
Air system Self Damage from OME

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WS3a DOSG

Aim

- The aim of this presentation is to show that it is possible for an aircraft to cause damage to itself after launching a weapon.

Aim

- Who we are
- What is ASD?
- Why does it matter?
- How do we prevent it?
- Questions

Who are we?

- DOSG
 - Weapon Systems 3
 - Air launched weapons
 - WS3a
 - Air Weapon Ballistics
 - ASD
 - TEACASE

Defence Ordnance Safety Group (DOSG)

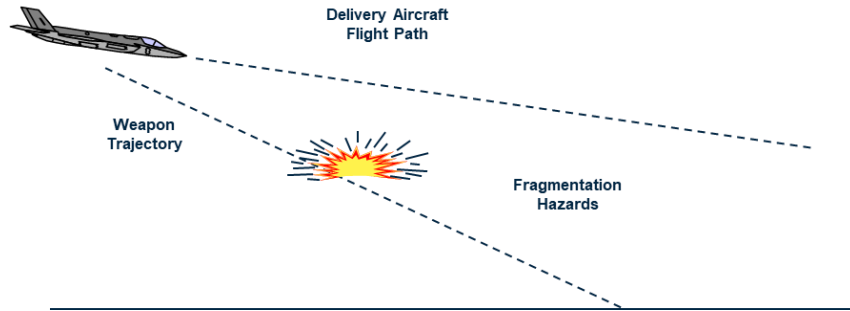
- To **advise** DE&S teams and frontline Duty Holders on MOD OME Safety Management System
- To provide **independent advice** to teams and Duty Holders on Safety and Suitability for Service (S3) of OME and lasers
- To provide **independent advice** on matters affecting safe use of OME and lasers during military training and Range Safety
- Support OME Safety Assurance, through membership of OME Safety Review Panel (OSRP)
- Sponsor and **support development** and maintenance of UK and international OME and laser safety **standards and policy**.

What is ASD

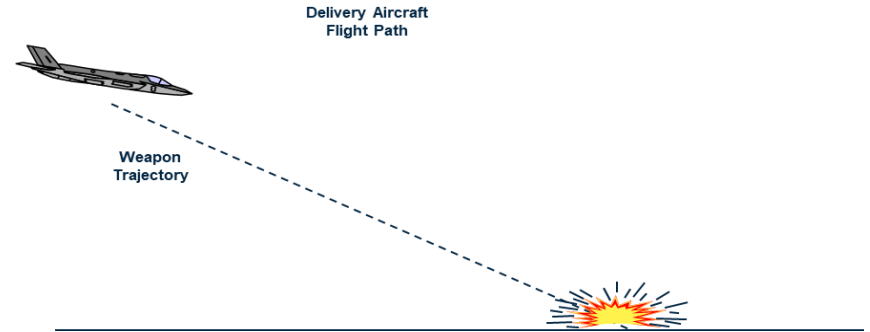
- It is defined as any fragmentation or blast damage caused to an aircraft from a weapon after launch, the point of arming or the target.
- It may also be referred to as Safe Escape

