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Mazda 626

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Mazda 626

- disassembly of an engine

Content

Introduction	**4**
The assignment	**6**
Disassembly of engine	**8**
Mould making	**12**
Casting	**13**
Soldering a wire frame	**14**
Digital drawing	**16**
Making of plywood box	**18**
Exhibition	**20**
Results	**22**

Introduction

Years of teaching have revealed coherence between student's ability to reflect upon abstract and theoretical question on one hand, and on the other to embed these reflections in architectural solutions. In other words, clarity in students work is often a result of student's ability to think clear.

In the exercise "Mazda 626" the coherence between thinking and doing in architectural practice has been pursued. Thus the primary aim has been to emphasize precision in the making of architectural objects and hereby strengthen the student's capacity for reflection.

Secondary the aim has been to introduce students to a generic study process. This has been the result of a general an increasing diversity in the methods used in the development of architectural solutions, research and projects. Generic methods have proved their usefulness in architectural research and during the past two decades this practice has been applied generally in the development of architectural projects.

Finally the aim has been to introduce to the students a series of techniques necessary for the development of architectural projects. These techniques has been; architectural sketching and drawing, digital techniques (Sketch-up, Photoshop, In-design) model making (casting plaster, soldering wire frames, woodworking).

Assistant Professor, Ph.D, Architect Charlotte Bundgaard
Tutor, Architect Ole Egholm Pedersen
Associate Professsor, Ph.D, Architect Anders Gammelgaard Nielsen

The assignment

Title:
Mazda 626

Aim:
Emphasize precision in the making of architectural objects and hereby strengthen the clarity in student's reflection.
Introduce a generic study process
Introduce a series of techniques necessary for the development of architectural projects.

Description:
An engine from a Mazda 626 is disassembled and analysed in terms of its functionality. The components of the engine are all washed and cleaned from oil stains with engine detergents

The components are distributed among the students (one component for each student)

Each component is placed on a sheet of cardboard. The component is encapsulated by a covering of cardboard thus forming a mould. The covering has to be formed orthogonally and in relation to the component
A frame of cardboard is placed orthogonally around the encapsulated component. A distance of min. 20mm has to be kept between the frame and the covering. The frame has to be min. 50mm higher than the covering.

The mould is reinforced with extra cardboard and cast with plaster.
The cast object is removed from the mould and the engine component is replaced in the cavity of the plaster object.

Using the technique of soldering, a wire frame identical to the outline of the cast object is formed in steel wire.

The engine component, the cast object and the wire frame is arranged an integrated composition. Drawings of the composition are made using hand drawing and digital techniques.

A box of plywood is made to hold the composition.

All compositions are exhibited at the School of Architecture, Aarhus

Disassembly of engine

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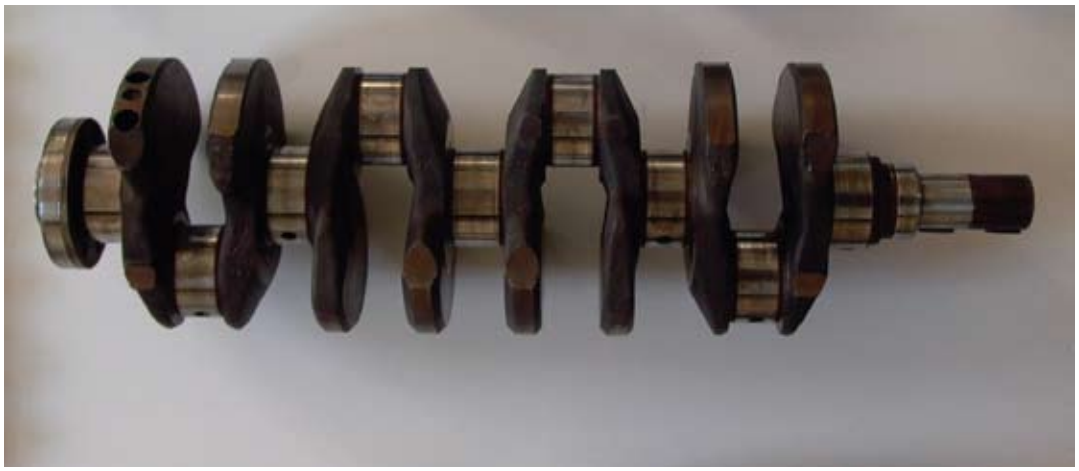
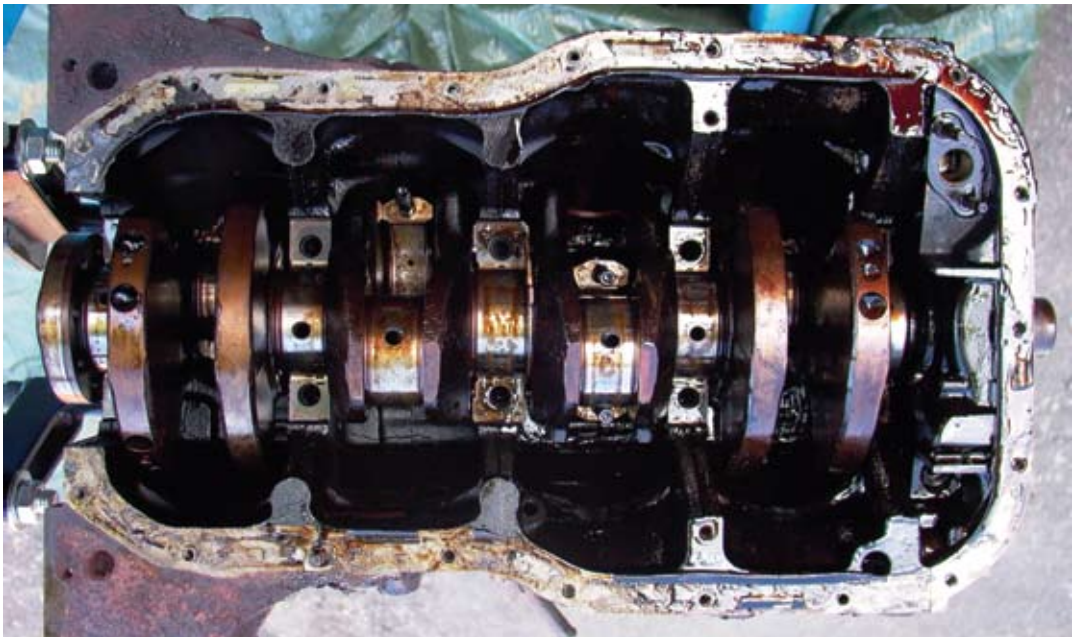
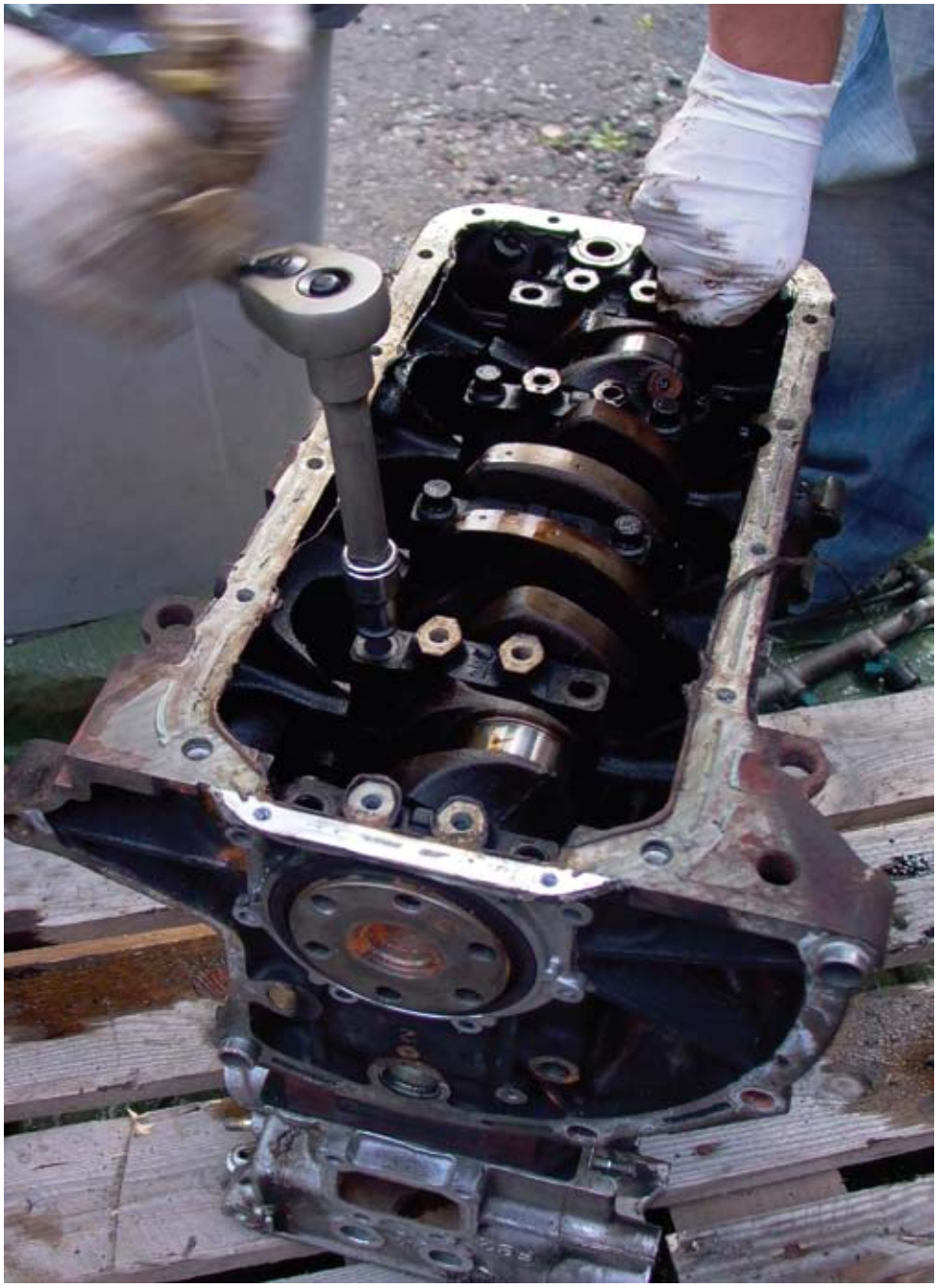
The engine is disassembled and the individual components are cleaned with detergents



