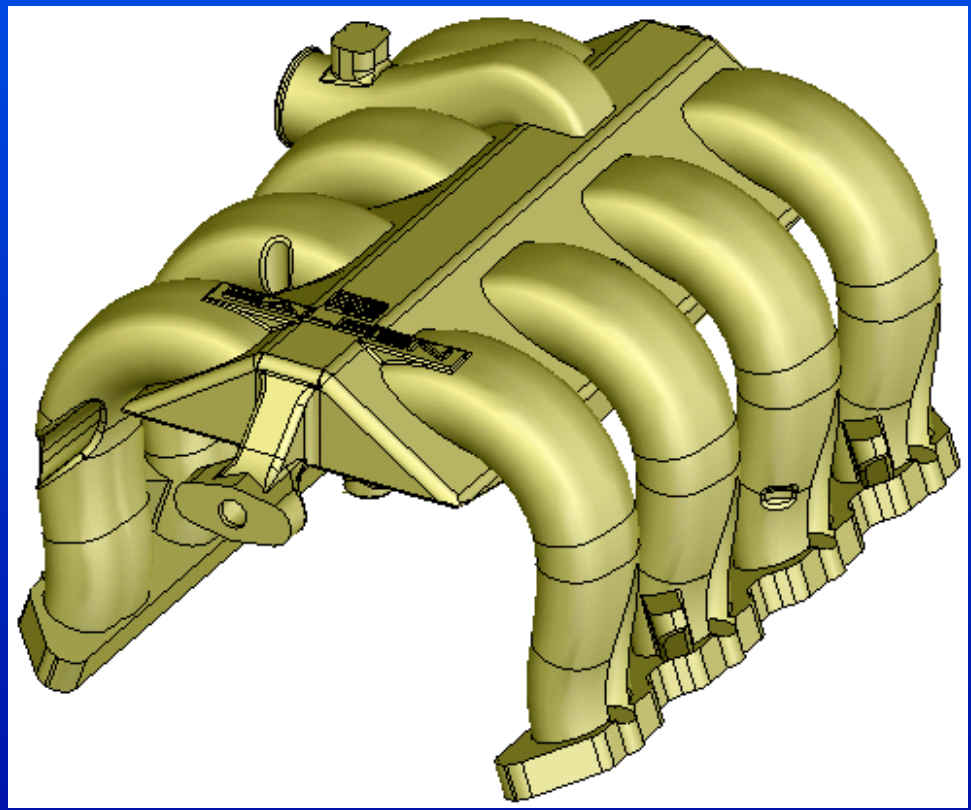
RAPID PROTOTYPE CASTINGS

Using the Lost Foam Process

to make Prototypes

LOST FOAM PROTOTYPE CASTING

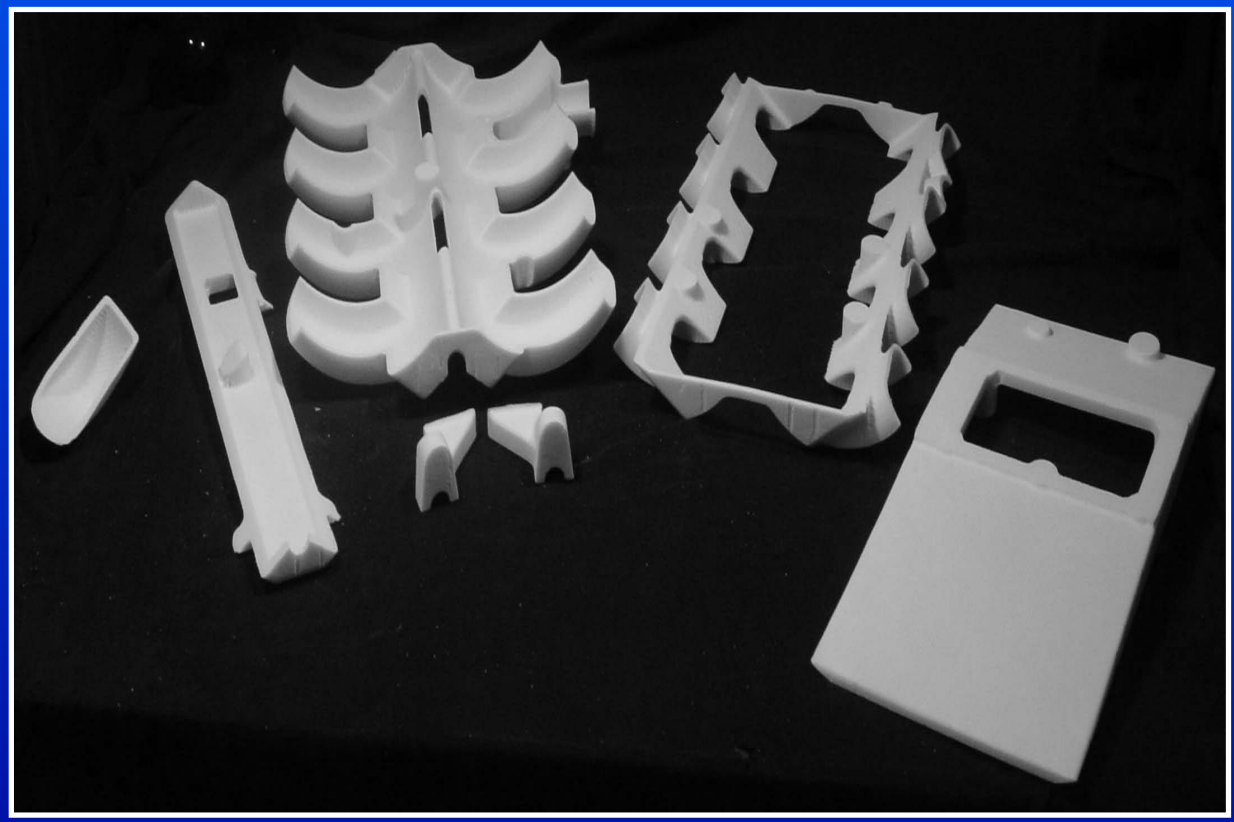
Example Aluminum Part



Air Intake Manifold CADD Data

LOST FOAM PROTOTYPE CASTING

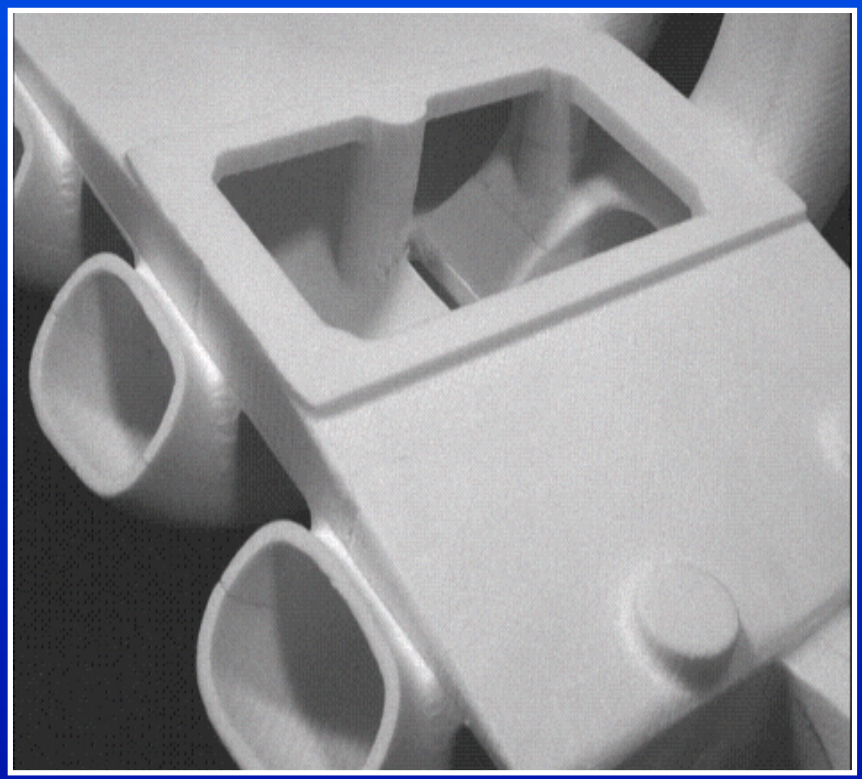
Example Aluminum Part



