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Precision Agriculture

X30 Apollo System Upgrading Monitor Software & ECU Firmware

Updating X30 Software

Bourgault Industries has supplied your dealership with a thumb drive loaded with the required files. Please use this thumb drive and skip to step 4.
The files may also be downloaded, listed below are the instructions how to download.
Please go to our download site at **download.bourgault.com.**
Enter code (3.18.513) – *the code is case sensitive and must be entered exactly*.
Press the submit code button

1. Download zip file attachment to a folder on your computer. File name will be **3.18.513.zip**

2. Extract files from the zip and put onto an empty thumb drive.

3. There will be about 15 files on the thumb drive make sure these files are not in a file folder, but in the root directory. Each tine an Upgrade is performed a backup file will be added.

Name	Date modified	Type	Size
backup_1409359034.tar	8/30/2014 12:37 AM	GZ File	17 KB
bzImage-initramfs-x30	8/28/2014 6:12 AM	File	6,146 KB
install_mbr	3/26/2010 8:00 PM	Windows Comma...	1 KB
install_syslinux	3/23/2010 5:31 PM	Text Document	1 KB
mongoose_io_aux_fw.hex	8/29/2014 6:02 AM	HEX File	65 KB
mongoose_io_fw.hex	8/29/2014 6:02 AM	HEX File	193 KB
mongoose_slave_fw.hex	8/29/2014 6:02 AM	HEX File	288 KB
mongoose-ecu_aux_upgrade.tar	8/29/2014 6:02 AM	GZ File	177 KB
mongoose-ecu_upgrade.ipk	8/29/2014 6:02 AM	IPK File	1,894 KB
README	8/29/2014 6:02 AM	HTML Document	2 KB
rootfs.ext2	8/27/2014 6:16 AM	EXT2 File	49,152 KB
syslinux.cfg	3/24/2010 2:40 PM	CFG File	1 KB
syslinux	2/10/2011 4:09 PM	Application	28 KB
vesamenu.c32	2/16/2010 2:12 PM	C32 File	143 KB
x30-image-x30.tar	8/28/2014 6:12 AM	GZ File	154,709 KB
x30-rescue.sh	8/28/2014 6:12 AM	SH File	5 KB

4. Put thumb drive into X30 to provision it for upgrade. Go to settings page (wrench symbol bottom left corner of X30) Select "User", "Access Level" touch "Provision USB for Upgrade" when confirm tab pops up select Yes.

5. Remove thumb drive.

6. Turn X30 off. Install thumb drive.

7. Start up X30.

8. Wait until you get a notification at top of screen to remove thumb drive. Then remove the thumb drive.

9. System will reboot and ask you if you want to do a touchscreen calibration but not necessary. **Select No.**

10. System will ask if you want to retain user settings. **Always select yes.**

11. On main screen, click the Bourgault button in the top left hand corner. Ensure that the software version shown is correct. (3.18.513bg)

12. Upgrade complete.

13. Check your profile and timings to make sure they are set properly. **If using sectional control, section timing must be set.**

14. When updating Software in monitor the firmware in the ECU(s) must also be updated . Follow the procedure in the following pages to upgrade firmware.

15. The procedure will be the same software and firmware versions will vary from pictures make sure you know the versions that you are installing. If you are not sure contact your service rep.

To upgrade firmware, ECU must first be detected. If this is not the case refer to
Detecting Apollo ECU's