Crankshaft after cleaning



The interior of the engine, showing the crankshaft

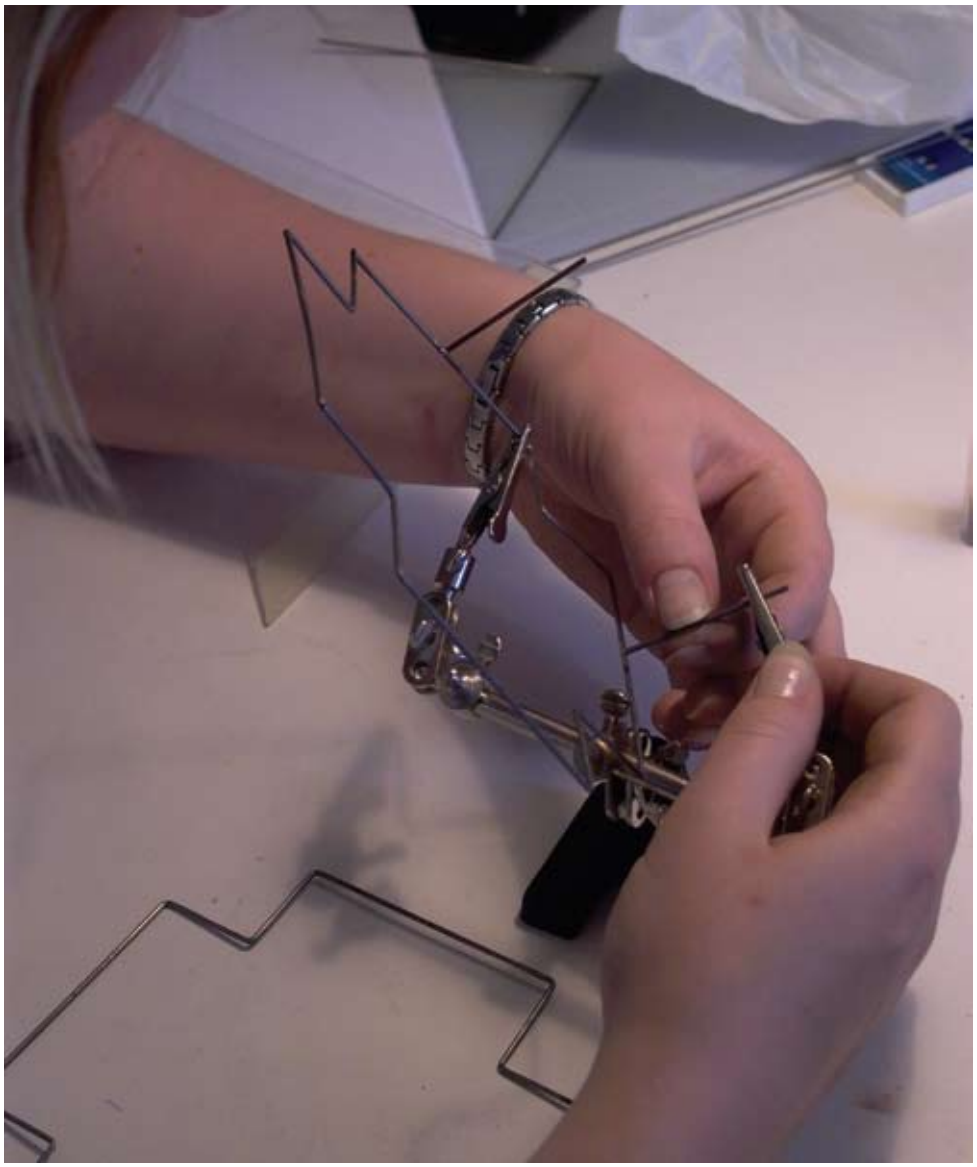


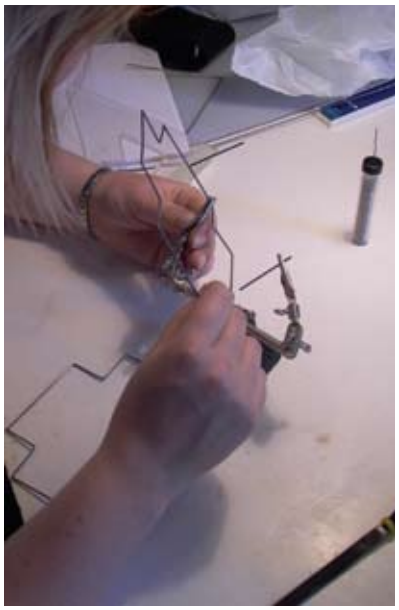
Disassembling the engine

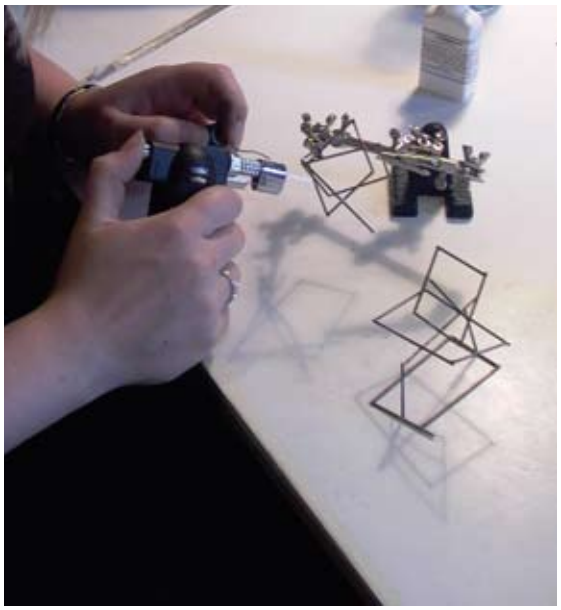
This page
The engine component is encapsulated in cardboard, thus forming a mould. The covering is designed orthogonally, in relation to the component