Air Intake Manifold Pattern Pieces Cut

LOST FOAM PROTOTYPE CASTING

Example Aluminum Part



Air Intake Manifold Partial Pattern Assembly

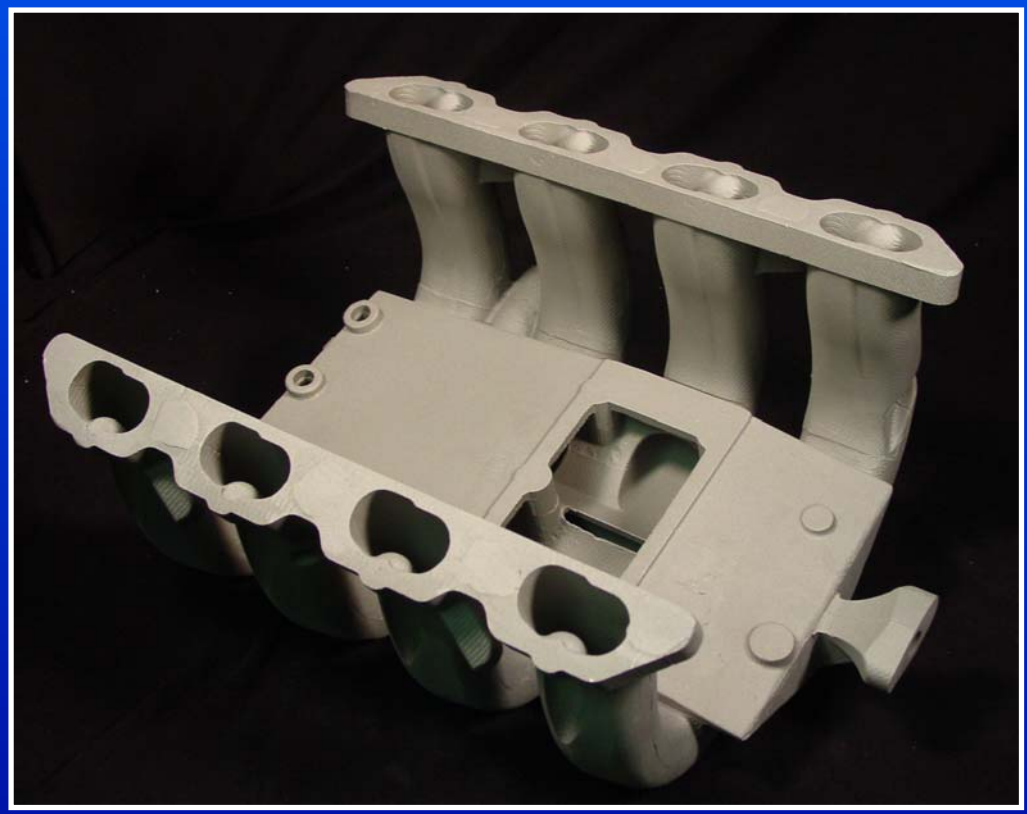
LOST FOAM PROTOTYPE CASTING

Example Aluminum Part

Air Intake Manifold Casting

LOST FOAM PROTOTYPE CASTING

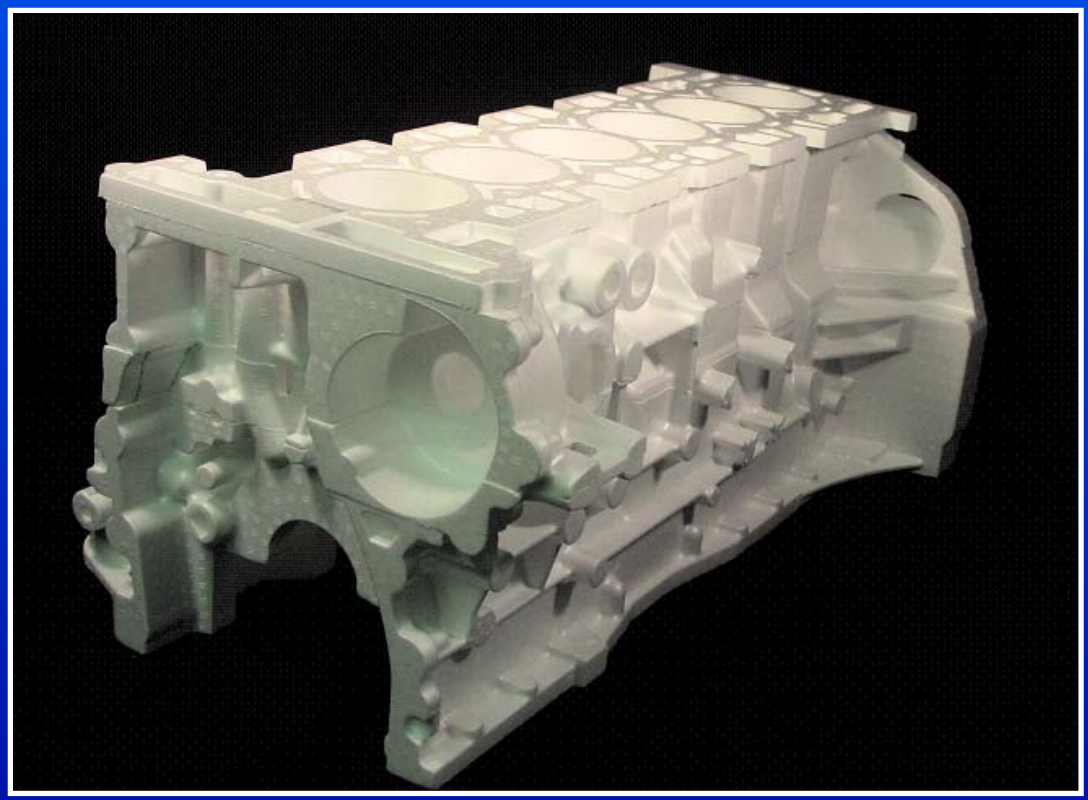
