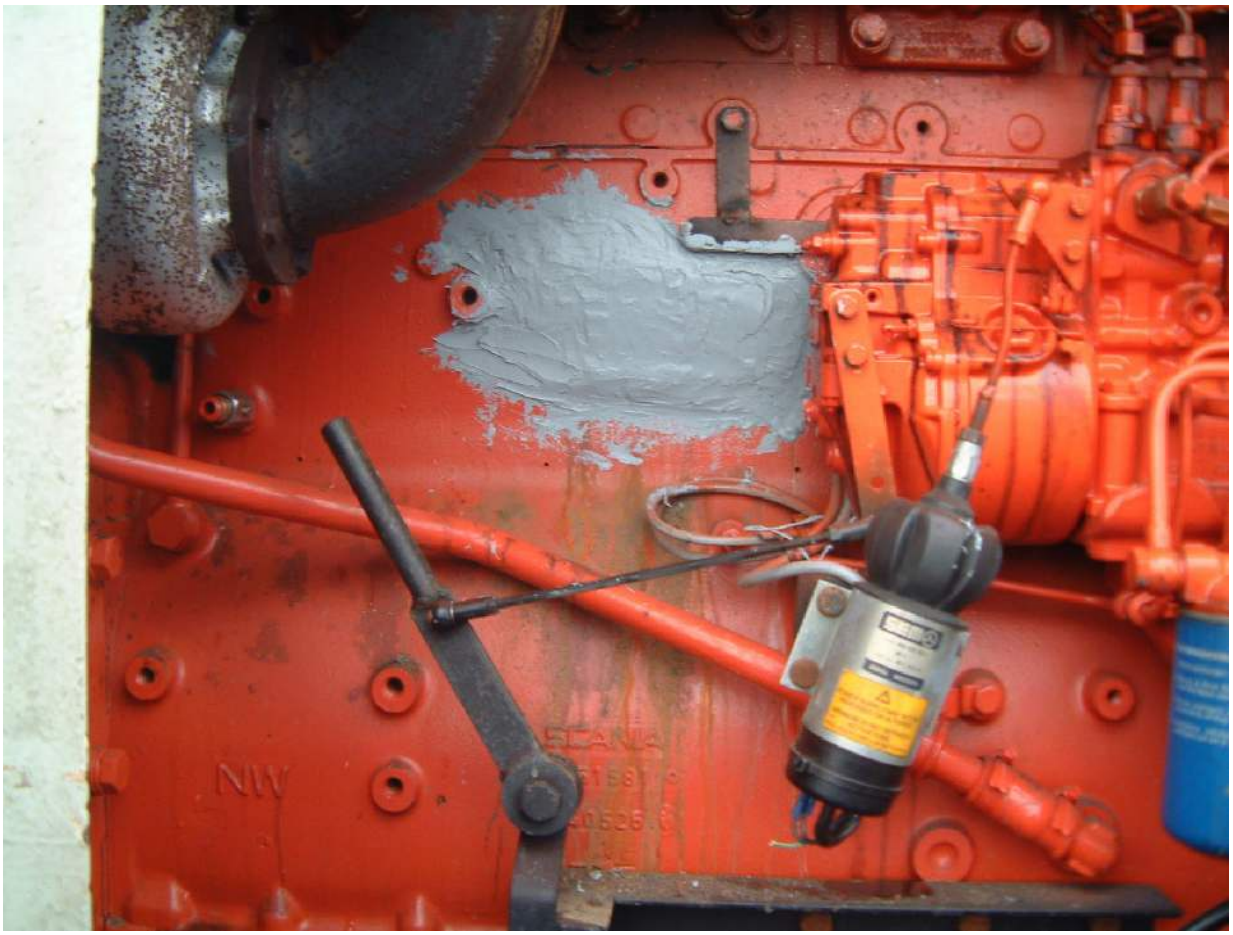
WENCON®
- repair solutions for you

Engineblock - crack

Application:	Repair of stock pump
Place:	Bodegraven, NL
Date:	March 2002
Job and report done by:	Repair Management Nederland B.V.
Wencon products used:	Rapid, Reinforcement Tape, Cleaner, appl. tools



Job carried out according to instructions in Wencon application data sheet no. 101.

1 & 2.

