

1. Security Classification of this Page : **Restricted**

---

2. Type of Document **Project Document**

---

3. Report No. : 4. Date : 5. Security Classification/  
PD MT 8526 : Aug. 1985 : Declassification Schedule  
: : **Restricted**  
: :

---

6. Title/Sub-title

**Failure of Bolts in a Radar Antenna System Reflector Joint**

---

7. Author(s)

**A.C.Raghuram, S.Radhakrishnan, R.V.Krishnan, R.Rangaraju and V.Ramachandran**

---

8. Division/Section : 9. Project No.  
**Materials Science** : **MT-001**

---

10. Type of report/ : 11. pages [ 2 ] : 12. Approved by/  
Period covered : tables [ ] : No. of copies  
Failure Analysis : illustrations [ 6 ] : **A.K.Singh**  
: : 12  
: :

---

13. a) Sponsoring Agency(s) : 13. b) Participating Agency(s)  
: **DTD & P (Air)**  
: **New Delhi**  
:

---

14. Keywords

**Radar antenna system reflector joint, Intergranular cracking, Hydrogen embrittlement**

---

15. Abstract

**Failure of high tensile steel bolts used in a Radar antenna system reflector joint was analysed. They had cracked at the fillet head inside an allen key socket due to improper seating. Cracking was aggravated by the presence of hydrogen in the material introduced during cadmium plating.**

---