This page

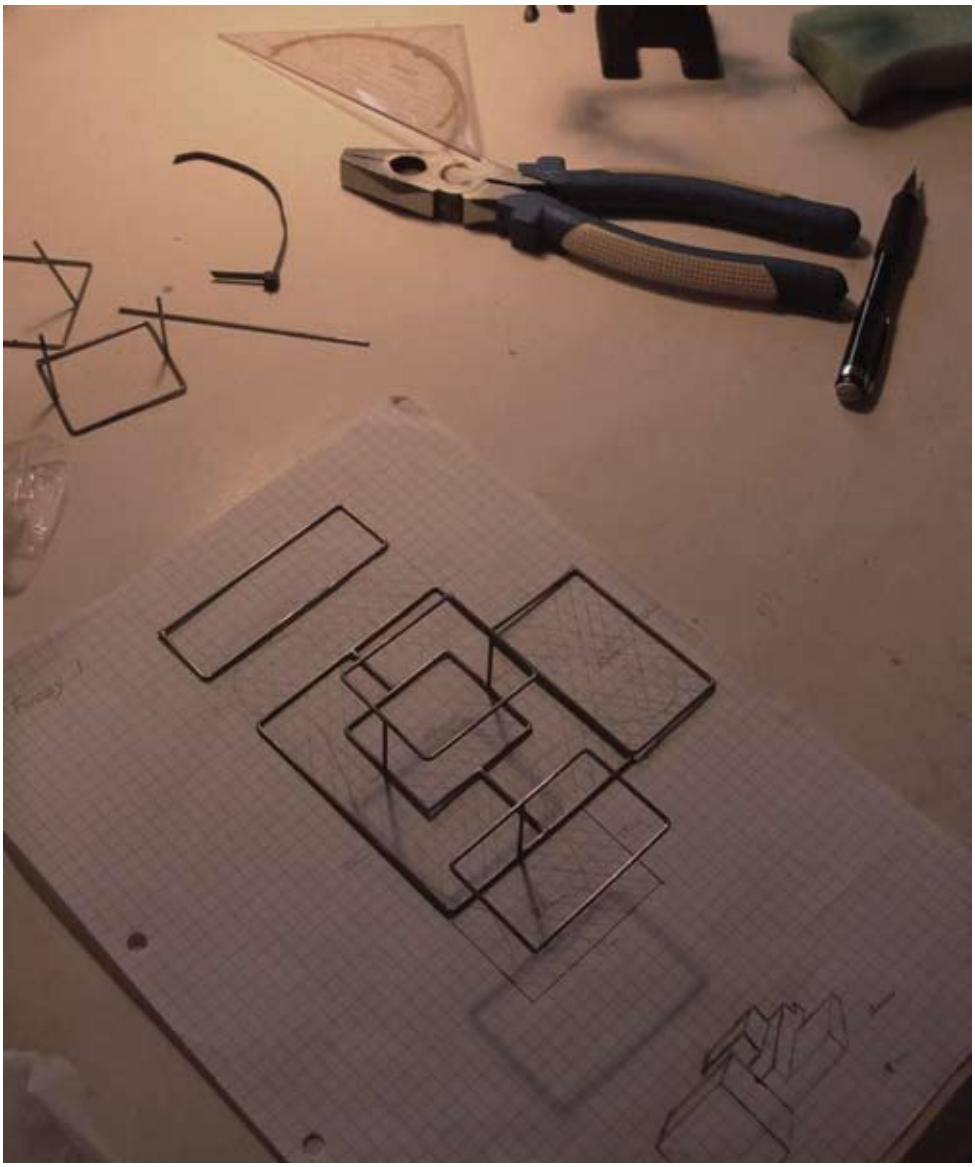
Casting the mould in plaster

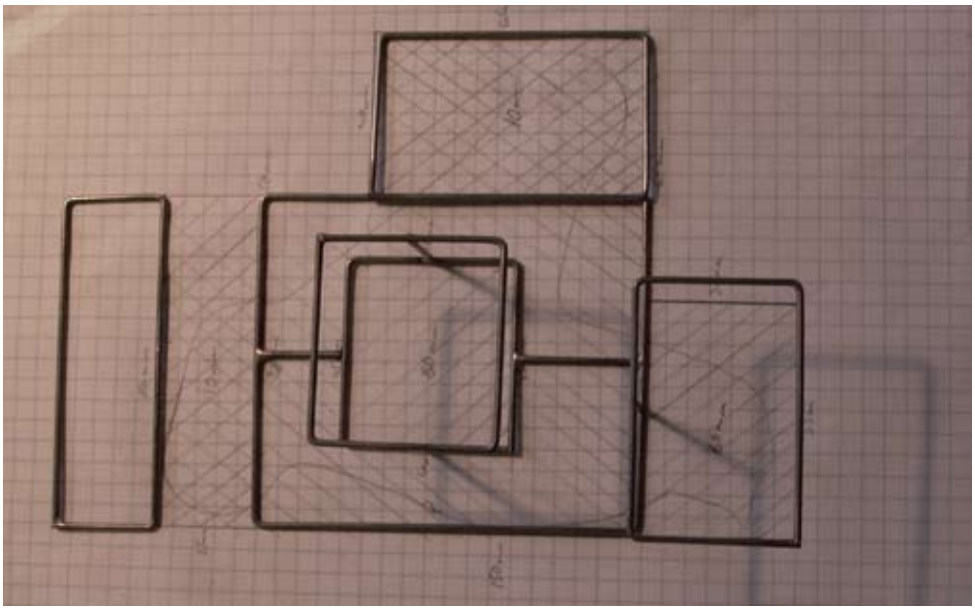




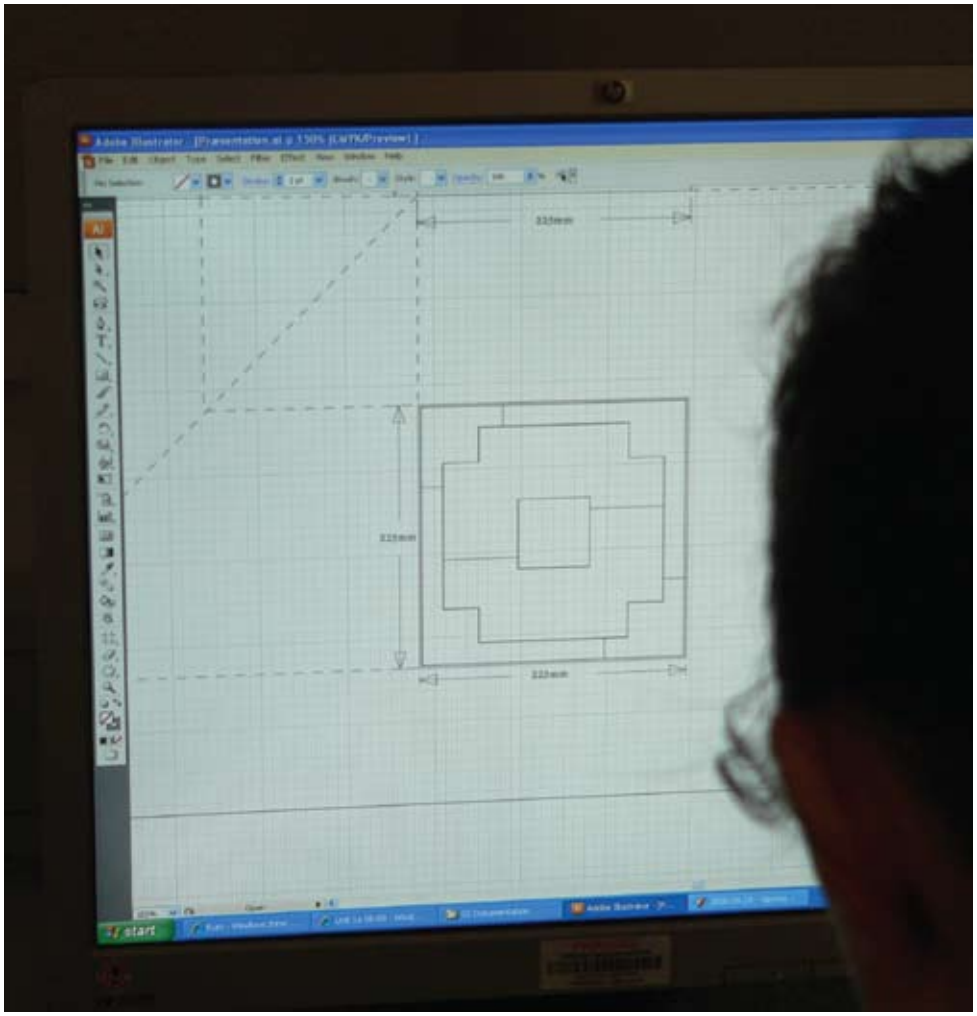


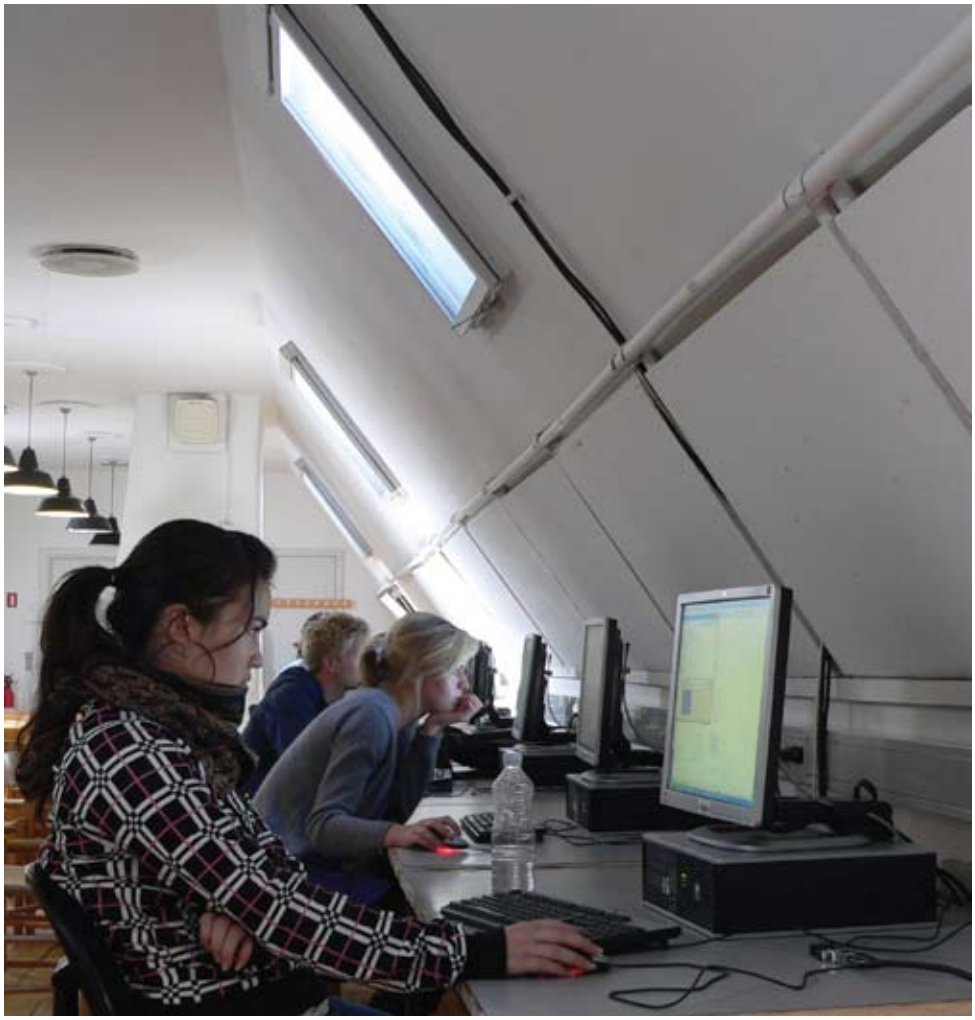
This page
Using the technique of soldering, a wire frame identical to the outline