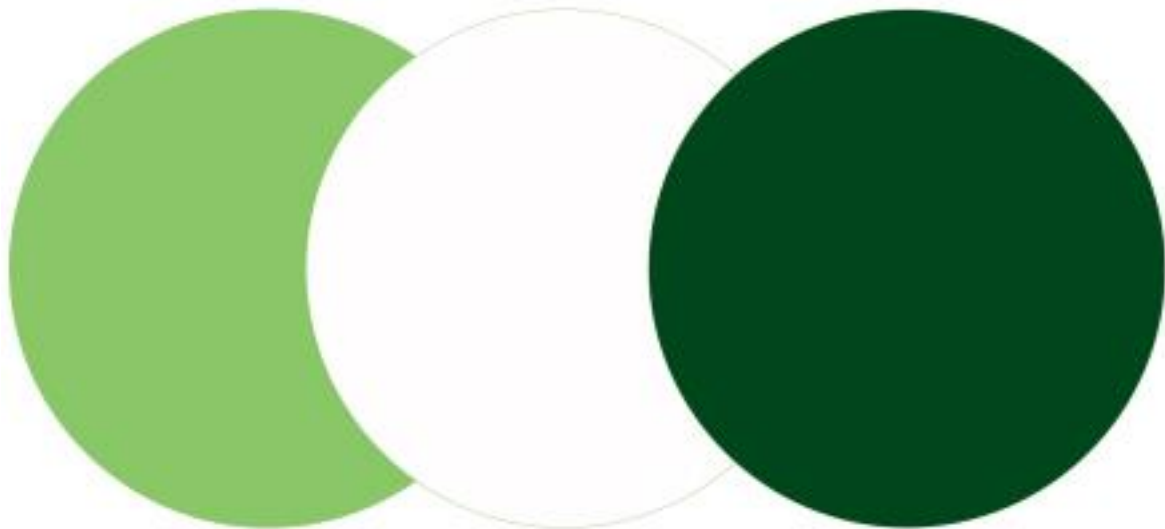


# Casella Firmware Upgrade Guide

Casella TUFF Pump

**PROC: 352** Rev 5a.



## **Introduction**

This guide is intended to guide a user through the necessary steps to update the firmware on a Casella TUFF Pump and describes each process in a step by step manner. In order to update the firmware on the Casella TUFF Pump, the **TUFF Pump Firmware Upgrade Program** needs to be installed on your computer; this program is available to download from the Casella website within the TUFF Pump product support pages.

If assistance is needed during any process in this guide, support can be attained online from **helpdesk.casellasolutions.com** or by calling **+44 (0)1234 84779**. When contacting Casella Product Support, please reference the document number and the step number of the flow diagram or list if necessary.

***N.B** Updating the firmware on your Casella TUFF Pump may erase all the information stored in the unit. Please make sure you have backed up your data before attempting this procedure.*

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**The latest firmware revision can be downloaded from the Casella website within the relevant product support page. If a new firmware version is available, a technical notification will be released by Casella Product Support. The up to date revision will then be uploaded to the Casella website for download.**

