The Runner® has been designed by Paradigm Drilling Services as a solution to the problem of excessive drill string torque often encountered in formations with high friction factors, short radius well designs, as well as high angle and horizontal wells.

The Runner® is an integral drill string component consisting of a short one piece mandrel that utilises proprietary bearing technology to support a non-rotating one piece sleeve. The tool is positioned between connections of the drill pipe and spaced appropriately throughout the build section of the wellbore or formation generating the string torque.

The use of the Runner® can significantly reduce drilling torque by between 25-40% and is also effective at reducing string transmitted and/or generated vibration.

Through the use of in-house drilling experience and also analysis using well simulation software, Paradigm have concluded that the majority of the side load (therefore torque generation) encountered in high build wells occurs over the build section itself. Dogleg severity is the most important factor in determining the spacing of the subs, therefore, placing the Runner® as recommended from the well analysis (e.g. every second or third joint) to cover the build section for the duration of the run, will significantly reduce torque levels and associated casing and tool joint wear.

The Runner® subs lift the tool joint off the casing or low side of the hole and provide an engineered bearing within the mandrel so the drill string rotates freely within the wellbore with a minimum effective coefficient of friction over the high side load interval, and the minimum of rubbing contact against the casing and wellbore.

Applications

The Runner® is designed to reduce parasitic torque in high angle, horizontal wells. It can protect casing when deployed for through tubing rotary drilling (TTRD). Paradigm has utilised Sysdrill and when provided with the proposed well trajectory can optimise numbers and placement of the Runner®.

Features / Benefits

- Reduces drill string wear and fatigue
- Minimises torque and drag
- Minimises casing wear
- Can help to reduce mechanical cave-ins
- Improves drilling efficiency
- Dampens vibration

RUNNER

Paradigm Drilling Services Limited
Camiestone Road, Thainstone, Inverurie
Aberdeenshire AB51 5GT, United Kingdom

Tel: +44 1224 725 888
drilling@paradigm.eu
www.paradigm.eu/drilling

© 2022 Paradigm Group B.V. All rights reserved.

Technical information								
To suit drill pipe size	**3 1/2"**	**3 1/2"**	**3 1/2"**	**4"**	**5"**	**5"**	**5"**	**5"**
Connection type	VX38	NC38	HT38	XT39	HT50	NC50	TT550	VX50
Recommended Make-up torque (ft-lbs) *	19,500	11,700	17,700	22,300	46,500	30,000	59,200	59,700

To suit drill pipe size	**5 1/2"**	**5 1/2"**	**5 1/2"**	**5 1/2"**	**5 1/2"**	**5 1/2"**
Connection type	FH	HT55	TT550	VX57	XT54	GPDS
Recommended Make-up torque (ft-lbs) *	34,820	46,300	59,200	70,000	49,900	43,700

* Check with Connection vendors for specific make-up torques

To suit Drill Pipe size	**3 1/2"**	**4"**	**5"**	**5 1/2"**
Upper Fishneck length	14 29/32″	14 29/32″	15 3/32″	15″
Upper Fishneck Diameter	4 3/4″	5 1/4″	6 1/2″	6 87/100″
Internal Diameter	2 7/16″	2 9/16″	3″	3 1/4″
Body upset diameter	5 13/32″	5 63/64″	7 13/32″	7 9/16″
Maximum Outer Sleeve Diameter	5 51/64″	6 25/64″	7 27/32″	8 5/32″
Outer Sleeve Length	7 1/2″	7 1/2″	7 1/2″	7 1/2″
Overall length	47″	47″	47″	47″
Body Torsional Rating (ft-lbs)**	23,723	36,053	112,294	101,349

** Body rating based on 135Ksi MYS material and includes safety

NOTE: Other sizes and connection configurations are available upon request. Above sizes may change on customer request. The tools shown here are patented or have patent pending.

RUNNER

Paradigm Drilling Services Limited
Camiestone Road, Thainstone, Inverurie
Aberdeenshire AB51 5GT, United Kingdom

Tel: +44 1224 725 888
drilling@paradigm.eu
www.paradigm.eu/drilling

© 2022 Paradigm Group B.V. All rights reserved.