The same thing also applies the last step. By XOR'ing the blend with b (which is a's original value now) we set b's orisined value and assign it to a.

THE ALGEBRAIC PROOF :

operations :

1. $a = a \hat{} b$
2. $b = a \hat{} b$
3. $a = a \hat{} b$

→ So that a is now the blend, by substituting $a \hat{} b$ into a :

$$a \equiv (a \hat{} b) \hat{} b$$

(associative property of XOR)

$$a \equiv a \hat{} (b \hat{} b)$$

$$a \equiv a \hat{} 0$$

$$a \equiv a$$

the value which we assign to b in 2. step.

We just proved that the value we assign to b in 2. step truly is orisinal a.

github.com/xHkn10 ^^