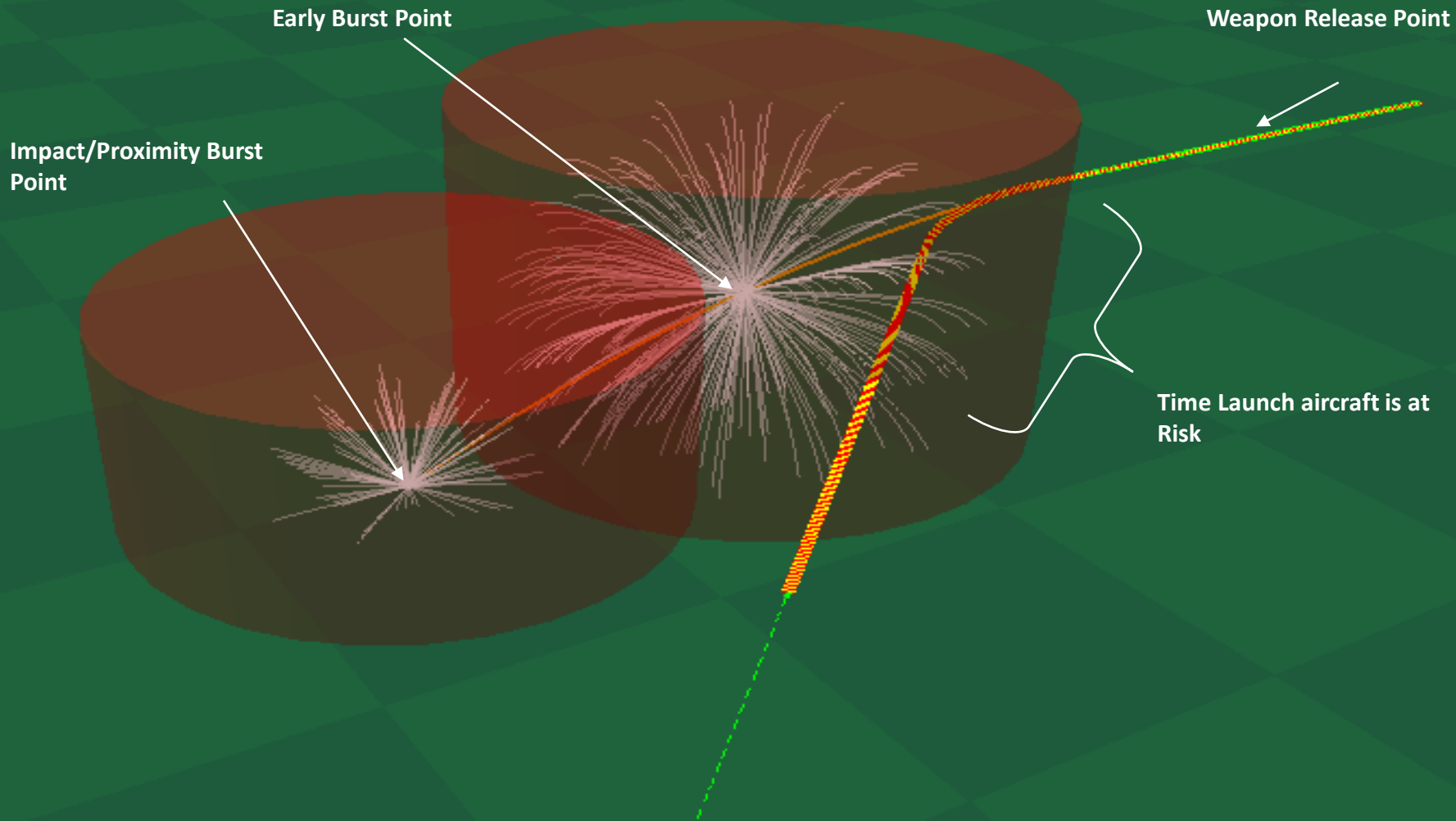
What is ASD

Early Burst at Arming Point

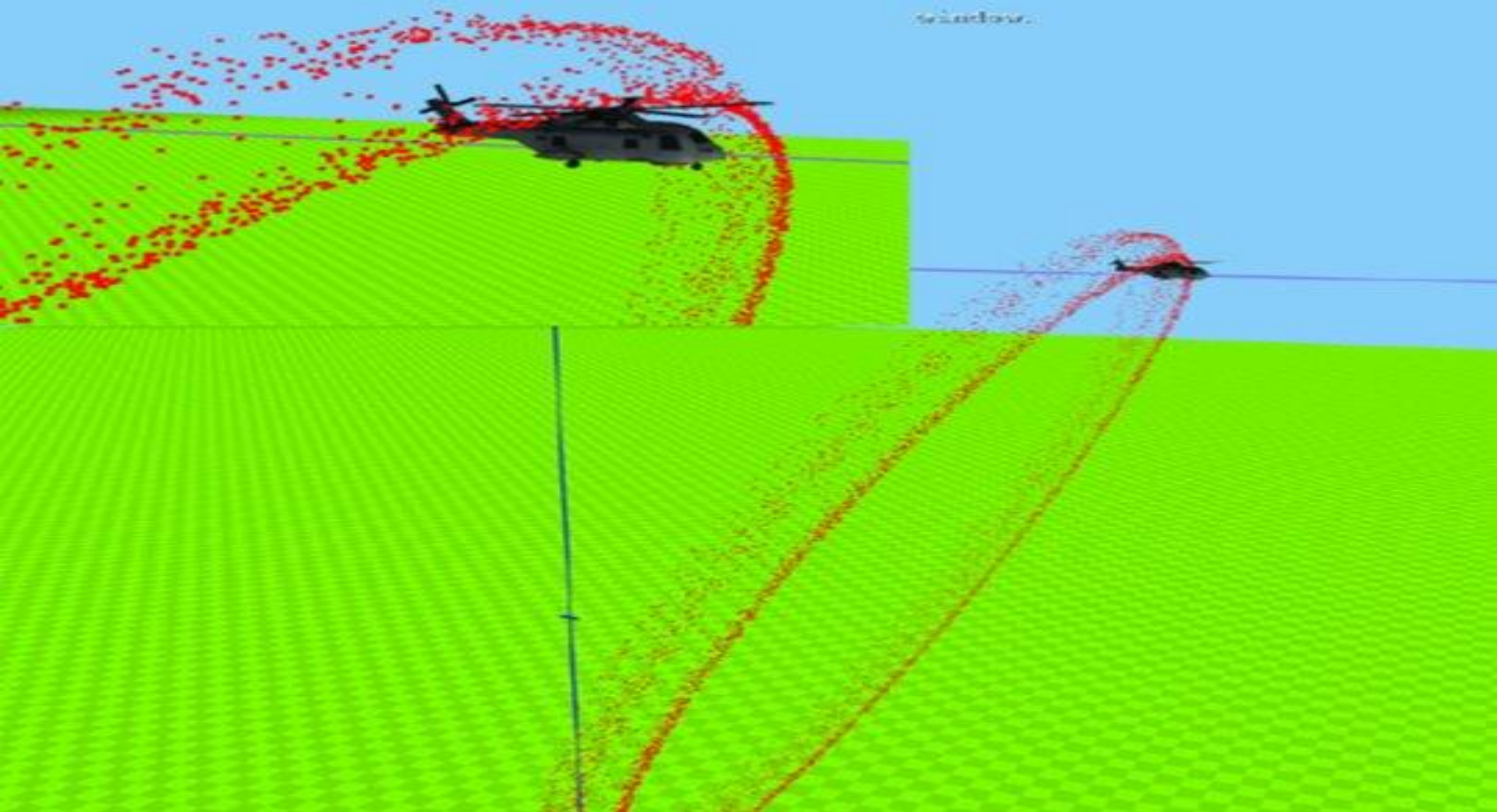


Ground Burst at Impact Point





twindose.



