

Safety Health and Environment Division	Ref. No 001-09
Safety Alert Bulletin	Date: 3 November 2009
Unrepaired Chair Failure Incident	

Incident: An employee making a phone call leaned back in the chair and the backrest assembly detached from the chair. The employee fell backwards, landing on the L-bracket that supported the backrest, resulting in lacerations and bruising. The injury required medical attention and potentially could have been much more severe.

Circumstances: The chair was located in an office that is used periodically by personnel visiting NIST Boulder on a temporary basis.

Investigation: An examination of the chair found that a large threaded knob (Figure 1) used to lock the backrest was not present; it had either been removed or worked its way out and was not reinserted. The knob locks the backrest in position from sliding forward and backward to adjust the seating position of the backrest. A closed slot in the L-bracket (Figure 2) prevents the backrest from sliding out of the receiver slot when the knob is in place. However, when the knob is removed or missing, the L-bracket supporting the backrest can, under slight pressure, easily slide out of the receiver slot. When the individual leaned back the backrest came off of the chair and landed as illustrated in Figure 3. The knob for the backrest was discovered on top of an adjacent rolling file cabinet as illustrated in Figure 4. Investigators were unable to verify the presence of a lock nut or other retention device on the knob.



Figure 1 Backrest L-bracket and receiver slot



Figure 2 Chair showing L-bracket and backrest



Figure 3 Chair configured as at time of incident



Figure 4 Location of knob when found

Recommendations: Many hazards which cause thousands of injuries and health problems annually exist in the office. Take the following actions to maintain a safe chair and use it correctly:

1. Read and follow assembly directions completely. Make sure all the pieces are placed in proper order so that the chair stays securely fastened.
2. Ensure the casters or wheels are fully inserted into the base.
3. Ensure that the backrest is firmly attached.
4. Inspect the chair approximately every 6 months to verify that all the parts or components of the chair are tightened to ensure stability. Examine for defective casters, loose securing bolts, loose arms, broken adjustable mechanism, and evidence of cracks or stresses in the base of the chair.
5. Inspect chairs if they feel different, or if parts seem loose or unstable.
6. Immediately tag chairs out of service or otherwise mark them to indicate that they should not be used if an unsafe condition exists
7. Make sure that the base of the chair remains completely on the floor.
8. Adjust tension rods and springs to the correct tension.

All office equipment should receive a visual inspection prior to use to examine for general deficiencies. More detailed inspections are warranted when first assembled or placed into service, when idle for a period exceeding 30 days, when exhibiting signs of defects, and periodically (generally every 6 months). All deficiencies should be noted and a careful determination made as to whether they constitute a safety hazard.

The full incident report will be posted on the NIST Boulder Office of Safety, Health and Environment web page.