Example Aluminum Part



Air Intake Manifold Casting

LOST FOAM PROTOTYPE CASTING

Example Aluminum Part



Engine Block Prototype Casting Project

LOST FOAM PROTOTYPE CASTING

Example Aluminum Part

Engine Block Segment D Bottom View

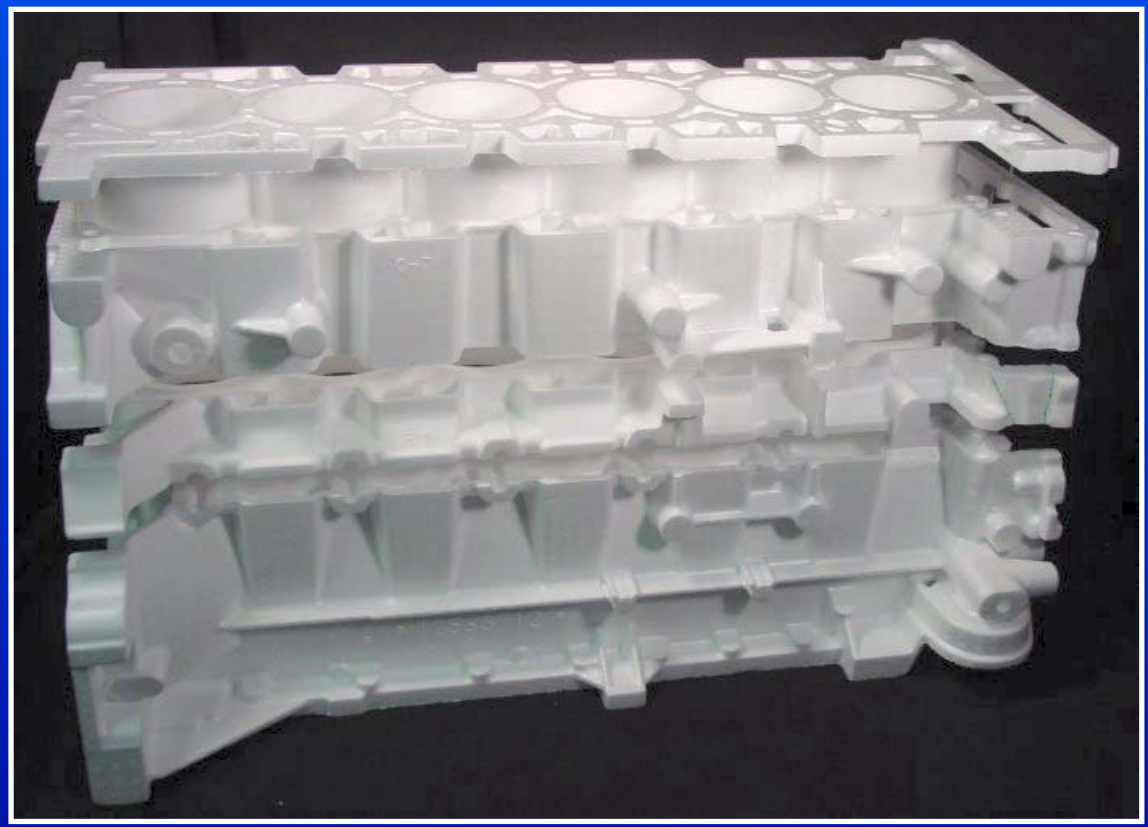
LOST FOAM PROTOTYPE CASTING

Example Aluminum Part