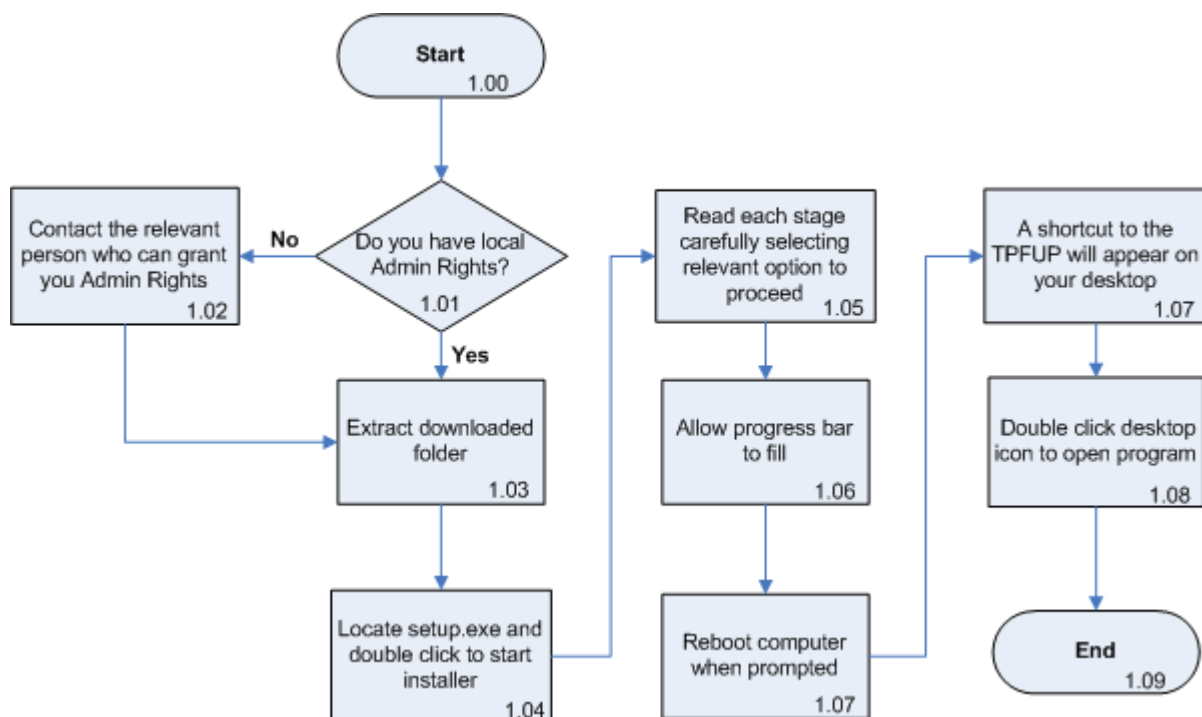
## Software Installation

The TUFF Pump Firmware Upgrade Program has been specifically written by Casella to update the firmware on the Casella TUFF Pump. The software is available for download from the Casella website. Installation of the TUFF Pump Firmware Upgrade Program is very simple with the steps outlined below in **Figure 1**.

The minimum system requirements to use this program are shown below:

- PC with a 1GHz Intel or AMD processor
- 512 mb of RAM
- Windows Vista, Windows 7 or Windows 8 (requires dotNET 3.5 Framework)
- An Internet connection for software download
- A working USB 2.0 port for instrument connection

**Figure 1**



## **Equipment**

Before proceeding with the firmware update process, please make sure you have the following equipment:

**Casella TUFF Pump**



**USB Infra-red Dongle**

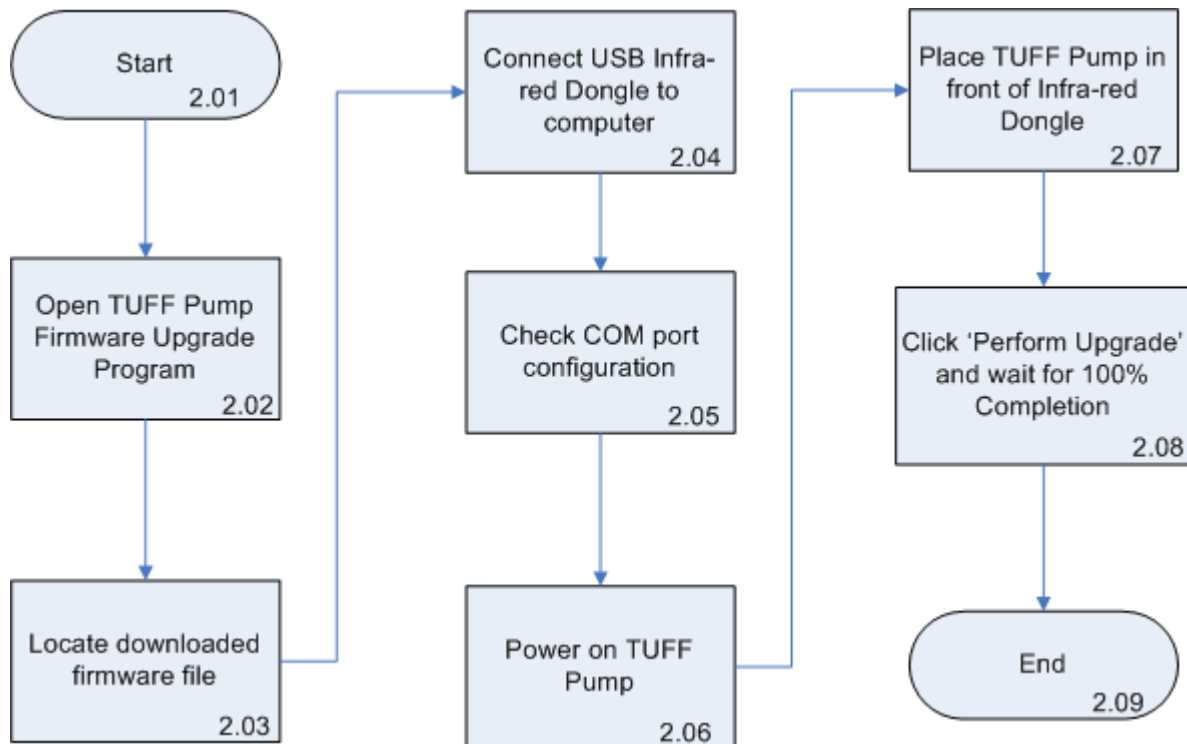


**The latest firmware revision can be downloaded from the Casella website within the relevant product support page. If a new firmware version is available, a technical notification will be released by Casella Product Support. The up to date revision will then be uploaded to the Casella website for download.**

## Firmware Upgrade Method

The firmware upgrade method for the Casella TUFF Pump is a simple procedure and is summarised below in **Figure 2**. A detailed, step by step procedure is outlined below which has been numbered so that you can reference the document number and step number when contacting Casella Product Support.

**Figure 2**



***N.B*** Updating the firmware on your Casella TUFF Pump may erase all the information stored in the unit. Please make sure you have backed up your data before attempting this procedure.

## Detailed Firmware Update Procedure

Before following this procedure, please ascertain the model variant of your Casella TUFF Pump. This can be achieved by powering the instrument on and viewing the model variant upon instrument start up.

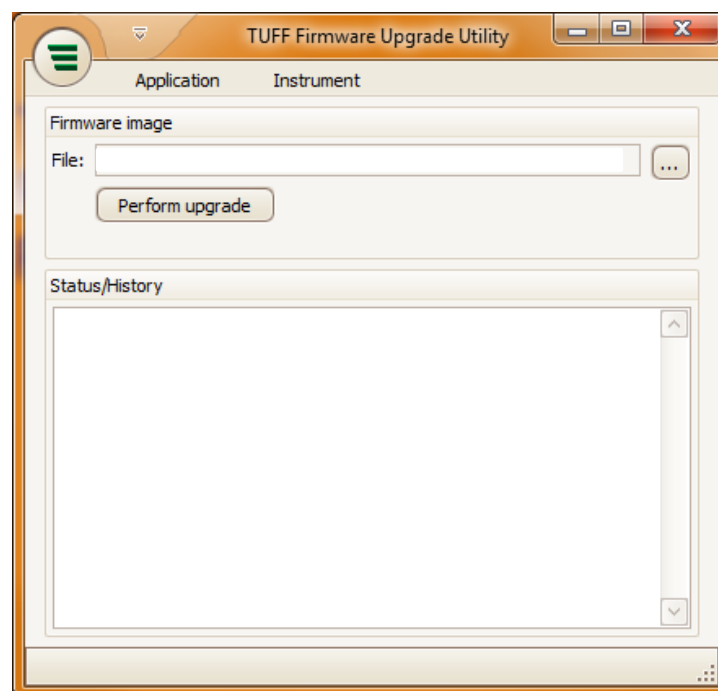
If the Casella TUFF Pump is a '**Standard**' model, please use the firmware file with the prefix:

### **TUFF Std**

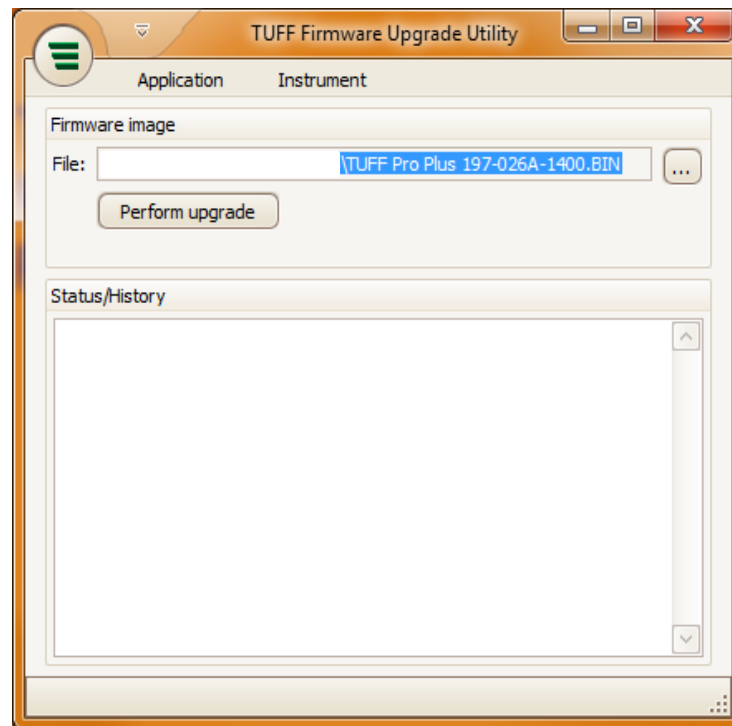
If the Casella TUFF Pump is a **Pro/Plus** model, please use the firmware file with the prefix:

### **TUFF Pro Plus**

1. Download the correct Casella TUFF Pump firmware from the Casella Extranet and save to an accessible location.
2. Double click the TUFF Pump Firmware Upgrade Program desktop icon to open the program. The following window will appear:

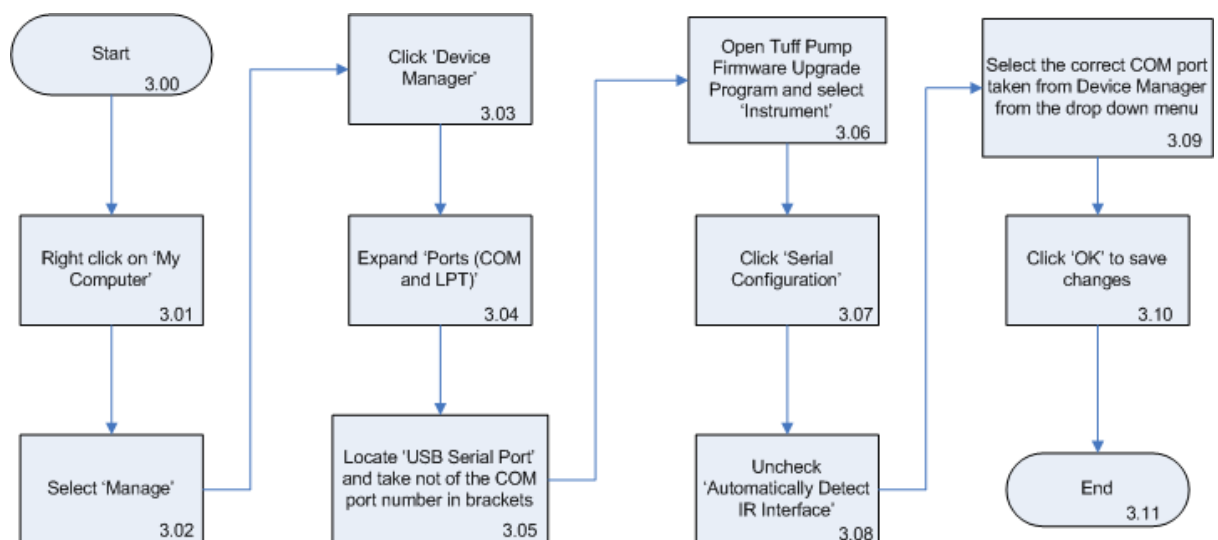


- Using the [...] button browse to the location chosen in step 1 and 'open' the firmware file. The File dialog box will display the chosen location once selected.



- Connect the USB Infra-red Dongle to a USB port on your PC.
- The correct COM port will need to be selected for the program to work with the USB Infra-red dongle. This process is outlined in **Figure 3**.

**Figure 3**



6. Power on the Casella TUFF Pump. Once the unit has booted, place the instrument's Infra-red receiver (shown in **Figure 4**) in front of the USB Infra-red Dongle

**Figure 4**



7. Click 'Perform Upgrade' in the TUFF Pump Firmware Upgrade Program. The LEDs on the Casella TUFF Pump will flash red and blue and a progress bar will appear at the bottom of the TUFF Pump Firmware Upgrade Program window.
8. When the progress bar shows 100% complete, reboot the Casella TUFF Pump.
9. The update is now complete.



Description	Current Issue	Software Number
Casella TUFF Pump Firmware History	14	109A-14-00

Issue Number	Fixes and Additions	Release Date
14	<ul style="list-style-type: none"> <li>- Flow control algorithm amended to be increase accuracy and to have a faster response to flow changes</li> <li>- Exposure duration time bug fixed</li> </ul>	13/03/2013
12	<ul style="list-style-type: none"> <li>- Battery charging algorithm updated: 'Over Temperature' message removed and battery fast charge termination criterion amended</li> </ul>	11/06/2012
10	<ul style="list-style-type: none"> <li>- Fixed pump blockage error condition to give 5 chances before a fatal error occurred</li> <li>- User calibration mode timeout increased to 180 seconds</li> <li>- Bug fixed which caused pixels to remain within warning symbol on calibration screen</li> <li>- Bug fixed which caused the duration counter to reset to 0 after third start/stop condition</li> <li>- Bug fixed which caused 'Batt-err' to sometime appear after an IR firmware update</li> <li>- Bug fixed which caused run counter loss after powering off and on again</li> <li>- Communication bug fixed from battery management chip</li> <li>- Pump error LED duration increased to 16 seconds</li> <li>- Bug fixed which could cause data loss if the pump is placed in the charger while in measurement mode</li> </ul>	09/09/2011
06	<ul style="list-style-type: none"> <li>- Bug fixed which caused an un-configured battery chip to constantly display a battery low error causing a pump to become inoperable</li> </ul>	20/08/2009

<b>02</b>	<ul style="list-style-type: none"><li>- Timeout added for 'Service Due' screen</li><li>- Lock bug resolved</li><li>- Battery life indicator added to standard model</li><li>- Multiple languages added</li><li>- Bug fixed relating to flow limit</li><li>- TWA extended to 200 hours</li></ul>	08/06/2009
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This is a controlled document and is not to be amended by anyone other than Casella Product Support. Should you have any feedback or wish for any amendment to be made to this document, please contact Casella Product Support via the contact details below providing the document number and change request details.

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