

This algorithm set is **BIG**

Intuitive F2L is recommended to be learned before these.

Tutorial: https://www.youtube.com/watch?v=Ar_Zit1VLG0

1. Both pieces in top layer



Learn F2L in 6 minutes (Full Intuitive F2L Tutorial)

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Section 1: Basic F2L

41 basic cases. Most are solved intuitively.

How to read the moves: <https://ruwix.com/the-rubiks-cube/notation/>

Section 1A

Both pieces on top.

White Sticker Faces **Up**



	$U^2 (R U R') U (R U' R')$		$y U^2 (L' U' L) U' (L' U L)$
	$U (R U^2 R') U (R U' R')$		$y U' (L' U^2 L) U' (L' U L)$
	$U (R U' R') U' (R U' R' U R U' R')$ $U (F R' F' R) U (R U R')$ $R U' R^2 D' R U^2 R' D R$		$y U' (L' U L) U (L' U L U' L' U L)$ $F (U R U' R') F' (R U' R')$ $U' R U (R^2 F R F') (R U' R')$
	$(R U^2 R') U' (R U R')$		$y (L' U^2 L) U (L' U' L)$

White Sticker Faces Side/Front



Stickers on the U face are **different**:

	$(R\ U\ R')$		$y\ (L'\ U'\ L)$
	$U'\ (R\ U\ R')\ U\ (R\ U\ R')$ $U2\ (R\ U'\ R')\ U'\ (R\ U\ R')$ $R'\ U\ R2\ U\ R'\ *$		$y\ U\ (L'\ U'\ L)\ U'\ (L'\ U'\ L)$ $y\ U2\ (L'\ U\ L)\ U\ (L'\ U'\ L)$ $y\ L\ U'\ L2'\ U'\ L\ *$
	$R'\ U2\ R2\ U\ R2'\ U\ R$ $(R\ U'\ R')\ U\ (R\ U'\ R')\ U2\ (R\ U'\ R')$ $R'\ U2\ R2\ U\ R'\ *$ $y\ U\ L'\ U2\ L\ U'\ y'\ R\ U\ R'$		$y\ L\ U2\ L2'\ U'\ L2\ U'\ L'$ $y\ (L'\ U\ L)\ U'\ (L'\ U\ L)\ U2\ (L'\ U\ L)$ $y\ L\ U2\ L2'\ U'\ L\ *$ $U'\ (R\ U2\ R')\ U\ y\ (L'\ U'\ L)$
	$U'\ (R\ U'\ R')\ U\ (R\ U\ R')$		$y\ U\ (L'\ U\ L)\ U'\ (L'\ U'\ L)$

* This algorithm affects another F2L slot, so it can only sometimes be used.

White Sticker Faces Side/Front



Stickers on the U face are the **same**:

	$y\ U'\ (L'\ U\ L)$		$U\ (R\ U'\ R')$
	$y\ U\ (L'\ U2\ L)\ U2\ (L'\ U\ L)$		$U'\ (R\ U2\ R')\ U2\ (R\ U'\ R')$
	$U'\ (R\ U\ R')\ U2\ (R\ U'\ R')$		$y\ U\ (L'\ U'\ L)\ U2\ (L'\ U\ L)$
	$M\ U\ (L\ F'\ L')\ U'\ M'$ $U\ (R'\ F\ R\ F')\ U\ (R\ U\ R')$ $(R\ U2\ R')\ U\ (R\ U\ R')\ U\ (R\ U'\ R')$ $R'\ D'\ (R\ U'\ R')\ D\ R\ U\ (R\ U'\ R')$ $U'\ (R'\ U\ R)\ U'\ (R\ U\ R')\ *$		$(R\ U'\ R')\ U2\ y\ (L'\ U'\ L)$ $(R2\ B'\ R'\ B\ R')\ U2\ (R\ U'\ R')$ $U\ M'\ U\ R\ U'\ r'\ U'\ R\ U\ R'$ $y\ F\ U'\ F'\ U2\ L'\ U'\ L$ $y\ U\ L\ U'\ L'\ U\ L'\ U'\ L\ *$

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Section 1B

1 piece in the correct slot.

