3rd Space Exploration Conference

Denver, Colorado • February 26-28, 2008

Ares I Stage 1

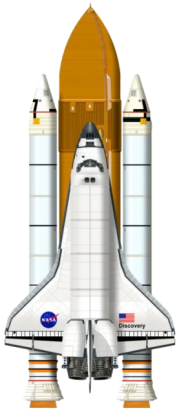
Mike Kahn

Vice President, Space Launch Systems

February 26, 2008

Transition to Exploration

Today



STS

Tomorrow

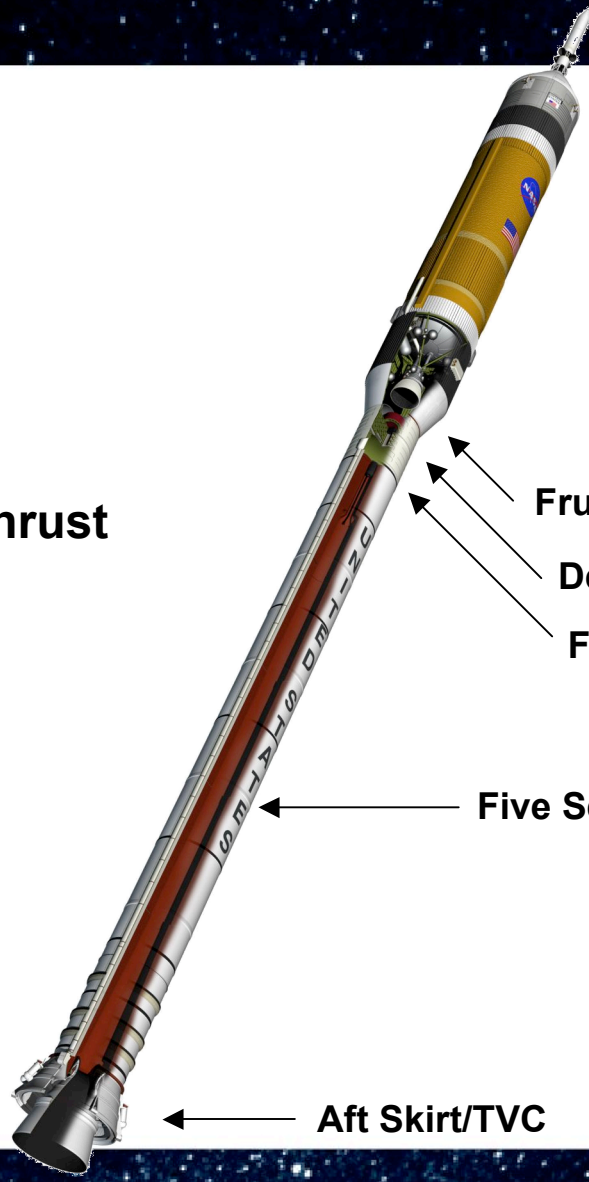
Ares I

Future

Ares V

Ares I – First Stage Elements

> 3.5Mlbf max thrust



Frustum/Separation System

Deceleration System

Fwd Skirt/Electrical System

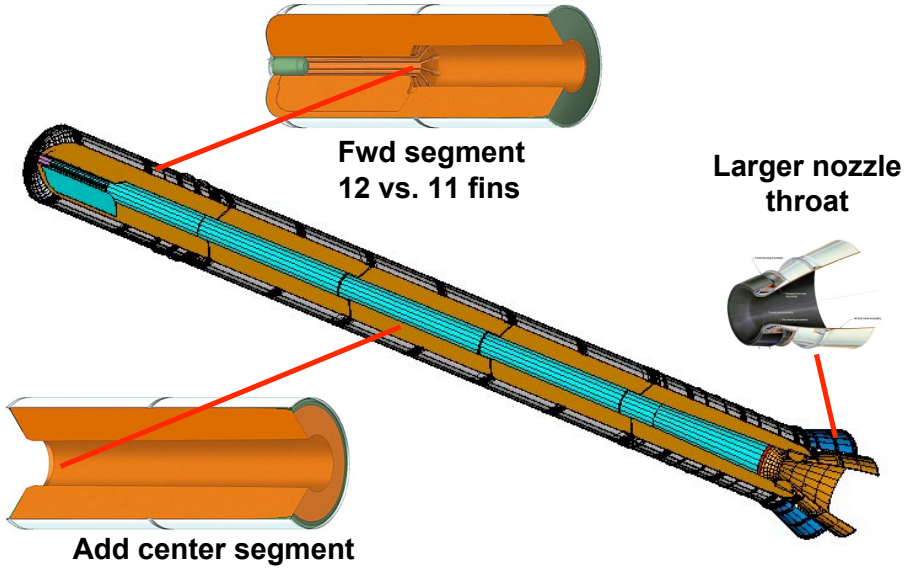
Five Segment Motor

Aft Skirt/TVC

