

Creating the New Standard in ATD's



The BioSID (Biofidelic Side Impact Dummy) was developed through the cooperative efforts of the Side Impact Dummy Task Force (an SAE Committee). This program was undertaken to improve the impact responses of side impact mannequins by meeting the biofidelity requirements developed by TC22/SC12/WG5. Although not required for certification use under title 49CFR, Part 571(214) or 572, the BioSID has proven to be an effective R&D tool.

The head and lower torso are from the Hybrid III 50th Percentile Dummy (Part 572). Conversion from the left side to right side impact testing is accomplished by rotating the entire upper torso 180 degrees and reconnecting the shoulder block and neck assembly in the forward facing position. Shoulder, Thoracic and Abdominal rib assemblies are constructed from a strong steel with damping material applied to the inside of the steels. The pelvis has a zippered skin & flesh unit with crushable foam pelvic inserts. Iliac wings are removable. A straight lumbar spine is used. Similar to the Hybrid II 50th %, the legs have a modified steel block to replace knee sliders.

*The BioSID is tested to the prevailing SAE corridors specified for this device.*

**The calibration tests performed prior to shipment include:**

- Shoulder Impact
- Abdominal Impact
- Pelvis Impact
- Head Drop
- Neck Pendulum
- Thorax Impact

**Standard equipment included in the base price of this test device:**

Six (6) String Potentiometers for Ribs Accelerometer mounts for Head; Shoulder Ribs; Upper, Middle, & Lower Abdominal Ribs; Upper Spine (T1) & Lower Spine (T12); Pelvis.

**Test instrumentation required:**

Three (3) Uniaxial accelerometers for head Six-axis upper neck transducer Six (6) Rib lateral impact accelerometers Six (6) String Potentiometers Accelerometer for upper spine T1 Accelerometer for lower-spine T12 Accelerometer for pelvis

| WEIGHTS:            | Pounds (lbs.)    | Kilograms          |
|---------------------|------------------|--------------------|
| Head                | 9.9 - 10.1       | 4.5 - 4.6          |
| Neck                | 3.4              | 1.54               |
| Upper Torso         | 55.5 - 57.5      | 25.2 - 26.1        |
| Lower Torso         | 45.7 - 47.7      | 20.7 - 21.6        |
| Upper Legs          | 13.0 - 13.4      | 5.9 - 6.1          |
| Lower Leg           | 12.3 - 12.7      | 5.6 - 5.8          |
| <b>Total Weight</b> | <b>165 - 171</b> | <b>74.8 - 77.6</b> |

| DIMENSIONS:           | Inches      | Centimeters |
|-----------------------|-------------|-------------|
| Sitting Height        | 34.6 - 35.0 | 879 - 889   |
| Shoulder Pivot Height | 19.9 - 20.5 | 506 - 521   |
| H-Point Height        | 3.5 - 4.0   | 89 - 102    |
| Buttock Knee Length   | 22.8 - 23.8 | 579 - 605   |
| Shoulder Width        | 16.2 - 16.8 | 411 - 427   |
| Knee Pivot Height     | 19.1 - 19.7 | 485 - 500   |