

Marketing Sales Release

Notice of Potential Database Memory Overrun Condition TLS-450PLUS and TLS4 Series Consoles

1.0 Product Notice

Veeder-Root has determined that certain TLS-450PLUS and TLS4 Series Automatic Tank Gauges (ATG) may be at risk for a memory overrun condition that could negatively impact the operation of the ATG under normal working conditions. The presence of this defect can render the console unresponsive and unable to upgrade. A software update is required to prevent this condition.

Through field reports and accompanying investigation, Veeder-Root has established that TLS-450PLUS and TLS4 Series consoles **with software versions 6F or 6H** could potentially run out of memory on the SD card, leaving the console in a busy state. This “Database Memory Overrun” state may go unnoticed in cases where the operator is not interacting with the console. Further, after reaching this state, the software cannot be upgraded and the console requires a replacement SD card and a “cold boot” to resume normal operation.

All potentially affected consoles should be upgraded immediately.

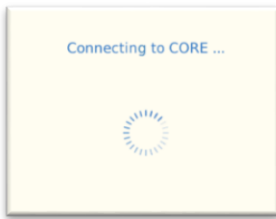
2.0 Potentially Affected ATG Consoles

The following ATG consoles are likely to have the software versions 6F or 6H susceptible to the Database Memory Overrun Condition:

Table 1: Potentially Affected ATG Consoles	
Model Numbers	Manufacturer's Shipping Dates
TLS-450PLUS (p/n 8600X1-XXX)	Between November 18, 2015 and May 11, 2016
TLS-450PLUS upgraded from a TLS-450 using a <i>TLS-450 to TLS-450PLUS Migration Kit</i> (p/n 330020-771)	Between November 18, 2015 and May 11, 2016
TLS4 Series (p/n 8601XX-XXX), including TLS4c, TLS4i, TLS4, TLS4B, TLS-S1	Between November 18, 2015 and May 16, 2016
Additionally, any TLS-450PLUS or TLS4 Series console that has been upgraded to software version 6F or 6H via USB Flash drive (available during this timeframe) may also be affected.	

3.0 Determining Actions

Veeder-Root recommends that all ATG Consoles upgraded or installed after November 18, 2015, be assessed immediately to determine the console's state and risk for this condition.

Table 2: Assessing ATG Consoles		
Access to Console	Current Status/ Software Version	Action
Access remotely via Web Enabled (Ethernet)	The console is unresponsive to web connection or commands.	Physically visit console to inspect screen (see Physical Visit Required: Local Access via front panel GUI)
	The console is running and you are able to navigate to "About" screen - Verify the software version (see APPENDIX A).	If Software Version is 6F or 6H, follow the Prevention Plan in Section 4.1 below. If Software Version is not 6F or 6H, no action needed for Database Memory Overrun issue.
Access remotely via VR-protocol command (Serial)	Console is unresponsive to web connection or commands.	Physically visit console to inspect screen (see Physical Visit Required: Local Access via front panel GUI)
	Console is running and you are able to receive a response to I90700 command (see APPENDIX B) - Verify the software version.	If Software Version is 6F or 6H, follow the Prevention Plan in Section 4.1 below. If Software Version is not 6F or 6H, no action needed for Database Memory Overrun issue.
Physical Visit Required: Local Access via front panel GUI	Console is unresponsive, and GUI displays signs of being hung up such as a line of small squares or "Connecting to CORE..." 	Possible Database Memory Overrun condition encountered. Follow Remediation Plan in Section 4.2 below.
	Console GUI is running and you are able to navigate to "About" screen - Verify the software version (see APPENDIX C).	If Software Version is 6F or 6H, follow the Prevention Plan in Section 4.1 below. If Software Version is not 6F or 6H, no action needed for Database Memory Overrun issue.

It is also recommended that any affected ATG consoles in distributor's inventory should be updated with a replacement SD card kit containing 7A.

4.0 Required Actions

4.1 Prevention Plan

NOTE: Prevention Plan requires one (1) FAT32 4GB min USB Flash drive

1. Prepare a Software Upgrade USB Flash Drive

Create a Software Upgrade USB Flash Drive using a user-supplied 4GB (or greater) Windows FAT32 [formatted](#) USB Flash drive. The following link provides instructions and the software file:

<http://www.veeder.com/us/content/automatic-tank-gauge-software>

Once loaded, this flash drive can be used to upgrade multiple consoles. Note that users will be requested to fill out a contact form in case follow-up is needed.

