

Product Welding Procedure

Title: Fatigue crack weld repair of Sandvik Shark Cast Corners
Applicable Parts: All Shark Blue Pointer 50mm Cast Corners
Prepared By: Neil Dennis **Revised By:** Rob Lauchlan
Date: 8 March, 2007 **Date:** 17 December 2024

1. SUMMARY

This report details the use of the Cast Corner Sweep Gauge for the post-processing of Shark Blue Pointer 50mm Cast Corners following the weld repair of fatigue cracks. It is important that all the steps in this procedure are followed to ensure that the Corner Shroud fit to the Cast Corner is not compromised.

2. WELDING TEMPERATURES

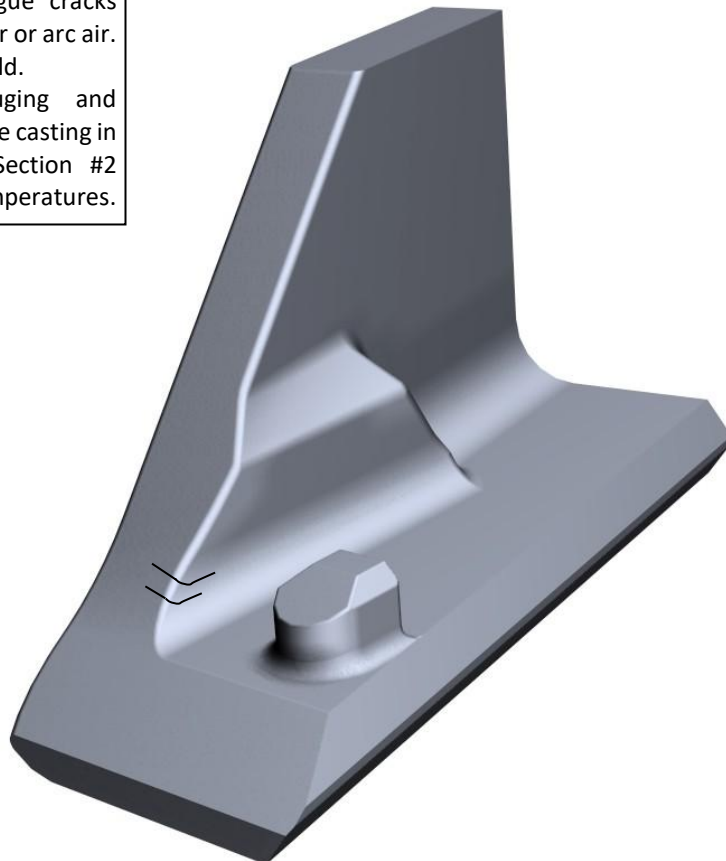
| Products | Target Pre-heat Temperature °C | Max Inter-pass temperature °C |
|---------------------------------|--------------------------------|-------------------------------|
| Shark Blue Pointer Cast Corners | 160-190 | 225 |

Table 1: Preheat, Inter pass temperatures

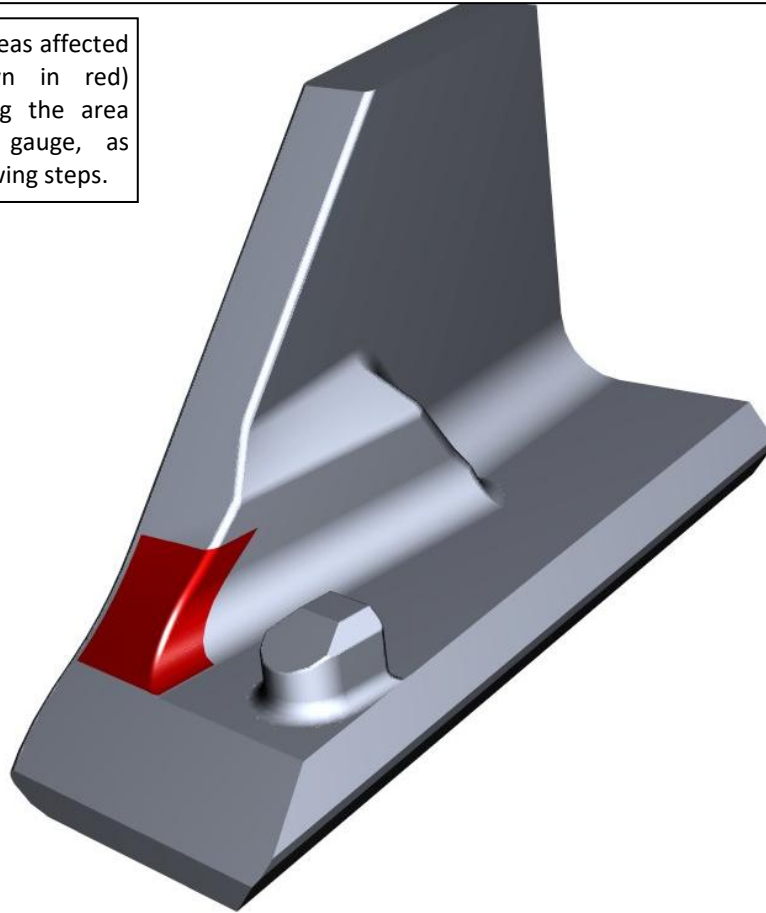
Refer to Weld Procedure PWP0001 for more details.