of the cast object is formed in steel wire.





This page Ajusting the wire frame according to the measures of the cast plaster object


start



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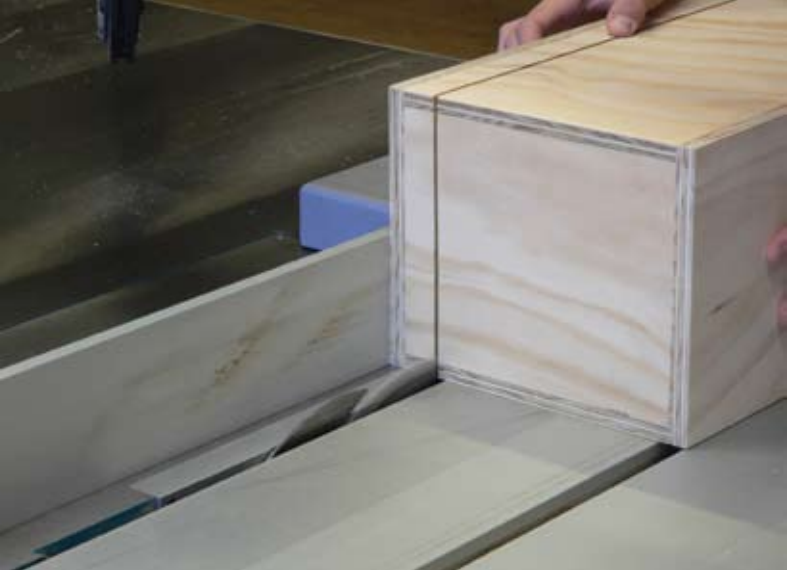
Drawing the plaster/wire object in Skecth- Up



