



G-Force  
M28GF

# G-FORCE Mission

Our purpose is to serve, innovate and make an impact for our client. We will serve our industry and client with competitively priced and top quality USA manufactured products. Our approach is to innovate downhole tool design to better serve our clients and surpass expectations. We are dedicated to making an impact in our industry. We will strive to be the most efficient and effective.

***When You Need It - We'll be there.***

## Impactors

**How Does The G-Force Impactor Work?** The G-Force Impactor is a double acting accelerator used to increase the impact effect of the G-Force Coiled Tubing Jars. The Impactor stores concentrated energy in an optimal position in the jar string. It helps to absorb impact shock waves that travel up the drill pipe allowing the drill string to be utilized closer to their yield loads. This permits higher pull loads to be placed on the hydraulic drilling jars. The impactor provides the operator the ability to perform impact operation at or near the surface. The compressibility provides the necessary "stretch" to operate the jarring equipment. The impactor supplies drive for the concentrated weights in the jar string in the same manner as the long resilient drill string. It is an efficient reservoir for storing energy since its stretch is confined to a short tool length. The increased efficiency and stretch provides a much harder hitting jar system. This system increases the impact up to approximately a factor of three and can impact at much higher rates depending on conditions. It will work on any drill string and provides a means to get higher impact load in a crooked or extended reach well, where drag is a significant factor. The Impactor/Jar System should be placed as close to the stuck point as possible. The impact effect diminishes as the distance increases between the impactor and the jar at the stuck point.



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### G-Force Impactor Design Features

- Efficient energy reservoir in a short tool length
- Harder hitting jar system
- Higher impact loads in crooked or extended reach well
- Compressibility to provide necessary stretch
- Stores energy at optimal Jar string position
- Double acting accelerator
- Absorbs shock waves
- Factor of three increase in impact
- Ability to operate at or near surface
- Will work on any drill string

### G-Force Impactor Specifications

COMPLETE ASSEMBLY	M16GF	M21GF	M22GF	M28GF	M31GF
IMPACTOR O.D. (inches)	1 11/16"	2 1/8"	2 1/4"	2 7/8"	3 1/8"
(mm)	42.862	53.975	56.515	73.025	79.375
IMPACTOR I.D. (inches)	9/16"	3/4"	11/16"	1"	1.25"
(mm)	14.287	19.05	17.46	25.4	31.75
STANDARD CONNECTION	1 AMMT	1.5 AMMT	1.5 AMMT	2 3/8 PAC	2 3/8 REG
OVERALL LENGTH "EXTENDED" (inches)	5' 10"	5' 11"	5' 11"	6' 1 1/2"	6' 5 3/8"
(mm)	1,778	1,803	1,803	1,866	1,965
MAXIMUM DETENT WORKING LOAD (lbs)	7,500	10,000	13,000	26,000	30,000
(N)	33,361	44,482	57,826	115,653	133,446
MAXIMUM LIFT LOAD AFTER JARRING (lbs)	50,000	100,000	120,000	200,000	280,000
TENSILE STRENGTH (lbs)	80,000	150,000	160,000	250,000	325,000
MAXIMUM OVERPULL (lbs)	10,000	18,000	25,000	34,000	45,000
TORSIONAL YIELD STRENGTH (lbs)	950	2000	2,100	3,500	5,000
FREE STROKE-UP (inches)(mm)	5" 127	5" 127	5" 127	7 5/8" 193.67	4 5/8" 117.47
FREE STROKE-DOWN (inches) (mm)	3 1/2" 88.9	4" 101.6	4" 101.6	2 3/8" 60.32	4 1/2" 114.3
TOTAL STROKE (inches) (mm)	8 1/2" 215.9	9" 228.6	9" 228.6	10" 254	9 1/8" 231.77
TOTAL WEIGHT (lbs) (kg)	42 19.05	65 29.48	70 31.75	90 40.82	110 49.89