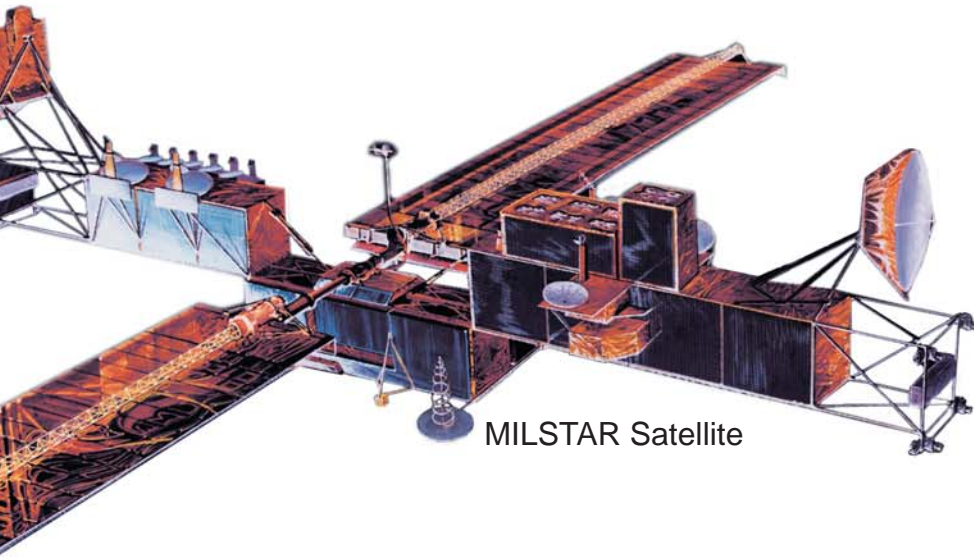
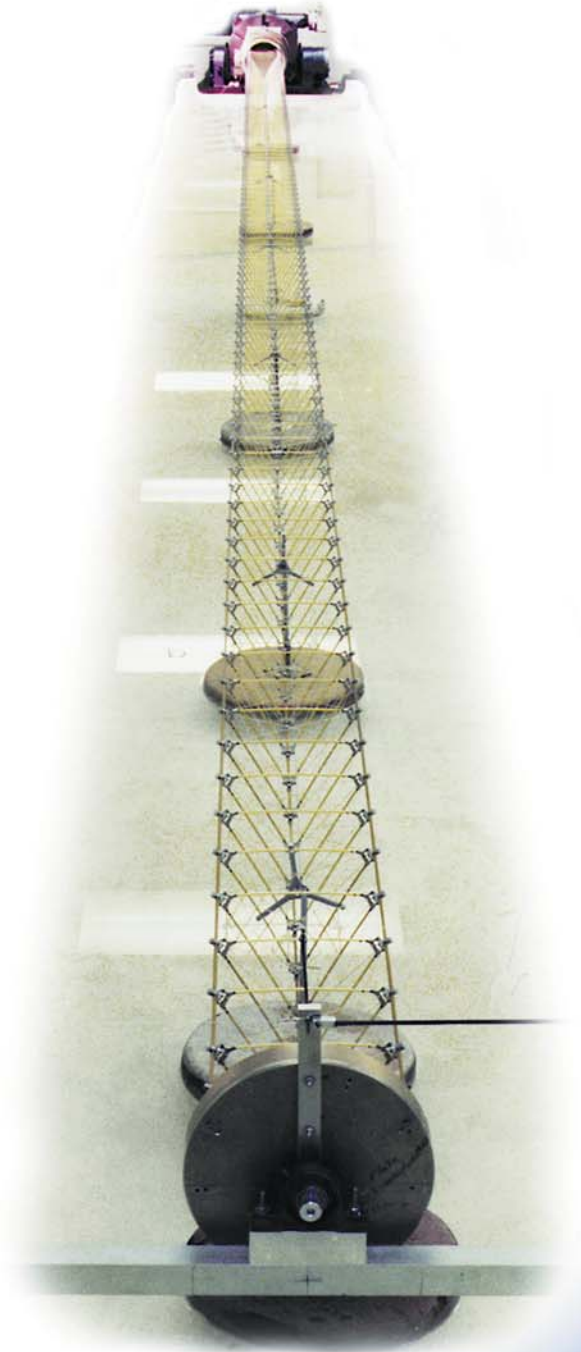