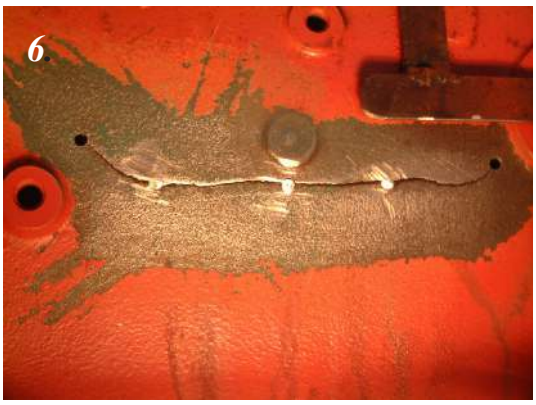
There was a crack in the stuck pump due to frost. Water expanded and forced a way out.

3. Holes were drilled in the outer end, directly in the crack, with a interval of 5 cm to prevent elongating

4. Self-tapping screws were placed in each hole, except for the two extremes positions, to prevent the crack from moving.

5. With an angle-grinder, the screw-heads were grinded away. The surface was made as rough as possible. See also next picture.

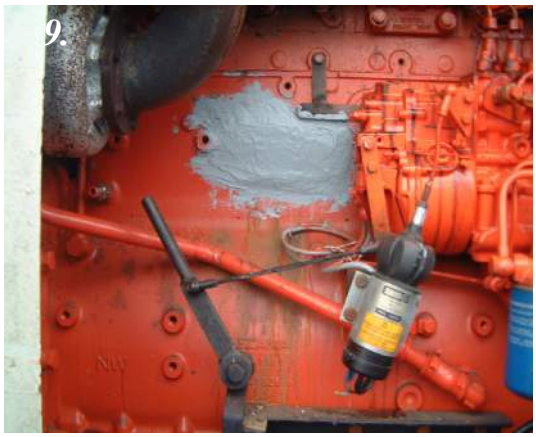
6. After the grinding, surface was cleaned with Wencon Cleaner thoroughly.



7. 3 layers of Wencon Rapid were applied. The first one a thin layer and then a piece of Reinforcement Tape in the layer. Next, 2 layers of Wencon Rapid were applied on top, with Reinforcement Tape between.

8. Curing was allowed, with an additional 1000W lamp to heat it a little up, because of the low temperature.

9. An additional layer of Wencon Reinforcement Tape was vertically applied, with the Wencon Rapid on it. To ensure no air bubbles in the Wencon Rapid, it was smoothened with a spatula.



Surface preparation

WENCON®

Choose the relevant surface preparation, according to the nature of the job. Seek advice from a Wencon Technician if needed.

Specification for surface preparation for Dry Applications

Defined as applications, where the Wencon product will be applied to a surface at a temperature minimum 3 degrees above dew point. Use the Wencon Products: Wencon Cream, Wencon Rapid, Wencon Coating, Wencon Ceramic Cream, Wencon Ceramic Coating, Wencon Hi-Temp, all requiring a dry surface.

1. Blast the machine part to SA 2 ½ using sharp-edged blasting media, to a roughness of min. 75 microns.

2. Leave the part for sweating out salts in a warm place for at least 12 hours or heat it up to 30 - 40 °C (86-104 °F) using gas torches.

3. Blast again to SA 2 ½ immediately prior to the application.

4. For parts containing lots of water and salt, it may be necessary to repeat 2. and 3. until the surface remains light grey for at least 2 hours after blasting.

5. Always use Wencon Cleaner prior to application.

Specification for surface preparation for Wet/Damp Applications

Defined as applications, where the Wencon product will be applied to a surface at a temperature less than 3 degrees above dew point. Use the products Wencon UW Putty, Wencon UW Cream and Wencon UW Coating for applications on wet or damp surfaces.

1. Water jet the entire surface with water and sand to a standard equal to SA 2½, as described above.

Specification for surface preparation for Emergency/Temporary Applications

Perago Treatment

Perago is a rubber disk with hard steel spikes mounted on the periphery. Perago can be mounted in a normal drilling machine, and gives a surface close to a blasted surface - clean and rough with sharp edges. Perago dishes can be ordered at Wencon and at all Wencon Distributors.

Grinding

Wheel grinding is often an acceptable surface preparation for emergency applications, where shot blasting is not possible. When grinding use a coarse stone or flap. Use the Wencon Cleaner before and after grinding. Grinding with sandpaper or emery cloth is only advisable when, for example, carrying out shaft-repair on a lathe. Often the grinding will not hit the dents.

