

# AXE TOOL

Rival's AXEial Anti-Shock & Vibration tool (the AXE TOOL™) absorbs axial shocks, vibrations, and excitation whereas traditional spring based shocks and thrusters redirect vibrations and excitation without removing them from the BHA.

- Placement is flexible based on BHA design
- Anti-Shock elements eliminate shocks & vibrations instead of reflect

Payoffs:

- Eliminate unplanned trips due to MWD & RSS failures
- Protect drill bits and sustain ROP for faster intervals
- Reduce cumulative shocks on equipment to reduce repair costs and extend component life

| Size                            | 5" AXE  | 6.5" AXE                           | 8" AXE                              |
|---------------------------------|---|------------------------------------|-------------------------------------|
| <b>Nominal OD</b>               | 5.00 in<br>(127.0 mm)                           | 6.50 in<br>(165.1 mm)              | 8.00 in<br>(203.2 mm)               |
| <b>Recommended Hole Sizes</b>   | 6-1/8 - 6-3/4 in<br>(156 - 171 mm)              | 7-7/8 - 8-3/4 in<br>(200 - 222 mm) | 9-7/8 - 17-1/2 in<br>(251 - 445 mm) |
| <b>Length</b>                   | 8.2 ft<br>(2.5 m)                               | 8.6 ft<br>(2.6 m)                  | 9.7 ft<br>(2.9 m)                   |
| <b>Inner Diameter</b>           | 1.75 in<br>(44.5 mm)                            | 2.00 in<br>(50.8 mm)               | 2.50 in<br>(63.5 mm)                |
| <b>Weight</b>                   | 500 lbs<br>(230 kg)                             | 725 lbs<br>(330 kg)                | 1,175 lbs<br>(530 kg)               |
| <b>WOB to Fully Compress</b>    | 50,000 lbs<br>(22,200 daN)                      | 70,000 lbs<br>(31,100 daN)         | 100,000 lbs<br>(44,500 daN)         |
| <b>Overpull to Fully Extend</b> | 50,000 lbs<br>(22,200 daN)                      | 70,000 lbs<br>(31,100 daN)         | 100,000 lbs<br>(44,500 daN)         |
| <b>Max Stroke Up to Solid</b>   | 3.0 in<br>(76.2 mm)                             |                                    |                                     |
| <b>Max Stroke Down to Solid</b> | 3.0 in<br>(76.2 mm)                             |                                    |                                     |
| <b>Max Overpull to Re-Run</b>   | 90,000 lbs<br>(40,000 daN)                      | 200,000 lbs<br>(89,000 daN)        | 325,000 lbs<br>(145,000 daN)        |
| <b>Max Temperature</b>          | 320°F (160°C) Standard<br>400°F (200°C) Hi-Temp |                                    |                                     |
| <b>Rig End Connections</b>      | 3-1/2 IF<br>XT-39                               | 4-1/2 XH<br>4-1/2 IF               | 6-5/8 REG                           |

