	<b>Product Development</b>	<b>Gorbel P/N: 80809</b>	
		<b>Revision # 3.0</b>	
<b>Title:</b> G-Force® Software Field Upgrade	1 of 5	<b>Implementation Date</b>	11/12/2020
		<b>Last Reviewed/Update Date</b>	11/12/2020
<b>GOP Owner:</b> Robotics Engineering – PD			

## Gorbel Operating Procedure

### G-Force® Software Field Upgrade

#### 1. Purpose

This procedure describes steps to field upgrade the software on the G-Force® Q2 and iQ2 products.

#### 2. Scope

This procedure applies to both Q2 and iQ2 G-Force® and Easy Arm® products.

#### 3. Prerequisites

**SAFETY WARNING:** Activities described in this procedure can cause personal harm. The minimum personal protective equipment (PPE) that must be worn at all times include safety glasses with side shields and safety shoes. Additional PPE required for specific activities will be noted in the instruction.

##### Tools Used:

- Memory stick (Suggested: SanDisk UltraFlair Series: SDCZ73-016G-G46, Minimum capacity 1GB).
- Software Upgrade files supplied by Gorbel® AtSS.
- Laptop with WiFi connectivity (or RJ45 port and Cat5 Ethernet cable).
- VNC Viewer software tool installed on computer.
- Q2 or iQ2 G-Force® / Easy Arm®.
- 220VAC Power Supply to the G-Force®.

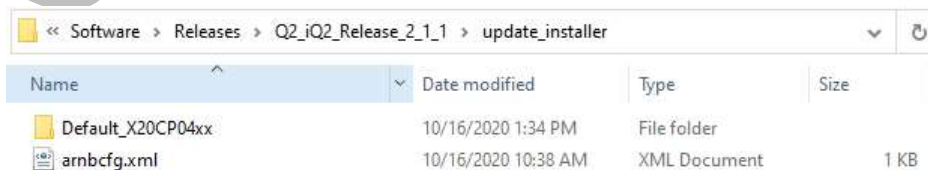
#### 4. Responsibilities

Operator, Production Supervisor, Assembly Technician, Robotics Engineer and Electrical Engineer.

#### 5. Procedure

##### 5.1 Updating New Software from V2.0.1 and up

- Copy the content of the folder update\_installer\_V2.X.X to a USB Flash Drive.  
The USB must contain only this as content: Default\_X20CP04xx folder and arnbcfg.xml file (Refer below)



- Plug in the USB Flash Drive into the USB port in the G-Force® service door (Ref: Fig 1)
- Power down the G-Force®.
- Power back up the G-Force®.
- The system reboots multiple times to install the Software.
- Once the Handle Screen displays a message “LIFT READY” or “E-STOP ENGAGED”, remove the USB.

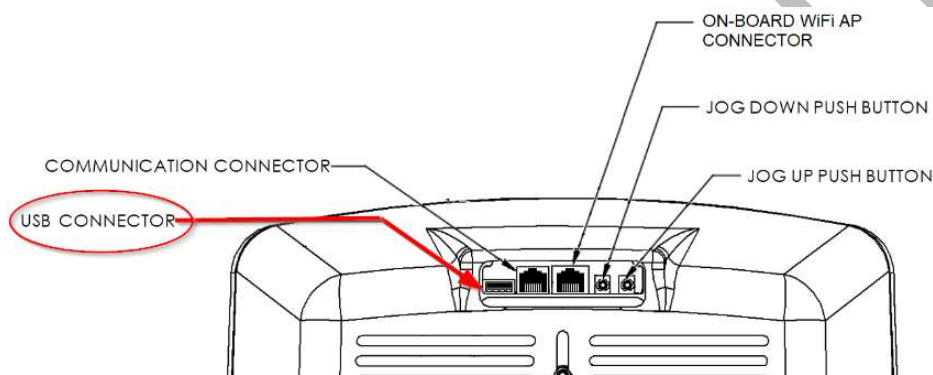


Figure 1: USB port


- Connect to the G-Force® AP (See Appendix C for instructions on connecting to the AP) at the G-Force® IP Address 192.168.105.26 on the VNC viewer.

*Need a VNC Viewer Program?* Gorbel® recommends the B&R VNC Viewer (See Appendix B for instructions to install).

- In the HMI Visualization login page, see the top right corner for SW Version, and verify that it matches the desired upgrade.

#### **5.1.1 Verifying that the right configuration exists**

- Inside the VNC Viewer click the **System Config** tab on the left pane of the Visualization to open the configuration page.
- Verify that the Manual Configuration is populated correctly.
- If not configured, click on **Import From Selected** (Ref: Fig 2 – Red Circle), to apply all the configuration settings that were previously set before the software upgrade (Make sure it is **factory\_XXXXXX\_c.xml** file for calibration values to be set back).
- Restart the G-Force® to apply the settings. (Ensure that USB drive has been removed before this step).

