



What We'll Discuss

TOPIC OUTLINE

The Incident
Design of Shuttle
The Investigation
Role of Communication



The Incident

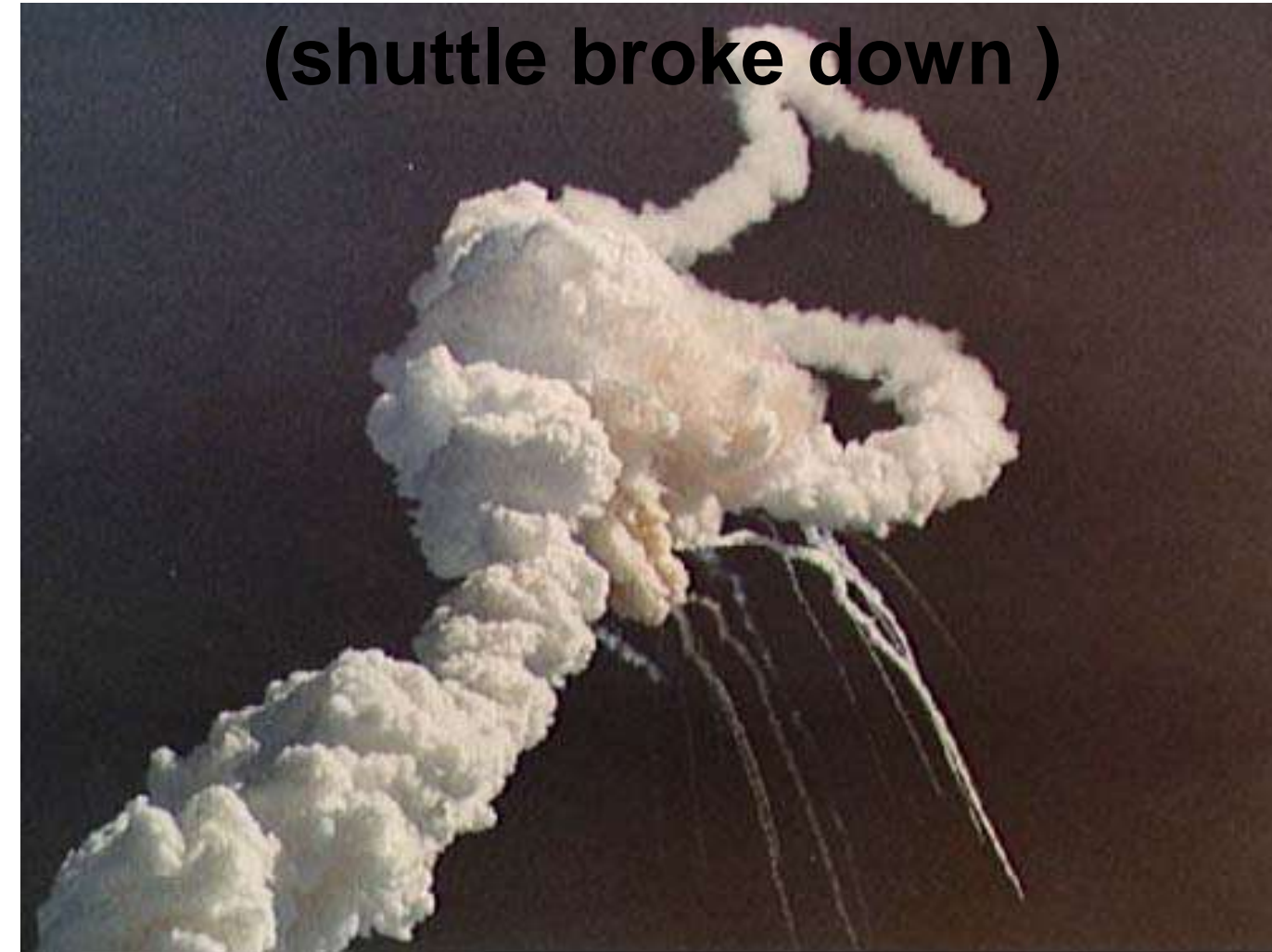
January 28, 1986

Launch



**About 80 seconds after
Launch**

(shuttle broke down)





