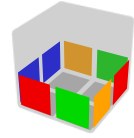
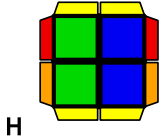


2x2 LEG Algorithms

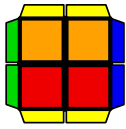


Easy [12].

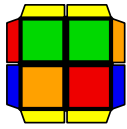


H

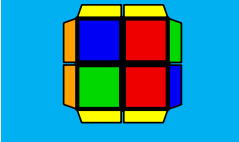
R (F2 R F' R' F U' F)



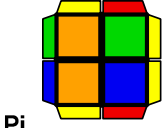
R2' U' (R U' R' U)
(R' U' R U' R2)



F' R' U' F2 R U' F R'

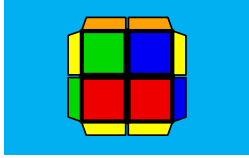


R U' (F R' F' R)
U' R2
(R U2 R U')
(F R' F' R)

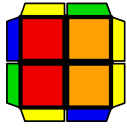


Pi

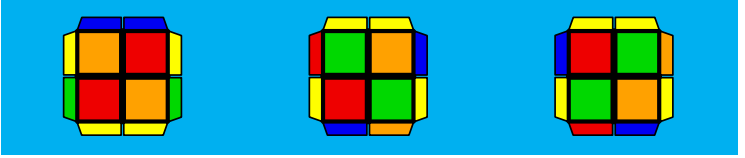
F R F' (R' F R2 F')
R' U2 R
(R' F' R2 F')
(R2' U2' F R)



(R U R' U')
(R U2 R U' R2')



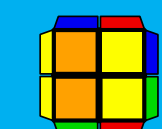
R F' U R' F2 U R F



R2 U (R' F R F')
U R'

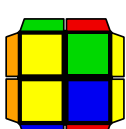
(R U' R' F)
(R' F' R2' U2' R)

(R U R' U)
(R2 U' R2' F R2 F')

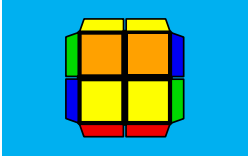


U

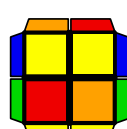
(R' U R' U')
(R U' R' U' R2)
U' (R2 U' R' U')
(R U' R' U R')



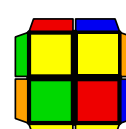
(R2 U R2' F')
(R2 F' R2' F R2)



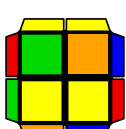
(R U R' F)
R2 F' R U' R'
U' R2 F R U R' U'
R2 U2 R2 F



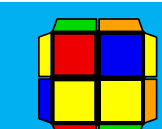
(R2 U R' U) (R' F R
F') R U R2'



(R2 U R' U2)
(R' F' U' F)

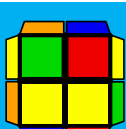


(R2' U' R U2 R)
F R F'

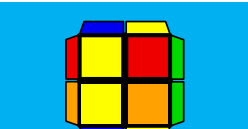


T

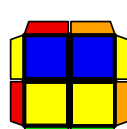
(R U R' U') F'
(R' U2 R U') F



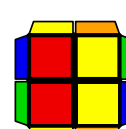
R U' (F R2 F')
(U R U' R2')
U' (R2 U' R' U2)
(R' F R F') U2 R'
U' (R2' U' R2 U')
(R' F R' F') R2



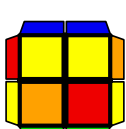
(R U2' R' U) (R' U'
R U2) R U R'



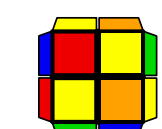
F R F' (R' F R2 F')
(U R' U R)



R2 U' R' (F R' F' R)
(U' R U' R2')

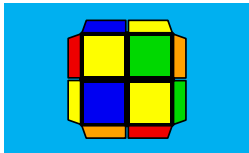


(R' F R2 F')
(R' U2' F R F')

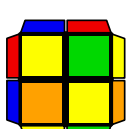


L

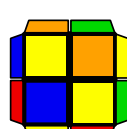
R U2' (F R' F' R)
(U2 R U R2')
U' (R2' F R F')
(R U R2' U R2)



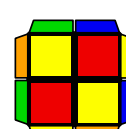
(R U' R' U')
(R2 U' R2' F R F')