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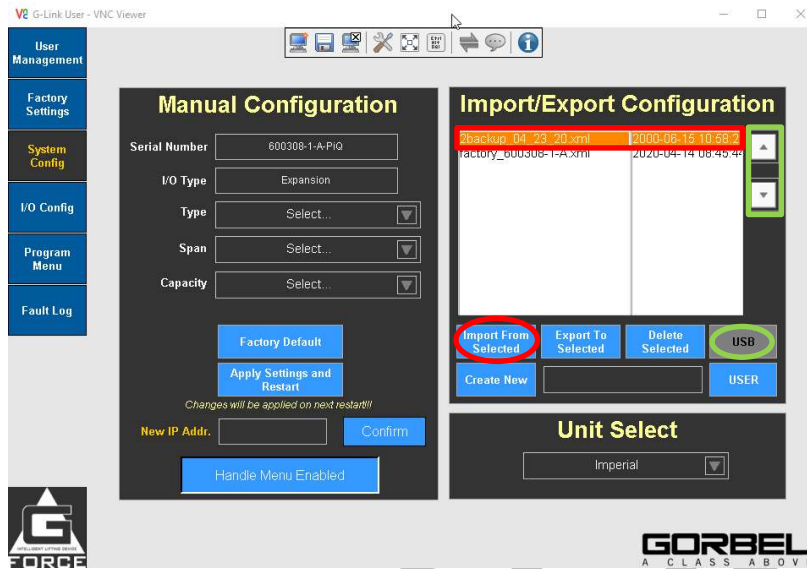


Figure 2: System Configuration Page—Import


## 5.2 Updating New Software from V2.0.0

### 5.2.1 Copying current configuration to the USB

- Power on the G-Force®.
- Plug in the USB Flash Drive into the USB port in the G-Force® service door (Ref: Fig 1)
- Connect to the G-Force® AP (See Appendix C for instructions on connecting to the AP) at the G-Force® IP Address 192.168.105.26 on the VNC viewer.  
*Need a VNC Viewer Program? Gorbel® recommends the B&R VNC Viewer (See Appendix B for instructions to install).*
- In the HMI Visualization click the **System Config** tab on the left pane of the screen to open the configuration page.
- Click on **USB** (Ref: Fig 3 – Green Circle) to select the USB Flash Drive.
- Click on the text field (Ref: Fig 3 – Red Box) and, using the popup keyboard, Name the file “**backup\_mm\_dd\_yy**” for easy identification later.
- Click on **Create New** (Ref: Fig 3 – Red circle) to create a backup for all the currently set configurations. (This backup will be saved in the Flash Drive that is plugged into the Actuator).

#### Note:

You can verify the configuration backup file was created successfully by removing the flash drive from the G-Force and checking on a computer to ensure that the newly created file, “**backup\_mm\_dd\_yy**”, is there.

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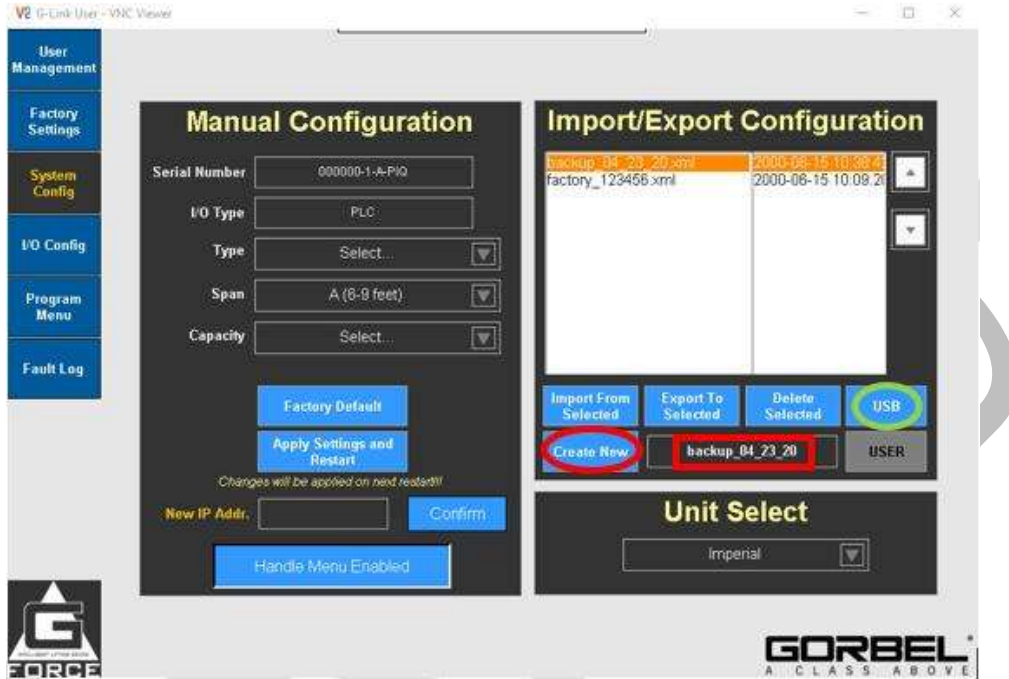
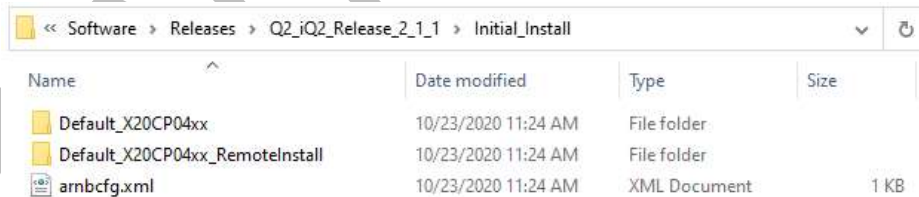


