

Extreme Equipment Sales & Rentals

PowerDrive - Engaging MTF from IH or HIA

Revision 1.0



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Applicability: All PowerDrive

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BACKGROUND INFORMATION

Several recent events have been documented where PowerDrive did not respond as expected when switching from an automated mode such as Inclination Hold (IH) or Hold Inclination and Azimuth (HIA) into a manual steering setting.

When in IH or HIA, the tool is functioning with a gravity toolface (GTF) reference. As a result, if a manual command is sent (e.g. 0°/100%, 180°/50%, etc.) this command will be interpreted as a GTF command.

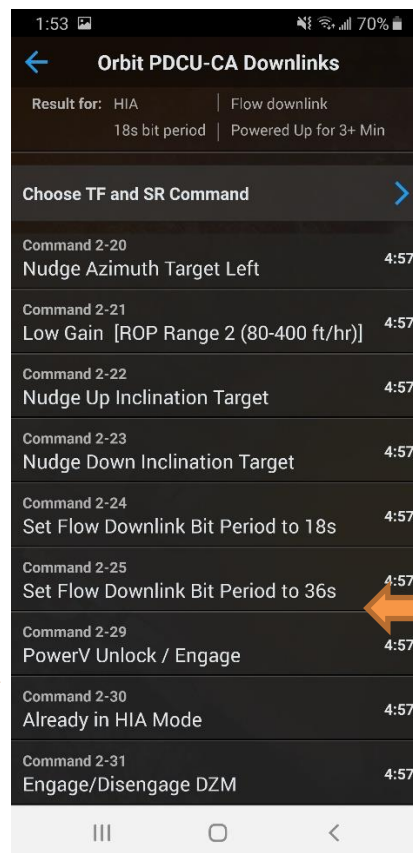
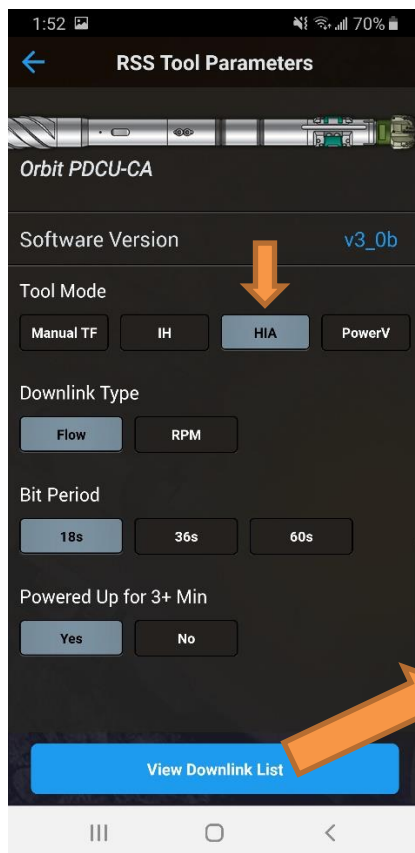
There is no equivalent automated MTF mode, all automated, closed-loop modes are GTF referenced. As a result, the MTF switch command (2-28) will be disregarded by the tool firmware when operating in IH or HIA.

If using the Fast Downlink Timings sheet with a tool mode of IH or HIA, the sheet currently flags 2-28 command as “Not applicable in HIA v2 mode” for this reason. Additionally, the app will not allow the 2-28 downlink to be selected when operating in IH or HIA for this reason.

HOW TO ENTER MTF FROM INCLINATION HOLD (IH) OR HOLD INCLINATION AND AZIMUTH (HIA)

If the directional driller desires to change from IH or HIA directly to a manual Magnetic Toolface setting, the tool must first be downlinked to a manual mode, preferably 0/0% to avoid undesired deviation. To enter MTF when in Inclination Hold or Hold Inclination and Azimuth:

1. Downlink to a manual setting such as 0° / 0%. The tool will accept this as a manual GTF setting.
2. Downlink the MTF switch command 2-28.
3. Send the desired manual toolface and steering ratio command (Example, 0 / 100%) which will be accepted as an MTF command.



When selecting IH or HIA steering mode, the available downlink list will omit commands that are not applicable, including 2-28 – MTF Switch. The tool must be downlinked to a Manual TF setting first.