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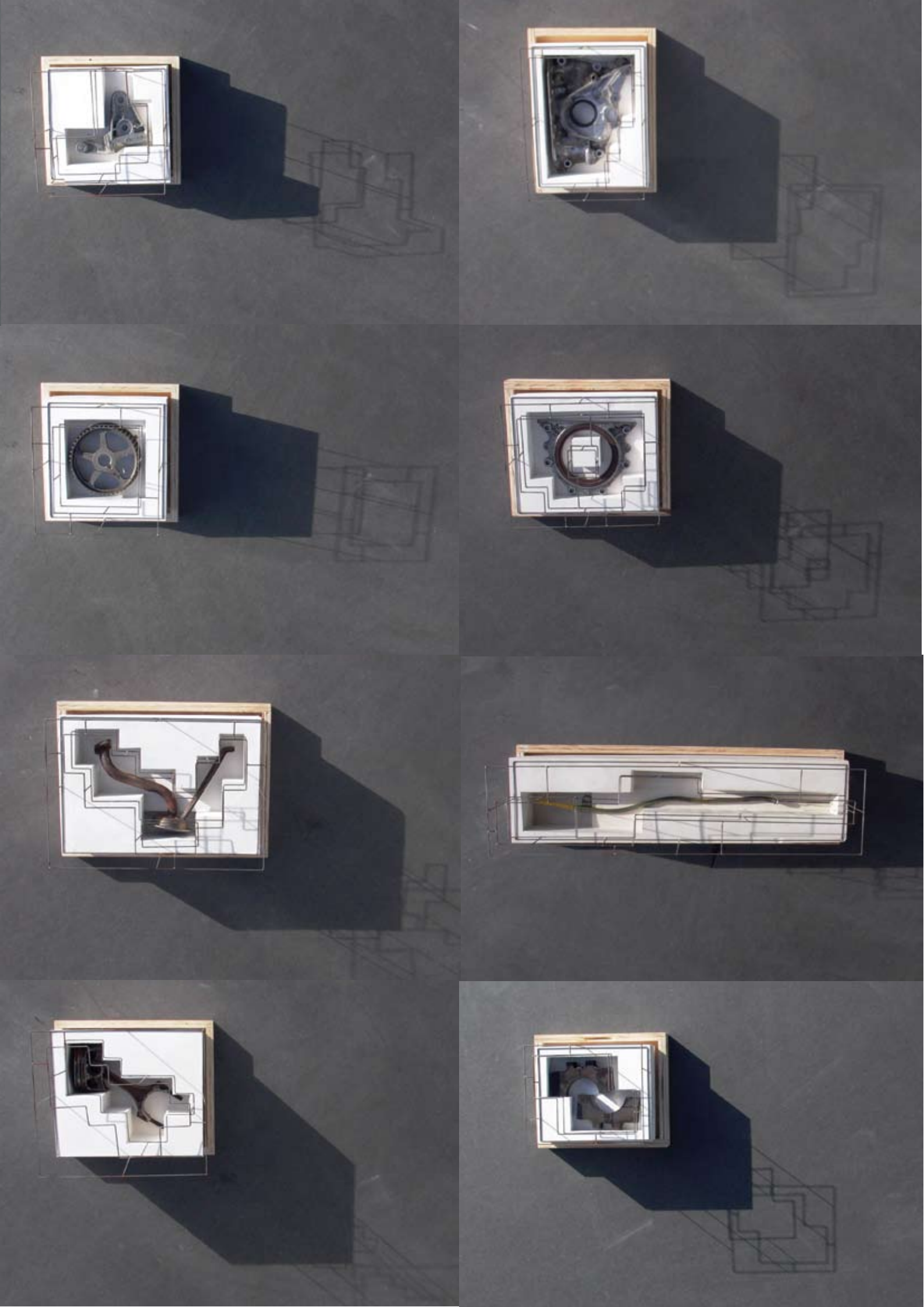
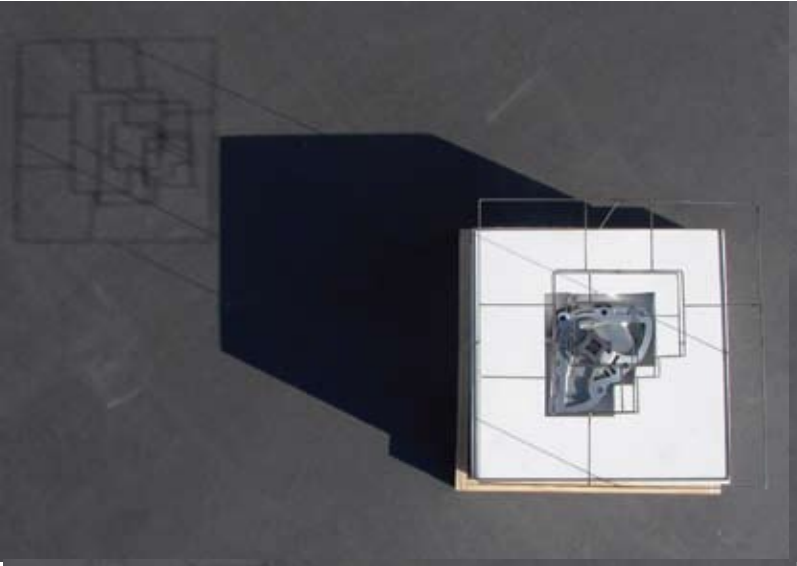
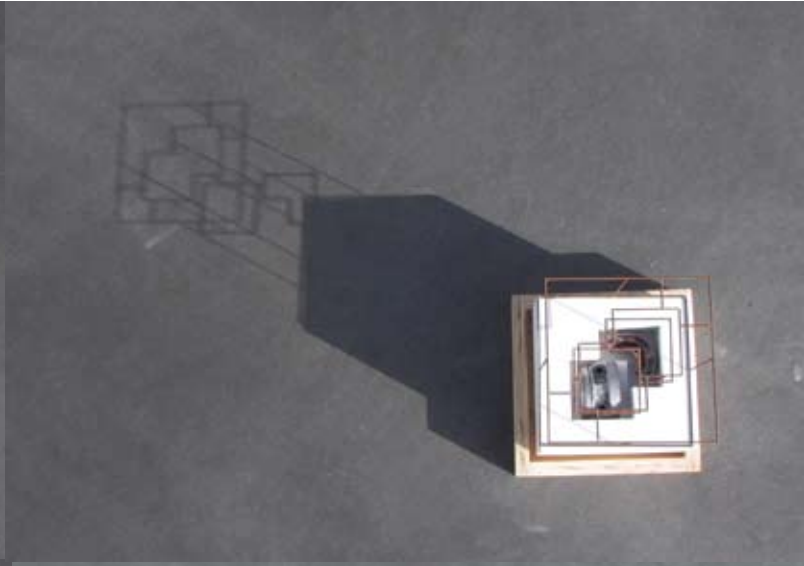
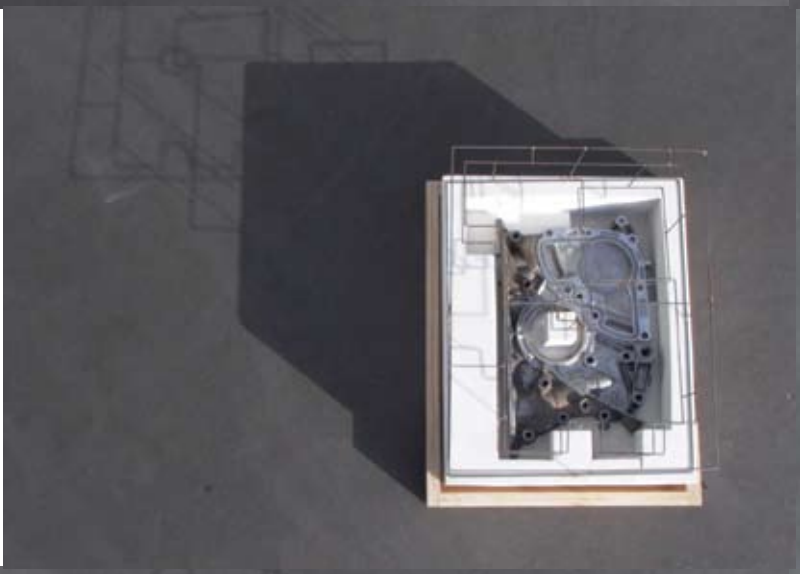
Making a plywood box for the plaster/wire object. During the process a series of woodwork machines are to be operated (circular sav, router etc.)

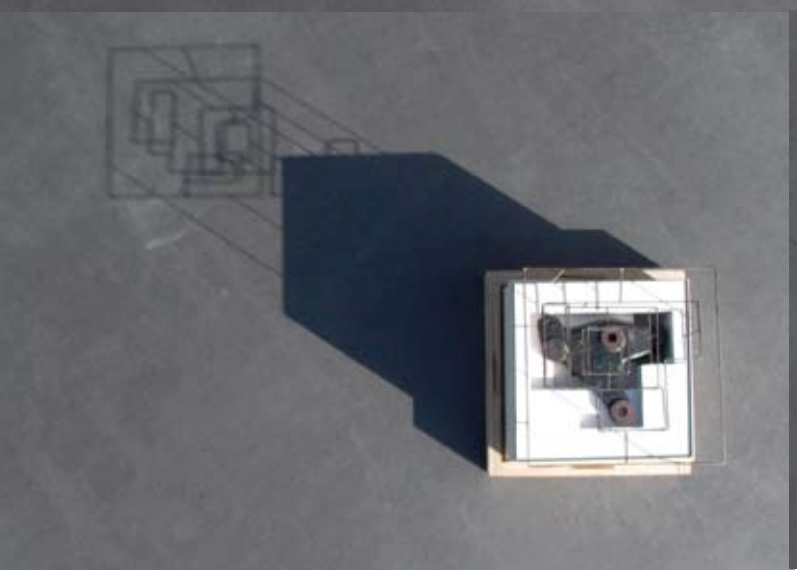
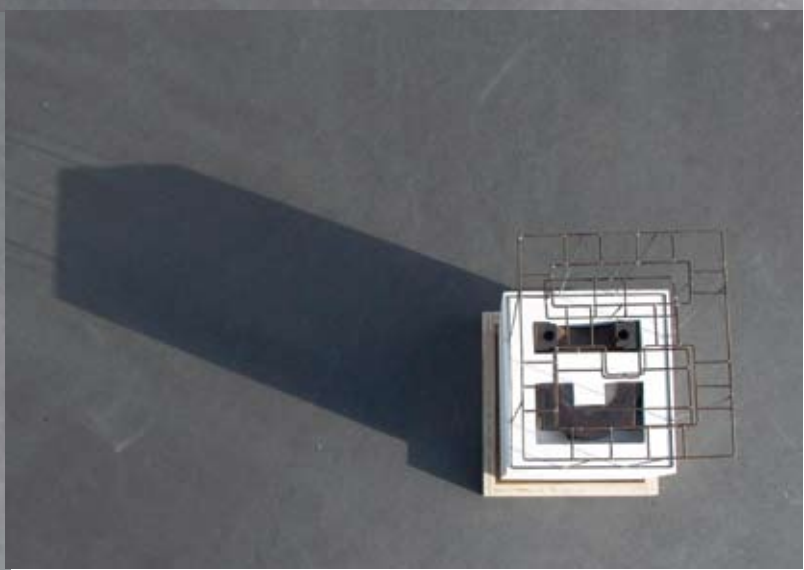
Exhibition