What is ASD

- Requires LOTS of Data
 - 6 DOF models of weapons
 - Failure Modes
 - Arena Trial Data
 - Aircraft Data
 - Vulnerability Model
 - How it is Operated

Why does it matter?

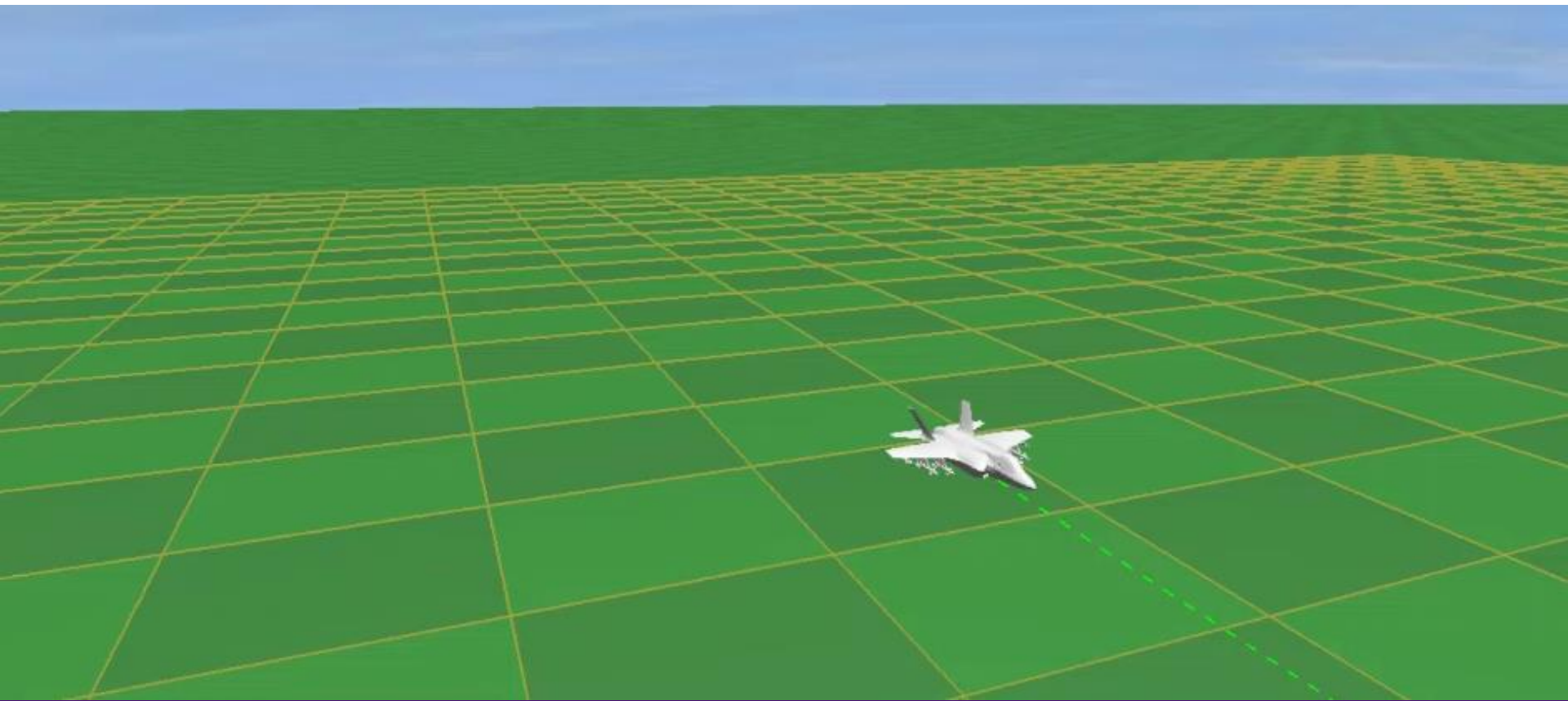
- Risk to aircraft
 - SD0: No self-damage.
 - SD1: Slight self-damage: aircraft returns with damage which can be repaired within 6 hours.
 - SD2: Severe self-damage: aircraft returns with damage which cannot be repaired within 6 hours: divided into two sub-categories:
 - SD3: Aircraft fails to return.
 - $F_{15\text{sec}}$
- It'll never happen though????



How do we prevent it?

- ASD Manuals
 - Paper based
- JSEAS
 - F-35
 - Electronic

JSEAS



Any Questions?