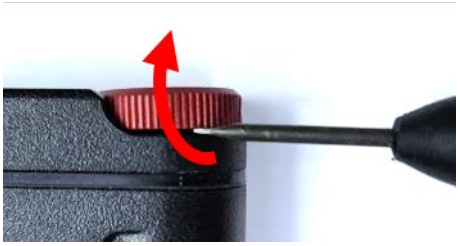
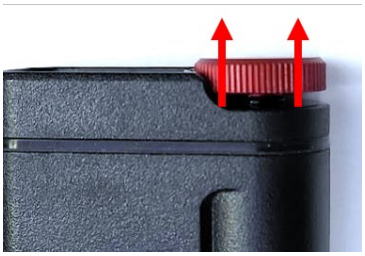
TA600 Power Knob Adjustment

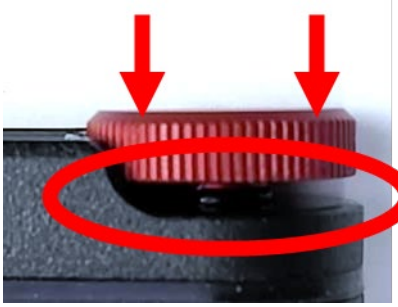
DET-HHD-STE-TA6-CM01

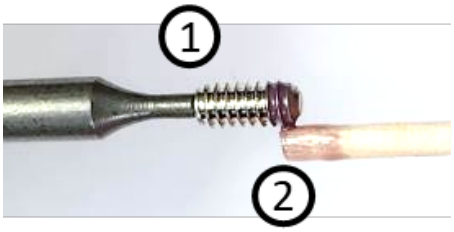
Description	This procedure provides instructions for repairing power knobs that are too stiff to turn. If the instrument also has a display button that is too difficult to press, then the entire top housing should be replaced; refer to DET-HHD-STE-TA6-CM02, *TA600 Top Housing Replacement*. The 0.05-in. [inch] hex driver needed to perform this procedure is not a commonly available tool and should be obtained in advance of attempting this procedure. It is also recommended to use a magnifying glass as the components are very small.
Equipment Hierarchy	Sensor Technology Engineering TA600 Radiation Pager
Frequency	Power knob is difficult to turn
Skill Level/#	Technician 2 x 1
Tools Required	• 0.05-in. hex driver • Knob spacer, 0.01-in. U-shaped shim • Small slotted screwdriver
Materials Required	• Cotton swab • Isopropyl alcohol • SLUBE884-2; High viscosity silicone O-ring lubricant • MIL-S-46163-TY-II-GR-M; 222 Loctite low-strength thread locker • Set screw (STE Part# 94355A140)
Expected Duration	10 minutes
Safety Concerns	None
Retest Requirements	DET-HHD-STE-TA6-RM01, *TA600 Operational Test*
Final Documentation	Corrective Maintenance Report
Departmental Coordination	Prior to arrival, notify operators concerning expected work and duration.

Originator:	Brian Tucker, Jeremiah Prousalis	**Date:**	August 2024
Organization:	PNNL, STE	**Version #:**	
Revision:		**By:**	
Revision:		**By:**	
Approval:	Cody Hostick		

Step	Instruction	Remarks
1	Power off instrument	Rotate switch to **OFF** position. 
2	**Uninstall power knob**	
2-1	Remove set screw	Use 0.05-in. hex driver. Rotate counterclockwise.  Retain set screw. 

Step	Instruction	Remarks
2-2	Remove knob	If needed, use small, slotted screwdriver. Carefully pry up the knob using small, gentle motion on all sides of knob.    
3	**Prepare for reassembly**	
3-1	Clean top housing	Use cotton swab and alcohol. Verify surfaces are free of debris, oil, and lubricants. 

Step	Instruction	Remarks
3-2	Clean knob	Use cotton swab and alcohol. Verify surfaces are free of debris, oil, and lubricants. 
4-3	Lubricate O-ring	Apply small amount of high viscosity silicone O-ring lubricant to O-ring on power knob.  
4	**Reinstall power knob**	
4-1	Place power knob	Set the power knob onto the switch, but do not press down fully. Leave a gap. 
Note: If spacer is not available, use about 4 sheets of paper, cut to fit around the power knob post.		

Step	Instruction	Remarks
4-2	Insert knob spacer	Use 0.01-in. knob spacer. Insert spacer tool between knob and Pager housing. 
4-3	Seat power knob	1 – Verify the O (Off) is aligned with the notch on the instrument. 2 – Press the power knob down on to the instrument. 
4-4	Apply thread locker	1 – To ease application, place set screw onto 0.05-in. hex driver. 2 – Use a swab stick to apply thread locker to the bottom threads of set screw. 

Step	Instruction	Remarks
Caution: Do not overtighten screw. This will make it difficult to turn power knob.		
4-5	Insert set screw	Use 0.05-in. hex driver. Rotate clockwise. Insert set screw fully into knob. If available, use a torque driver set to 2 in-lbs. [pounds]. Do not overtighten. 
4-6	Remove knob spacer	Slide knob spacer out from under power knob. 
5	**Verify instrument is operational**	
5-1	Verify knob alignment	The OFF position (0) should be centered on the notch on the instrument. 

Step	Instruction	Remarks
5-2	Verify knob movement	The knob should turn easily. The knob should click into place for vibrate and audible modes. 
5-3	Perform operational test	DET-HHD-STE-TA6-RM01, *TA600 Operational Test*
6	**Document Maintenance Actions**	
6-1	Document maintenance performed	Record observations, times, and results for the Corrective Maintenance Report.
6-2	Submit Routine Maintenance Report	As specified by management or contractual obligations.