

Swarf Clearance in Night Vents

This is a set of tests to determine the most efficient way of clearing swarf from Night Vent slots

Contents

Comments

Test 1.

Baseline, This does a single pass 35mm deep with a 12.7mm tool on the **top, then the bottom** of the profile

Tool Speed is 25 and the operation took 22 seconds.

1. Top of Profile



2. Bottom of Profile



2. Test 2.

3. This does a single pass 35mm deep with a 12.7mm tool on the **Bottom, then the Top** of the profile Tool Speed is 25 and the operation took 22 seconds. there was no appreciable difference from the baseline

4.

5. Top of Profile

6.



Bottom of Profile

7.



8. Test 3.

9. This continues to rout the bottom of the profile first but does so in 2 half depth passes, the tool speed is still 25 and the operation took 36.9 seconds

10. This has cleared a little of the swarf out but is not much better than the baseline

11.

12. Top of Profile

13.



Bottom of Profile

14.



15. Test 4.

16. With this one, I sent a 5mm slot then the 12.7mm slot over it, hoping that when the 12.7mm slot routed, the centre of it would already be taken out and allow the swarf to fall inwards both these slots were in 2 depth passes, and again I routed the bottom, then the top as speed 25, this operation produced good results, but took a whopping 75 seconds.

17. Top of Profile

18.



Bottom of Profile

19.



20. Test 5.

21. This was the same as Test 3 (bottom then top in half depth passes) but as the tool was not taking out as much profile I moved the tool speed up to 35. this took 28.8 seconds.

22. Top of Profile

23.



Bottom of Profile

24.



25. Test 6.

26. The last test was similar to test 4 (5mm pre rout, half depth passes) but at speed 35, this operation took 57.5 Seconds

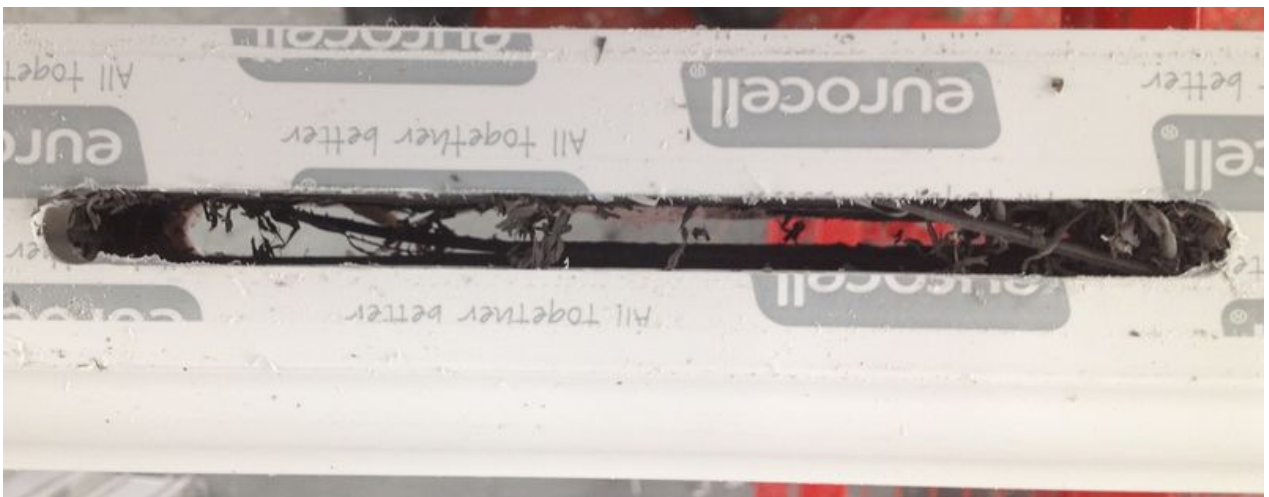
27. Top of Profile

28.



Bottom of Profile

29.



30.

31.

Summary

Test	Speed	Results
1	22 Seconds	Bad
2	22 Seconds	Bad
3	36.9 Seconds	Moderate
4	75 Seconds	Good
5	28.8 Seconds	Good
6	57.5 Seconds	Good

1. Conclusion

2. I was surprised at how much better the results were on test 5 when the tool speed was increased, this was a better prep AND faster. This prep was only 28.8 seconds as opposed to the baseline of 22 seconds. the 5mm pre slot produced good results both times but at 75 seconds with 25 cut speed and 57.5 seconds at 35 cut speed, the operation was far too slow. I believe test 5 to be the

3.