Go to
settings page
by touching
wrench in
lower left of
X30 screen
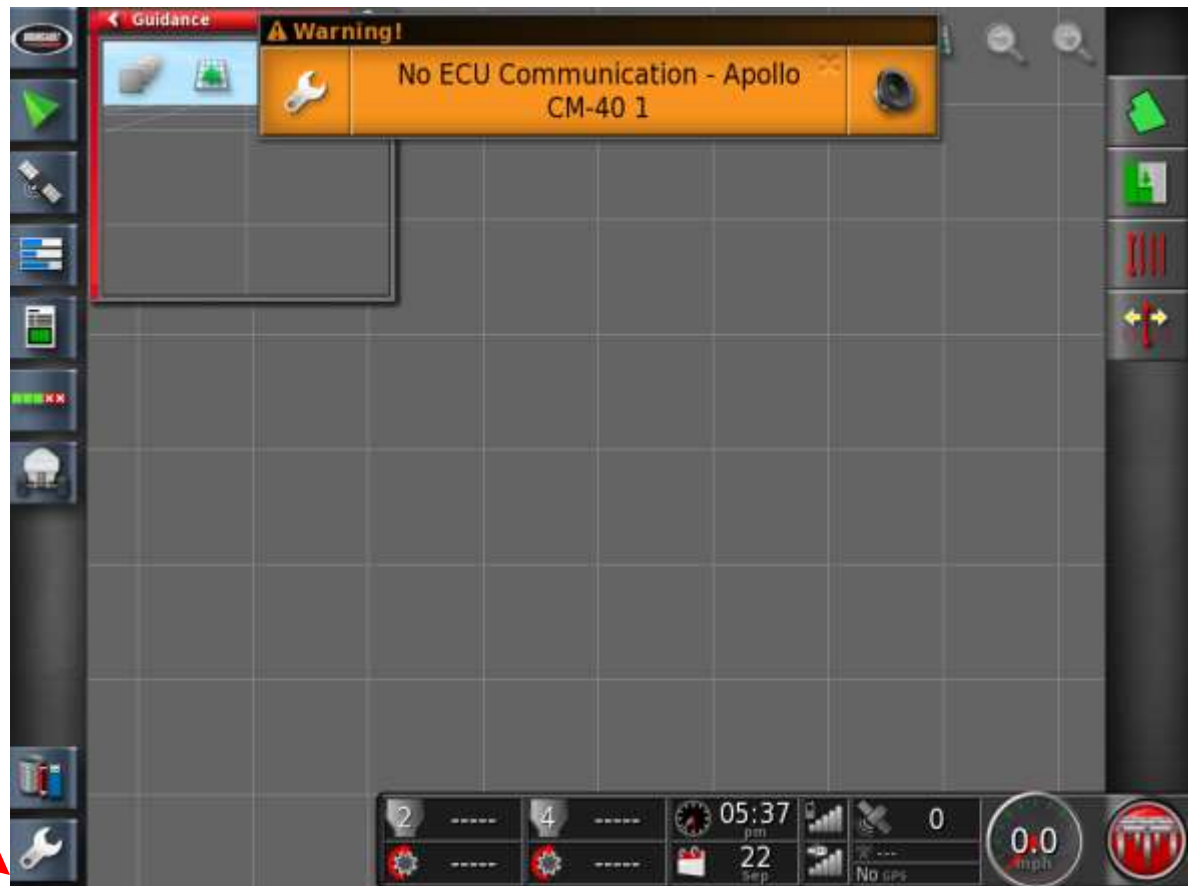
Go to
System/
Features/
Console

Ensure File Server
Is Enabled
If not select
Enabled and then
press check mark

Console Features

UNIVERSAL TERMINAL	REMOTE ASSISTANCE
Disabled	Disabled
FILE SERVER	CLOUD BASED SERVICES
Enabled	Disabled
CAMERAS	VDC SUPPORT
Disabled	Disabled
PER-POINT DATA	
Disabled	
WIRELESS NETWORK	
Disabled	