3. PROCEDURE

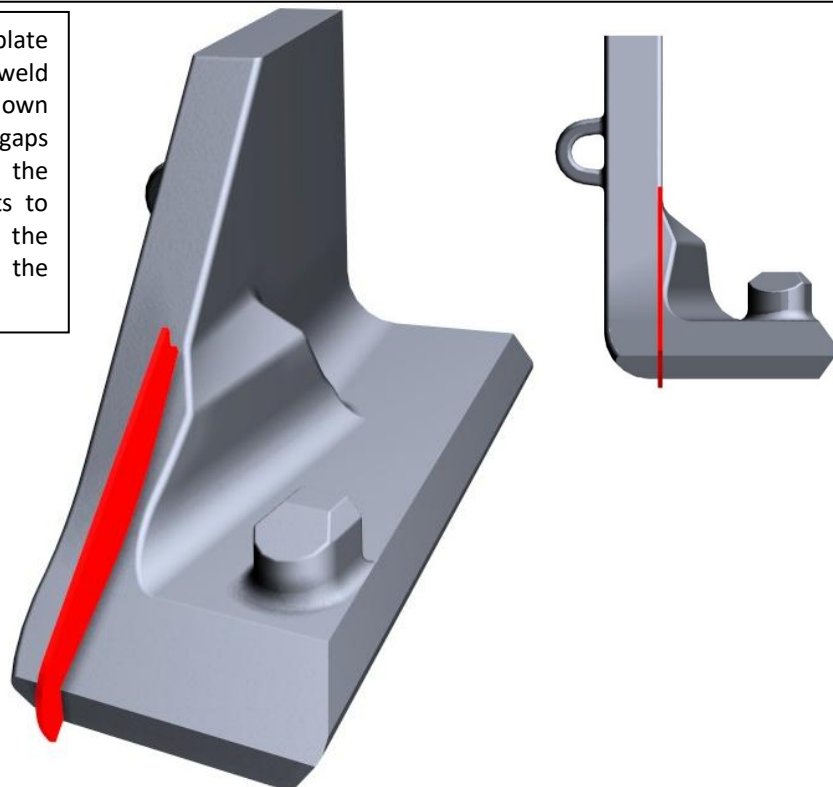
1. Gouge out fatigue cracks with either a grinder or arc air. Fill cavities with weld. For arc air gouging and welding, preheat the casting in accordance with Section #2 Table 1 welding temperatures.



