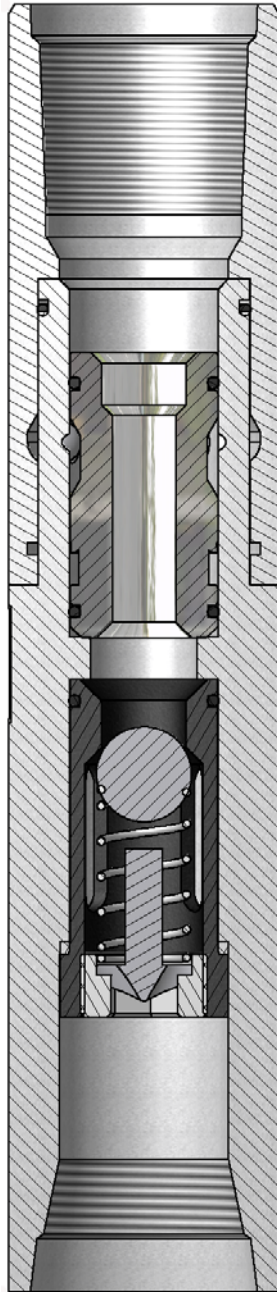


Disconnect Bit Sub



DESCRIPTION

The Northwest Machine Works, Inc. Disconnect Bit Subs are expertly designed and precision machined tools used to hydraulically pump a mill or bit off the end of a drill or tubing string.

FEATURES

- Field adjustable shear pressure using 3 shear screws:
 - Standard shear screws tested at 1000psi/each
 - Optional low pressure shear screws tested at 700psi/each
 - Testing was completed above ground for both standard and low pressure options. *Differential pressure may vary.*
- Full open ID after separation, 15/16" drop ball
- Eliminates tubing trip after drill out
- Float Valve(s) or Ball Check prevents flow up tubing. Available float configurations include:
 - Single float (SF)
 - Dual float (DF)
 - Ball check (BC) *shown on left*

OPERATION

Make up a bit or mill to bottom sub. Install shear screws to obtain desired pressure (3 standard or 3 low pressure shear screws). After reaching TD, circulate the drop ball down to the seat and increase pressure to the predetermined release pressure (keep in mind differential pressure may vary). The bottom sub will separate and drop into the bottom of the well.

Size	OD	Length	Fish Neck OD	Fish Neck Length
2-3/8 EUE x 2-3/8 REG (BC)	3.20"	15.250"	2.500"	3.625"
2-3/8 EUE x 2-3/8 REG (DF)	3.20"	24.130"	2.500"	3.625"
2-3/8 EUE x 2-3/8 REG (SF)	3.20"	17.875"	2.500"	3.625"
2-3/8 EUE x 2-7/8 REG (SF)	3.70"	18.375"	2.500"	3.625"
2-7/8 EUE x 2-7/8 REG (SF)	3.70"	18.375"	3.000"	3.625"