Pre-programmed USB flash drives can be ordered from Veeder-Root: p/n 330020-744 TLS-450PLUS, TLS4 Series Operating Software

2. Upgrade software

Insert the Software Upgrade USB Flash Drive, navigating to the **Home > Software Maintenance > Download** screen on the GUI, and select USB as the Download Source. Once you validate that 7A is listed as the available version, click 'Download'.

3. Activate Software

Navigate to the **Menu>Software Maintenance>Activate/Revert** menu and click the acknowledgement checkbox to complete the version 7A activation.

4. Validate Software

Console will be upgraded and fully operational once Activation is complete. Revisit About screen (**Menu > Overview > About**) to validate the software version is set to 7A and there are no setup warnings or alarms.

5. Prepare a Database (DB) Backup USB Flash drive (optional)

Perform a system backup as per APPENDIX D "Instructions for performing System Backup", using a user-supplied 4GB (or greater) Windows FAT32 [formatted](#) USB Flash drive.

4.2 Remediation Plan

NOTE: Remediation Plan requires one (1) replacement SD card with 7A software

1. Replace the SD card

Replace the overrun SD card with a version 7A SD card as per "Replacing the SD Card", ([577014-076](#) p. 14 for TLS-450PLUS, [577014-043](#) pp.8-9 for TLS4). Note that a system DB Backup will not be possible once the console has reached the Database Memory Overrun condition. The DB Restore step may also be omitted. The overrun SD card should be left with the console (in a spare module bay or taped to the printer bay door of the TLS-450PLUS or above the expansion connector on the bottom of the TLS4 Series console).

2. Reconfigure the console

If a DB Backup USB Flash Drive had been created prior to the Memory Overrun condition, this Flash drive can be inserted into the USB and a DB Restore performed

by navigating to **Home > Software Maintenance > DB Restore**. Otherwise, the console will need to be configured as if it were a new system. Veeder-Root recommends the *TLS-450PLUS/TLS4 Operator's Manual* ([577014-110](#)) as well as utilities such as Workflow Wizard and Import Configuration to streamline this process.

5.0 Reference Documentation

Reference Documentation can be downloaded with the links below:

Manual No: [577014-076](#) • Rev A • **TLS-450PLUS Board and Software Replacement Manual**

Manual No: [577014-043](#) • Rev C • **TLS4 Software/Hardware Upgrade & Replacement Manual**

Manual No: [577014-110](#) • Rev B • **TLS-450PLUS/TLS4 Operator's Manual**

Manual information can be obtained at: www.veeder.com/support/technical_documentation.

6.0 Ordering Upgrade Kits

Supplies for console upgrades can be received at no charge by ordering the appropriate items below. Please call Veeder-Root's customer service for assistance in ordering quantities appropriate for large deployments.

Part Number	Description	List Price
330020-744	TLS-450PLUS, TLS4 Series Operating Software, loaded onto FAT32 4GB USB Flash Drive	No Charge
330020-796	SD Card Kit (SD Card Contains 7A Software), TLS-450PLUS	No Charge
330020-745	SD Card Kit (SD Card Contains 7A Software), TLS4 Series	No Charge

7.0 Outreach Program and Reimbursement

Veeder-Root is conducting an Outreach Program to reimburse Veeder-Root Authorized Service Contractors (Veeder ASCs) for upgrading affected ATG Consoles in the US and Canada. The Outreach Program will be open until December 31, 2016.

Veeder-Root will provide each Distributor with a list of affected consoles that they are authorized and in charge of upgrading. Veeder-Root will provide timetables for upgrades based on serial numbers so that site visits can be appropriately prioritized.