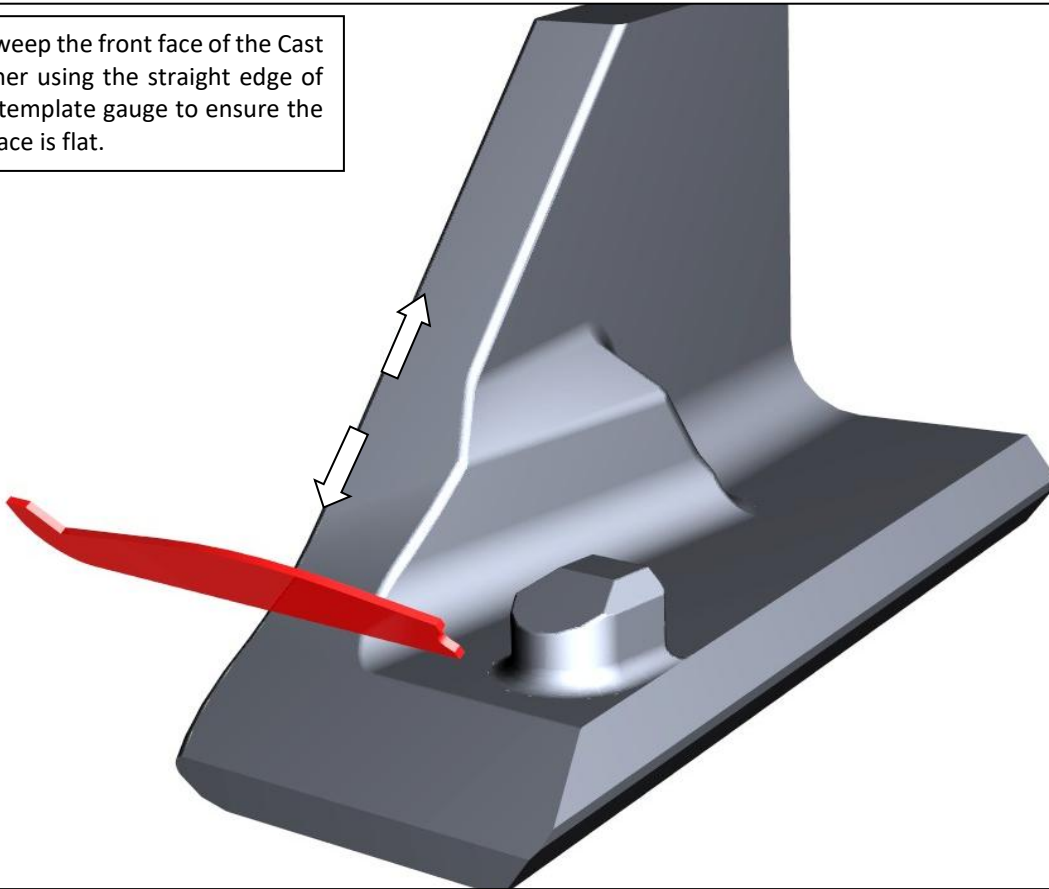
2. Carefully grind areas affected by welding (shown in red) periodically checking the area using the sweep gauge, as detailed in the following steps.



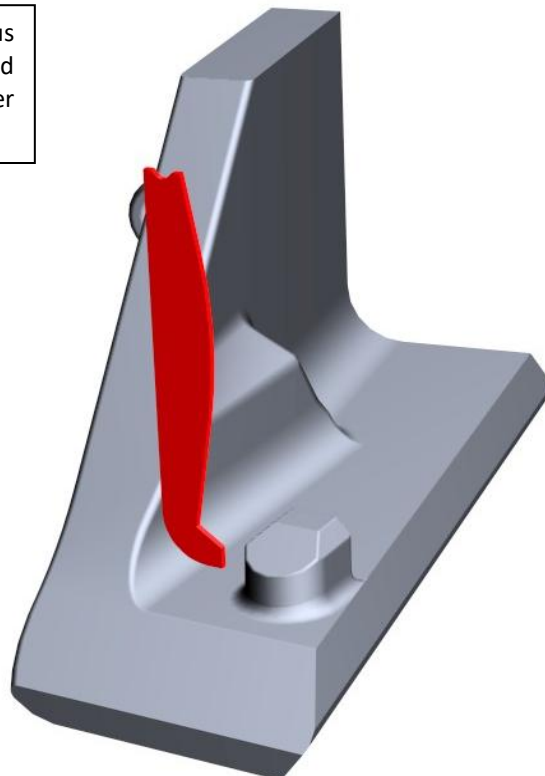
3. Position the sweep template in position shown. If the weld area has been ground down adequately there will be no gaps between the template and the cast corner. If a gap starts to appear in the centre of the gauge then move on to the following step.



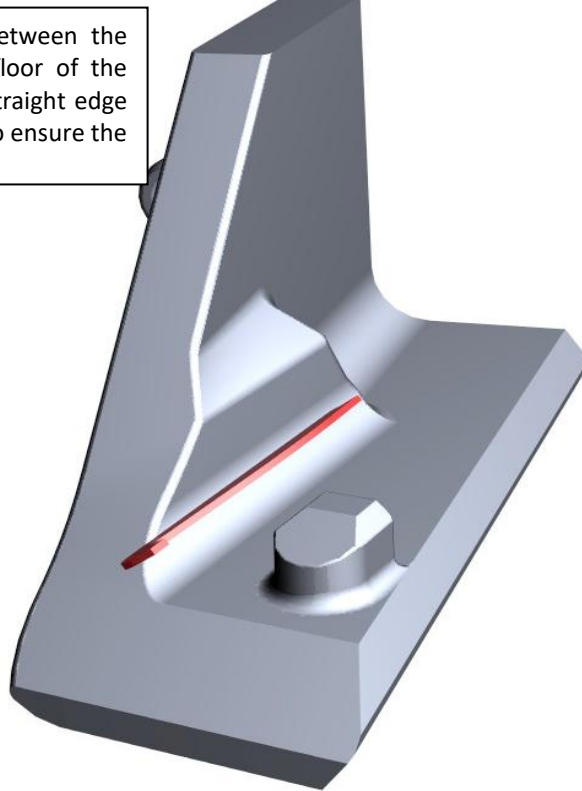
4. Sweep the front face of the Cast Corner using the straight edge of the template gauge to ensure the surface is flat.



