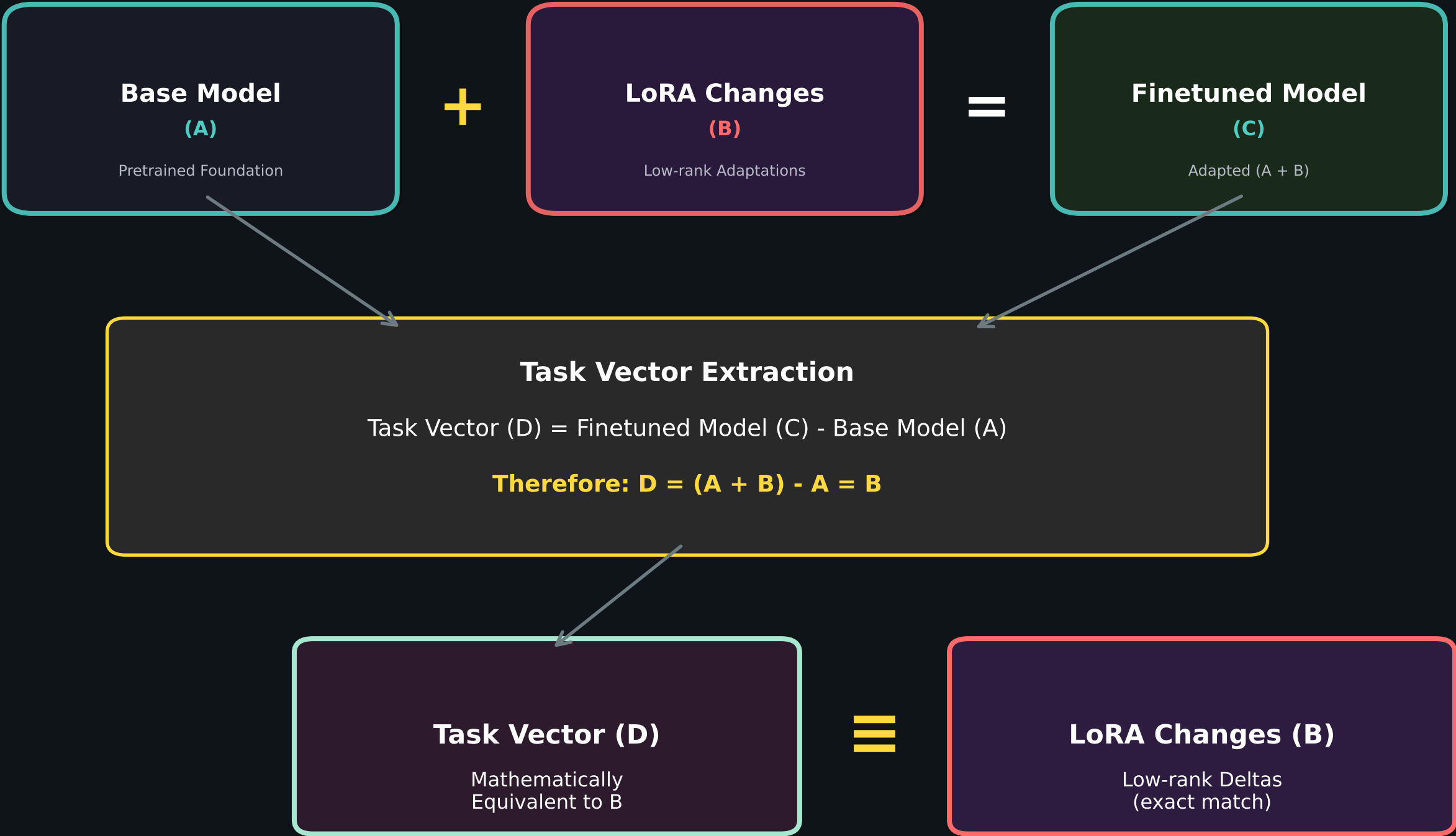


# LoRA ↔ Task Vector Mathematical Relationship

*Proving Mathematical Equivalence:  $D = B$*



## □ Key Insights

- ✓ Task Vectors and LoRA Changes are mathematically identical ( $D = B$ )
- ✓ Perfect correlation: Cosine similarity  $\approx 1.0$ , numerical precision maintained
- ✓ Storage difference: Task Vector stores all params (dense), LoRA stores changes only (sparse)
- ✓ Precision matters: Use FP32 to avoid artifacts, FP16 creates spurious parameters