Engine Block Made from Pattern Segments

LOST FOAM PROTOTYPE CASTING

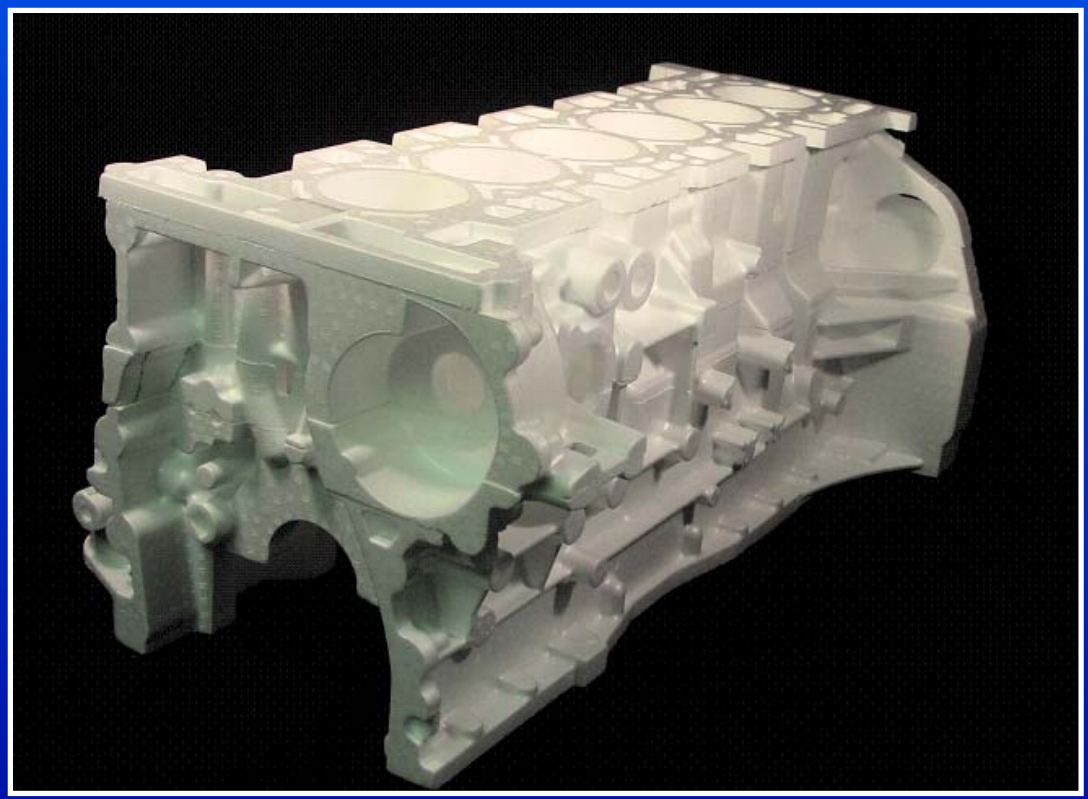
Example Aluminum Part



Engine Block Segment Showing Cored Areas

LOST FOAM PROTOTYPE CASTING

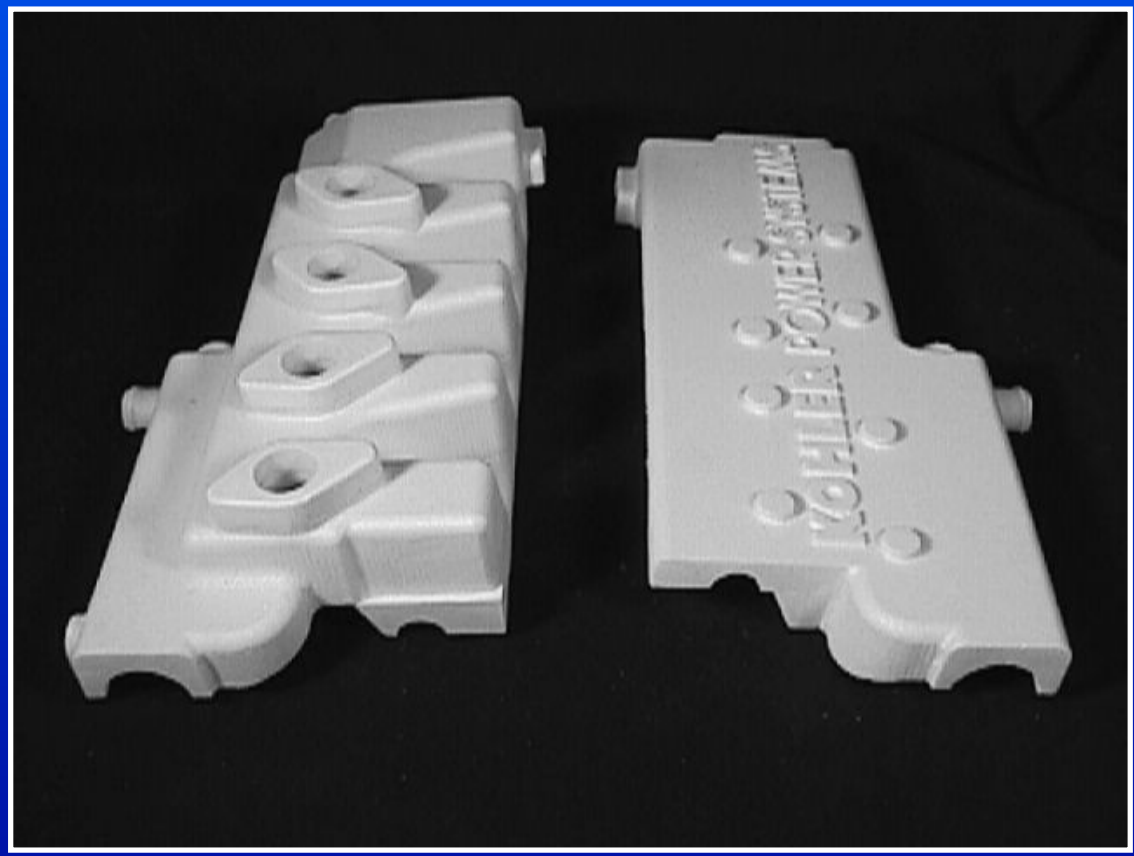
Example Aluminum Part



Engine Block Pattern Assembled

LOST FOAM PROTOTYPE CASTING

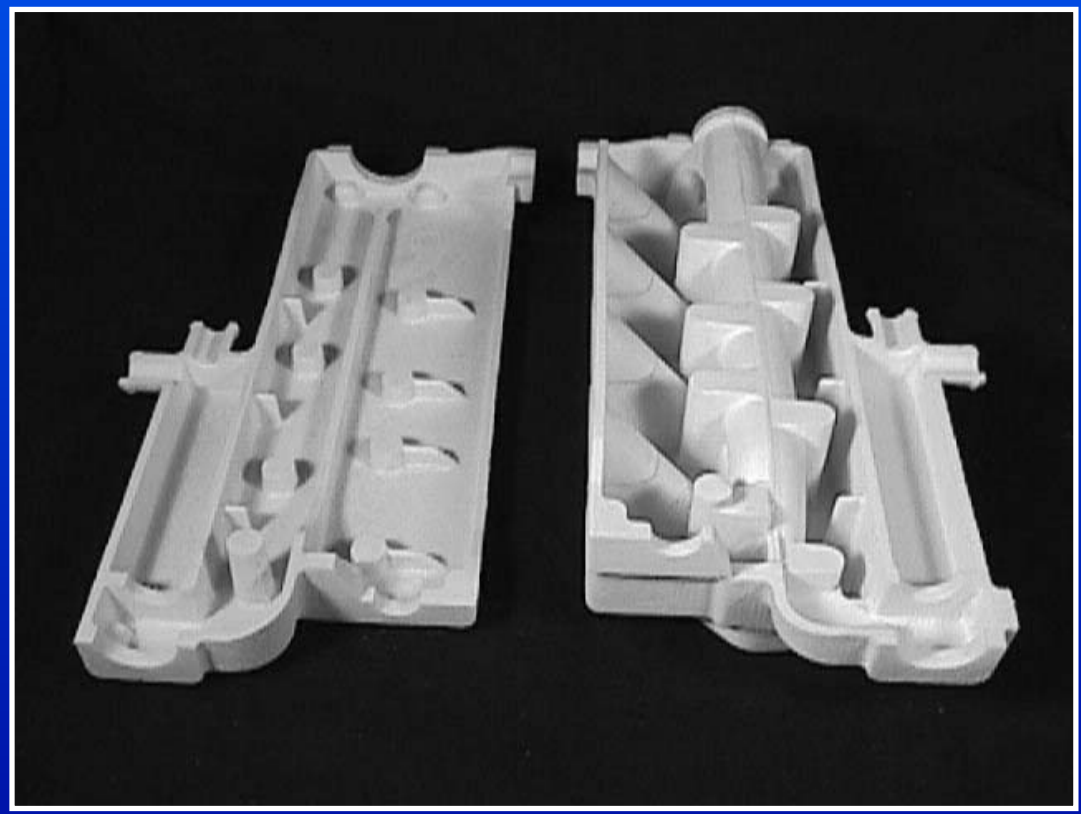