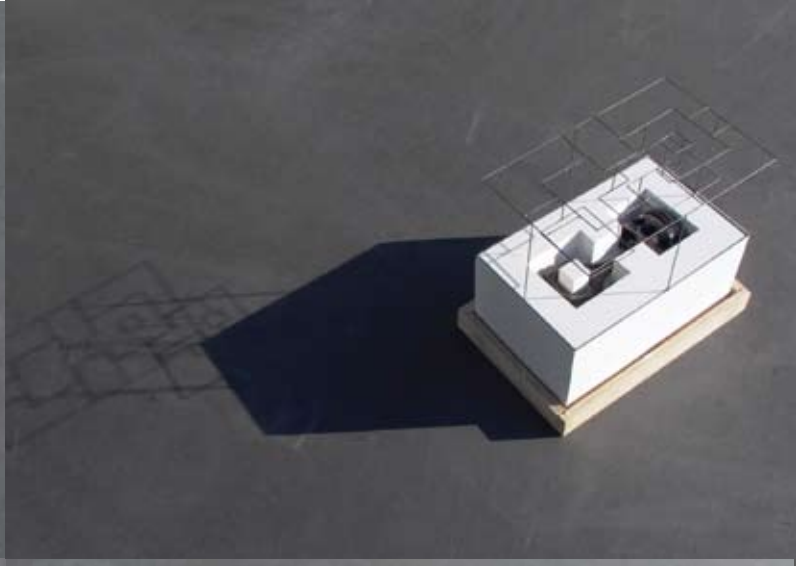
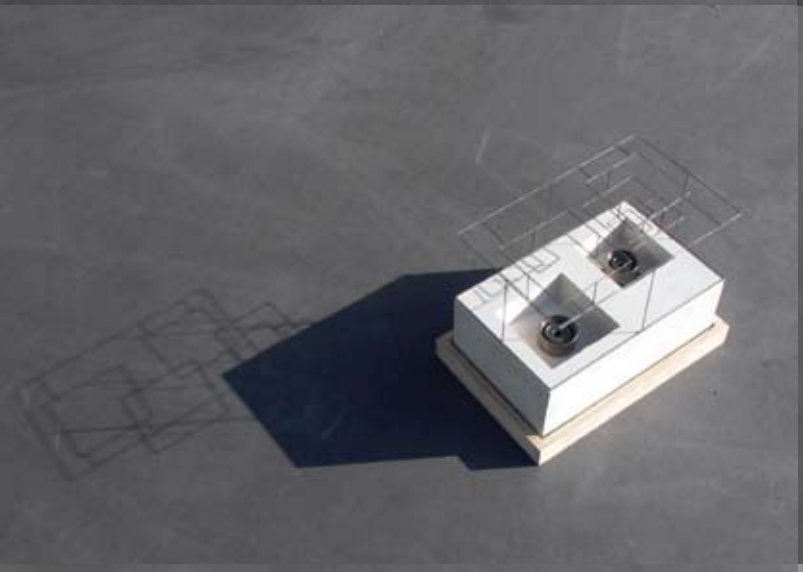
This page

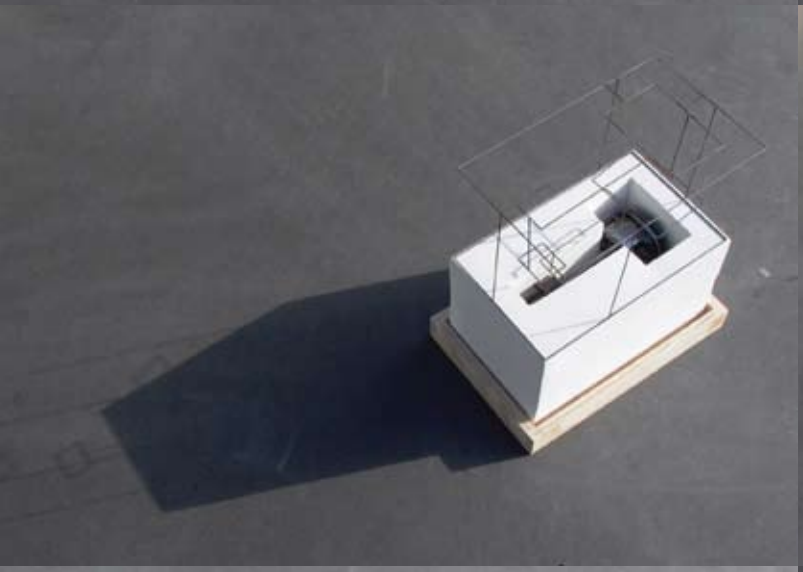
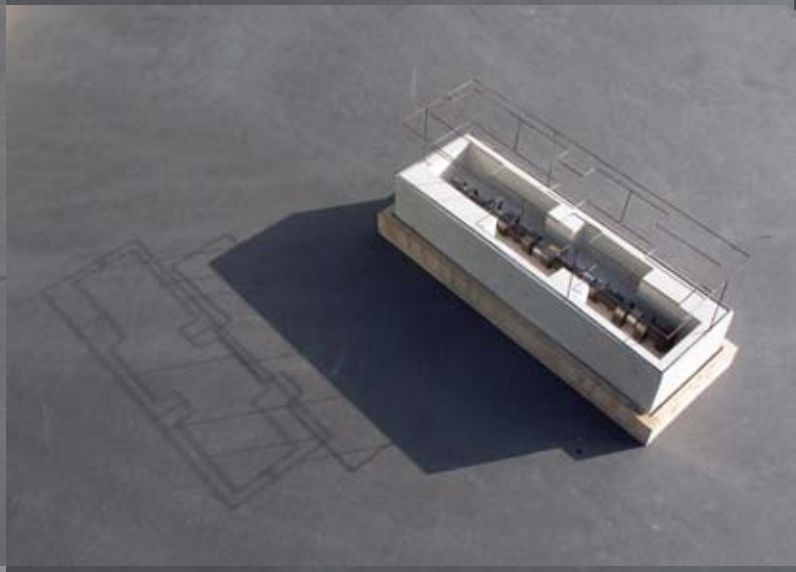
Opening of the exhibition

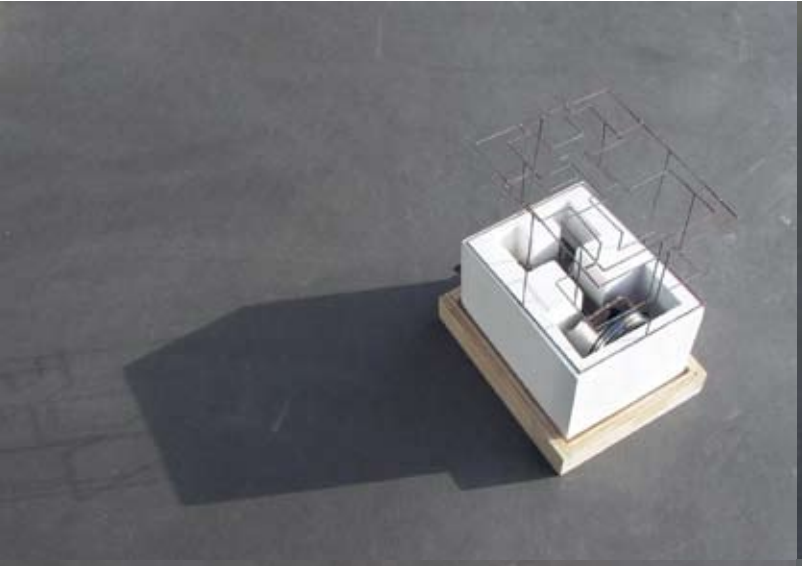
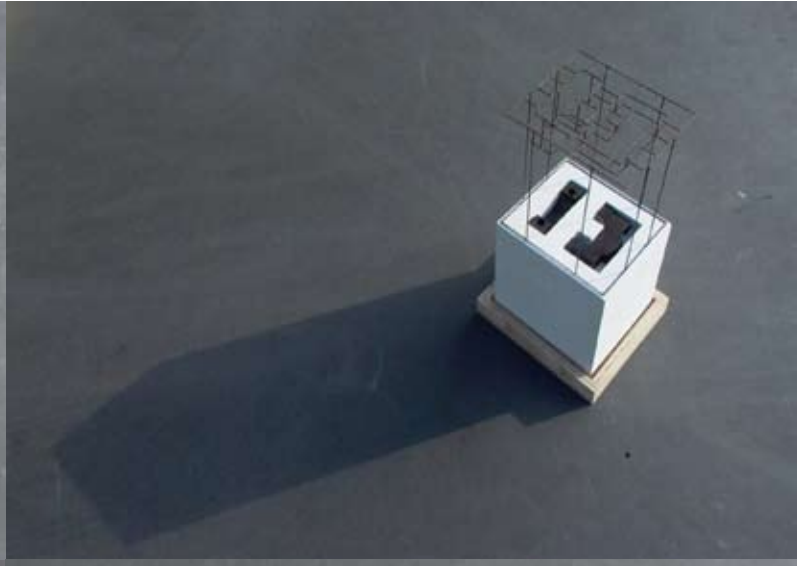