Five Segment Motor Changes From RSRM

Changes from RSRM Baseline

Component	Same as 4 Segment	New/Modified
Case Hardware	Existing	
Nozzle	Some Existing	Throat Dia.
Grain Design		12 vs. 11 Fwd Fins
Propellant	Burn Rate Adjustment	
Insulation/Liner		Aft Dome Increase
Igniter	Existing	

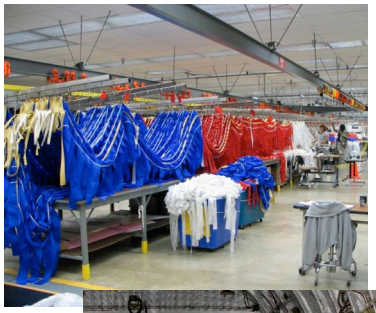


Ares I First Stage Project Recent Progress Highlights

Deceleration Subsystem

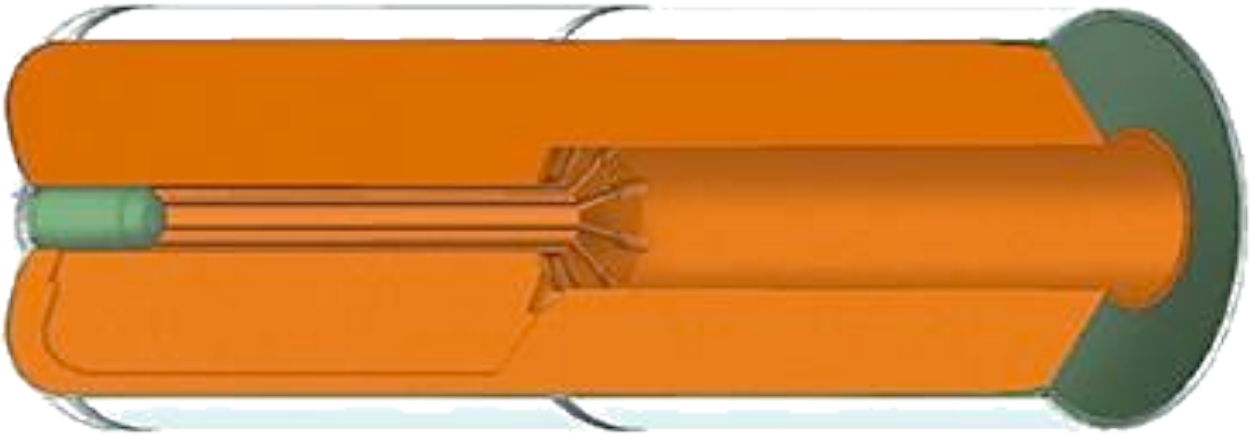
- **Completed two single parachute tests**
- **First parachute cluster (3) test in April 2008**