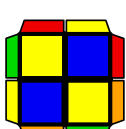
(R' U R' U R2 U')
R U2' R'
(R U2 R' U) R2 U'
R U' R



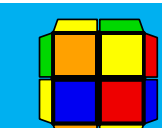
R' F U2' (R2' F R
U2) R U2' R2'
U' (R' U R' U') (R U
R' F) R2 F' R



F' U (F R U2 R U'
R2')

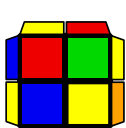


(R' U2 R' F)
(R2 F' U' R)

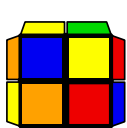


S

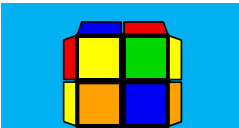
R' F R2 F' R2' U2'
R



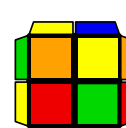
(R2 U' R2' U') (R2 U
R' U') R U' R2'



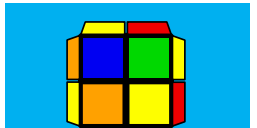
(F R' F' R2 U2')
R U' R2'



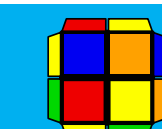
R2 U' R2' F' R U2
(R' U2 R' F)



(F2 R F' U)
(R' F U' R2)

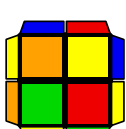


(R U2 R U')
(R2' F R2 F')

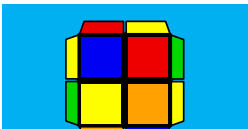


AS

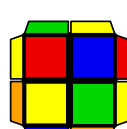
x' R U' R2' U R2 B2
R'
R F' R2' U2' F' R



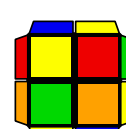
(R2 U R2' U') (R U2
R' U') R U R'



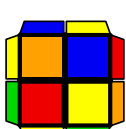
(R2' F R F')
(U R' U R2)



F' (R U2 R U2')
R' F R2 U R2'



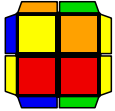
F' U2 (R U R' U')
(R' F2 R2 F' R')



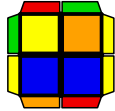
(R2 U R' U2)
(R2' F R F')
U' (R U R' U') (R U
R' F) R F' R'

2x2 TCLL+ Algorithms

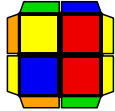
Hammer



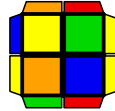
$(R' F R F')^2$



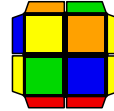
$y' (R' U^2 R D') R U' R'$



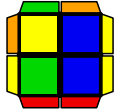
$(F R' F' R^2 U' R' U^2) R U' R'$



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

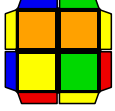


$y F' (R' F' R U) (R U R^2' F' R)$

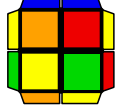


$U (R U R' F R F') (R U R' U' R')$

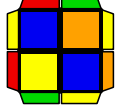
Spaceship



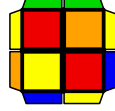
$y' U^2 R' U' R U R' U' R$



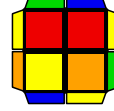
$U (R' F' R F') (R' F' R U) (R U' R' F')$



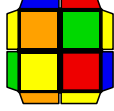
$U (R U' R' U) R^2 U' (R' F' R F')$



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

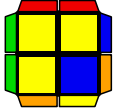


$U (R U^2' R' U) (R' F' R F') R U' R'$

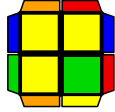


$U (R' F' R U^2) (R' F' R^2 U' R') F^2 U^2 (R' F^2 R U) (R' F^2 R^2 U' R) F^2$

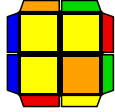
Stollery



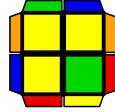
$(R U R' U) (F' R U' R') F^2$



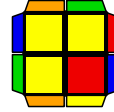
$U^2 (R' F' R U') (F' R U^2' R') F^2$



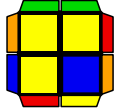
$U (R U' R' U') (R U' R' U) (R' F' R F') (R U' R' U) (F' R F' R U R^2)$