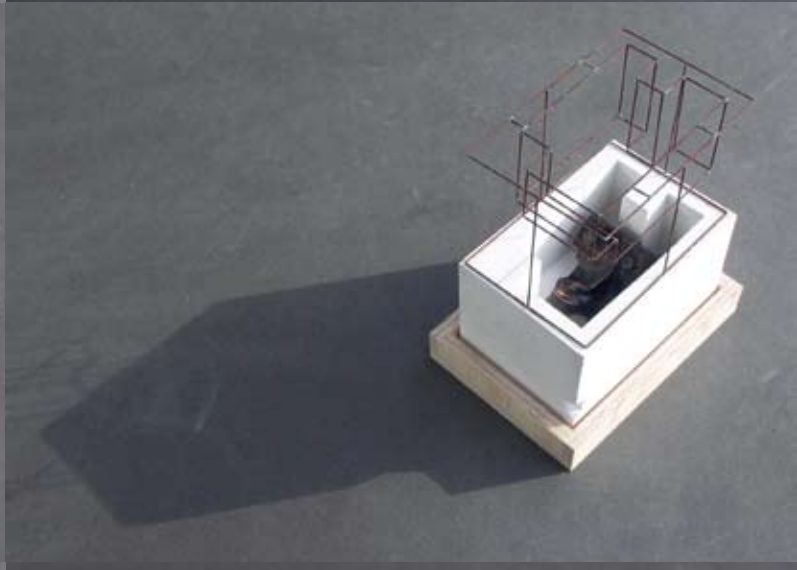




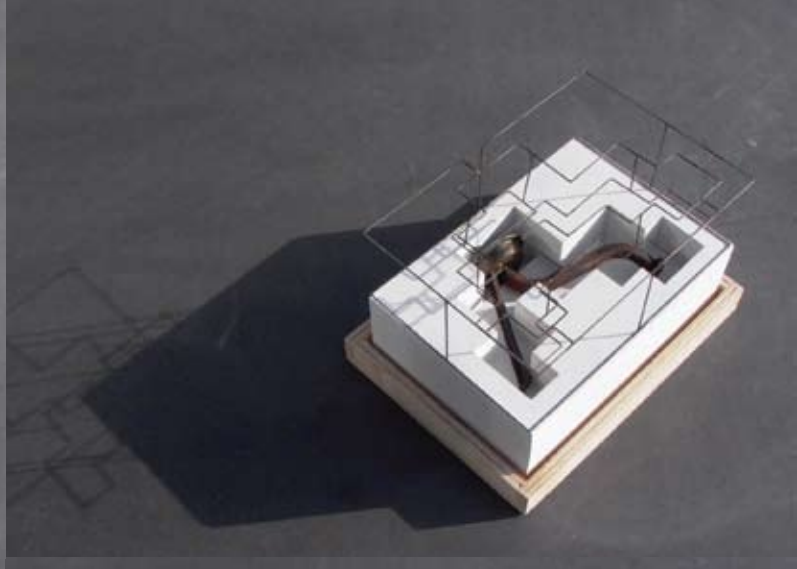



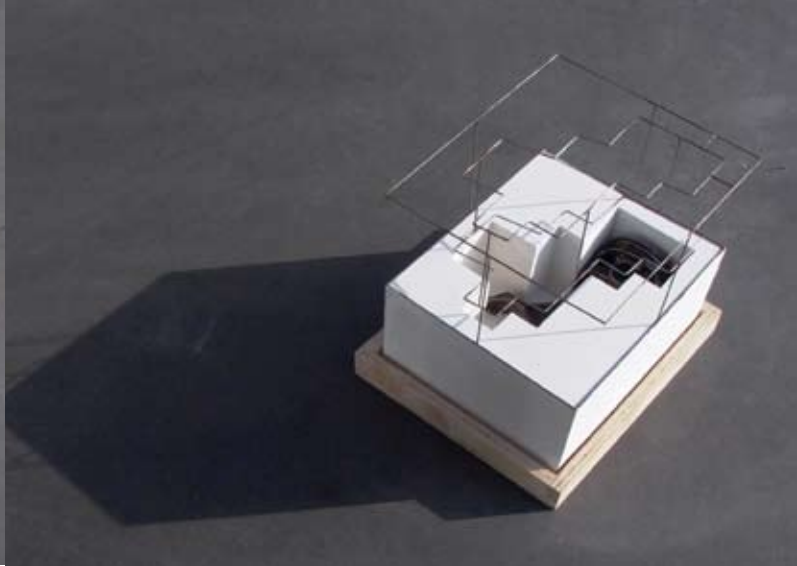









previous pages
Various compositions of cast plaster objects, engine parts and wire frames

