

Discussion on Cavity Assembly Work at KEK

(Revised Proposal)

Eiji Kako

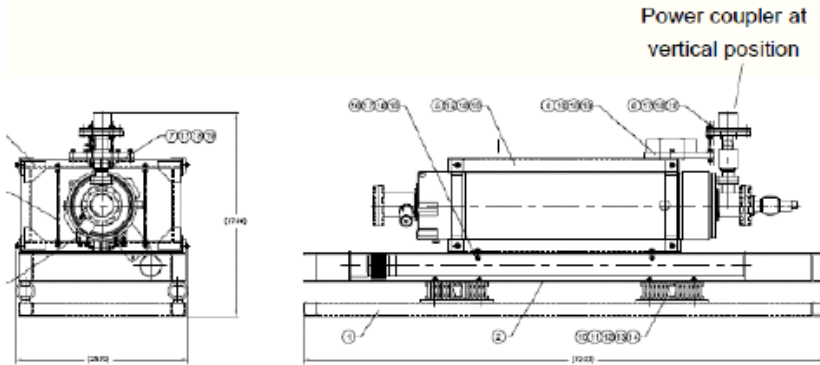
(KEK, Japan)

ilc 1. Transport Fixture for Shipping

1- Receive Dressed Cavities



The dressed cavity transport fixture is used to transport dressed cavities with main coupler (cold end) installed



Transportation Route ;

FNAL → DESY (Oct.)

KEK ← DESY (mid. Nov.)

KEK → FNAL (end. Nov.)

KEK ← FNAL (mid. Dec.)

Dressed Cavity Transport Fixture

→ only 2 sets at FNAL, drawings by FNAL

→ How transport DESY cavities ???

E. KAKO (KEK)
2009' Sept. 30

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Ask to Transportation Company;
Cost ? How many days ?

Answer from Company ;
about 500,k Yen / 1 path
about 10 days / 1 path

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2009' Oct. 13

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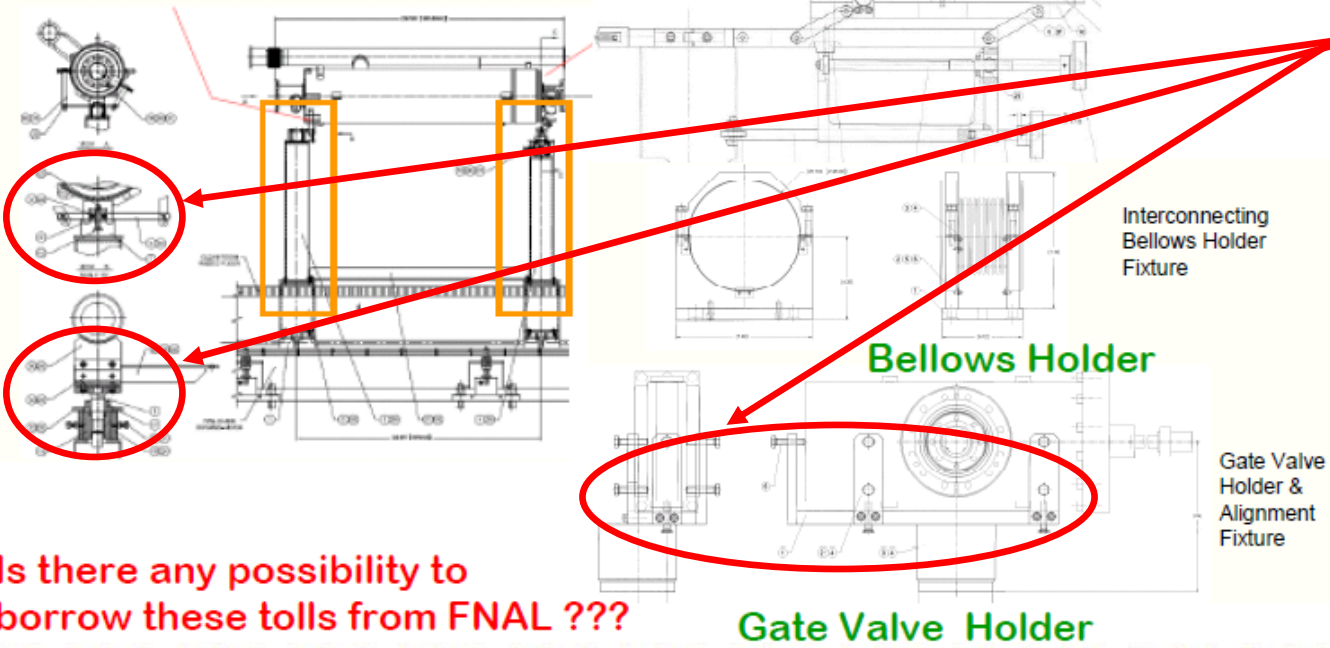
2. Cavity Assembly Tools

