# Phillip Espinoza, David Woner and Friends' <br> <br> Cross on Left Guide 

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Arranged by Andy Klise
You must solve the cross on the left first. It can be done in $\leq 6$ moves $\sim 82 \%$ of the time and $\leq 7$ moves $99.95 \%$ of the time These are just optimal example solves; $F 2 L$ should be solved intuitively. Try to insert F2L pairs into the Down-Back corner slot with D-moves whenever possible
Easy Cases (1-4)

$x R \cup R^{\prime} U^{\prime}$

$[x] F R U R^{\prime} U^{\prime} R^{\prime} F^{\prime}-D F$ open
$[x] F R \cup R^{\prime} U^{\prime} F^{\prime}-D F$ open
Use (z' $z^{\prime} R^{\prime} F R F^{\prime}$ ) if no $U$ face edges are
oriented properly on final slot
U' R' U
Note - this image is green and red because no cube rotation is required

Reposition Edge (5-8)

$I^{\prime} U R U^{\prime} R^{\prime} \cup R^{2} U^{\prime}$
$I^{\prime} U R^{2 \prime} U^{\prime} R^{2} U R^{\prime} U^{\prime}$

Reposition Edge and Flip Corner (9-14)

$R^{2 \prime} U^{\prime} R U R U^{\prime} R^{\prime} U$
$R^{\prime} U^{\prime} R U\left(R U^{\prime} R^{\prime} U\right)^{* 2}$

R U'R U R' U'R'U

Split Pair by Going Over (15-18)

## $U^{\prime} R U\left(R^{\prime} I^{\prime}\right) \cup R U^{\prime}$

F U R U' $R^{\prime} F^{\prime}-B L$ open
$x \cup R^{2} U^{\prime} R^{\prime} \cup R U^{\prime}$

Pair Made on Side (19-22)

$x R \cup R^{2} U^{\prime} R U R^{\prime} U^{\prime}$
( $\left.I^{\prime} R^{\prime}\right) U R^{2 \prime} U^{\prime} R U R^{\prime} U^{\prime}$

Weird (23-24)
$U^{\prime} R^{\prime} U I^{\prime} U R^{\prime} U^{\prime} R$ U R' U'
$U^{\prime} R^{\prime} U R^{2} U^{\prime} R$ ' U R U' R' U

Corner in Place, Edge in U Face (25-30)

$R^{\prime} U^{\prime} R U x R U R^{\prime} U$
$x \cup R^{\prime} U^{\prime} R U R^{\prime} U$
$x R \cup R^{\prime} U^{\prime} x^{\prime} R^{\prime} U^{\prime} R U$
[x'] URrU' R' Ur' U'D
[ $\left.x^{\prime}\right] r$ U r' $D^{\prime} r U^{\prime} r^{\prime} D^{D}$
[R] L2 U' R' U M ${ }^{2}$ U'R U - BD open ${ }^{D}$
$\left(U^{\prime} R U R^{\prime}\right) U^{\prime} R U$
$x$ U R U'R' URU
$[R] F\left(R \cup R^{\prime} U^{\prime}\right)^{*} 2 F^{\prime}$ - BL open
Edge in Place, Corner in U face (31-36)
(U' R' U R)*4
$\left.x^{\prime} U^{2}\right] F^{\prime} R U^{\prime} R^{\prime} \cup R^{\prime} F^{D}$
$\left[R^{2}\right] F\left(R \cup R U^{\prime} R^{\prime}\right) F^{\prime}-U B$ ope


$R U^{\prime} R U R^{2 \prime} U^{\prime} R U$
[ $\left.x^{\prime} R\right] U r U r^{\prime} U^{\prime}-U B$ open ${ }^{D}$ $\left[R^{2}\right] r$ U'RU r' - FD open ${ }^{D}$

R U' R' U I' U R U'
$\left(U^{\prime} R \cup R^{\prime}\right) * 2 x\left(U R U^{\prime} R^{\prime}\right) * 2$ [x] U R' U' F' U' R' U'R U' $\mathrm{F}^{D}$
$U^{\prime} R^{\prime} U R U^{\prime} R^{2 \prime} U R U^{\prime} R^{\prime} U$
$U^{\prime} R$ U R U'R U I' UR U'


## Credits

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