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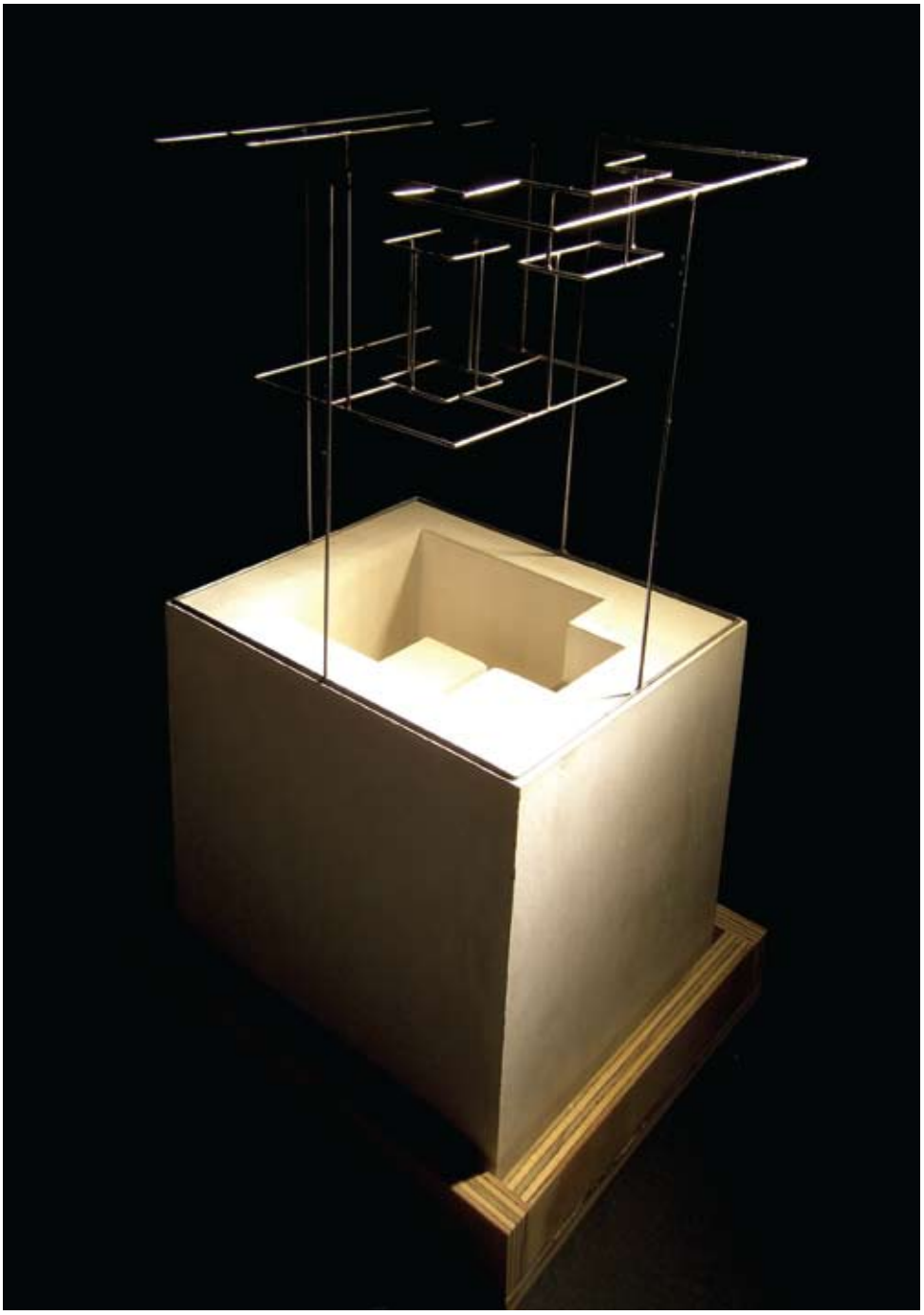
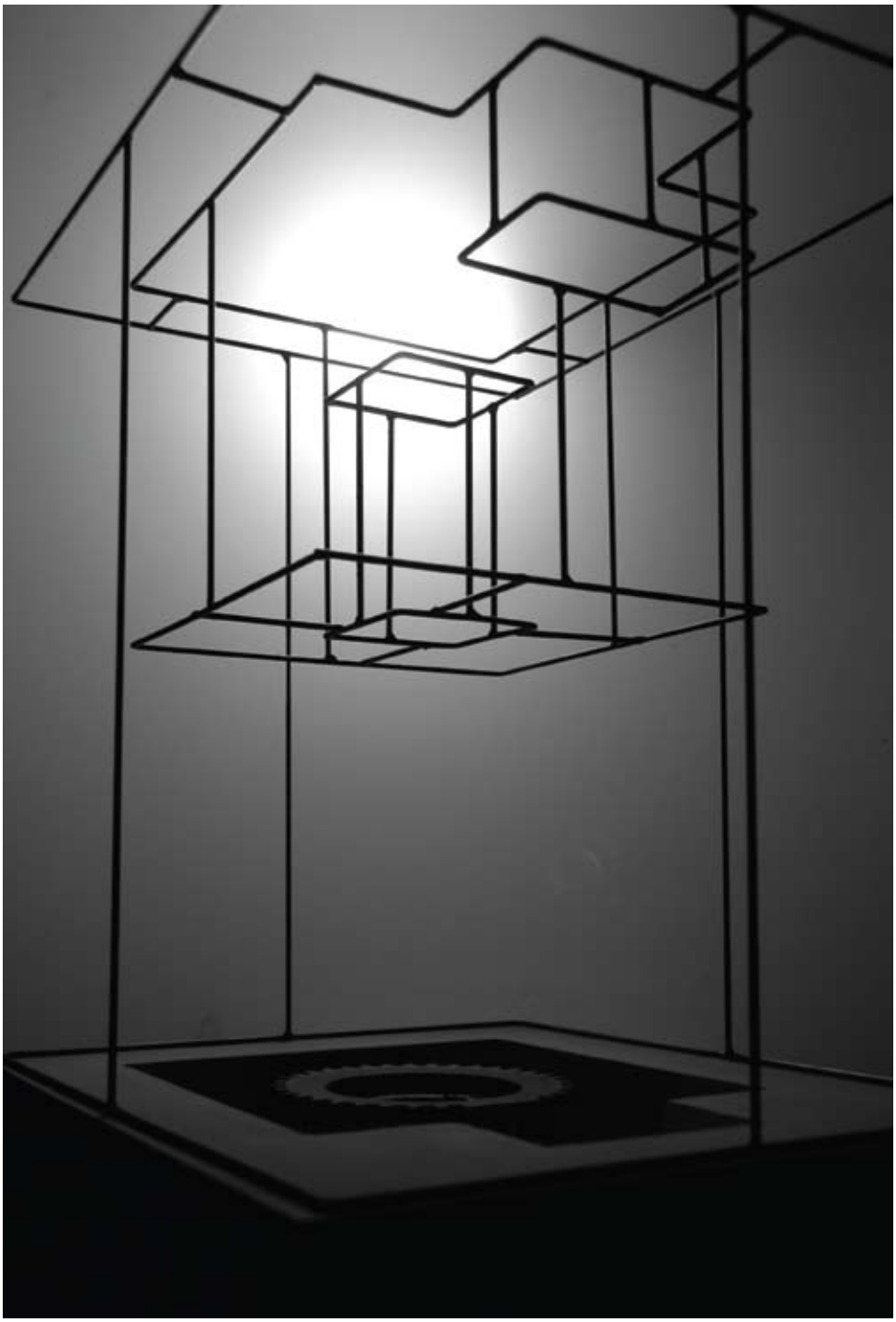
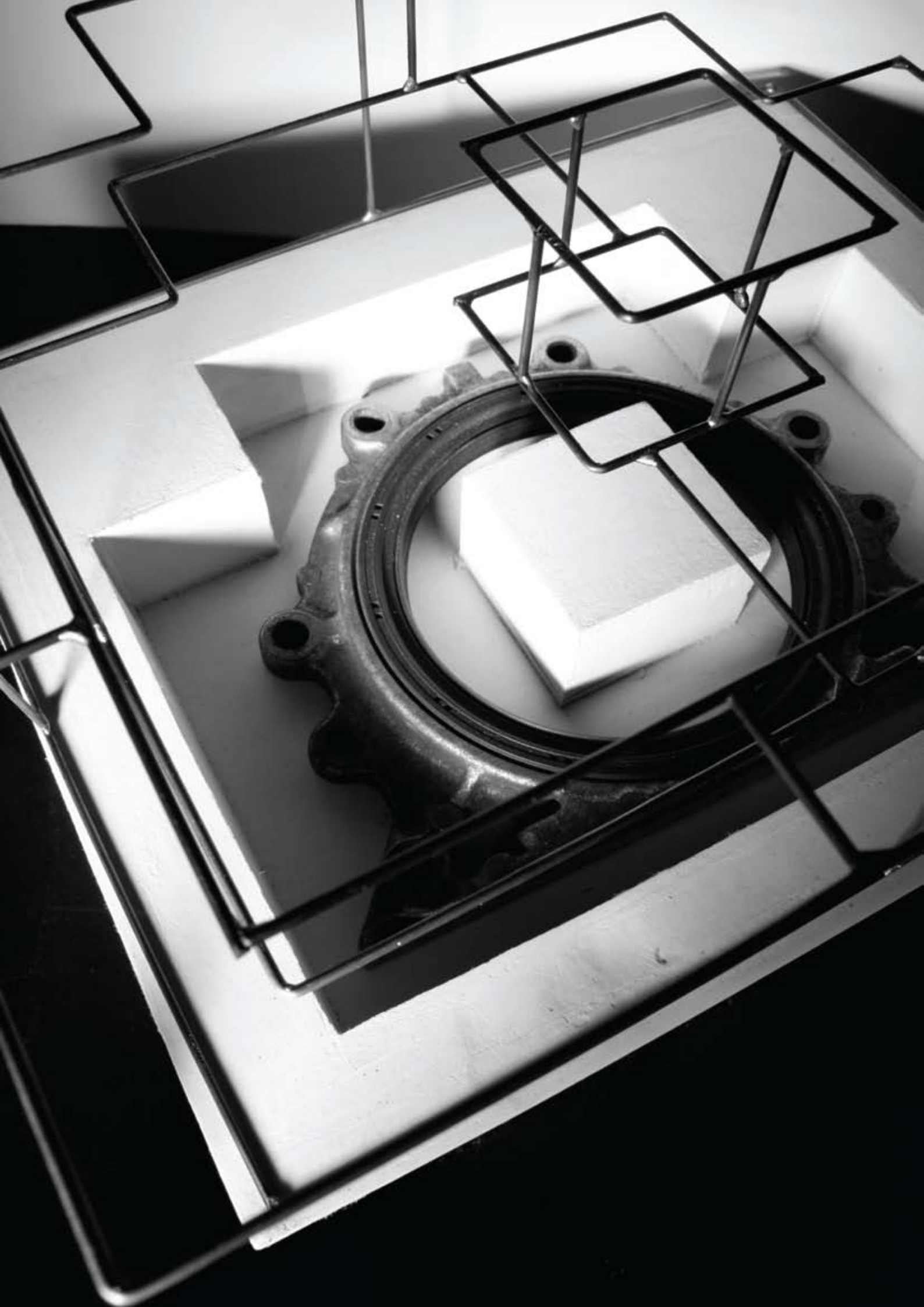
Detail, Various objects

Composition



Composition

Detail, composition

Opposite page
Detail, composition