Edge in the slot



	$U (R U R') U^2 (R U R')$ $U' (R U^2 R') U (R U R')$ $D' (L' U L) D *$ $y U (L' U L) U^2 (L' U L)$		$U (F' U' F) U' (R U R')$ $y U^2 (L' U' L) (F' L F L')$ $y' U^2 (R' U' R) (r' U' R U M')$ $y^2 U^2 (f' L' f) U (L U' L')$
	$U' R U' R' U^2 R U' R'$ $D' (U L' U' L) D *$ $y U' (L' U L) U^2 (L' U' L)$ $y U (L' U^2 L) U' (L' U' L)$		$U' (R U R') U y (L' U' L)$ $y U^2 (F U' F') U' (L' U' L)$ $y' U^2 (f R f') U' (R' U R)$ $y^2 U' (L U L') U (f' L' f)$
	$(U R U' R')^3$		$U' (R' F R F') (R U' R')$ $(R U' R') (F' U^2 F)$ $y' R' U R' F R F' R$

Corner in the slot

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	$(R U R') U' (R U R')$ $y (L F' L' F)^2$ $y M' (U' L' U L) (U' L' U L)$ $y M' (U' L' U L) (U' L' U L)$		$y (L' U' L) U (L' U' L)$ $(R' F R F')^2$ $M' (U R U' R') (U R U' r')$ $M' (U R U' r') (U R U' R')$
	$(R U' R') U (R U' R')$		$y (L' U L) U' (L' U L)$
	$U' (R' F R F') (R U' R')$ $R' F' R (U R U' R') F$ $U' F' R U R' U' R' F R$ $R^2 U' R' U R^2 *$		$U (R U' R' U') y (L' U L)$ $y U (L F' L' F) (L' U' L)$ $y D (U' L' U L) D' *$ $y' R U R U R U' R' U' R'$

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Section 1C

Both pieces in the correct slot.



	$(R\ U'\ R')\ U\ (R\ U2\ R')\ U\ (R\ U'\ R')$		$(R\ U'\ R')\ (r\ U'\ r')\ U2\ (r\ U\ r')$ $(R\ U'\ R')\ U2\ y\ (L'\ U'\ L)\ U'\ (L'\ U\ L)$ $(R\ U\ R')\ y'\ (R\ U'\ R')\ U\ (R'\ U'\ R)\ *$
	$(R\ U'\ R')\ U'\ (R\ U\ R')\ U2\ (R\ U'\ R')$		$(r\ U'\ r')\ U2\ (r\ U\ r')\ (R\ U\ R')$ $R\ U'\ R2'\ U'\ R\ y\ (L'\ U'\ L)\ *$
	$(R\ U2\ R')\ U\ (R\ U2\ R')\ U\ (F'\ U'\ F)$ $(R'\ F\ R\ F')\ R'\ U2\ R2\ U\ R2'\ U\ R$ $(R\ U'\ R')\ U\ y'\ R'\ U2\ R\ U2\ R'\ U\ R$ $D\ (R'\ F\ R\ F')\ (R\ U'\ R')\ D'\ *$		

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Section 2: Advanced F2L

36 advanced cases 1 piece is in the wrong slot.

Section 2A

Edge is in the wrong slot.

White Sticker Faces **Up**



	U' R' U R2 U' R' y U' (R U' R') U2 (L' U L)		U (R' U R U' R' U' R) y (L' U L) U2 (R' U R U' R' U R) y (L' U L) y R' F R2 U' R' U2 F' y2 U2 (L F' L' F) (L U L')
	U (L' U L) U2 (R U' R') y U L U' L2 U L		L F' L2 U L U2 F y' U2 (R' F R F') (R' U' R) y U' L U' L' U L U L' y' R U' R' y U2 L U' L' U L U' L' y' R U' R'
	U2 L2 u L2 u' L2 (U R U' R')2 (L U2 L') y U2 R2 u' R2 u R2 y (U' L' U L)2 (R' U2 R)		L F' U F L' y R' F U' F' R y2 R u R' U R u' R'



