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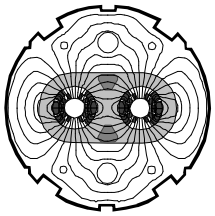

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LHC Project Document No
LHC-GI-ES-0001.00 *rev.* ***0.1-draft***

CERN Div./Group or Supplier/Contractor Document No.
EST/SU

ALIGNMENT TARGET

Engineering Specification

ALIGNMENT TARGETS

Abstract

This ES concerns the targets to be used on the LHC components for there alignment

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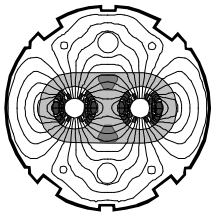

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History of Changes

Rev. No.	***Date***	***Pages***	***Description of Changes***
(draft)	13-Mar-1998	—	First release of document no. **LHC-GI-ES-0001**

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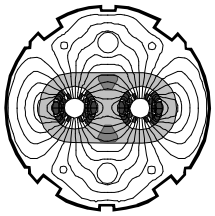

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Table of Contents

1. DRAWINGS

The drawings of the targets to be used on the components are :

LHCGIMSA0001	reference socket assembly
LHCGIMSA0002	reference socket assembly (casting die execution)
LHCGIMSA0003	reference socket cup
LHCGIMSA0004	reference socket sphere
LHCGIMSA0005	reference socket cover
LHCGIMSA0006	reference socket cover (casting die execution)
LHCGIMSA0007	reference socket assembly (machining execution)
LHCGIMSA0008	calibration cup for sphere assembly
LHCGIMSA0009	reference socket cover (machining execution)
LHCGIMSA0010	calibration cup for sphere cup
LHCGIMSA0011	calibration cup for sphere ball
LHCGIMSA0012	calibration cup for sphere centring

2. USE OF TARGETS

Each component to be aligned in the tunnels (LHC ring, TI2, TI8, Beam dump lines) must be equipped with the reference targets described by these drawings .

In the LHC ring, the components will be equipped with 3 reference targets. Two targets will allow the control of the 3 translations and 2 rotations (around the X and Z axis) of the components. The third one will be used to control the transversal tilt. Their location on the components will have to be discussed with SU group.

For the small elements of the ring, as well as for the elements of the transfert lines and of the beam dumps, only two targets will be fixed, and a reference surface will allow the transversal tilt to be controlled.

The LHC ring elements (arcs and dispersion suppressor) will be equipped with covers according to drawing LHCGIMSA0006 or LHCGIMSA0009.

The elements of the LSS of LHC ring and TI2 , TI8 and beam dump will be equipped with covers as according to drawing LHCGIMSA0005.

For each element, the position of the centre of the sphere of each reference target must be known with respect to the theoretical beam lines according with a transversal tilt reference surface.