



BLACKHAWK
SPECIALTY TOOLS

A division of Frank's International

ENGINEERED CEMENTING SOLUTIONS

ROTATING PLUG LAUNCHER

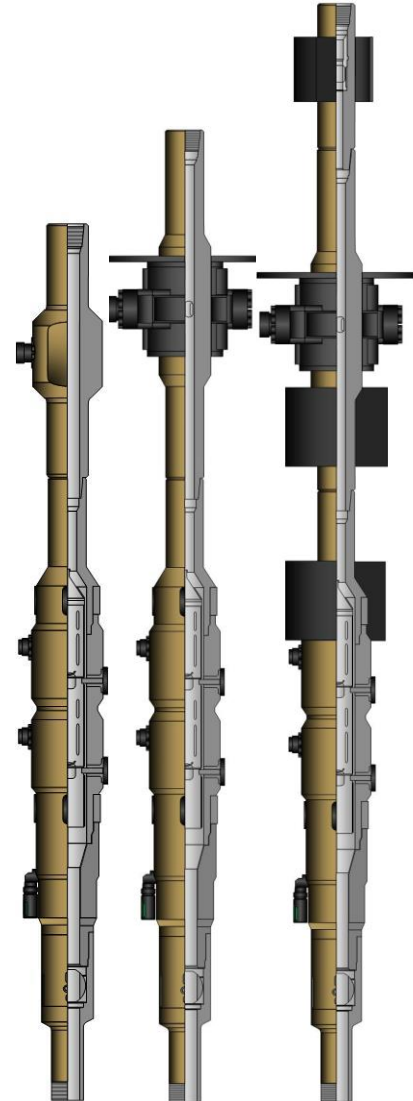
Blackhawk's Rotating Plug Launcher is ideal for rotating while cementing casing from 3-1/2 in. to 14 in. Specifically designed for the shale play market, this tool combines the technology developed and refined for deep-water applications into a smaller, lighter package for use on land and shelf rigs.

FEATURES

- High-pressure swivel facilitates rotation while cementing; widely accepted as best practice among experienced shale play operators and cementing experts.
- Inspection ports enable on-site visual confirmation of loaded wiper plugs.
- "Flow-around" cage design centralizes and minimizes differential pressure across wiper plugs.
- Isolation valve above tool isolates top drive during cementing operations
- For 5-1/2" Only - Isolation valve below tool completely isolates plug launcher should the need arise.
- Industry-exclusive LED tattle-tale, effective in all weather conditions, provides confirmation of plug/ball/dart release from tool.
- 5-1/2", 9-5/8" and 13-3/8" are modular designs capable of dropping multiple plugs.
- Ability to quickly reload the head on location

MODULAR OPTIONS

- Fully Wireless automation package
- Side Entry Sub for non-rotating applications
- Isolation Flange for wireline re-entry intervention
- Patented hold down rotating swivel for 9-5/8" and 13-3/8"
- Drop Sleeve for launching wiper balls and plugs simultaneously





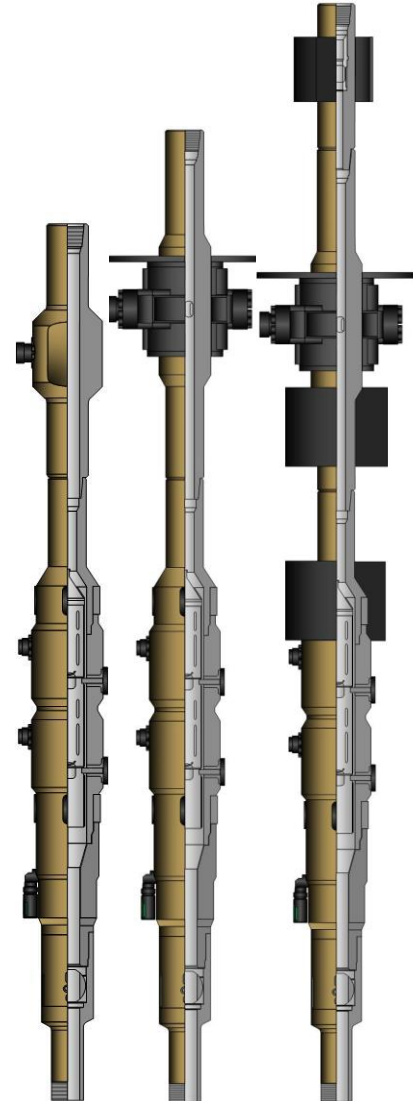
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VALUE