Cavity Support Posts Fixture



Adjustable Table

Cavity is supported with two clamps around the helium vessel at the field probe end



KEK requests these drawings to FNAL.

Is there any possibility to borrow these tools from FNAL ???

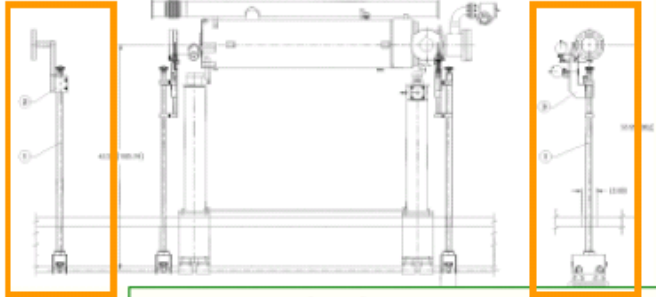
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Only indispensable tools are prepared by KEK !!

4 – Cavity Alignment in the clean room



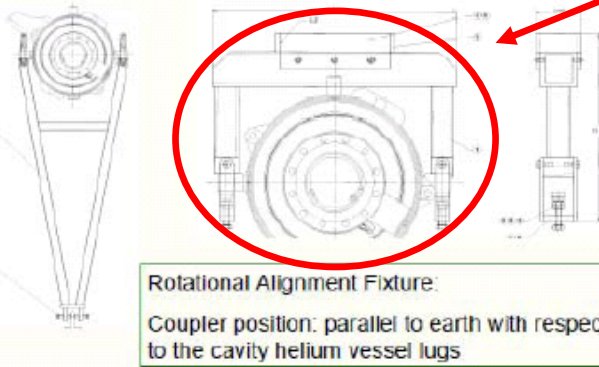
X-Y Alignment Fixture:

Cavities beam line flanges are aligned to ~0.1mm for the interconnect bellows assembly in the clean room

Jigs for interfaces are designed and fabricated at KEK.

KEK requests this drawings to FNAL.

Is there any possibility to borrow these tools from FNAL ???



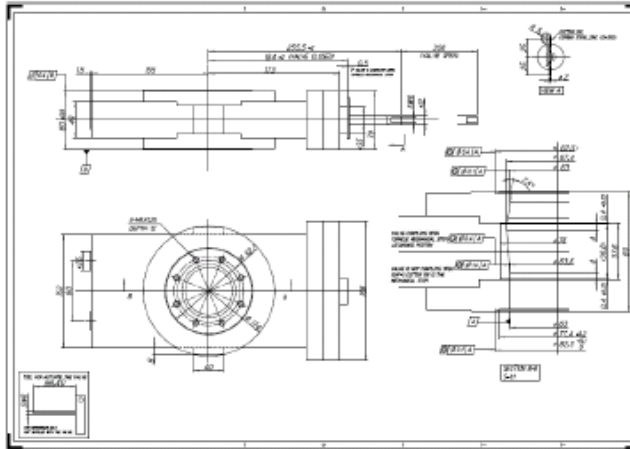
Rotational Alignment Fixture:

Coupler position: parallel to earth with respect to the cavity helium vessel lugs

Only indispensable tools are prepared by KEK !!

