

# G-FORCE Jars

## SUPER-FORCE

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**How Does The SUPER-FORCE Jar Work?** The SUPER-FORCE is a Double acting Hydraulic Drilling Jar that incorporates new technology and surpasses the performance of existing jars. The SUPER-FORCE Drilling Jar can be run in all types of wells. They will hit harder, last longer and can be run in both tension and compression. The hydraulic jar utilizes an oil reservoir with

some type of metering orifice and a bypass area. When the string becomes stuck, overpull is applied. As the force is applied the sliding mandrel will begin to compress the oil in the reservoir, forcing the oil to bleed off slowly through the metering orifice. This allows time for the drill string to establish the strain energy required for the jarring effect. When the piston on the mandrel comes to the bypass area, the oil bleeds off almost instantly. The hammer then speeds toward the anvil, impacting and transferring the drill strings stored energy to the stuck point.

### G-Force SUPER-FORCE Drilling Applications

- Straight Hole
- Directional Hole
- Work Over

### G-Force SUPER-FORCE Design Advantages

- High over-pull capability (with additional safety factor)
- Longer free stroke
- Higher impact capability
- Hydraulic timer is self-compensating for hole temperature
- Mechanical up cocking lock prevents accidental cocking of the up jar section and firing of the down jar section
- Jar has rugged V-packing for extended service
- Jar can be used for high temperature service with minimum packing changes
- Jar has high tensile strength for higher impact service capability
- Tapered end connections allow jar to transverse smaller hole radii as well as reduce fatigue damage to the tool
- Optional "ZIP" lift or elevator lift shoulders available on upper end of jar for ease of use
- Jar is fully pressure balanced against hydrostatic pressure
- Jar's large pump open area allows the tool to be run in compression
- Hydrostatic pressure strengthens jar
- Splines are constantly engaged
- Straight push and pull operation for easy jar operation
- Large through bore for passage of instruments
- Redundant dynamic packing to prevent washouts and provide long down-hole service
- Massive over-pull failure results on internal washpipe collapse-packing is preloaded to prevent low pressure leakage and seal compression set problems
- All connections, shoulders and tensile/torque carrying parts are a fatigue resistant design. Additionally, the parts are cold worked to provide additional fatigue resistance (shot peened)

### G-Force SUPER-FORCE Specifications

Complete Assembly	SF475	SF650	SF800
JAR O.D. inches (mm)	4.812" (122.224)	6.5" (165.100)	8" (203.200)
JAR I.D. inches (mm)	2.25" (57.150)	2.75" (69.85)	3" (76.20)
STANDARD CONNECTION	3 1/2 IF	4 1/2 XH or IF	6 5/8 Reg
OVERALL LENGTH "OPEN" Feet (mm)	30 ft (9,144)	32 ft (9,754)	32 ft (9,754)
MAXIMUM PULL LOAD lbs	100,000	200,000	350,000
UP STROKE (inches)	9"	9"	9"
DOWN STROKE (inches)	9"	8"	8"
TENSILE STRENGTH lbs	525,000	1,000,000	1,750,000
TORSIONAL STRENGTH IN SPLINES ft/lbs	40,000	91,000	125,000
PUMP OPEN AREA Sq. inches	11.13"	20.60"	28.27"
TOTAL STROKE inches	34"	29"	29"
TOOL WEIGHT lbs	1800	2600	3800