- Plug Launcher arrives on-site pre-loaded with wiper plugs and pressure tested, saving valuable rig time.
- Optimized time management and wellbore fluid conditioning with quick and easy tool rig-up and rig-down.
- Improved well isolation which equates to safer working conditions.
- Reduced likelihood of costly and hazardous remediation for fluid migration during primary cementing operations.
- Wireless, remote-operated, “on-the-fly” plug/dart/ball launching, eliminates the need to stop pumping, reciprocating, and/or rotating.
- Wireless, remote-operated features eliminate the number of riding belt trips above the rig floor, improving safety.
- Viewports allows for pre-checks of darts and plugs and secondary means of launch confirmation
- Continuous wireless link monitoring; radio signal filtering blocks Wi-Fi and Bluetooth interference for increased reliability.
- Improved cement bond log (CBL) for well completion and production.
- Patented hold down rotating swivel for 9-5/8” and 13-3/8” holds negatively buoyant casing to rig floor





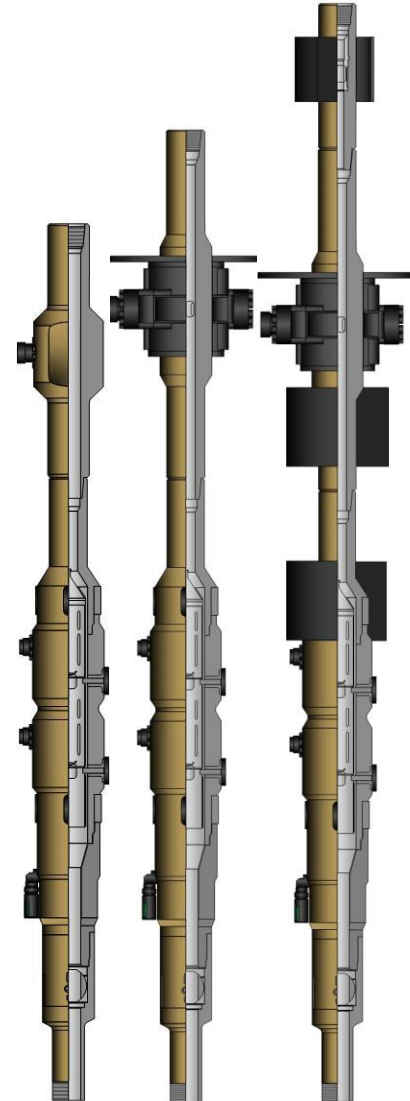
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SPECIFICATIONS

Rotating Plug Launcher			
Description	5-1/2" Gen-X	9-5/8" Gen-X	13-3/8" Gen-X
Max Hook Load (lbs)	810,000 (1.5 SF) *	2,270,000 (1.5 SF) *	2,500,000 (1.5 SF) *
Max Working Pressure (psi)	10,000	10,000	10,000
Torque-Thru Tool Rating (ft-lbs)	50,000	100,000	100,000
Max Pump Rates (bpm)	35 (Top Drive)	35 (Top Drive)	35 (Top Drive)
	15 (2" 1502)	15 (2" 1502)	15 (2" 1502)
Complete Tool Weight (lbs)***	4,500	4,900	10,000
Wiper Plug/Dart Range (in)	3-1/2" – 5-1/2"	6" – 9-5/8"	9-5/8" – 14"
Wiper Plug Maximum Length (in)**	24	18	18
Top Connection	NC-50 (4-1/2" IF) Box	6-5/8" FH Box	6-5/8" FH Box
Bottom Connection	5-1/2" 23.0 ppf GB CDE pin	9-5/8" 53.5 ppf GB CDE pin	13-3/8" 72.0 ppf GB CDE
			9-5/8" 53.50 ppf GB CDE



* Maximum Hook load may be limited by connection ratings

** Can combine chambers to launch longer plugs

*** Includes Triple Body, HD Flow Ring, Wireless Package, Pups and Crossovers