WHEN

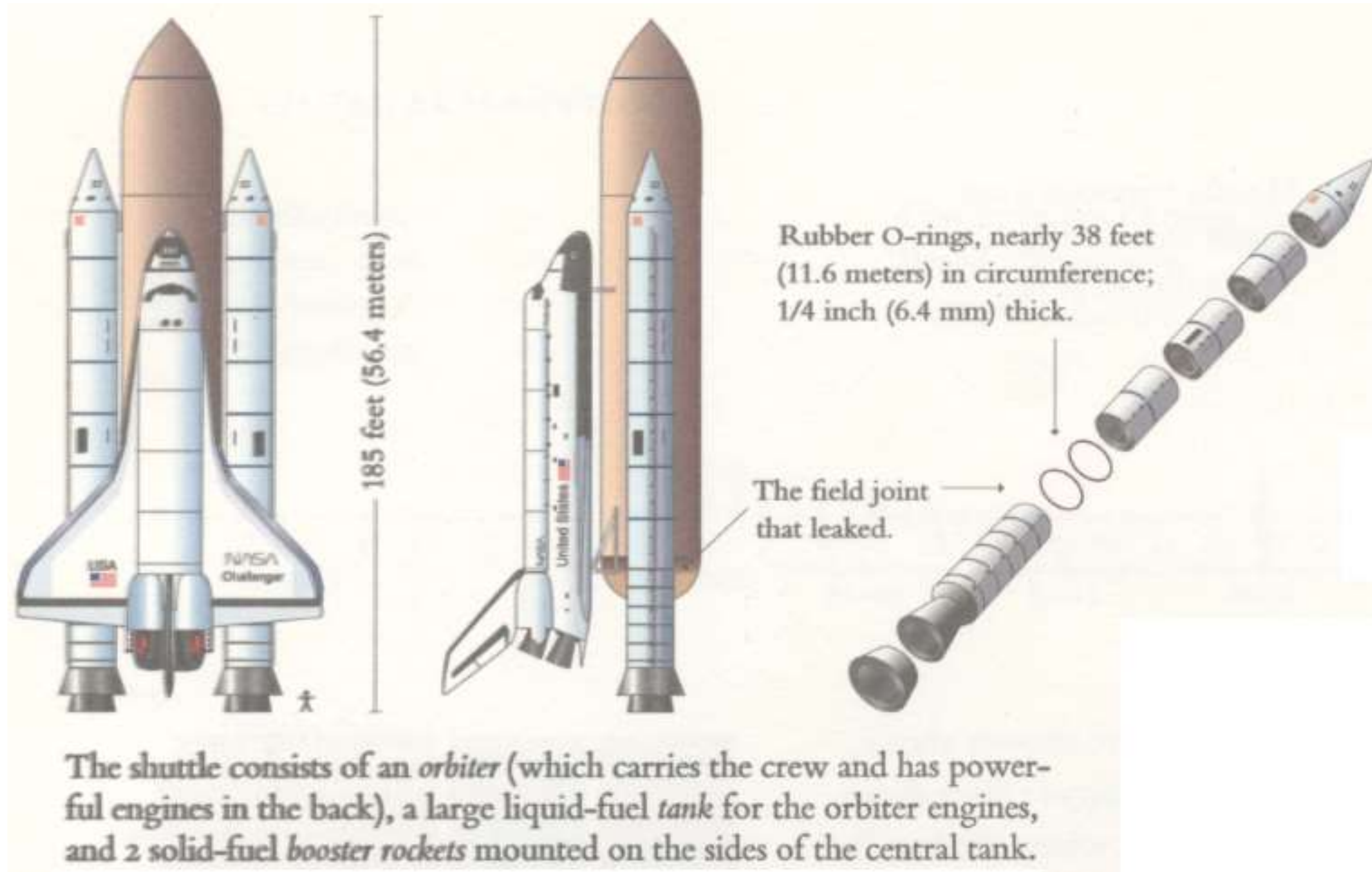


- Tuesday, January 27th 1976
- The shuttle broke down 73 seconds into it's flight



