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Product Bulletin # TES-002 Rev 1

TesTORK System Firmware Update

Canrig has updated the TesTORK firmware used by all models of the TesTORK System. The updated firmware adds the following functionality:

• Wake the TesTORK from sleep mode when rotational movement is applied.

This firmware update is optional, it will take place during the next annual calibration. No existing functionality is changing, there is only the addition of the new wake from sleep feature.

Affected TesTORK Models

The new firmware is compatible with all existing TesTORK models, as indicated below:

- 6-5/8" REG Pin Up x 6-5/8" REG Box Down
 - Canrig #5040120-1
 - Canrig #5040120
- NC50 Pin Up x NC50 Box Down
 - Canrig #5042121-1
 - Canrig #5042121

Equipment Required

See list below for required equipment to perform the firmware update:

- TesTORK to be updated
- Rechargeable Battery Pack (Canrig #5033019), fully charged
- Base Station Transceiver (Canrig #5070752)
- Base Radio Antenna Receiver (Canrig #5037527)
- Antenna Cable (Canrig #5038236) and USB Laptop Cable (Canrig #5046743)
- Computer with one available USB port w/ Base Station Transceiver drivers
 - Base Station Transceiver drivers



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- Canrig TesTORK firmware update package
 - Canrig OTA Programmer software
 - Firmware update script: TEC_BOARD_2v0b48D.hex.script

Contact RIGLINE 24/7™ to obtain the firmware update package.

Firmware Update Procedure

Follow the steps below to update the TesTORK firmware.

NOTICE

It is recommended that the firmware update take place at a maintenance facility.

Preparation

- 1. Ensure the computer that will be used for the firmware update has the following:
 - Base Station Transceiver drivers are installed
 - Canrig OTA programmer is loaded
 - Firmware update script is stored in a known location on the computer
- 2. Connect the antenna cable to the antenna and the base station. The cables orientation does not matter.
- 3. Connect the USB cable to the base station and plug into the computer. The cable connectors are different preventing incorrect configuration.
- 4. Securely rest the TesTORK within reaching distance of the computer. Ensure the battery compartment cover is easily accessible.

ACAUTION Secure the TesTORK in place as it can pose a danger to the technician if it moves.



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Firmware Update

1. Start the Canrig OTA Programmer software, the main screen will appear (Figure 1).

Canrig	OTA Programmer V	1.0.0.0					-	□ >
File	1			File	Name			
Open Script	Path			rie	Hame			
Line								
Sent								1
Expected								Line Number
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Progress a	and Result		Rad	lio Port	Searching]])
Progress		Hesuit	Targ	get Port	Searching	How To	Start	CANRI
	rogress Result T.				Manual Cat	riogram	opoate	as a first farmer

Figure 1: Canrig OTA Programmer main screen

2. The OTA Programmer will automatically search for the Radio Port and Target Port (Figure 2). When these are found, the screen will change accordingly (Figure 3 on page 4).

Canrig	OTA Programmer V1.	0.0.0				-	– ×
File Open Script	Path	File Siz	e File	Name			
Line Sent							7
Expected							Line Number
Received							1
Progress a	ind Result	Result	Radio Port	Searching])
Progress	ogress and Result Result Radio F Target	Target Port	Searching Magual Set	How To Program	Start Update	CANRIG	

Figure 2: Searching for Radio Port and Target Port

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Canrig OTA Programmer V1.0	1.0.0				-	
File Open Path Script	File Size	File	Name			
Line Sent						1
Expected						Line Number
Received						1
Progress and Result	Result	Radio Port	Found		12,600) }
Progress		Target Port	Found Magual Sat	How To Program	Start Update	CANRIC

Figure 3: Radio Port and Target Port found

If it takes more than one minute for the OTA Program to find the **Radio Port** and **Target Port**, unplug the base station transceiver USB cable from the computer, wait 20 seconds and plug it back in.

If the Radio Port and Target Port are not found after multiple tries, verify that the Base Radio drivers are installed on the computer.



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3. To select the firmware update script, under **File**, select the **Open Script** button. The file **Open** dialog will appear (Figure 5 on page 5).

