

DJ6 |

HYDRAULIC MECHANICAL JAR

COUGAR TASMAN 
DRILLING SOLUTIONS

DJ6 HYDRAULIC
MECHANICAL JAR



OVERVIEW

The Cougar DJ6 Drilling Jar is one of the toughest and most durable jars in the oil industry. Designed and operated in and for a wide range of applications, this jar is ideal for directional, horizontal and deep hole applications both on and off shore. With its reliable, state-of-the-art design, the Cougar DJ6 Drilling Jar is a proven performer worldwide.

SIMPLE TWO-WAY OPERATION

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.

FEATURES

- Jar can be operated in both directions.
- Not affected by torque, no safety clamp required.
- Mechanical latch will eliminate premature firing of the tool. The jar will not fire unexpectedly while tripping or making connections.
- Hydraulic delay is not affected by hole temperature or by long-term jarring.
- Standard operating temperatures up to 250°F (121°C). Special seals are available for operating temperatures up to 450°F (232°C).



OPERATION

PRODUCT TECHNICAL SHEET
DJ6 Hydraulic Mechanical Jar

OPERATING INSTRUCTIONS

JARRING UP

In order to fire the jar upwards, the operator must determine the force or pull required to unlatch the jar to begin metering the jar.

Formula:

Pulling force = lock setting + buoyed drill string weight above the jar + hole drag – pump open force.

(Pump open force = pump open area x pressure drop across bit)

Once this pull force is exceeded and applied to the jar, it will unlatch and begin the metering sequence. At this time, the jar can be pulled with more or less force to increase or decrease impact. The force or pull used will determine the delay time of the jar until impact.

JARRING DOWN

To fire the jar down, the drill string is lowered applying weight to the latch exceeding the preset mechanical latch setting. At that point, the latch will release allowing the jar to travel freely until the jar closes, creating a downward blow.

Raising the drill string until free movement stops will indicate that the mechanical latch is reset. The jar is then ready to be fired once again in either direction.

OPERATING NOTES

Drill collars will enhance the jar's performance and increase its impact. The harder the jar is pulled, the greater the impact. The lighter it's pulled the softer the impact. (Maximum pre-firing information is provided in this brochure)

Cougar DS recommends running the jars in the lower section of the drill collars if possible.

Cougar DS' Drilling Jars should not run in the neutral point.

For maximum pre-firing pull, see the DJ6 specifications table provided with this brochure. Once the jar has pulled through the mechanical latch, and the metering of the jar has been completed, then the jar will fire. Repeat the procedure by lowering the drill string, re-latching the jar.



ENGLISH UNITS

OD (in.)	ID (in.)	Length (ft.)	Weight (lb.)	Latch Setting Range (lb.)	Maximum Pull for Firing (lb.)	Maximum Pull after Firing (lb.)	Pump Open Area (in. ²)	Maximum Torque (ft.-lb.)	Total Stroke (in.)	Free Stroke Up (in.)	Free Stroke Down (in.)
3 ½	1 ⅝	18.0	450	0 - 36,000*	54,000	195,000	4.9	5,000	18	6	5
4 ¾	2 ¼	17.0	700	0 - 45,000*	84,000	380,000	11.0	17,000	17	6	6
6 ½	2 ½	17.5	1,400	0 - 110,000*	156,000	685,000	16.8	40,000	15	6	6
6 ¾	2 ⅝	17.5	1,500	0 - 110,000*	179,000	625,000	18.7	40,000	15	6	6
8	2 ⅜	19.0	2,300	0 - 130,000*	291,000	1,150,000	28.2	68,000	18	6	9
9	2 ⅜	19.5	3,100	0 - 145,000*	361,000	1,500,000	33.2	121,000	18	6	9
9 ½	2 ⅜	19.5	3,200	0 - 145,000*	361,000	1,500,000	33.2	141,000	18	6	9

* Down lock loads will typically be 60-70% of the up value.

SI UNITS

OD (mm)	ID (mm)	Length (m)	Weight (kg)	Latch Setting Range (daN)	Maximum Pull for Firing (daN)	Maximum Pull after Firing (daN)	Pump Open Area (cm ²)	Maximum Torque (Nm)	Total Stroke (mm)	Free Stroke Up (mm)	Free Stroke Down (mm)
89	29	5.5	204	0 - 16,000*	24,200	89,000	17.8	6,700	457	152	127
121	57	5.2	318	0 - 20,000*	37,400	169,000	71.0	23,000	432	152	152
165	63.5	5.3	635	0 - 50,000*	69,400	311,400	108.4	54,250	381	152	152
171	66	5.3	680	0 - 50,000*	79,400	311,400	120.0	58,300	381	152	152
203	71	5.8	1,043	0 - 60,000*	129,400	511,550	181.9	92,200	457	152	229
229	71	5.9	1,406	0 - 65,000*	160,600	667,200	214.2	164,000	457	152	229
241	71	5.9	1,452	0 - 65,000*	160,600	667,200	214.2	191,000	457	152	229

* Down lock loads will typically be 60-70% of the up value.



CERTIFICATE # 0026960



ISO 9001

→ YOUR PARTNER FOR THE FUTURE | tasmanoiltools.com
 → ENERGY EVERYWHERE | cougarDS.com

Drilling Solutions | Optimized Well Delivery | Horizontal Drilling | Vertical Drilling | Geothermal | Drilling Tools

© 2013 | v 1.1