White Sticker Faces Side/Front

	$R' U' R^2 U R'$ $y R' F^2 R F^2$		$(R' U R) U' y (L' U L)$ $y L u L u' L'$ $y R U R' U' y L U L'$ $y^2 L' U L U L' U' M'$
	$U' (L' U' L) (R U' R')$ $y' U^2 R' U' R^2 U R^2' U' R$		$(F U^2 F') (R U R')$ $U^2 (L' U L) y (L' U^2 L)$ $y (L U^2 L') y (L U L')$ $y^2 U^2 (R' U R) y' (L' U^2 L)$
	$U (R U R') (L U L')$ $U' (R U^2 R') U' (L U L')$ $y U (L' U L) (R' U R)$		$U^2 (R' F R F') (L U L')$ $y U^2 L' B U B' L$



White Sticker Faces Side/Front

	$U^2 R U R^2' U' R^2 U R'$ $y U (R U R') (L' U L)$		$R' U^2 R F' U' F$ $y F' U^2 F L' U' L$ $y' U^2 L' U L y R U^2 R'$
	$y L U L^2' U' L$		$R' u' R' u R$ $(L' U' L) U y (L' U' L)$ $y (L U' L') U y' (R U' R')$ $y' (R U' R') (r' U' R U M')$
	$U' R U' R' L U' L'$ $y U' (L' U' L) (R' U' R)$ $y U (L' U^2 L) U (R' U' R)$		$U^2 R B' U' B R'$ $y U^2 (L F' L' F) (R' U' R)$

Section 2B

Corner is in the wrong slot.

Corner In The **Right Slot**



	$U (R U' R') (L' U L)$		$y (L' U_2 L) U' (L U L')$ $y U_2 (L' U L) U_2 (L U' L')$
	$U_2 (R U' R') U (L' U' L)$ $y (L' U' L) U_2 (f' L' f)$		$U' (R U' R') U_2 y' (R U' R')$ $y U' L' U' L_2 U_2 L'$
	$(R U R') U' (L' U L)$ $R (L' U L) R'$ $y L' U L_2 F U F' L'$		$U (R U R') y' (R U R')$ $y U (L' U L) U (L U L')$

Corner In The **Left Slot**







	$(R U_2 R') U (R' U' R)$ $U_2 (R U' R') U_2 (R' U R)$		$y U' (L' U L) (R U' R')$
	$U' (R U' R') U' (R' U R)$ $y U (L' U' L) y (L' U' L)$		$R U' R_2' F' U' F R$ $y (L' U' L) U (R U' R')$ $y L' (R U' R') L$
	$U R U R_2' U_2 R$ $y U (L' U L) U_2 y (L' U L)$		$R U R' U_2 f R f'$ $y U_2 (L' U L) U' (R U R')$

Corner In The **Back Slot**



	$U' (R' F R F') U_2 (L U L')$ $y U' (L' U L) y' (L U_2 L')$		$U (R U' R') y (R' U_2 R)$ $y U (L F' L' F) U_2 (R' U' R)$
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	$(R\ U'\ R')\ (L\ U^2\ L')$		$(R'\ F\ R\ F')\ (L\ U^2\ L')$ $y\ (L'\ U'\ L)\ U'\ (R'\ U'\ R)$
	$(R\ U'\ R')\ U\ (L\ U\ L')$ $y\ (L\ F'\ L'\ F)\ (R'\ U^2\ R)$		$y\ (L'\ U\ L)\ (R'\ U^2\ R)$

Section 3: Advanced F2L

Other easy cases to recognize and solve.

Corner Is Solved



	$R^2 U' R^2' U R^2$		$y R' u' R u R$
	$y L^2' U L^2 U' L^2'$		$L u L' u' L'$

Pair In The Wrong Slot



	$R' F R^2 U' R^2' F' R$ $(L F' L' F) (R U' R')$		$y (R' F R F') (L' U L)$ $y L F' L^2' U L^2 F L'$
	$R (L U^2 L') R'$ $y L' (R' U^2 R) L$		