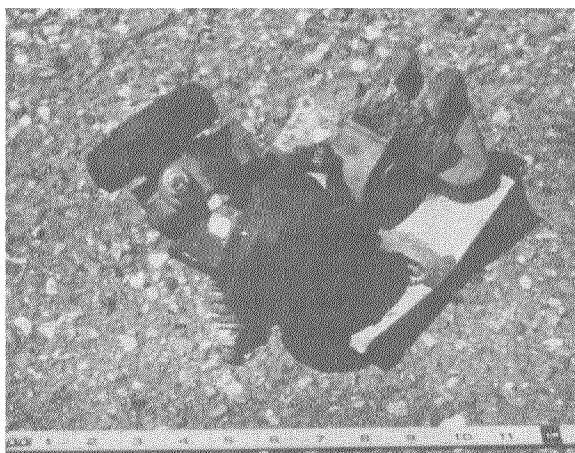


Fig. 8.22 Broken roller guide/shoe from electric traction elevator in five-story Engineering Building, UCSB.

vibration isolation pads and, in some cases, moved several inches. On one hydraulic elevator, sloshing of the oil in its tank apparently caused the tank to rupture. This could possibly be prevented by installing baffles in the tank. The Elevator Code now requires only that pumps and tanks be tied down securely. In some traction elevator machine rooms, plaster had fallen from the walls and into the elevator controllers. It appears that the recently instituted requirements for additional support for guide rails and anchorage of machinery would have prevented most or all of the elevator damage observed in this earthquake. The total cost of elevator damage at UCSB was set at over \$70,000.

#### 8.5 Damage to Sliding Doors

Building motion caused numerous sliding doors to come off their tracks in the quake area, mostly at the bottom track. Examples include the large sliding doors in the gymnasium on the UCSB campus, and the large sliding doors on the hangars of Aero Spacelines, Inc., at the airport. There appeared to be no pattern to the dislodgment according to size or weight of doors. Many hinged as well as sliding doors will require refitting due to misalignment of door frames caused by shifting of floors and walls.

#### 8.6 Acknowledgments

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