



Development of Extreme Temperature Motor for Venus Drill System

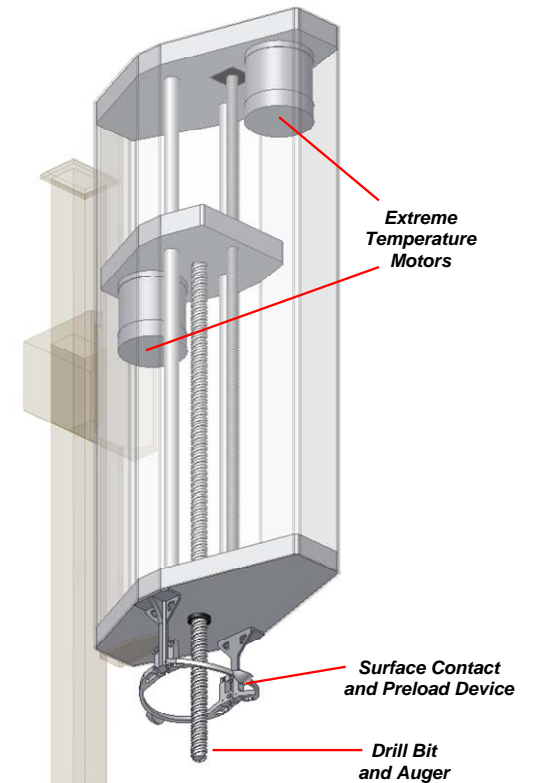
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Background Information



- **Motivation:**
 - No off-the-shelf motors, or known R&D prototype motors, exist that are capable of operating under Venus surface conditions for any appreciable amount of time
- **The Motor is required to operate under Venus-like conditions.**
 - 460 deg C, 90 bar, CO₂
- **Can be used to actuate drills (Venus RAT?), robotic arms, wheels.**
- **Two Motor types currently under development:**
 - Switched Reluctance Motor
 - DC Brushless Motor (with resolver)
- **Funded under NASA SBIR Program**
 - SR Motor: Completed NASA SBIR Phase I and awarded Phase II contract
 - DC Brushless Motor: Awarded NASA SBIR Phase I (start 02/07



Motor Systems Under Development