$(R U R' F) (R U R' U') R' F' R$

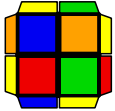


$y U (R' U' R U^2 R' F^2) R' F R^2$

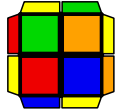


$(R' U' F R F' U) R^2 U' R'$

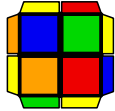
Pinwheel



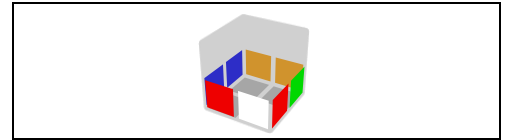
$F' U (R U' R^2' F^2 R) F U F'$



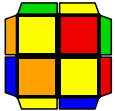
$(R' F' U' F R^2 U') R U^2 R$



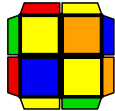
$y F U' F^2 (R U' R' U') R U' R'$



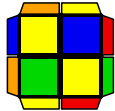
Faces



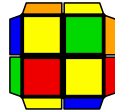
$U (R U R' U') (R^2 U R^2 U' R^2)$



$y' U R' U^2 R' F R F' R$

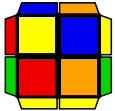


$(R U' R' U F') (R' F' R F)$

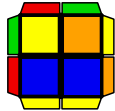


$U R' U R (F R' F' R) U' R^2$

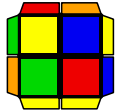
Turtle



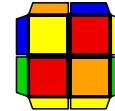
$(R U' R' U) R U' R'$



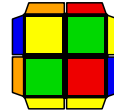
$y (R' F' R U F') (R U R^2' F R F') R U R'$



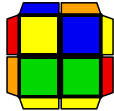
$(R' F R^2 U' R' F') (R U' R' F')$



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

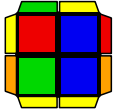


$U^2 (R' F R F') (U^2 R U^2' R')$

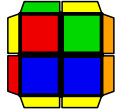


$U^2 (R U R^2' F R F') (U^2 R U' R')$

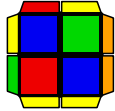
Poser



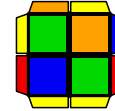
$y (R U R' U') (R U^2 R' F') (R U R' F')$



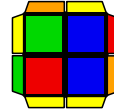
$U' (R' F' R F') (R' F' R^2 U' R' U' F')$



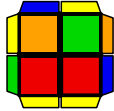
$(R U R' U^2) (R' F' R F') R U' R'$



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

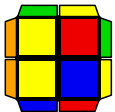


$R U' R^2' F R F'$

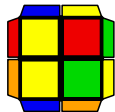


$U^2 F' U (R' F^2 R F)$

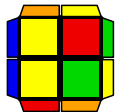
Gun



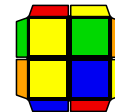
$(R U' R' U^2) R U^2 R' U^2 (R U' R' U) (R U' R' U^2) R U' R'$



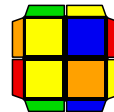
$y U' F' (R' F^2 R F') (R' F' R^2 U' R')$



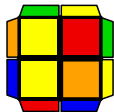
$U R U' R' F' U' F' (R' F' R F') (R U' R' U)$



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



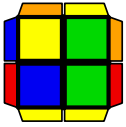
$U^2 (R U R' U) (R U R^2' F R F') y' (R^2' F R F') (R U R' U R)$



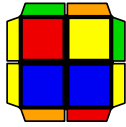
$U (R U^2 R' F R F') R U R^2'$

2x2 TCLL- Algorithms

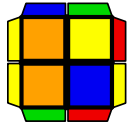
Hammer



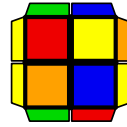
$(F R' F' R)^2$



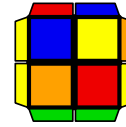
$U' (R U^2 R' D) R' U R$



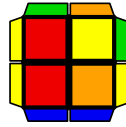
$U' (R^2 F R F') (R U^2 R' U' R)$



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

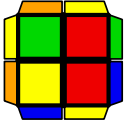


$U' F (R U R' U') (R' F' R^2 U R')$

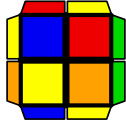


$(R U' R U' R') (F R' F' R) U' R'$

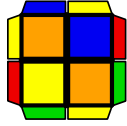
Spaceship



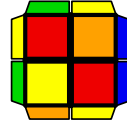
$(R U R' U') R U R'$



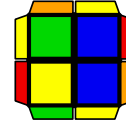
$U^2 F (R U R' U') (R' F' R) (F R' F' R)$