Subject to the rules of the program, Veeder-Root will reimburse the Veeder ASC a flat fee for mileage, travel time, and labor for each authorized console that Veeder-Root receives confirmation of the upgrade by the Veeder ASC before the close of the program. The flat fee reimbursements for the Outreach Program are as follows:

- \$175 per authorized console for completion of 'Prevention Plan' (requiring software upgrade)
- \$300 per authorized console for completion of 'Remediation Plan', (requiring SD card replacement)

Confirmation of the upgrade must be made by submitting a photograph of the authorized ATG console 'About' screen taken after the software upgrade or SD card replacement showing:

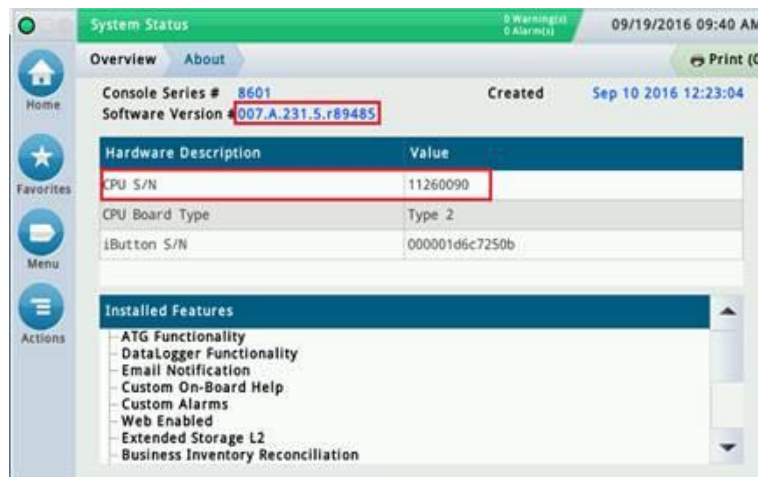
- Software Version # 7A (or greater)
- CPU Serial Number (CPU S/N)

Please submit this information along with

- Company Name
- Phone number
- Technician Name
- Certification Number

to customerservice@veeder.com, subject: **Overrun Upgrade**

Note that Outreach Program claims cannot be submitted through Veeder-Root's electronic warranty (e-warranty) process. Also, the flat fee is not available for consoles that have been upgraded prior to September 20, 2016. Upon receipt of the photograph or screen capture, and verification of the upgrade, a credit will be issued for the flat fee.



Sample 'About' screen for submission

8.0 Support

Veeder-Root is offering a dedicated helpline to assist with materials and answer any upgrade questions. Our standard business hours are 8 a.m. to 7 p.m. EST. Extend availability between 8 a.m. and 8 p.m. EST will be offered through 9/28/2016.

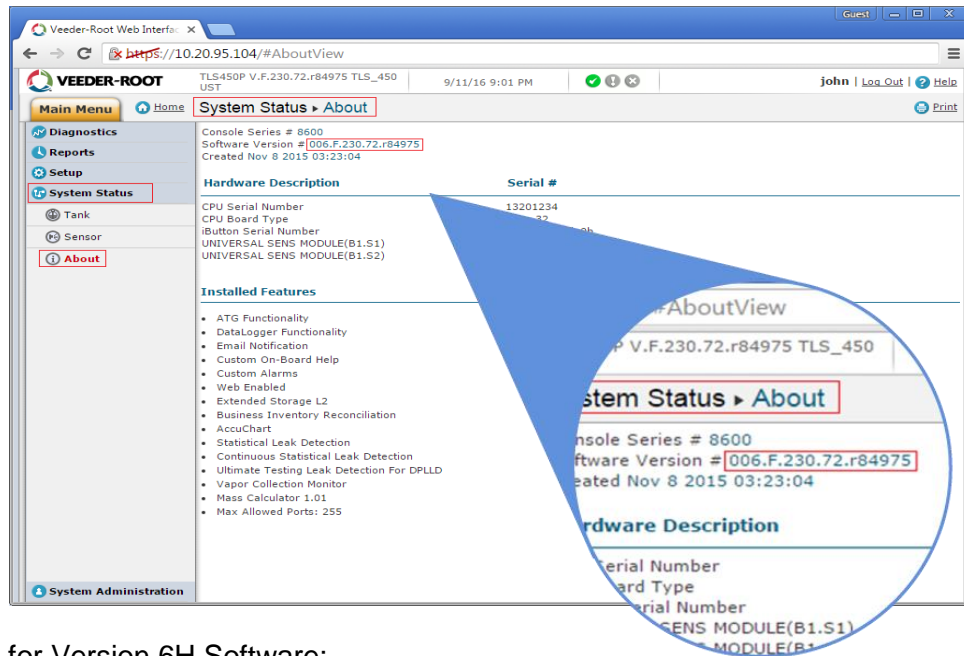
(844) 368-1417
Veeder-Root Overrun Upgrade Helpline

Customer Service and Technical Support lines are also available to answer your questions.