Main Parachute Drop Test #2



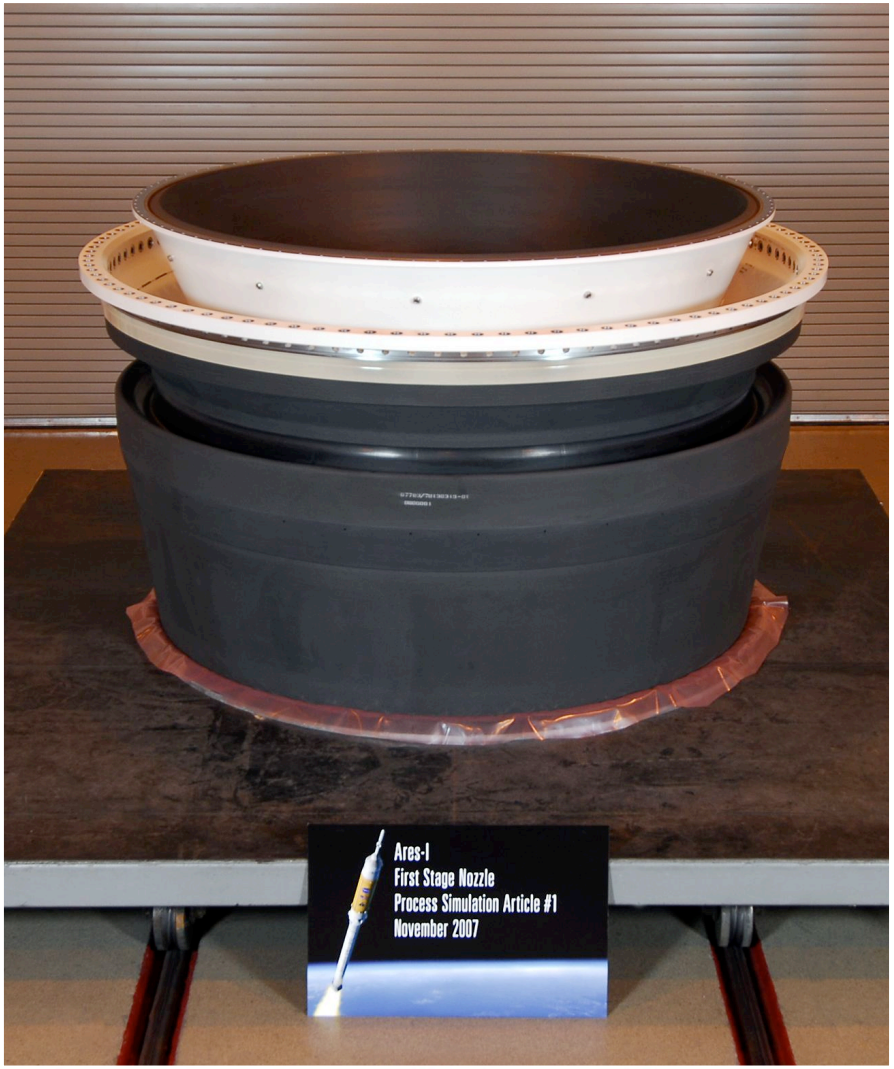
Ares I First Stage Project Recent Progress Highlights

RSRMV - Forward Core Fabrication



Ares I First Stage Project Recent Progress Highlights

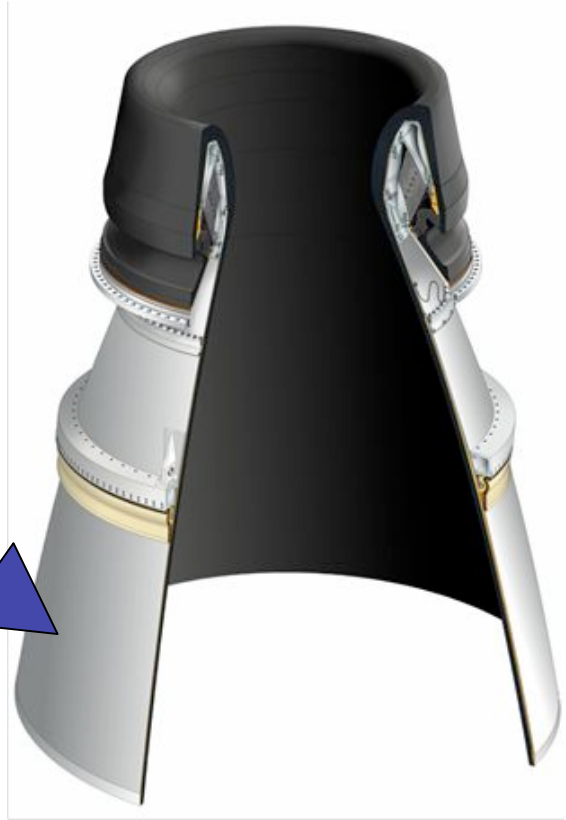
RSRMV – Nozzle Process Simulation Article 1