Canrig OTA Programmer V1.0.0.0	E.					
File Open Script	File Siz	e File	Name			
Line Sent						-
Expected						Line Number
Received]
Progress and Result	Panit	Radio Port	Found		-]])
Progress	nesus	Target Port	Found	How To	Start	CANRIC
		1000 Barriero	Manual Set	Program	opoate	ana des reteness

Figure 4: Open Script button

👌 Open						
← → ~ ↑ 📙 > This	PC > OSDisk (C:) > Canrig > TesTOR	Calibration Program > Scripts	*	õ	,P Search Scripts	
Open						
This PC	Name	Date modified	Туре	Size		
 3D Objects Desktop Downloads Music My Documents Pictures Videos 	TEC_BOARD_2v0b48D.hex.script	12/11/2019 12:40 PM	SCRIPT File		136 KB	
 OSDisk (C:) Electronics (\\na nabors-subs-roc OSDisk (H:) Applications1 (\\ Public (\\nabor 						
File na	me			~	(".hex.script)	~
	aller and a second s				Open	Cancel

Figure 5: File Open dialog

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4. Navigate to where the firmware update script is located, select the file and then select the **Open** button. The screen will update to show the selected file (Figure 7).

ganize • New folder					100 -	(
This PC	Name	Date modified	Туре	Size		
3D Objects	TEC_BOARD_2v0b48D.hex.script	t 12/11/2019 12:40 PM	SCRIPT File	136 KB		
Desktop						
Downloads						
Music						
My Documents						
Pictures						
Videos						
SDisk (C:)						
Electronics (\\na						
nabors-subs-roc						
SDisk (H:)						
Applications1 (\'						
Public (\\nabor						

Figure 6: Update script file selected

Cla.								
Open Script	Path	allhration Program\S	File Size 4592	File	Name TEC_BO	ARD_2v0b48	D hex script	
Line Sent								-
Expected								Line Number
Received]
Progress a	and Result	Based	R	adio Port	Searching		- IN STA	À
Progress		hesuk	Ta	arget Port	Searching	How To Program	Start Update	CANRI
					Manual Set			ana. Ina rearrant

Figure 7: Displaying update script file selected

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- 5. Insert the battery pack into the TesTORK unit and affix the battery pack cover in place or firmly hold the battery in place.
- 6. To start the firmware update, select the **Start Update** button.

File	Path	R	le Size 4592 Fil	Name TEC_BO	DARD_2v0b48	D hex script		
Script	C:\Canrig\TesTOR	Calibration Program\Scri	pts	have a start				
line								
ient							1	
pected							Line Num	ber
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		Result	hadio ron	Searching		~ .		
Progress			Target Port	Searching	How To Program	Start	CAN	310
				Manual Cot	riogram	opoare		

Figure 8: Start Update button

The OTA Programmer will update the firmware in the TesTORK as shown in Figure 9.

Canrig	OTA Programmer V1.0.0	.0				-	- >
File Open Script	Path C:\Canto\TesTORK Ca	File Size	4592 File	Name TEC_BO	0ARD_2v0648	D hex script	
Line Sent 80240010 Expected	7262000A00B0137E94B0	139289B013A6954C93FC270	018F2407E20941F	8243981FA243	3E29] Line Number
00800200 Received 00802100	3B0060C4 3A3E00B013D881281610	018C0060200D433E400A00E	30137E948C007E2	00D433E40EF4	41] [486
Progress a Progress	and Result	Result	Radio Port Target Port	Found	How To Program	Start Update	CANRI

Figure 9: TesTORK being updated

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When the update is completed, the OTA Programmer screen, under **Result**, will display **Success**.

Hie	-						
Open	Path	File Size	4592 Hie	Name TEC_BC	DARD_2v0b48	D.hex.script	
Script	C:\Canrig\TesTORK	Calibration Program\Scripts					
ine							
ient							
30060018	SFEFF000200E9C4						
expected							Line Number
00800300	3A285E8CFA						4592
Received							
00800300	3A285E8CFA						
Progress a	and Result	0.13	Radio Port	Found		() A
		Hesuit	Target Port	Found	How To	Start	CANIDI
Progress			TO DOCTOR	1.000100			

Figure 10: Firmware update success

If the programming fails for any reason, power down the TesTORK and start again.

Contact RIGLINE 24/7™ if you need assistance or to obtain the firmware update package.