



Model 4P Crossover Tool

Weatherford's Model 4P crossover tool is designed for reliable service and simplified wellsite procedures in executing conventional-rate gravel-pack completions. An assembly consisting of the BlackCat™ GP retrievable sealbore packer, the Model G1 closing sleeve, and this multiposition tool provides a robust, yet economical, completion system for wells in unconsolidated reservoirs that need gravel packs for prevention of unwanted production of formation sand.

The field-proven Model 4P crossover tool is constructed of high-quality low-alloy steel and uses durable bonded seals to maximize strength and ensure reliable and trouble-free operation. The ported sub is machine constructed to reduce the chance of erosion allowing communication between the flow path and return path, which could result in a failed job and potentially stuck tools and pipe.

Operation of the Model 4P tool system is simple, regardless of the type rig being used. The tool can be placed in the *squeeze*, *circulating*, or *reverse* positions with simple upward and downward movement of the work string. To place the tool in the *squeeze* position, simply slack weight off on the packer. The crossover ports align with the ports of the gravel-pack extension, and fluids can be pumped straight into the formation without transmission of fluid or pressure to the casing annulus above the packer. Raising the crossover tool exposes the return ports to the casing annulus; fluid pumped down the work string circulates in the annulus, around the screens, up the washpipe, and through the return bypass of the crossover tool, into the annulus above the packer. To achieve the *reverse* position, raise the crossover tool further until its ports are above the *BlackCat* packer and the formation is isolated while reversing out or circulating above the packer.

Applications

- Single or multizone gravel packs
- Conventional gravel packs
- Squeeze or circulating gravel packs





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Features, Advantages and Benefits

- Primary and secondary ball seats provide a packer setting contingency in the event low bottomhole pressure causes a premature shear of the primary seat, eliminating the need to pull an unset packer out of the well.
- Large flow ports minimize turbulence, reducing erosion and damage to the gravel-pack sand.
- Large return area reduces backpressure and fluid loss, improving the chances of a successful gravel pack.
- Machined crossover ported subs are more durable and erosion resistant than welded ported subs, reducing the potential for serious problems on the job.
- Durable, bonded seals are resistant to damage from sand, improving tool longevity.
- Reverse-out ball check isolates the formation from hydrostatic pressure and casing pressure while reversing, preventing fluid loss, which could be damaging to the formation or result in rig downtime.

Specifications

Packer Bore Size (in./mm)	Part Number	Closing Sleeve Shifting Tool
3.000 76.20	1120252	781657
4.000 101.60	785934	174295
4.750 120.65	1329912	710810