



One Tough PUPI™

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## PUPI® Tangent Crossarm Pin Torque Tests

### Pin Torque Test, Longitudinal

#### Test Method

- Test specimens are standard PUPI beams with standard drilling pattern.
- Arms are mounted using standard PUPI mount.
- Three pin designs were tested: Joslyn standard pins J203Z and J647Z, 5" and 7" pins with nylon thread and Joslyn clamp pins J3322. Series 1000 arms were tested with J203Z pins only.
- Pins are attached to the crossarms at standard outer pin locations 4" from the end of the arm.
- Steel nut is threaded onto insulator pin as the loading contact.
- Insulator pin tip is placed under load cell in Instron test system.
- Load is applied to pin tip perpendicular to the crossarm major axis until beam fractures.
  - No contact with the shaft of the pin or the end of the arm is allowed.
- RUS requirement is no crushing of the fiberglass beam to 700 lbs load.

#### Results

##### **Series 1000 Crossarms**

⇒ All tests passed 900 lbs load with no damage to crossarms.

##### **Series 2000 Crossarms**

⇒ All tests passed 1000 lbs load with no damage to crossarms.

##### **Series 2500 Crossarms**

⇒ All tests passed 1000 lbs load with no damage to crossarms.

##### **Series 3000 Crossarms**

⇒ All tests passed 1250 lbs load, clamp pins exceeded 2300 lbs load with no damage to arms.

### Pin Torque Test, Transverse

#### Test Method

- Specimens are 30" sections cut from the ends of standard PUPI crossarms.
- Cut end of arms are placed into a steel fixture to hold the arm section vertically.
- Joslyn insulator pin is attached to the free end of the beam section at the normal location 4" from the end of the crossarm.
- Insulator pin tip is placed under load cell in Instron test system
- Load is applied to the insulator pin tip parallel to the beam major axis until beam fractures or load limit of test is achieved.
- RUS requirement is no crushing of the fiberglass beam to 750 lbs load with standard pins, no crushing of the fiberglass beam to 1000 lbs with clamp pins.

#### Results

##### **Series 1000 Crossarms**

⇒ All tests passed 1000 lbs load with no damage to crossarms, tests truncated at 1000 lb load.

##### **Series 2000 Crossarms**

⇒ All tests passed 1000 lbs load with no damage to crossarms, tests truncated at 1000 lb load.

##### **Series 3000 Crossarms**

⇒ All tests passed 1000 lbs load with no damage to crossarms, tests truncated at 1000 lb load.

**PUPI crossarms exceed RUS pin torque test requirements.**