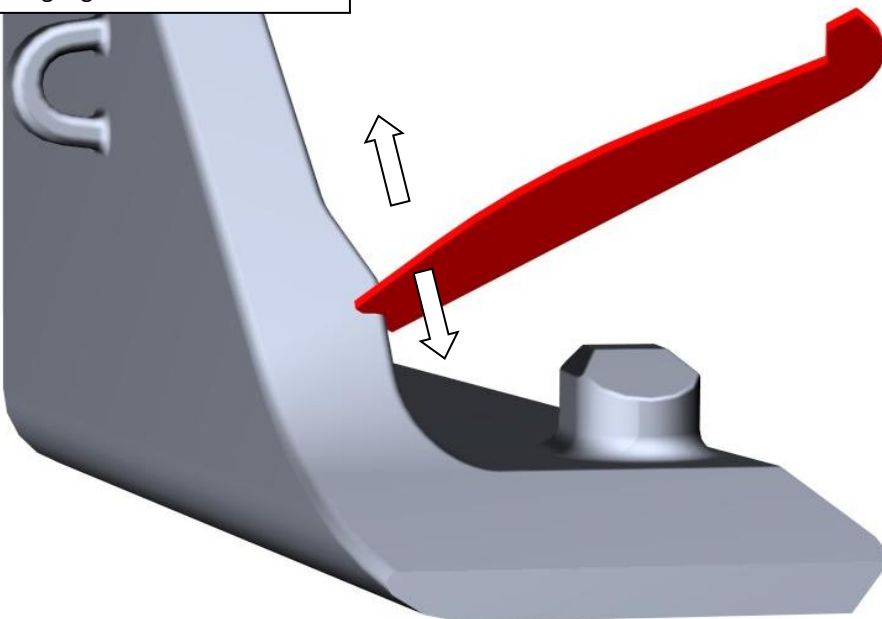
5. Sweep test the radius between the wedge piece and the floor of the Cast Corner using the template gauge.



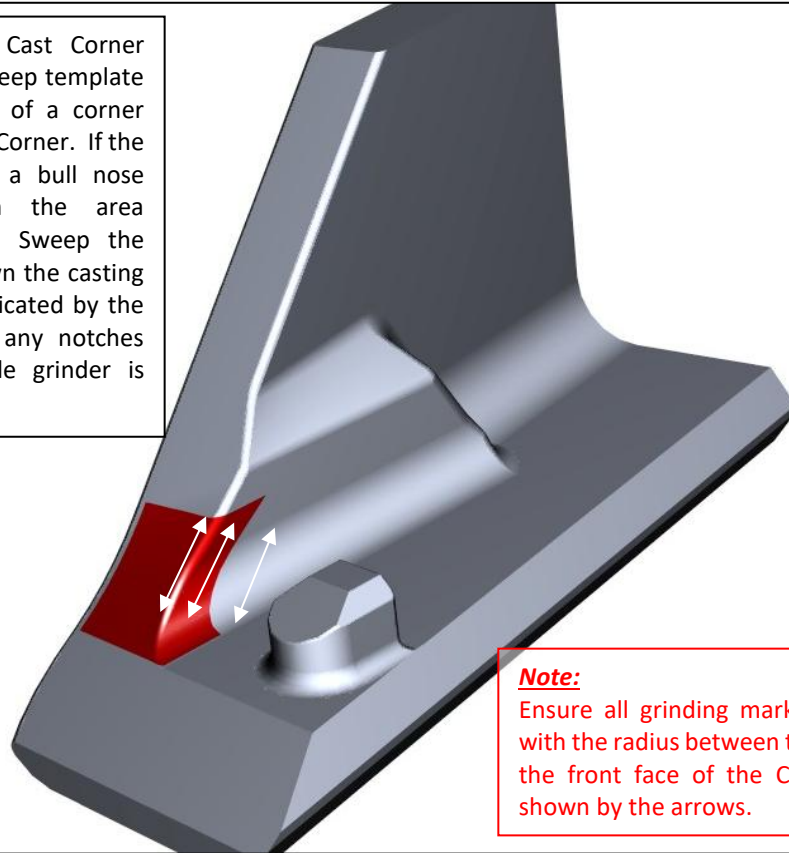
6. Sweep the radius between the wedge piece and the floor of the Cast Corner using the straight edge of the template gauge to ensure the surface is flat.