CANISTER ASTROMAST®



MILSTAR Satellite



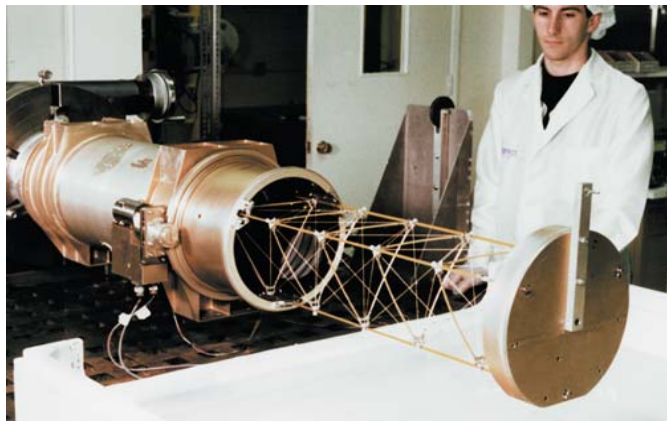
CANISTER ASTROMAST®

The canister deployed AstroMast® is a space-qualified lattice structure characterized by high strength and high stiffness. This unique fiberglass structure is typically used to deploy solar arrays and scientific instruments. Platforms can be deployed along its length and cable feeds provided without the use of slip rings. A high reliability drive mechanism, powered by brushless, or brush-type motors, is used to deploy and retract the AstroMast®, which maintains full structural integrity at any deployed length.

SPACE APPLICATIONS

Model 12027

This qualified and flown model deploys 47-foot-long flexible solar array panels on the MILSTAR spacecraft. A unique feature of the deployment mechanism is the use of specially designed end-of-travel clamps that arrest deployment, maximize root stiffness, and eliminate the need for limit switches.



PERFORMANCE

Parameters

Packing Dimensions

Canister Length
Width Overall Maximum
(excluding cable housing)

Weight

Overall (excluding cable
and instruments)
Mast Only

AstroMast® Data

Diameter
Deployed Length
Material
Bending Strength
Bending Stiffness
Torsional Strength
Torsional Stiffness

Drive Motor

Type
Power (Nominal Deploy Power)

Temperature Limits

Boom
Motor

Model 12027

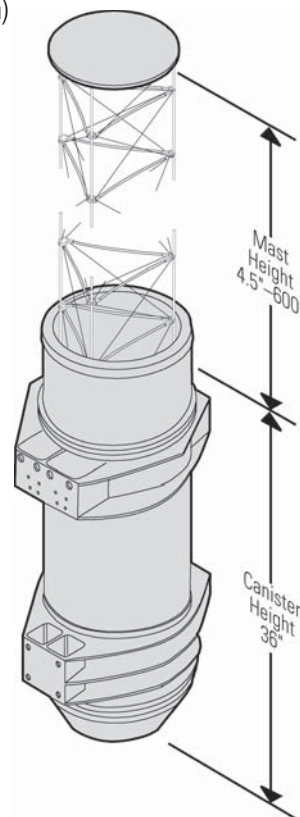
40.50 in (stowed length max) (1029 mm)
14.80 in (376 mm)

37 lb (16.8 kg)
0.018 lb/in (0.32 kg/m)

10 in (254 mm)
47 ft (14 m)
"S" Glass/Epoxy
771 in-lb (87.1 n-m)
 7.4×10^6 lb-in² (2.1×10^4 n-m²)
77 in-lb (8.7 n-m)
 $130,000$ lb-in² (373 n-m²)

Brushless DC
7 watts at 28 V DC

-196°C to +73°C
-40°C to +63°C



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