

**ABSTRACT****AN IMPROVED SUB ASSEMBLY**

A sub assembly for coupling to a drill string, the assembly comprising; a mandrel; a  
5 sleeve arranged to be co-axially positioned about said mandrel; a first stop arranged to  
prevent axial movement of the sleeve along the mandrel in a first direction; a second  
stop arranged to prevent axial movement of the sleeve in a second direction; wherein  
said second stop is releasably engageable from the mandrel.

10 Figure 1