Disabled
Enabled

Console   Guidance   Implement   Quick Start

Features   GPS   Serial Ports   Alarms   Flag Points

User   System   Vehicle   Implement   Product
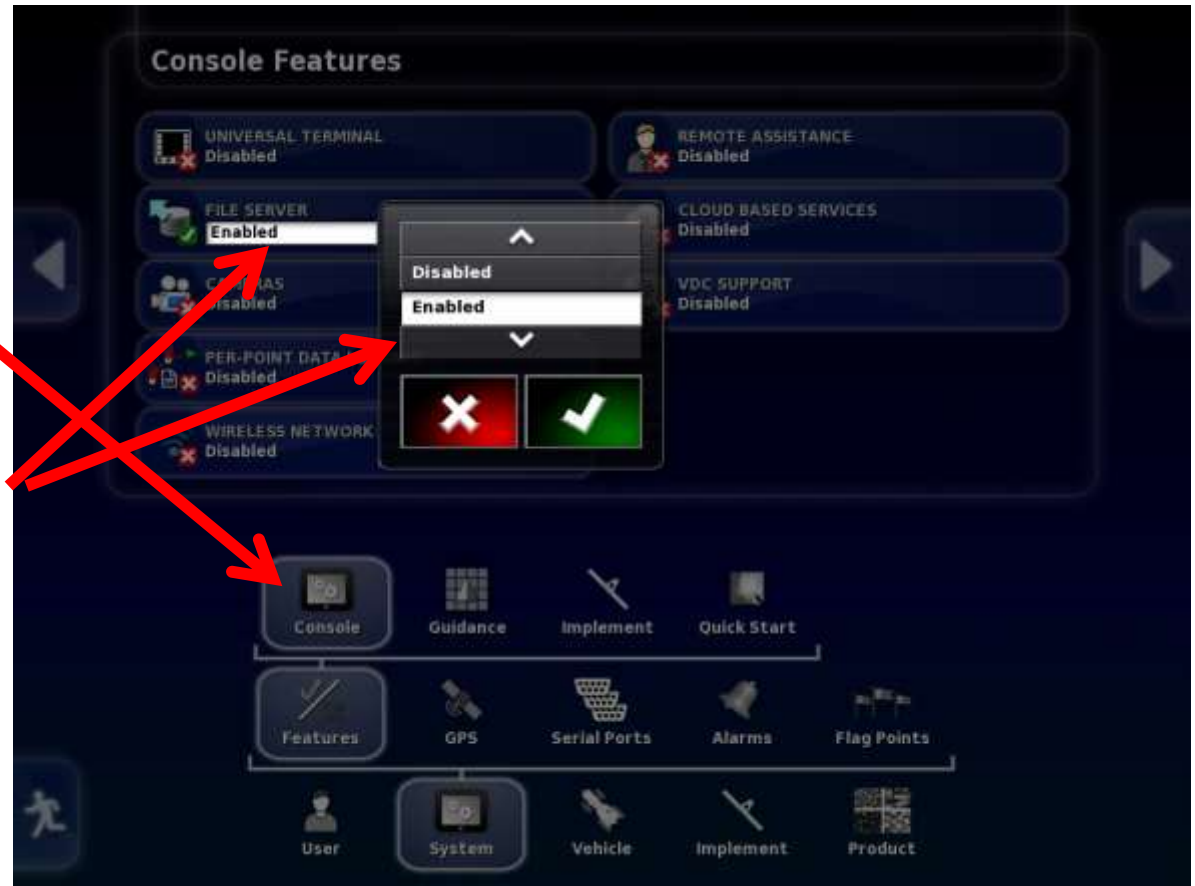
If ECU has been detected Id and firmware version will be here once ECU information is uploaded.

Select
Implements/
ECU/
Upgrade ECU

In the right column under Firmware version, select green tab for ECU to be upgraded.

This will vary based on options selected with tank. There will be from one to four ECU's that may need to be upgraded

For Apollo CM-40
(Master)
select Upgrade both
Then press check mark

The ECU to upgrade will Turn red,
press the Upgrade ECU Firmware tab at the top of the page.

You will get warning that System will need to restart. Press Check mark.
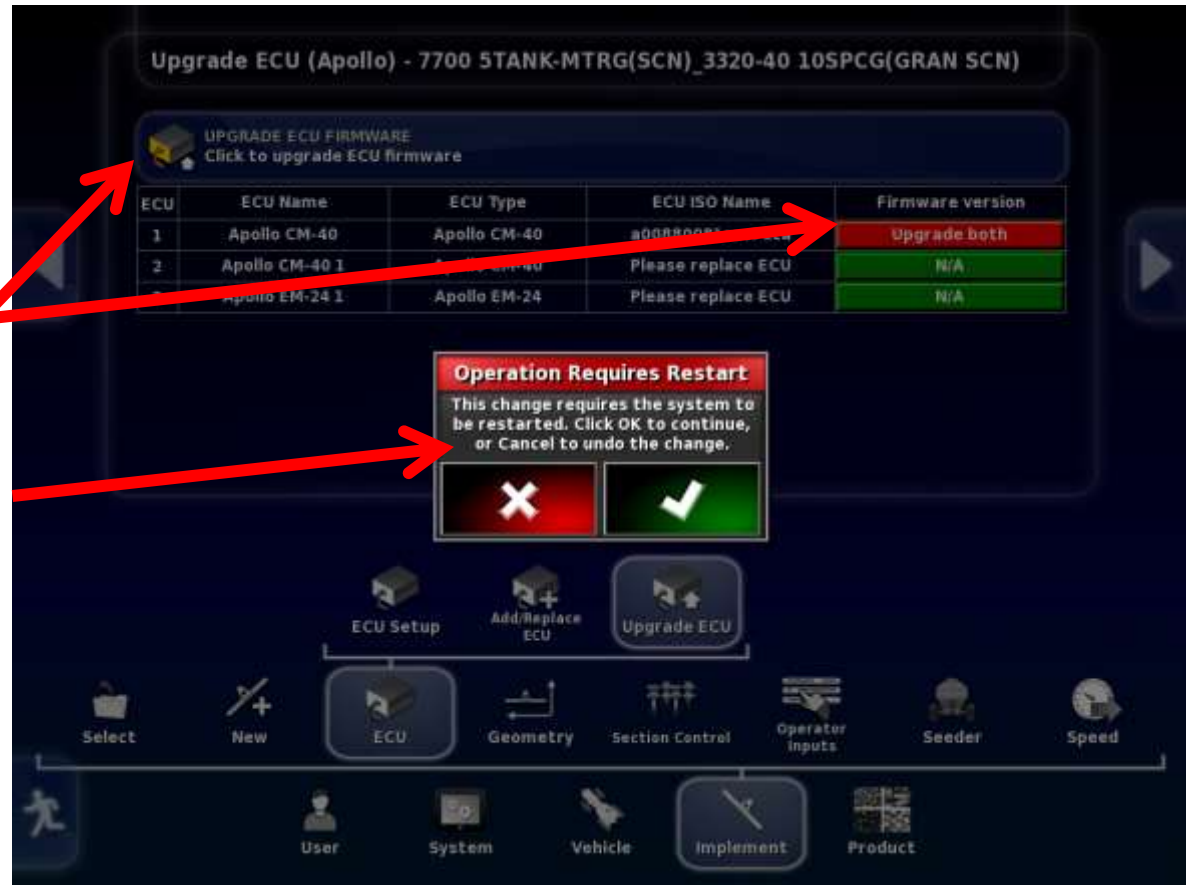
You will be guided through the Firmware
Upgrade with the help of a wizard.
Read instructions and press right arrow
When it turns yellow.