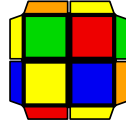
$U^2 (R U R' U' F) (R' F R U) R' F R$



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

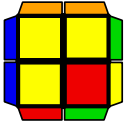


$U F^2 (R U' R' U^2) R' F R$

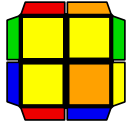


$(R U R' U' F) (R' F^2 R U') R' F^2 R$

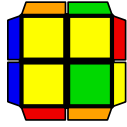
Stollery



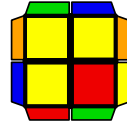
$U^2 (F^2 R U R' F) (U' R U' R')$



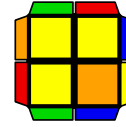
$(F^2 R U^2 R' F) (U R' F' R)$



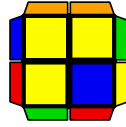
$(F R' F' U) (R^2 U R^2 U' R)$



$(R' F R U) (R U' R' F) R U' R'$

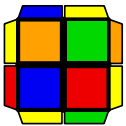


$(L U L' U^2 L F^2) L F' L^2$

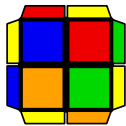


$U' (F R' F' R) U' (R U R' U) R U R'$

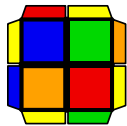
Pinwheel



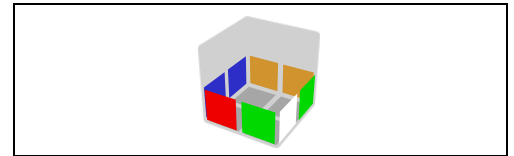
$F U' F' (R U' R^2 F^2 R U' F)$



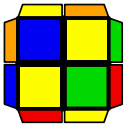
$(R' U^2 R' U^2) (R^2 F R' F' R')$



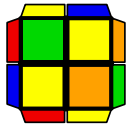
$y (R U R' U) (R U R') F^2 U F'$



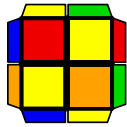
Faces



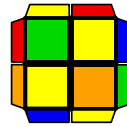
$(R^2 U R' U) (R U^2 R' U^2 R')$



$y^2 L U^2 L F' L' F L'$

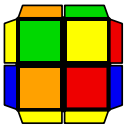


$U F' (R' F R F) (U' R U R')$

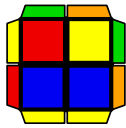


$U' (R' F R F') (R U^2 R' U') R U R'$

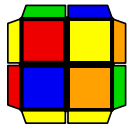
Turtle



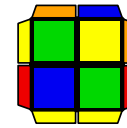
$y U' (R' F R U') R' F R$



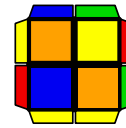
$y' U (R' U R U') (R^2 F R F') (R U' R' U^2 R)$



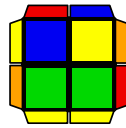
$U F R F' (R U R^2 U') R U R'$



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

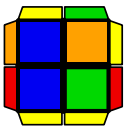


$U' (R U^2 R' U^2) (F R' F' R)$

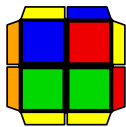


$(R U' R' U^2) (R U R^2 F R F')$

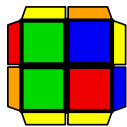
Poser



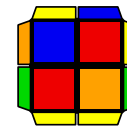
$y F (R U' R' F) (R U^2 R' U) R U' R'$



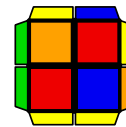
$U F U (R U' R^2 F' R) (F R' F' R)$



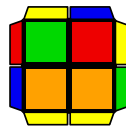
$y U' R' F R^2 U' R' F$



$U F R' F' R^2 U R'$

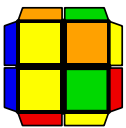


$U (R U R') (F R' F' R) (U^2 R U' R')$

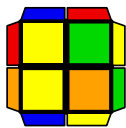


$F' R' F^2 R U' F$

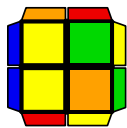
Gun



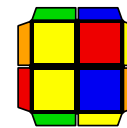
$U (R U^2 R' U^2) R U R'$



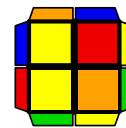
$y U' (R U R^2 F' R F) (R' F^2 R F)$



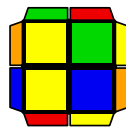
$U (R U R' U') (F R' F' R)$



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



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



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