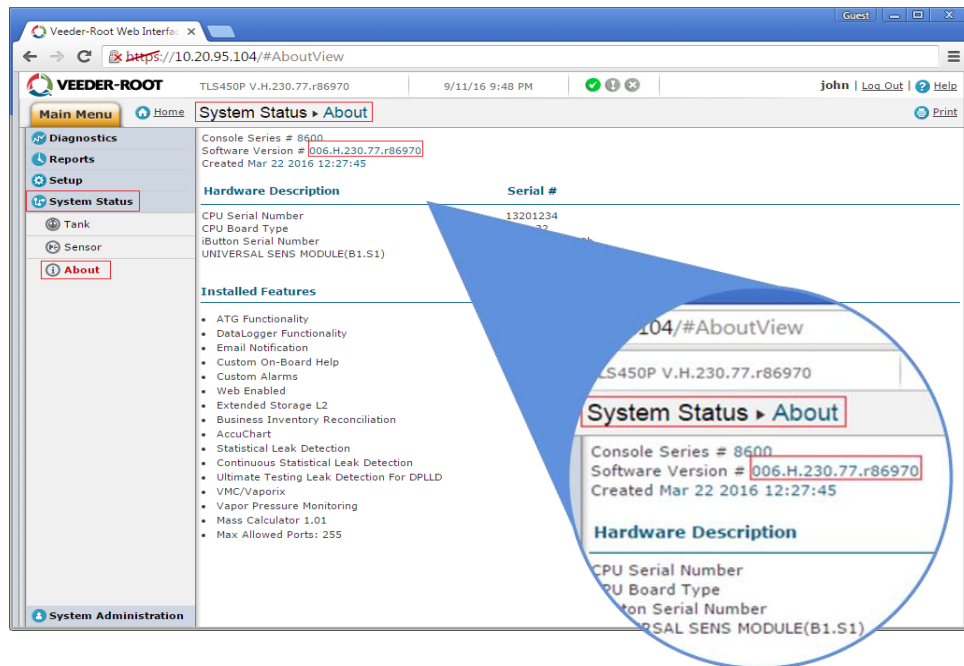
APPENDIX A

Query by Remote Web Enabled (Ethernet)

Response for Version 6F Software:



Response for Version 6H Software:



APPENDIX B

Query by Remote VR-protocol command (Serial)

Response for Version 6F Software:

```
I90700  
09/11/16  9:04 PM  
  
Console Series #   8600  
Software: Part #   342005.006.F.230.72.r84975 CREATED: Nov  8 2015 03:23:04  
...
```

Response for Version 6H Software:

```
I90700  
09/11/16  9:41 PM  
  
Console Series #   8600  
Software: Part #   342005.006.H.230.77.r86970 CREATED: Mar 22 2016 12:27:45  
...
```


APPENDIX C

Query by Local front panel GUI

Response for Version 6F Software:



System Status 0 Warning(s) 0 Alarm(s) 09/11/2016 08:43 PM

Overview **About** Print (0)

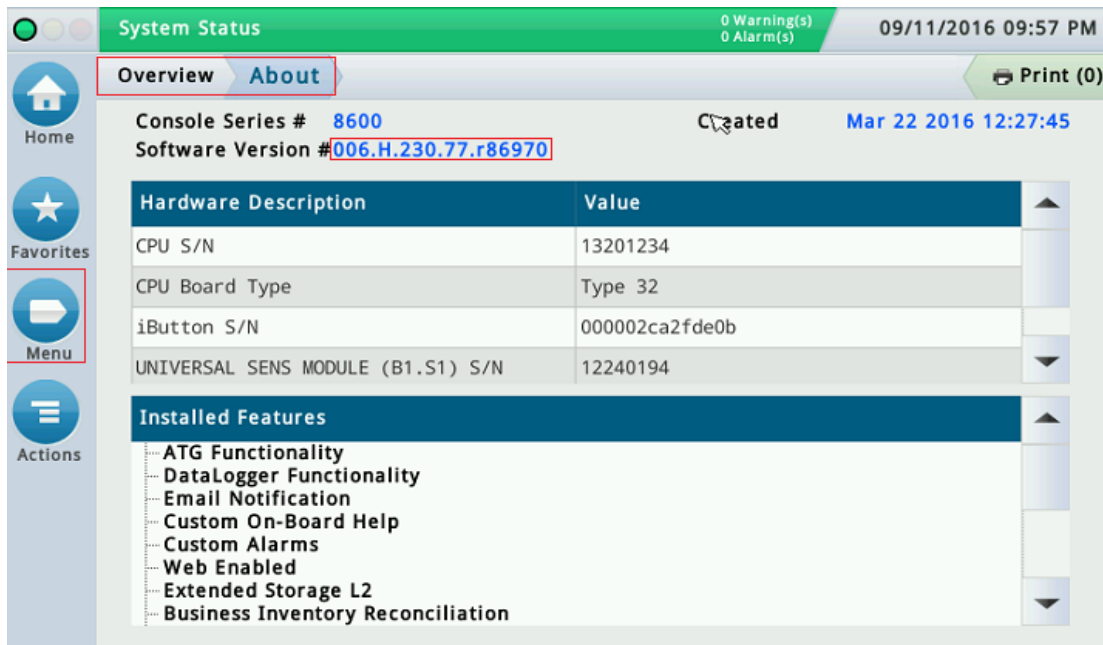
Console Series # **8600** Created **Nov 8 2015 03:23:04**
 Software Version # **006.F.230.72.r84975**