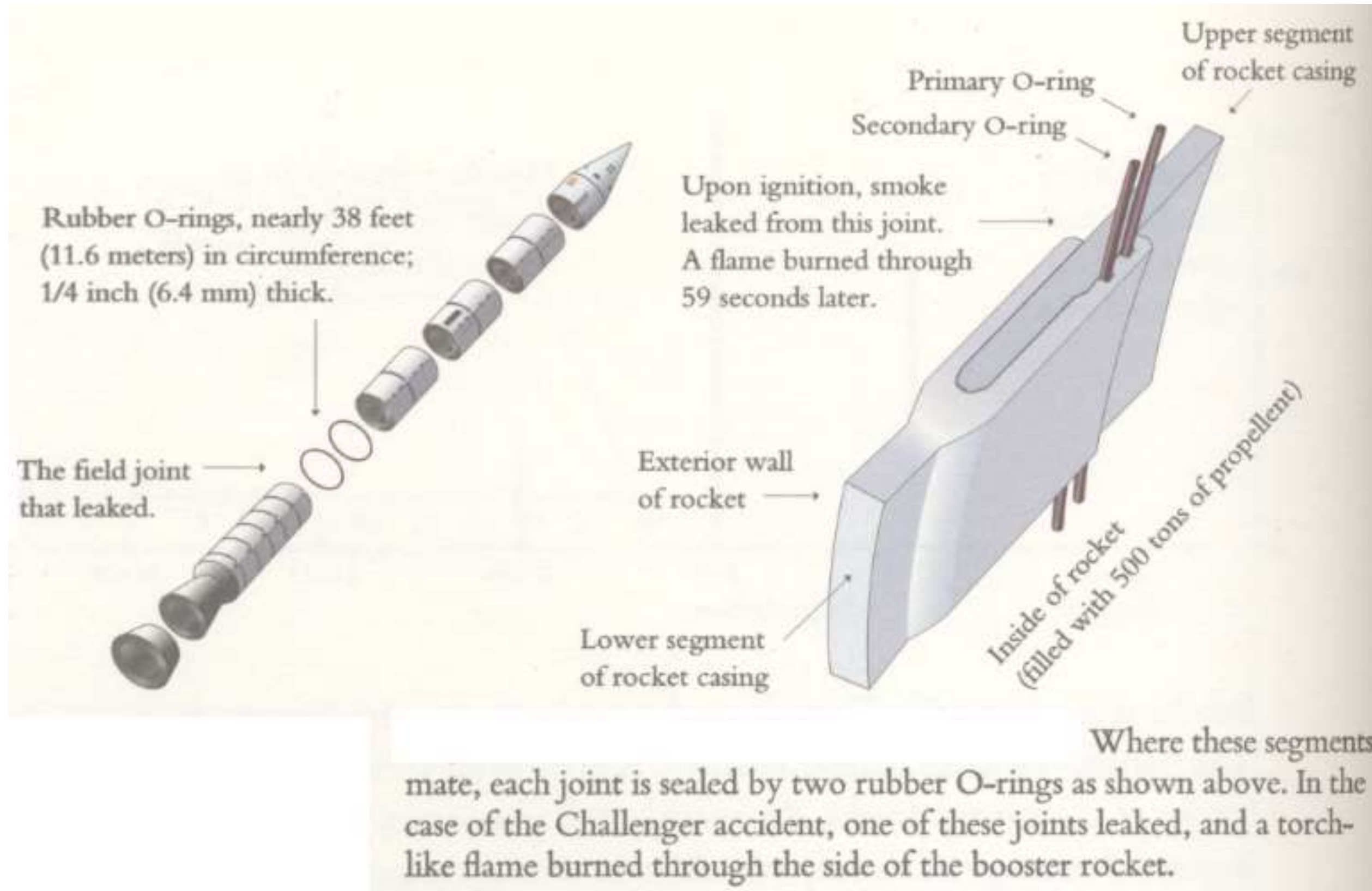


Design of Shuttle





Design of Shuttle





Why

NASA did not address the issue even though they were aware of it.





The Investigation

1970's: less safe than more expensive alternative

1985: scorching becomes noticeable

- Thiokol analysis shows worse on colder days
- Launch constraint by NASA (waived every launch)
- Thiokol Engineer Roger Boisjoly warns superiors “we could lose a flight”

August '85: NASA Meeting, no changes

Later, Feynman calls this strategy “Russian Roulette”



The Investigation

Boisjoly and others: “too cold, delay launch!”