Example Aluminum Part



Water Cooled Manifold Exterior Surfaces

LOST FOAM PROTOTYPE CASTING

Example Aluminum Part



Water Cooled Manifold Interior Surfaces

LOST FOAM PROTOTYPE CASTING

Example Aluminum Part

Water Cooled Manifold Casting Engine Face

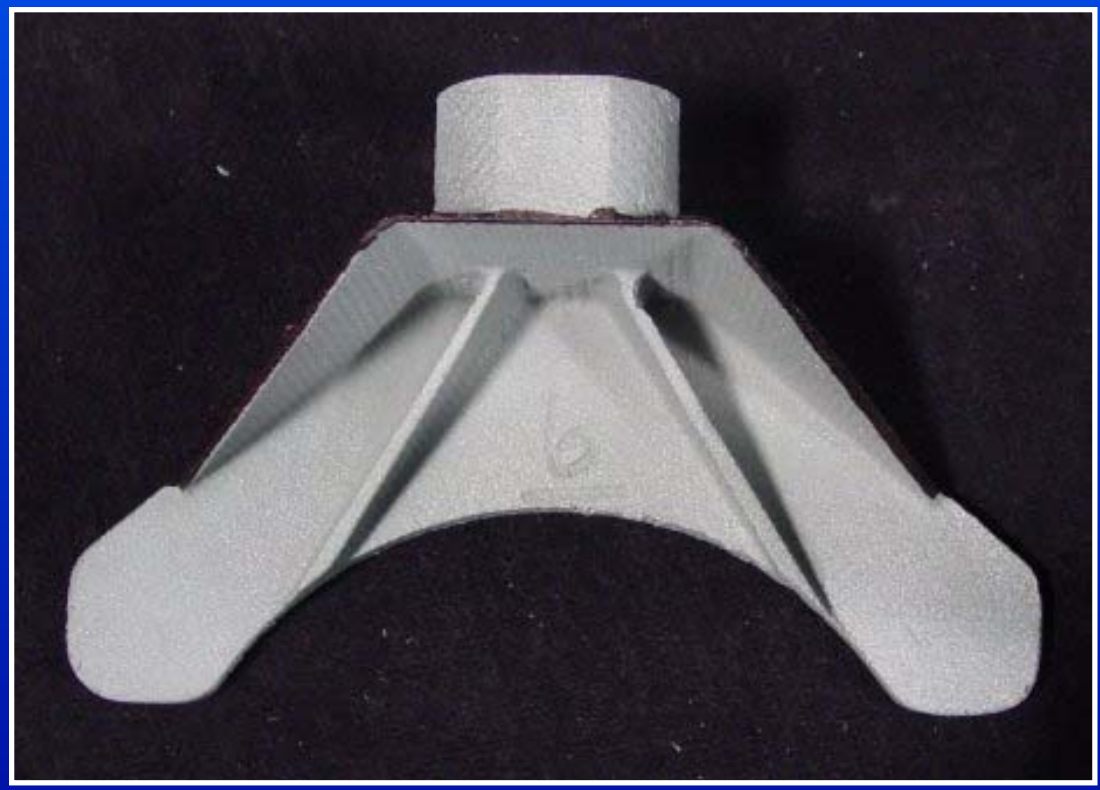
LOST FOAM PROTOTYPE CASTING

