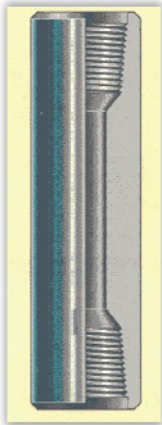


## CROSS-OVER SUB

### Cross-Over Sub

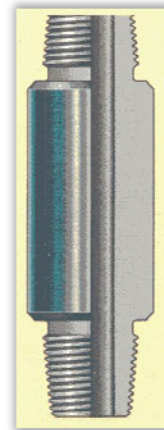
Cross-over sub acts for switching and connection of drill stem in petroleum, natural gas and geology drilling work. During drilling operations, cross-over sub is mainly used to connect upper and lower drill tools in different connectors.



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

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