- Until 53°F

Management: how come some warmer launches show scorching?

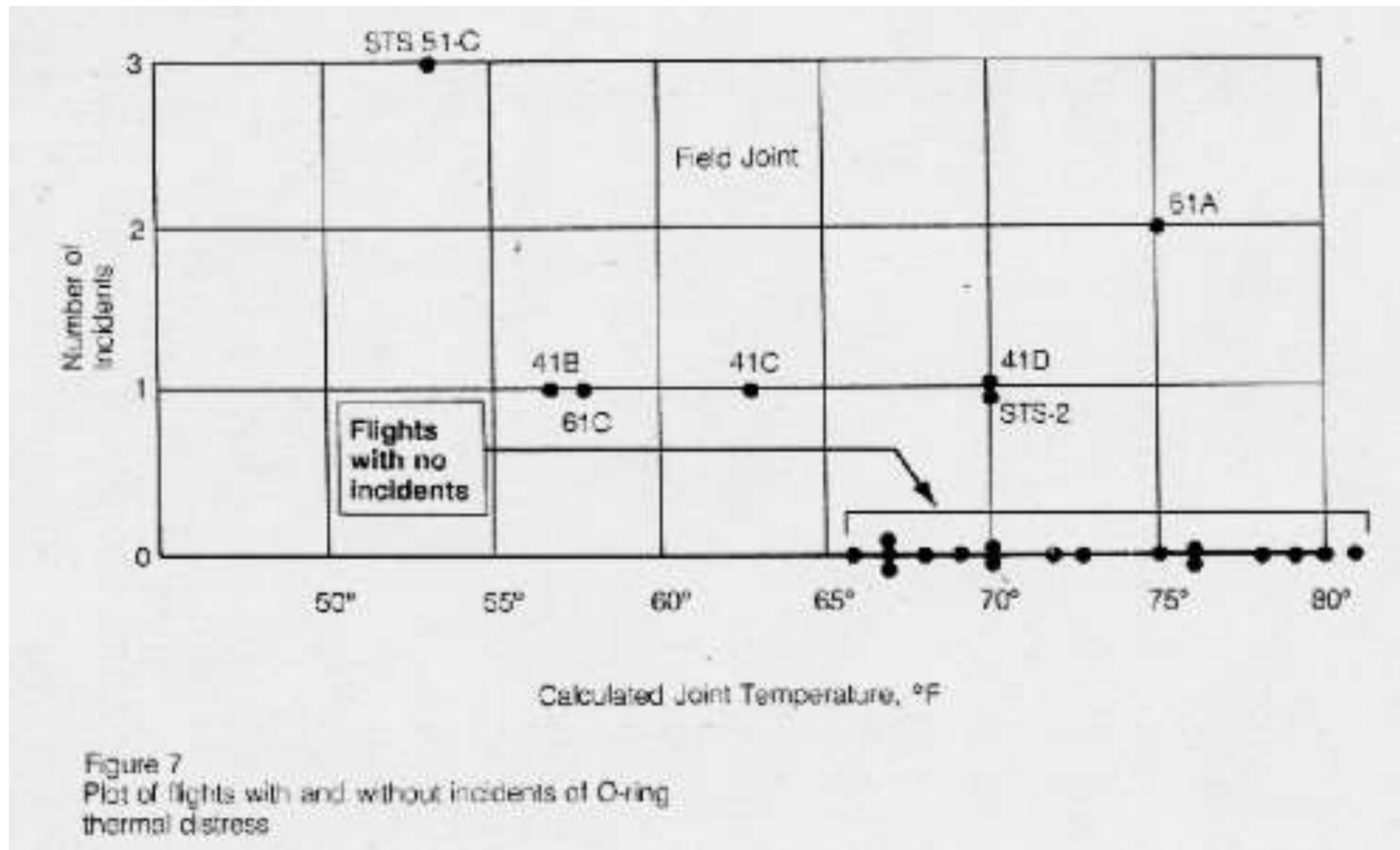
- (crucial fact ignored--every single launch in cold temperatures showed damage)

Thiokol management gets the engineers to accept a launch recommendation.