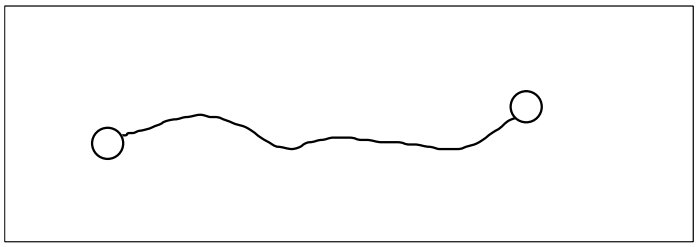
Needle Gunning

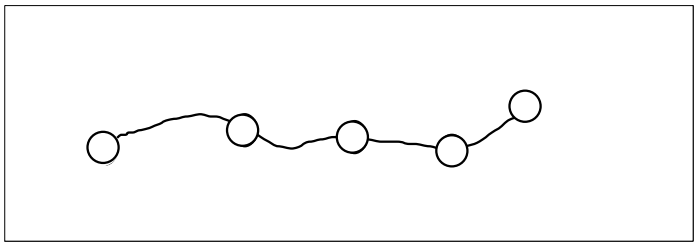
Needle gunning is a method that has almost been forgotten in recent years. Or should we say is mostly used for very rough cleaning or removal of rust. It is possible to do a very nice job using a needle gun, but it takes time and should be closely supervised. It is essential that the marks from the sharp needles cover the whole surface so that none of the original surface remains. It is recommendable to steam clean the surface before needle gunning.

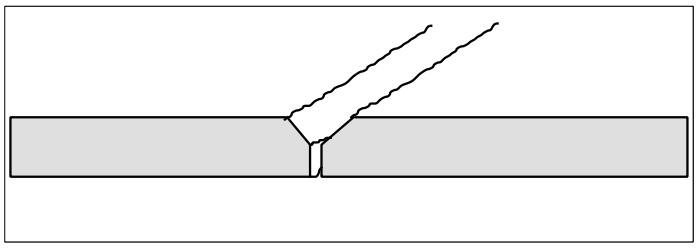
Wire Brushing

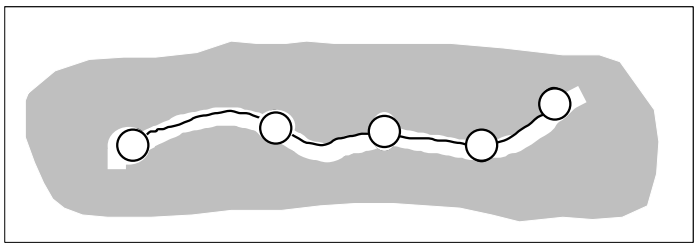
Wire brushing can be a good way of removing scales, rust and old paint. However, you will need to grind the surfaces after the wirebrushing to make the surface as rough as possible.

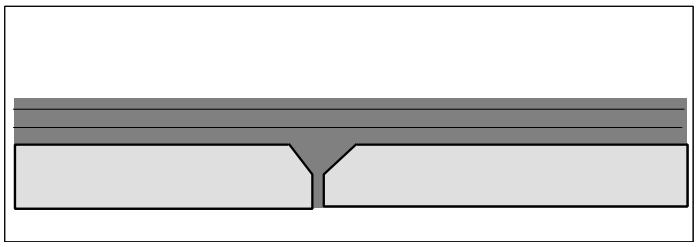
Repairing cracks in cast iron











1. Drill a hole in each end of the crack to prevent the crack elongating.

2. Drill holes (at least one) at 5 cm (2 inch) intervals, directly in the crack. Place a self-tapping screw in each hole (except for the two extreme positions) to prevent the crack from moving.

3. With an angle-grinder, grind a "V" directly in the crack. Also grind away the screw-heads.

4. Grind the surface in a wide belt round the repair area. Ensure grinding is as rough as possible. Now clean thoroughly with Wencon Cleaner.

5. Apply a thin layer (approx. 1 mm) of Wencon Cream (or Rapid). Place a piece of Wencon Reinforcement Tape in the layer, and apply 2-5 additional layers of Wencon with Wencon Reinforcement Tape between the layers. Allow curing.

It is important to recognize that this repair only aims to seal the crack, not provide physical strength.

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