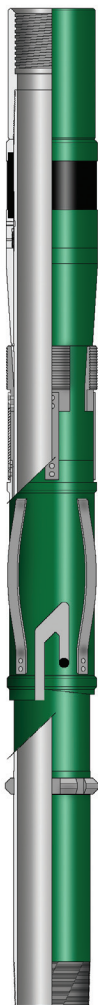


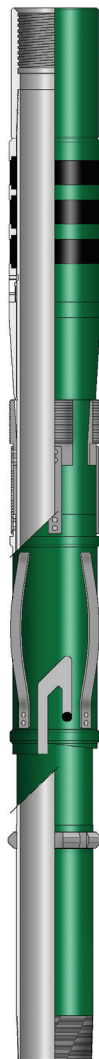
SLOTTED LINER ASSEMBLIES

LINER HANGERS WITH INTEGRAL PACKERS

The Chancellor Model MSCP Mechanical Set Liner Hanger with integral liner top packer is a versatile and economical completion tool. The design is based on an enclosed jay within a one piece sleeve with bow springs. The hanger is mechanically set by manipulating the running-in string. The jay slot holds the slips in place below the cone, while running in the well. When the setting depth is reached, the hanger is raised a few inches and rotated left to disengage the jay slot cage. As the hanger is lowered, slips will be held stationary by the bow springs and the taper cone will move downward under the slips, forcing them outward to contact the casing. Approximately 5,000# downward force will shear cone from mandrel to set packer seal. Slacking off liner weight (approx. 20,000 lb for single element, 40,000 lbs for multi elements) will set the packer element. Reciprocation impact of setting tool may be used to apply additional setting force for shorter, lighter liners or if there is insufficient weight. A lock ring keeps the packer seal energized. Slips are case hardened to grip the hardest casing. Setting tools are released RH rotation when liner is hung, or if necessary, when liner is landed on bottom. The MSCP Bottom Hanger is used typically in casing patch applications for short isolation intervals with a LTP Packer on top or in long cased to surface protective strings. The hanger can be set with RH or LH rotation as needed. The MLTP can be optioned with hold down slips or the Type S metal to metal seal element as well as the 10,000 psi differential pressure MS Packer Element.



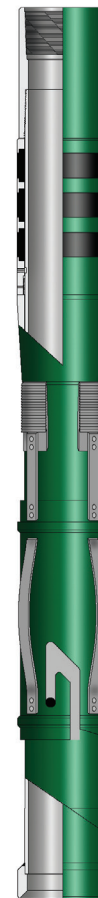
MODEL MSCP LINER TOP
PACKER SINGLE ELEMENT



MODEL MSCP LINER TOP
PACKER THREE ELEMENT



MODEL MSCP LINER
BOTTOM PACKER SINGLE
ELEMENT



MODEL MSCP LINER
BOTTOM PACKER THREE
ELEMENT