Role of Communication

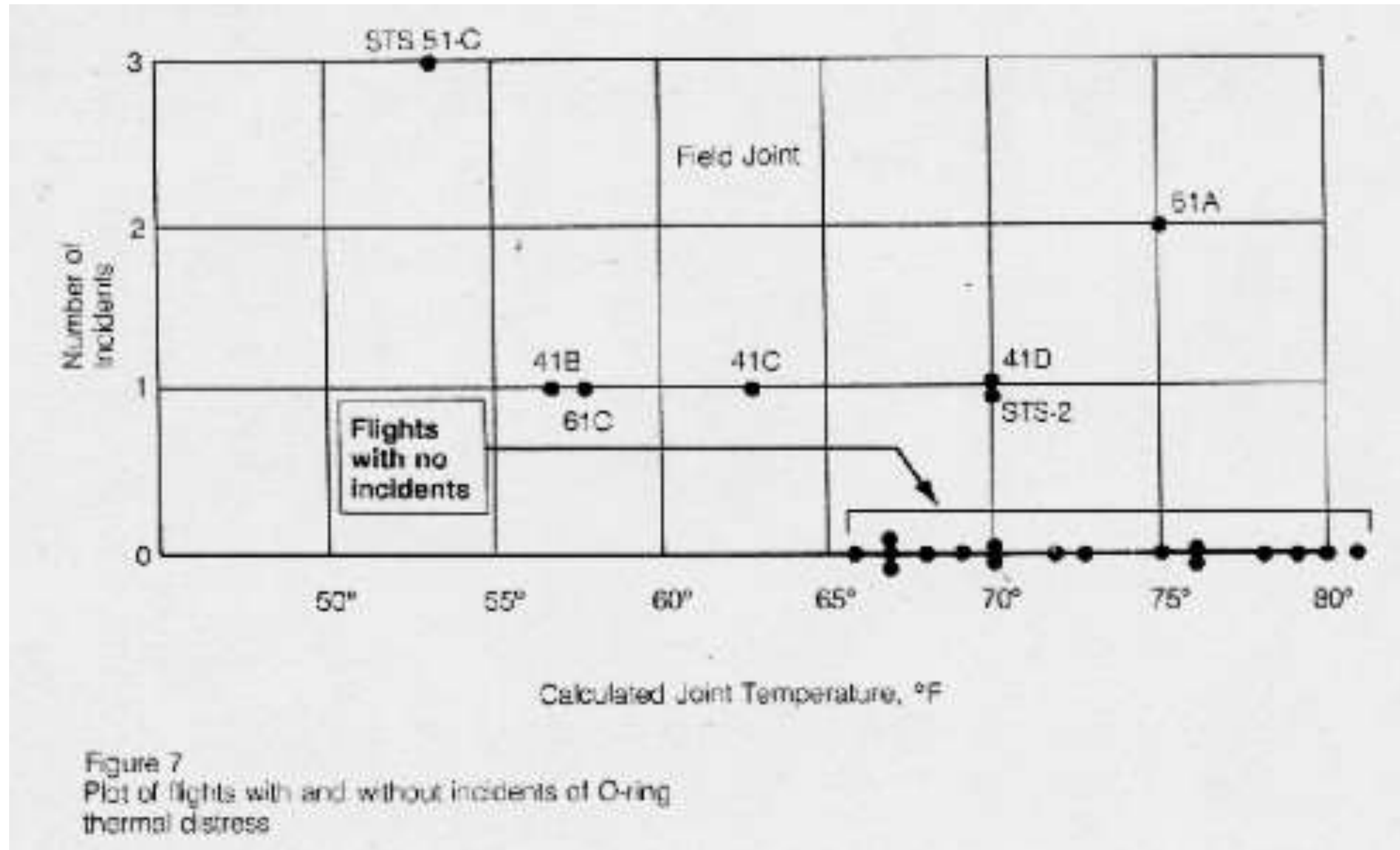
Chart used by Thiokol Engineers on Jan 27 before launch





Role of Communication

A Revised Chart by Rogers Commission Showing all launches





Obfuscation during investigation

Famous physicist Richard Feynman performs experiment on television

- Dips o-ring in ice-water
- Shows greater stiffness
- also complains about slides, bullets

Edward Tufte, designer

- Provides further damning analysis of charts
- Condemns PowerPoint



THANK YOU