Insert the thumdrive into the left side of the
X30 when right arrow turns yellow it is
Ready right arrow can be pressed.

A list of files on the
Thumbdrive should show
Up on screen

press the right arrow button.

Load Firmware

Step 3
Select the directory containing the firmware files used for upgrading the Apollo hardware.

USB

Firmware upgrade files (*.ipk,*.hex):

mongoose-ecu_aux_upgrade.tar.gz
mongoose-ecu_upgrade.ipk
mongoose_io_aux_fw.hex
mongoose_io_fw.hex
mongoose_slave_fw.hex

66%

Press Check mark
To start Upgrade

Load Firmware

Step 4

The system will now upgrade the Apollo CM-40 first before prompting the user to continue to upgrade the Apollo CM-40 / EM-24 firmware. Please do not remove the USB drive until all firmware has been loaded.

Press "Okay" to begin.

100%

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Firmware transfer will
begin. (This may take up
to twenty minutes to
complete.)

Apollo CM-40 Firmware Upgrade

Step 1
Transferring firmware.

Press "Cancel" to stop the transfer.

0%

Once Upgrade is complete you will see this screen, press check mark.

Wait until the Green Synchronizing bar goes away before pressing check mark.

This will cause the monitor to shut down and restart.

If the firmware version does not upload after the monitor restarts, It will be necessary to power the ECU down by shutting tractor off or unplugging the ISO plug at the back of the tractor. (See next page)

Upgrade ECU (Apollo) - 7700 5TANK-MTRG(SCN)_3320-40 10SPCG(GRAN SCN)

UPGRADE ECU FIRMWARE
Click to upgrade ECU firmware

ECU	ECU Name	ECU Type	ECU ISO Name	Firmware version
1	Apollo CM-40	Apollo CM-40	a00880081cec7eca	N/A
2	Apollo CM-40 1	Apollo CM-40	Please replace ECU	N/A
3	Apollo EM-24 1	Apollo EM-24	Please replace ECU	N/A

ECU Setup   Add/Replace ECU   Upgrade ECU

Select   New   ECU   Geometry   Section Control   Operator Inputs   Seeder   Speed

User   System   Vehicle   Implement   Product

If monitor fails to upload information from ECU unplug This ISO plug at the back of the tractor to cut power to the ECU.