Example Aluminum Part

Water Cooled Manifold Show Face

LOST FOAM PROTOTYPE CASTING

Example Aluminum Part



Prototyping Die Castings Using Lost Foam Prototyping

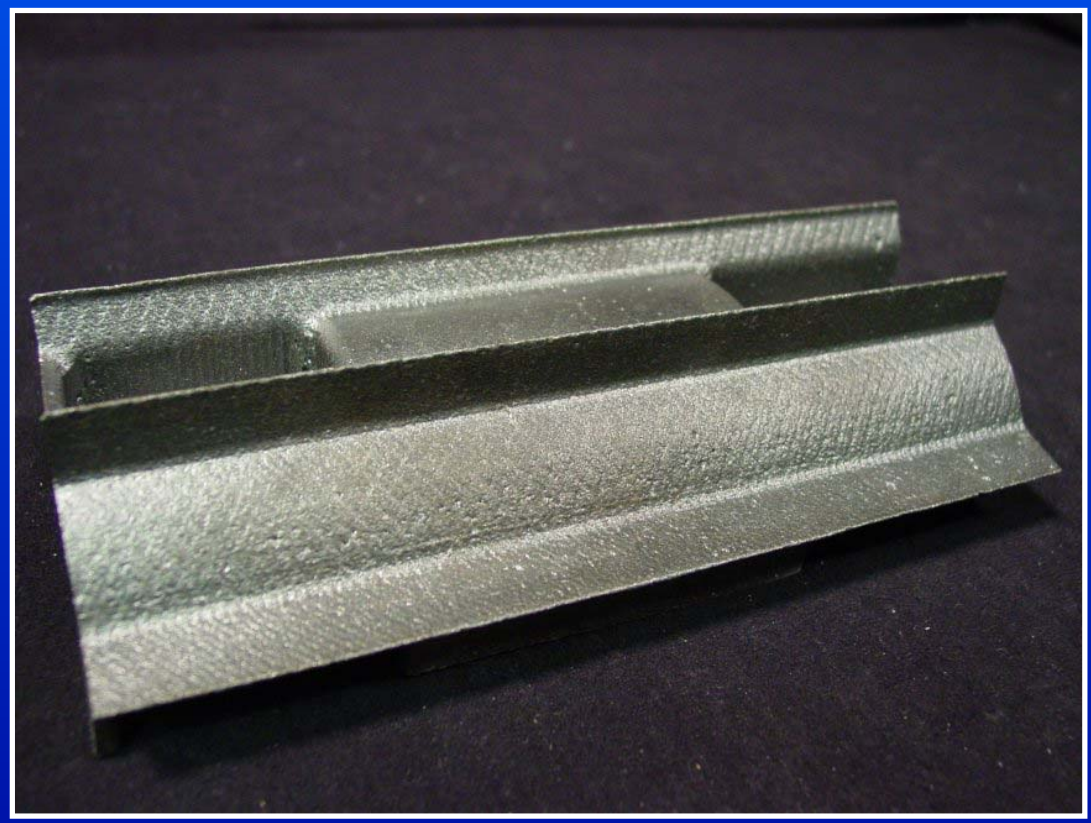
LOST FOAM PROTOTYPE CASTING

Example Aluminum Part

Thin Wall Sections

LOST FOAM PROTOTYPE CASTING

Example Iron Part



Agricultural Combine Part – Blade Section

LOST FOAM PROTOTYPE CASTING

Example Iron Part

Agricultural Combine Part – Net Shape Blades

LOST FOAM PROTOTYPE CASTING

Summary

STATUS

- Virtually any form is possible.
- Patterns reflect molded foam parting and glue lines.

LOST FOAM PROTOTYPE CASTING

Summary

STATUS WITH ALUMINUM CASTINGS

- Success in range of parts.
- 90% cast on first article.
- Detail & surface finish similar to molded foam.

LOST FOAM PROTOTYPE CASTING

Summary

STATUS WITH IRON CASTINGS

- 75% cast on first article.
- Detail & surface finish is lower quality than molded foam.

RAPID PROTOTYPE CASTINGS

Using the Lost Foam Process

to make Prototypes