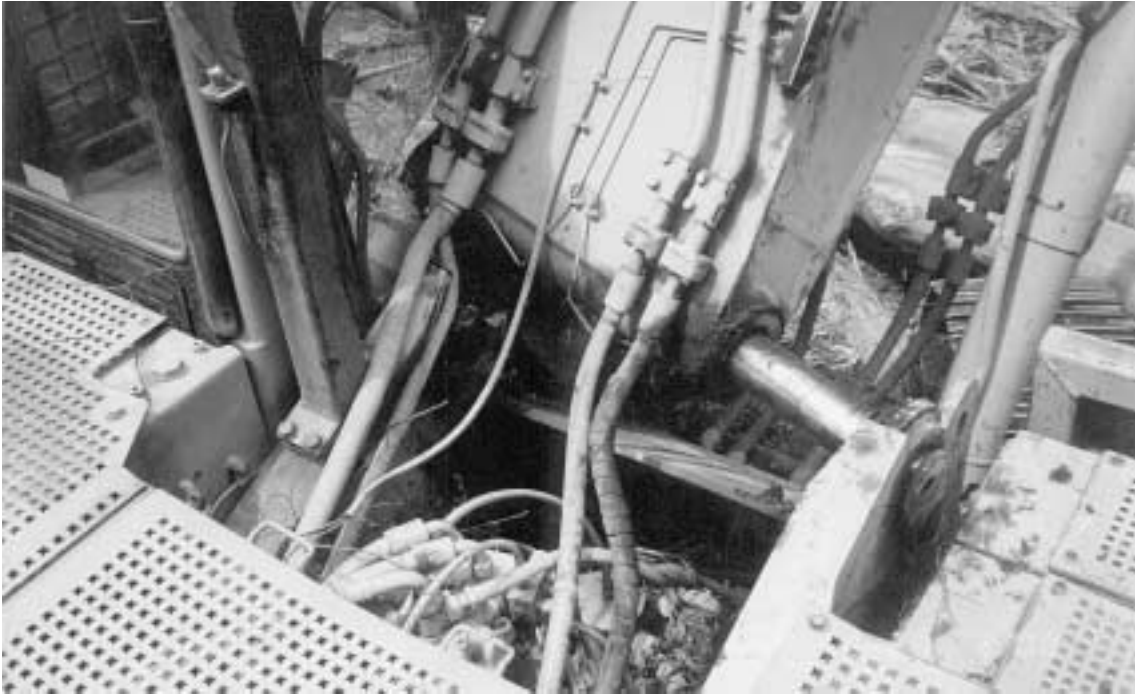


No job is more important.



Safety Alert  
N°7 2000

## EXCAVATOR BOOM FAILURE



### Details

An excavator was setting up felled trees to enable a grapple log skidder to snig out to the landing. A structural failure of the boom foot pin bracket occurred. This allowed the base of the boom to penetrate the right hand side of the cabin. The operator received lacerations to his right arm.

An investigation into this accident revealed that:

- a eucalypt tree was located in the excavator log grab at the time of failure,
- the overall length of the tree was 22.6 metres with a volume of approximately 6.25 cubic metres,
- the left hand side boom foot pin bracket had failed,
- the left hand side of the boom base had penetrated the right hand side of the operator's cabin,
- extensive damage to the right hand side of the operator's cabin,
- extensive damage to the right hand side boom foot pin bracket, and
- the excavator's hour meter showed 6975 hours.

## Contributing Factor

- Foot pin bracket metal and weld fatigue failure caused by cyclic impact loading.

## Recommendations

### Machinery Suppliers

Suppliers of forest operating excavator type machinery should:

- develop appropriate maintenance inspection procedures to ensure the structural integrity of the excavator boom dipper arm and auxiliary equipment is routinely checked,
- ensure owners are made aware of these inspection procedures and advise them how best to undertake them, and
- develop procedures for the repair of any defects identified.

### Owners of Excavator Type Machinery

The owners of forest operating excavator type machinery should:

- obtain a copy of the supplier's inspection procedure for all boom, stick and attachment mounting/connection points,
- ensure the inspections are carried out in accordance with the supplier's instructions,
- ensure that all inspections are carried out by a competent party, and
- ensure that comprehensive records are kept of the inspections.

Principal Employers

- Principal employers should ensure that the contractors/owners of forest operating excavator type machinery:
- have a copy of the supplier's inspection procedures, and
- carry out inspections in accordance with the supplier's procedures.

Recently similar structural failures have also been identified on excavators used in forest operations.

If you would like further information contact Workplace Standards Tasmania on:  
Telephone: **1300 366 322** (inside Tasmania) or (03) 6233 7657 (outside Tasmania),

Fax: (03) 6233 8338

Email: [wstinfo@dier.tas.gov.au](mailto:wstinfo@dier.tas.gov.au)

Internet: [www.wsa.tas.gov.au](http://www.wsa.tas.gov.au)



Robert Thompson  
Chief Inspector  
Workplace Standards Tasmania  
February 1 2001