Ares I First Stage Nozzle Team

Record accomplishment 36 months to 22 months

Aft Exit Cone Mandrels



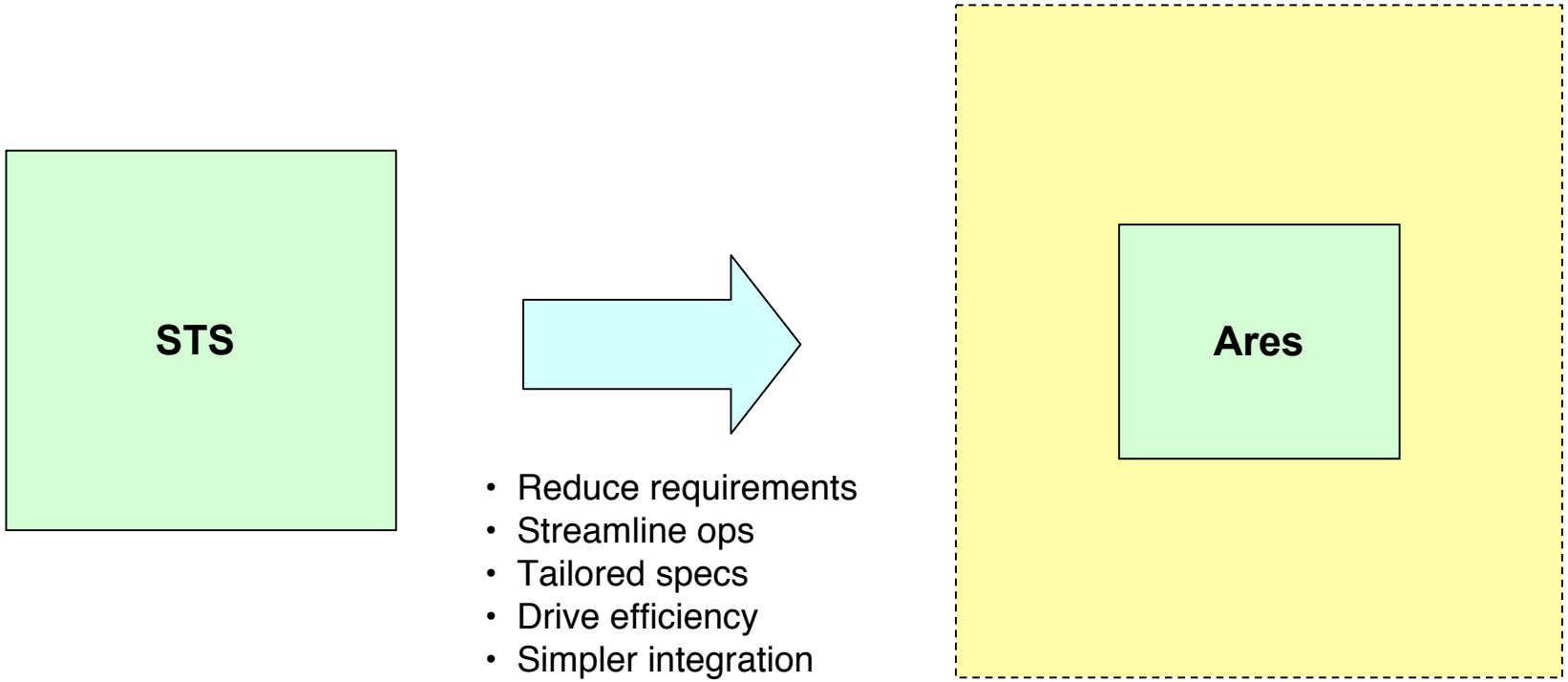
Launch Abort Motor SST-1 Static Fire Test

ATK SST-1 Static Fire Test

Promontory, Utah

26 June 2007

STS to Ares – Transitioning to Lower Costs



- Reduce requirements
- Streamline ops
- Tailored specs
- Drive efficiency
- Simpler integration

Looking Ahead

- Ares I Main Parachute Cluster Drop Test #1 (CDT-1) scheduled for 15 April 2008
- Ares I Preliminary Design Review (PDR) June 2008
- Ares I-X hardware deliveries to KSC beginning summer 2008
- Ares 1-X Test Flight April 2009
- Ares I First Stage DM-1 Ground Test April 2009