Hardware Description	Value
CPU S/N	13201234
CPU Board Type	Type 32
iButton S/N	000002ca2fde0b

Installed Features

- ATG Functionality
- DataLogger Functionality
- Email Notification
- Custom On-Board Help
- Custom Alarms
- Web Enabled
- Extended Storage L2
- Business Inventory Reconciliation

Response for Version 6H Software:



System Status 0 Warning(s) 0 Alarm(s) 09/11/2016 09:57 PM

Overview **About** Print (0)

Console Series # **8600** Created **Mar 22 2016 12:27:45**
 Software Version # **006.H.230.77.r86970**

Hardware Description	Value
CPU S/N	13201234
CPU Board Type	Type 32
iButton S/N	000002ca2fde0b
UNIVERSAL SENS MODULE (B1.S1) S/N	12240194

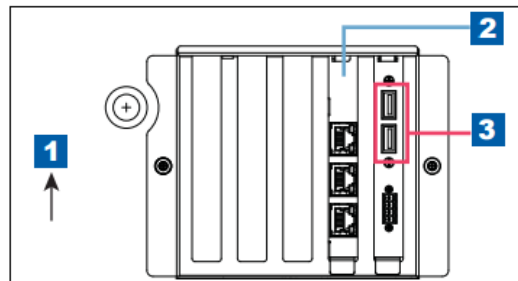
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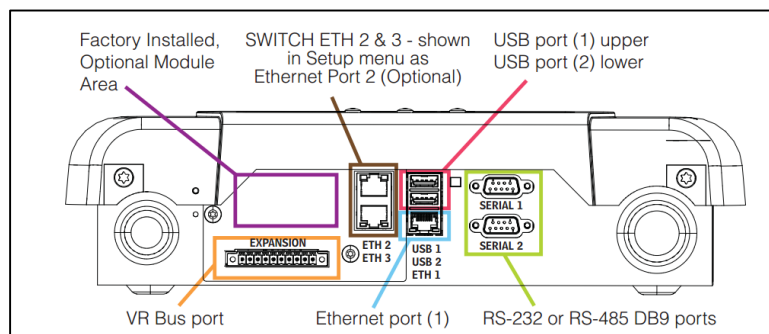
APPENDIX D

Instructions for performing System Backup

1. TLS-450PLUS: Beneath the left side of the TLS-450Plus console, locate the USB module and insert the Backup thumb drive, minimum 4 GB, into one of the external USB ports on the USB card, P/N 333477-001 (see **Red** call-out for USB location).



TLS4 Series: Beneath the TLS4 Series console, locate the USB module and insert the Backup thumb drive, minimum 4 GB, into one of the external USB ports (see **Red** call-out).



2. From the Home Screen, touch Menu > Software Upgrade > DB Backup to view the Database Backup Screen.



3. Touch the down arrow in the Backup Destination field to select the Backup thumb drive inserted in Step 1. Once selected, the Version field displays thumbdrive information and the **Backup** button appears.
4. Touch **Backup** button to begin the backup. After completing the backup, the 'Backup Completed Successfully!' message appears.