7. Sweep test the radius between the front face and the wedge piece of the Cast Corner using the template gauge.

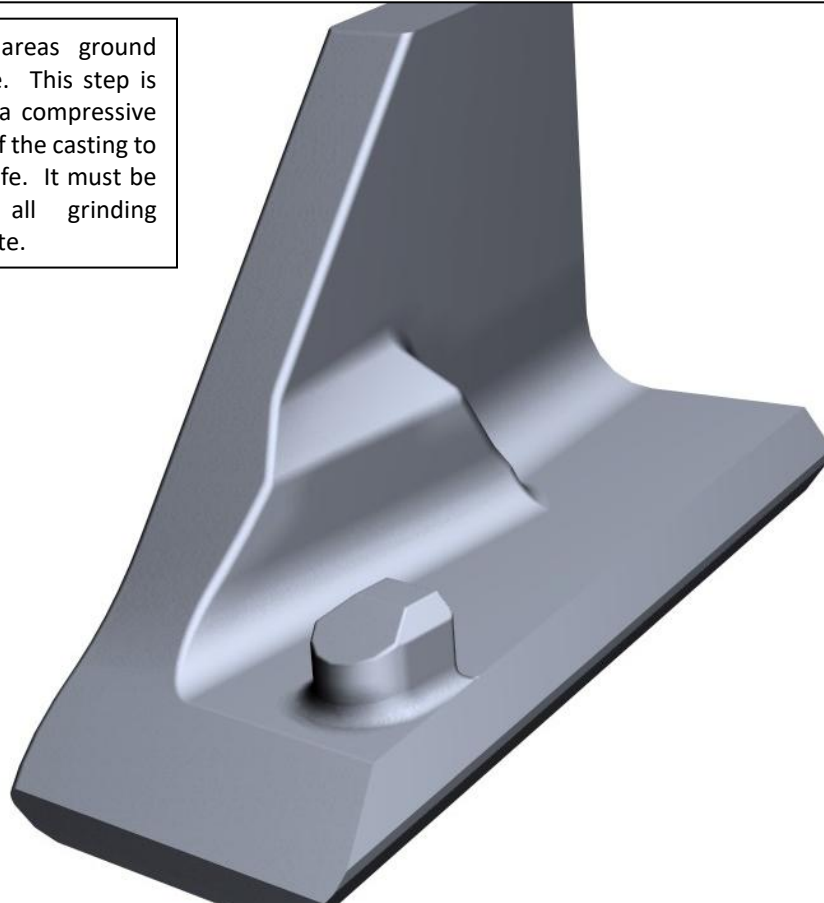


8. Now that the Cast Corner conforms to the sweep template gauge, test the fit of a corner shroud on the Cast Corner. If the fit is suitable use a bull nose grinder to finish the area indicated in red. Sweep the grinder up and down the casting in the direction indicated by the arrows. Ensuring any notches made by the angle grinder is removed.

**Note:**

Ensure all grinding marks are parallel with the radius between the wedge and the front face of the Cast Corner as shown by the arrows.

9. Needle gun all areas ground during the procedure. This step is important, to create a compressive layer on the outside of the casting to increase the fatigue life. It must be performed AFTER all grinding processes are complete.





Procedure No. Rev.
PWP0002 **3**

Sandvik Shark
6 Freight Road
Kenwick WA 6107

4. REVISION HISTORY

| Rev | Date | Changes | Revised By | Approved |
|------------|-------------|---|-------------------|-----------------|
| 0 | 8/03/2007 | Original release. | - | N.D |
| 1 | 20/06/2008 | - | - | M.K |
| 2 | 17/08/2023 | Updated weld temps, add document change register. | R.L | M.J |
| 3 | 17/12/2024 | Updated max interpass temp | R.L | M.J |