

CROSS-OVER SUB

Cross-over Sub

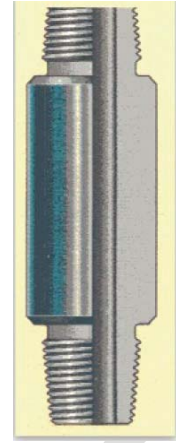
Cross-over sub acts for switching and connection of drill stem in petroleum, natural gas and geology drilling work. During drilling operations, cross-over sub is mainly used to connect upper and lower drill tools in different connectors.



**A. Cross-over Sub
Box to Box**



**B. Cross-over Sub
Box to Pin**



**C. Cross-over Sub
Pin to Pin**

Main Types of Cross-over sub

| Description | Upper Connection part | Lower Connection Part | Type |
|------------------------------------|-----------------------|-----------------------|--------|
| Kelly cross-over sub | Kelly | Drill pipe | A or B |
| Drill pipe cross-over sub | Drill pipe | Drill pipe | A or B |
| Interim cross-over sub | Drill pipe | Drill collar | A or B |
| Drill collar cross-over sub | Drill collar | Drill collar | A or B |
| Drill bit cross-over sub | Drill collar | Drill bit | A or B |
| Swivel cross-over sub | Swivel lower sub | Kelly | C |
| Fishing cross-over sub | Kelly | Drill pipe | C |
| | Drill pipe | Fishing tools | C |

Type A stand for same diameter: one crossover sub has one size (D) on O.D., code A.
 Type B stand for reduce type: one crossover sub has two sizes (D1, D2) on O.D., code B.
 Type C is left hand thread type: the connection thread is left had type, code C.