Main   Aux

Monitor will show that it is Synchronising and Configuring ECU once this is complete both the Main and Aux. Firmware should be displayed and match what was uploaded. If one or both are not correct this process must be repeated for the one(s) not matching the desired firmware.
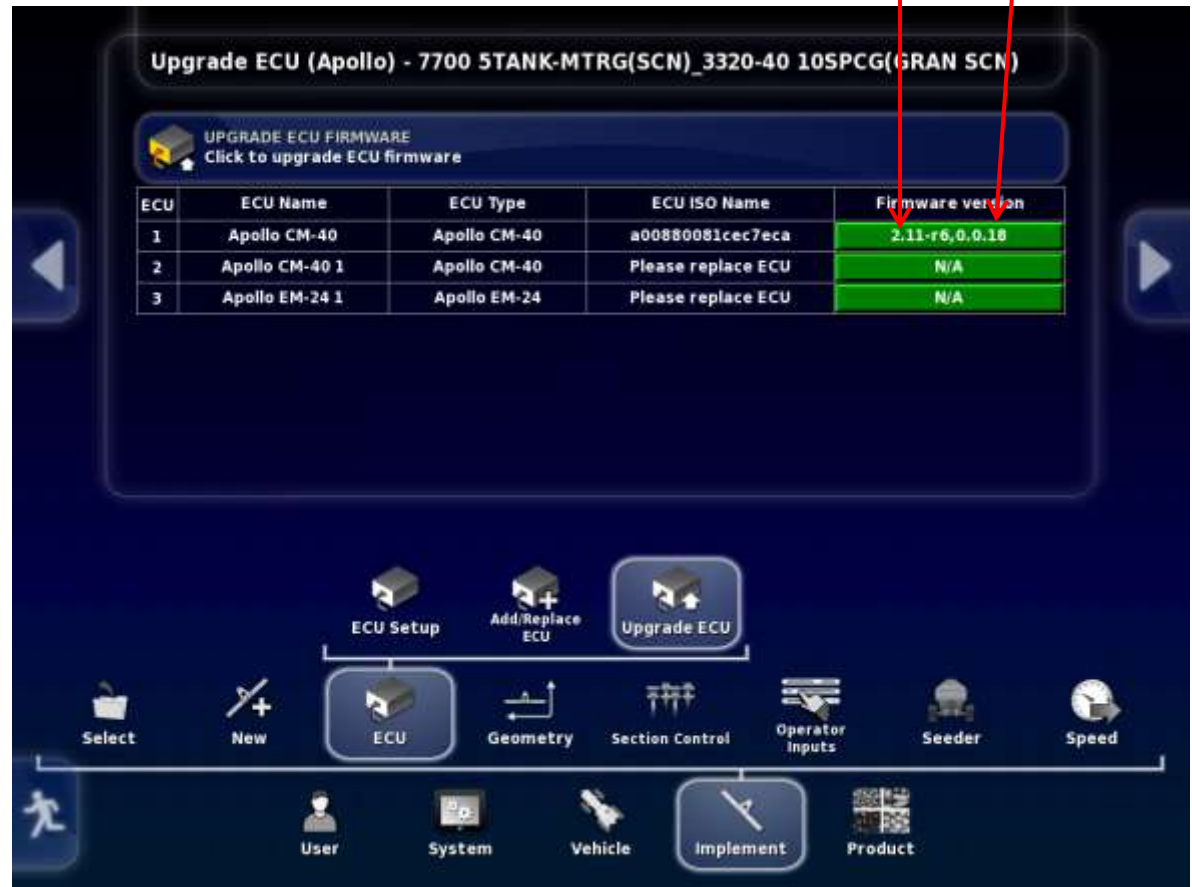
Main   Aux

If both Main and Aux.
firmware are correct
the upgrade for the
Apollo CM-40 (Master)
is complete.
If you only have one ECU
on the tank, (four tank
metering or less) Upgrade
is complete.