4. Cleaning of Gate Valves

Removing dust particles inside a gate valve is an essential work to maintain high field performance of the cavities.



Excellent techniques by experts are required for this work.

If possible, KEK would like to ask Lutz, leader of DESY vacuum group ???

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Now, Lutz is preparing it !

Ask Lutz to provide the DESY' s instruction documents.
If necessary, 1 GV and 1 KEK person should go to DESY.



~~KEK should buy.~~

- 5. Ionization gas blower ; (from DESY ??)
- Particle Counter ; (KEK, need improvement)

Ordered!

Finished!

~~KEK should prepare~~
ASAP.

6. Cavity assembly work in clean room
(middle of January, 2010)

Necessity of Working Team by DESY, FNAL, KEK

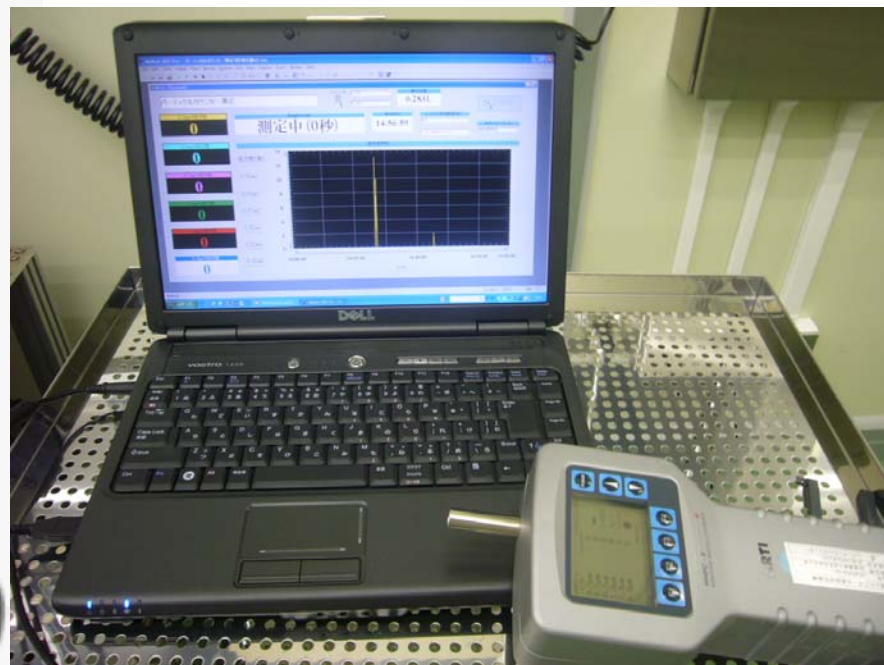
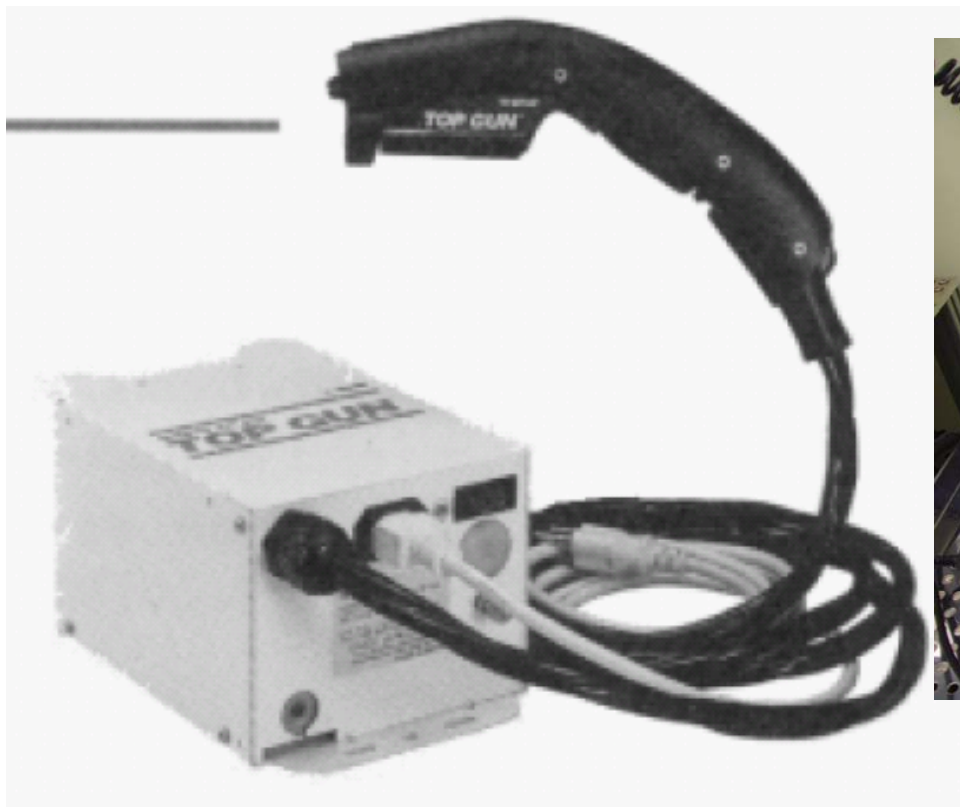
Cavity assembly work
by only 2 persons
in class 10 clean room

