

# GLAST Large Area Telescope:

## Mechanical Materials & Parts Status

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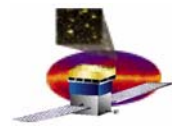


# Mechanical Parts & Process: Status

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- ❑ **Material requirements flow down from the Mission Assurance Requirements 433-MAR-0001 and the Mechanical Parts Plan LAT-SS-00107-01.**
- ❑ **LAT Material selection of low outgassing and flight heritage**
  - ❑ **Outgassing specs: TML < 1% CVCM < 0.1%**
- ❑ **Material Usage Agreement (MUA) for Non-Compliant Material**
- ❑ **Important Procedures and Guidelines for Material selection**
  - ❑ **Fastener Integrity Requirements (541-PG-8072.1.2)**
  - ❑ **Metallic Materials for Stress Corrosion Cracking Resistance in Sodium Chloride Environment (MSFC-STD-3029)**
  - ❑ **Standard Test Method for Total Mass Loss and Collected Volatile Condensable Materials for Outgassing (ASTM-E-595)**



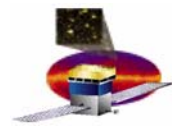
# Mechanical Parts & Process: Status

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- ❑ Inorganic Submitted to SLAC IPO as of 2/6/03

Inorganic				
	Submitted	SLAC IPO Accepted	GSFC Approved	Need more info.
ACD	34	34	34	0
CAL	13	13	13	0
ELEC	0	0	0	TBD
I & T	0	0	0	TBD
MECHANICAL	80	52	52	28
TRACKER	16	16	16	0
<b>TOTAL</b>	143	115	115	28

- ❑ Non-Compliant Materials need MUA (SLAC IPO/GSFC evaluated)
- ❑ Stress Corrosion Cracking requirements as defined in MSFC-STD-3029
- ❑ Fastener Integrity Requirement 541-PG-8072.1.2



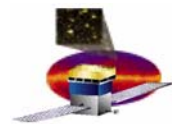
# Mechanical Parts & Process: Status

Jeff Tice

## ❑ Polymer & Composite Submitted as of 2/6/03

Polymer & Composites				
	Submitted	SLAC IPO Accepted	GSFC Approved	Need more info.
ACD	47	45	45	2
CAL	26	16	16	10
ELEC	0	0	0	TBD
I & T	0	0	0	TBD
MECHANICAL	22	20	20	2
TRACKER	25	15	15	10
<b>TOTAL</b>	120	96	96	24

## ❑ Outgassing Materials need an MUA (SLAC IPO/GSFC evaluated)



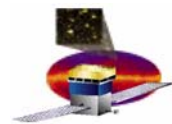
# Mechanical Parts & Process: Status

Jeff Tice

## Lubricants Submitted as of 2/6/03

Lubricants				
	Submitted	SLAC IPO Accepted	GSFC Approved	Need more info.
ACD	1	1	1	0
CAL	0	0	0	0
ELEC	0	0	0	TBD
I & T	0	0	0	TBD
MECHANICAL	4	4	4	0
TRACKER	0	0	0	0
<b>TOTAL</b>	5	5	5	0

## Function/Application for each different application



# Mechanical Parts & Process: Status

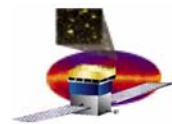
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## Processes Submitted as of 2/6/03

Process				
	Submitted	SLAC IPO Accepted	GSFC Approved	Need more info.
ACD	13	13	13	0
CAL	6	6	6	0
ELEC	0	0	0	TBD
I & T	0	0	0	TBD
MECHANICAL	10	10	10	0
TRACKER	0	0	0	TBD
<b>TOTAL</b>	29	29	29	0

## Process Description

## State if Proprietary



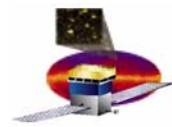
# Mechanical Parts & Process: Status

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## ☐ Totals of all Materials Submitted as of 2/6/03

Total Materials				
	Submitted	SLAC IPO Accepted	GSFC Approved	Need more info.
ACD	95	93	93	2
CAL	45	35	35	10
ELEC	0	0	0	TBD
I & T	0	0	0	TBD
MECHANICAL	116	86	86	30
TRACKER	41	31	31	10
<b>TOTAL</b>	297	245	245	52

## ☐ No inputs from some subsystems



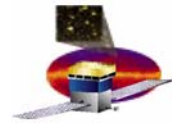
# Mechanical Parts & Process: Future

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- ❑ **Continue materials evaluation for acceptance and approval:**
  - **Mechanical Parts Review Board meeting on 2/26/03**
  - **Submit completed materials list to GSFC S&MA/Materials Branch for formal approval**
  
- ❑ **Updating all documentation pertaining to the Mechanical Parts & Process in response to revision of the Mission Assurance Requirements (MAR)**





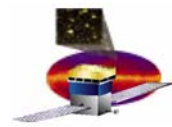
# Mechanical Parts & Process: Summery

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## □ M & P Process

- Review LAT Mechanical Part Plan
- Submit information
- LAT / Subsystem check / Completed List – Big Step
- MPRB meeting / Acceptance - LAT level
- GSFC Approval – Takes time for Non-Compliant Materials/Processes



# Mechanical Parts & Process: Summery

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## □ Timeline

**4: Must submit all GSFC approved materials March 29**

**3: Final submittal to GSFC for approval March 15**

**2: Final submittal to SLAC IPO for acceptance March 1**

**1: Complete List. Due February 21 (This is third delay)**

- **Consequences:**
  - **Late Submittal = No approval for flight fab at CDR**
  - **If approval for flight fab is needed at subsystem CDR's, then complete data is needed now.**