

# DJ6/DJ10/DJ10A | Drilling Jar Operating Procedures

The two-way action of the jar gives the operator the ability to work the jar both upwards and downwards. The mechanical latch assures the operator that the jar will not accidentally fire while tripping or making connections. The hydraulic operation upwards allows the customer to utilize pipe stretch to assist in the jarring performance, and use the drill collar mass to assist in the jar impact. The jar can be pulled harder to give greater impact or pulled lighter to give a lesser impact. The downward jarring is achieved mechanically by overcoming the downward lock setting, thus allowing the operator to fire the jar downward using the string weight above the jar in a hammering manner.

Load settings and metering times are stenciled on the side of the tool.

## JARRING UP

To jar upwards, calculate the pull force required to unlatch and begin metering process with the following formula:

$$\text{Pulling Force} = \text{Lock Setting} + \text{Buoyed Drilling String Weight Above Jar} + \text{Hole Drag} - \text{Pump Open Force}^*$$

- Apply calculated pulling force to exceed latch settings.  
*Slightly more or less force may be required to variable downhole conditions.*  
*Do not exceed maximum pre-firing pull value on the specification table for the tool size and type.*
- Hold pull force until jar fires.
- Reduce pull force back to neutral point (Drill String Weight) to reset the jar.
- Repeat as necessary.

## JARRING DOWN

To jar downwards, calculate the downward force required to unlatch and begin metering process with the following formula:

$$\text{Pushing Force} = \text{Lock Setting} + \text{Pump Open Force}^* + \text{Hole Drag}$$

- Apply calculated downward force to exceed latch settings.  
*Slightly more or less force may be required to variable downhole conditions.*  
*Do not exceed maximum pre-firing pull value on the specification table for the tool size and type.*
- Increase pull force back to neutral point (Drill String Weight) to reset jar.
- Repeat as necessary.

\*Pump Open Force = Pump Open Area (Washpipe Area) x Bit Pressure Drop

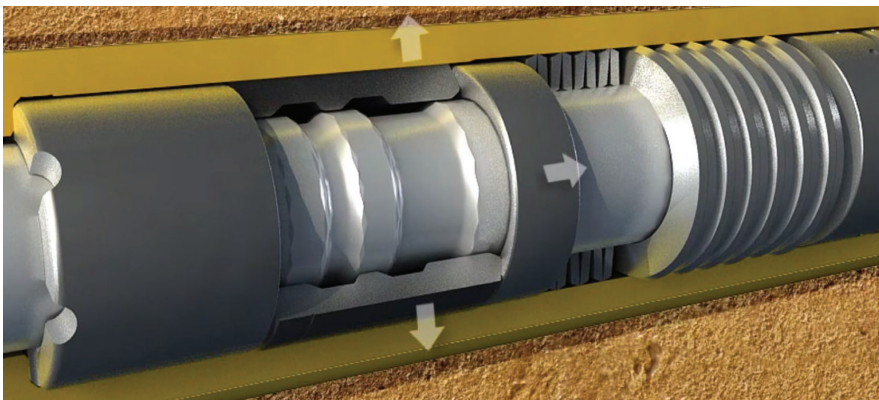


Figure 1. Proprietary internal latching mechanism prevents mis-firing and eliminates the need for external safety clamps.

