Drill farther and faster with PDC bits engineered for optimal RSS performance

PermaFORCE-TRU PDC bit optimized for RSS

Rotary steerable systems (RSSs) with polycrystalline diamond compact (PDC) bits are key enablers to drill faster, more complex wells and longer laterals. However, adopting an RSS requires a higher up-front investment, and PDC bits must meet specific performance requirements to justify the added cost over bent motor assemblies. The bit must also drill with low vibrations to protect the RSS from premature failure and high maintenance costs.

Baker Hughes helps maximize RSS return on investment with the **PermaFORCE-TRU™ PDC bit**, specifically designed for improved performance in RSS applications. Engineered cutting structures combined with shankless matrix PDC technology reduce vibrations and improve steering. This enables operators to drill faster, place the well more accurately, and reduce risks in complex drilling environments.

Increase RSS drilling performance and lower operating costs

The PermaFORCE-TRU drill bit delivers better drilling performance and helps prevent damage to the bottomhole assembly (BHA). The drill bit's tailored, RSS-specific cutting structures are designed to drill more smoothly, enhancing the BHA's rate of penetration (ROP) potential. Using **3D Tetrahedron™ bit drilling simulations** to predict lateral and high-frequency torsional oscillation (HFTO) stability windows, PDC bits are engineered to ensure a wider smooth drilling window with minimal vibrations. This allows for higher efficiency and less damage to the RSS BHA.

Steer confidently at higher ROPs

The PermaFORCE-TRU bit is designed for reliable steering while delivering higher buildup rates and ROPs. 3D Tetrahedron simulations help guide the design of PDC bits that provide both improved side-cutting efficiency and a smoother drilling and steering response on RSS BHAs. And by incorporating **DirectKNCT™ shankless matrix PDC technology**, makeup length is reduced—improving steerability without compromising borehole quality or lateral stability.

Ensure bit reliability in challenging environments

The PermaFORCE-TRU bit is built for improved reliability. DirectKNCT shankless matrix PDCs reduce bit erosion on RSS BHAs actuated by hydraulic energy. And with increased

Applications

- RSS applications
- Difficulty achieving build rates in the curve
- Low ROP due to control drilling for build rates or to mitigate vibration
- Premature RSS failure or high AMO costs from vibration damage
- Harder, abrasive formations

Benefits

- Improves ROP potential
- Provides superior directional control while maintaining bit stability
- Widens the smooth drilling window to reduce vibrations
- Improves reliability and expands application window

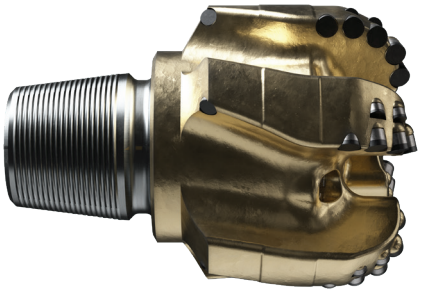
endurance, the bits enable drilling in more challenging applications where steel-body bits cannot meet technical and durability requirements.

The PermaFORCE-TRU bit is engineered to integrate with any drilling system and deliver maximum customer value when paired with the **TRU-Steer™ ultimate rotary steerable service**—enhancing precision, efficiency, and performance in complex well environments.

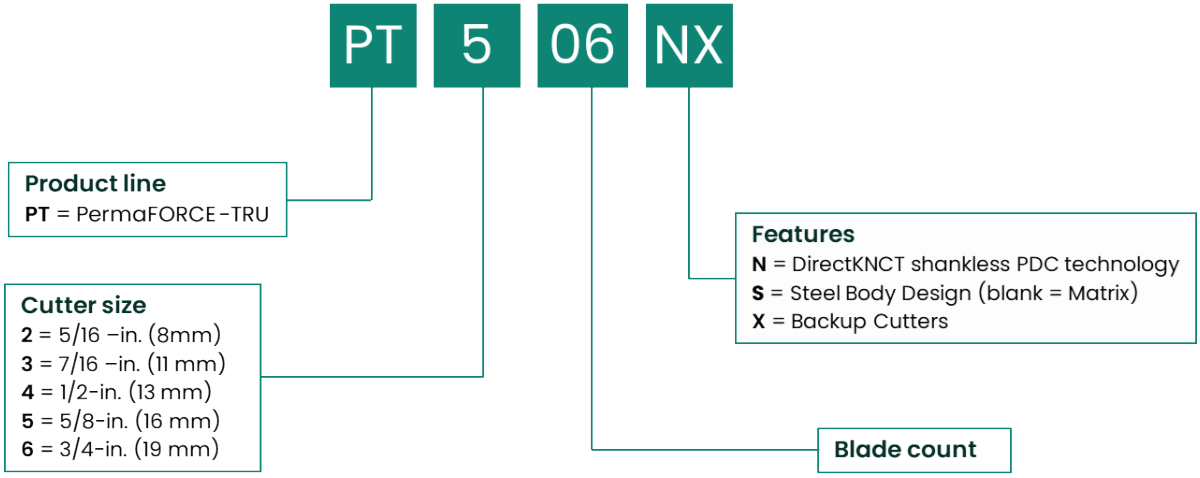
Contact Baker Hughes to learn how the PermaFORCE-TRU PDC drill bit can help drill farther, faster, and more reliably in your most challenging RSS applications.

PermaFORCE-TRU availability

Material type	Bit size range (in.)	Connection types
Matrix body	5½ to 8¾	3½ REG Pin XT3 Pin / XT3 Box 4½ REG Pin
Steel body	5½ to 12¼	3½ REG Pin XT3 Pin / XT3 Box 4½ REG Pin / 4-1/2 REG Box 6⅝ REG Pin



PermaFORCE-TRU PDC bit nomenclature



Baker Hughes™