- DESY : A. Matheisen, 1 Technician ??
- FNAL : T. Arkan, 1 Technician ??
- KEK : S. Noguchi, E. Kako, Support Staffs

Working team is necessary for assembly in clean room.
KEK need to confirm this work with
DESY and FNAL !!!

TOP GUN 3

Particle Counter Monitoring System





7. Assembly work of Tuner

(middle of February, 2010)

Tuner assembly technique is strongly related to the tuner performance and operation.

Saclay tuner should be assembled by DESY. ??

Blade tuner should be assembled by FNAL. ??

8. Assembly work of Magnetic shields

Assembly of tuner and magnetic shields will be carried out in the same period.

DESY and FNAL will join this assembly. ??

**KEK can not guarantee the tuner performance !!!
Tuner system should be tested with DESY and FNAL.
We need more discussion with DESY and FNAL.**

9. Installation of **4 warm** couplers

(middle of March, 2010)

Need confirmation with DESY.

10. Conditioning of 4 TTF-III couplers before cool-down

(end of August, 2010)

2 couplers by SLAC, OK.

2 couplers by DESY,

2 DESY experts (W.-D. Moeller and D. Kostin) ???

will undertake this coupler work. ??

11. Meeting for assembly work at KEK

We do not have enough time
for preparing cavity assembly work.
We need more discussion
to confirm the procedure.

We propose the meeting at KEK:

participation of Axel, Wolf-Dietrich,, (DESY)
Jim, Tug,, (FNAL)
at least 2 days,
see & check STF clean room, then discussion
end of Oct. or beginning of Nov.

Nov. 10-12
Jim Kerby
(FNAL)

The next meeting by Webex is OK. (Oct. 13th)
But, we really need the face-to-face meeting at KEK !!!



What is the next ?

1. Contact person for the transportation of the cavities?
 - . KEK (Kako)
 - . DESY (?)
 - . FNAL (?)
2. Schedule of cavity preparation ?
3. Can DESY make a time to participate
the Video/Webex meeting at KEK?
Date is Nov. 10th or 11th or 12th , for ~ 2 hours.
in a preferable time at DESY.
4. Are there any comments on ?
 - . Cavity assembly
 - . Tuner assembly and Tuner Testing
 - . Coupler assembly and Coupler processing
 - . Other proposal ??