*LIGO Laboratory / LIGO Scientific Collaboration*

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aLIGO Sensor and Target Assembly Procedure

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Distribution of this document:

Advanced LIGO Project

This is an internal working note

of the LIGO Laboratory.

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**Clean room standards**

For a clean assembly all LIGO standards should be followed, as presented in the latest version of the **LIGO Contamination Control Plan (E0900047).** Clean room garb including UHV gloves should be worn when working with parts.

All tools that come in contact with assembly should be cleaned to class B standards.

Assembly will be done under a portable clean room. Any time a part of the assembly is not covered by the portable clean room or not being actively worked on it should be covered with appropriate clean covers. (C3 polyester or equivalent).

**Torque Values for Bolts:**

Standard torque values according to manufacturer standards for screw material should be used.

**Parts prep work: alignment pins and helicoils**

To facilitate assembly, parts requiring pins and or Helicoils may to be prepared before assembly and will be listed to allow preliminary preparation of the parts, after cleaning and before starting general assembly. See E1000402 Current Rev.

Helicoils and Dowel pin

1. D1000472

**Weight**

Approximated weights are provided in this assembly procedure as an indication for safety purpose.

D1000468 POSITION SENSOR TARGET ASSEMBLY, pic.TIF

Reference D1000468

1. Press Item (2) 1/2 x 3" lg dowel pin into Item (3) (D1000472) Position Sensor Target Body.

The dowel must be inserted carefully, if the

2. Be sure Items are clean and free of debris. Attach Item (1) D1000470 Position Sensor Target to Item (3) (D1000472) Position Sensor Target Body using Item (5) 8-32 x .50 SHCS and Items (4) vented washer.

D1000467 POSITION SENSOR ASSEMBLY, pic.TIF

Reference D1000467

1. Assemble Item (4) 3/8-16 x 2" lg. screw to Item (2) D1000469 Position sensor base and Item (3) D0902610 Sensor head spherical washer using Item (5) washer Item (7) spring washer and

Item (6) hex nut as shown does not have to be tightened this will be disassembled and reassembled at a later time.

2. Attach Item (1) Sensor to assembly using Item (8) washer and Item (9) m2x0.4 x 8mm lg screw. Be sure items are clean a free of debris before assembling.