Figure 3: System Configuration Page—Create Backup

### 5.2.2 Software Upgrade


- Copy the content of the folder `initial_install_V2.X.X` to a USB Flash Drive. The USB must contain only this as content: `Default_X20CP04xx`, `Default_X20CP04xx_RemoteInstall` folder and `arnbcfg.xml` file. (Refer below)



- Power down the G-Force and ensure the Flash Drive with the Software upgrade file is in the USB service port (Ref: Fig 1).
- Power up the G-Force®. The CPU will be automatically updated. During this process, the CPU will reboot at least once (LEDs will flash off). There is no other visual feedback that the USB update is in progress. When the handle reads **G-Force Ready to Lift**, it indicates the update is complete.

### 5.2.3 Updating the configuration from the backup

- Inside the VNC Viewer click the **System Config** tab on the left pane of the Visualization to open the configuration page.

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- Click on **USB** (Ref: Fig 4 – Green Circle) to see the available configuration files.
- Use the **Up** and **Down Arrow Keys** (Ref: Fig 4 – Green Box) to choose the file created in step 5.1 named similar to “**backup\_mm\_dd\_yy**” (Ref: Fig 4 – Red Box).
- Click on **Import From Selected** (Ref: Fig 4 – Red Circle), to apply all the configuration settings that were previously set before the software upgrade.
- Restart the G-Force® to apply the settings.

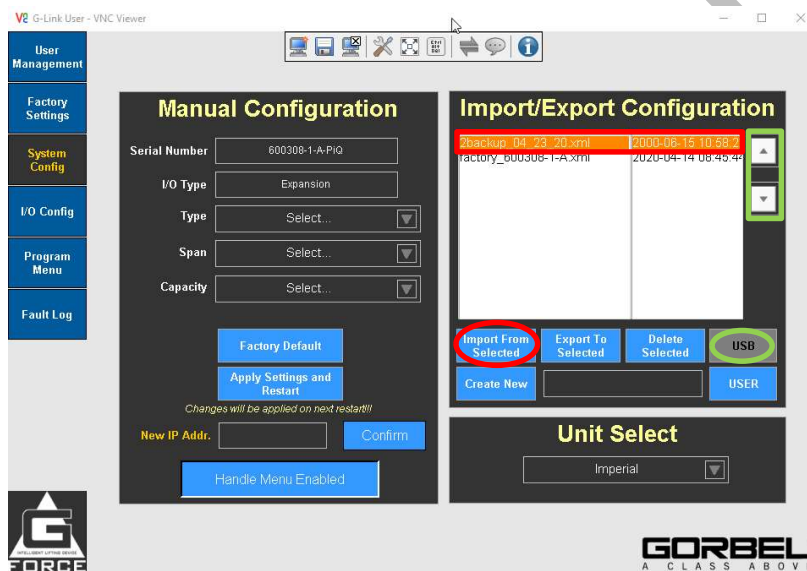


Figure 4: System Configuration Page—Import

- In the HMI Visualization login page, see the top left column for SW Version, and verify that it matches the desired upgrade.

## 6. References

Refer to Appendices: Appendix B - AP VNC Viewer Install Instructions, & Appendix C - AP Connection QuickStart Guide.

## 7. Definitions

N/A

### Table of Revisions

Description	Revision	Date
Initial Version	3.0	11/12/2020