If your tank has 5 tank
metering, sectional control,
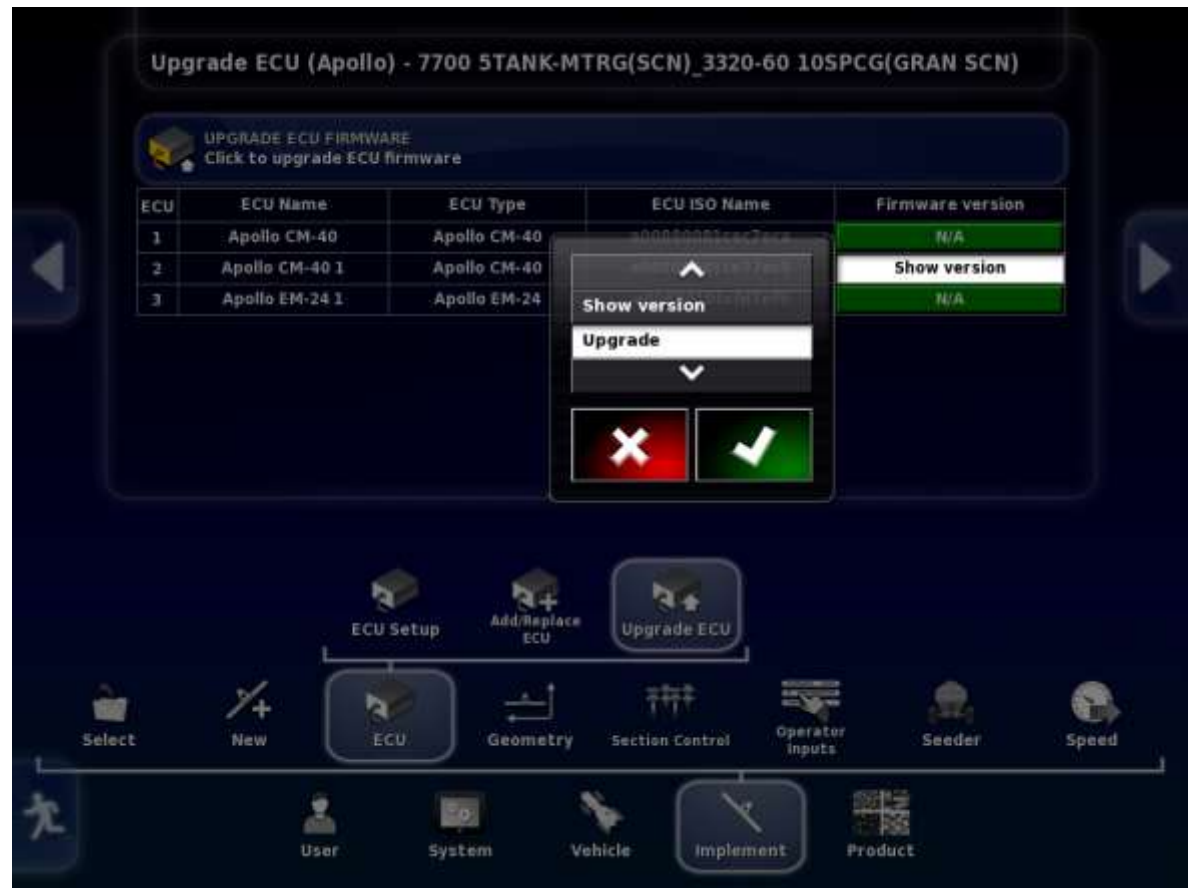or blockage follow
procedure following for
ECU's present.

Upgrade ECU (Apollo) - 7700 5TANK-MTRG(SCN)_3320-40 10SPCG(GRAN SCN)

UPGRADE ECU FIRMWARE
Click to upgrade ECU firmware

ECU	ECU Name	ECU Type	ECU ISO Name	Firmware version
1	Apollo CM-40	Apollo CM-40	a00880081cec7eca	2.11-r6,0.0.18
2	Apollo CM-40 1	Apollo CM-40	Please replace ECU	N/A
3	Apollo EM-24 1	Apollo EM-24	Please replace ECU	N/A

ECU Setup   Add/Replace ECU   Upgrade ECU

Select   New   ECU   Geometry   Section Control   Operator Inputs   Seeder   Speed

User   System   Vehicle   Implement   Product

If tank has more that one CM-40 follow this upgrade procedure

Go to Implement/
ECU/
Upgrade ECU
Press tab for CM-40 1
(slave)
select upgrade, press
Check mark.

Tab will turn red
Operation Requires Restart
warning will come up,
press the check mark

Upgrade ECU (Apollo) - 7700 5TANK-MTRG(SCN)_3320-60 10SPCG(GRAN SCN)

UPGRADE ECU FIRMWARE
Click to upgrade ECU firmware

ECU	ECU Name	ECU Type	ECU ISO Name	Firmware version
1	Apollo CM-40	Apollo CM-40	a00880081cec7eca	N/A
2	Apollo CM-40 1	Apollo CM-40	a00880081ce77ec5	Upgrade
3	Apollo EM-24 1	Apollo EM-24	a00880101cfd7ef9	N/A

Operation Requires Restart
This change requires the system to
be restarted. Click OK to continue,
or Cancel to undo the change.

ECU Setup   Add/Replace ECU   Upgrade ECU

Select   New   ECU   Geometry   Section Control   Operator inputs   Seeder   Speed

User   System   Vehicle   Implement   Product

Follow steps of wizard like the procedure
for the master.

When firmware has completely loaded
Press the green check mark.

The monitor will restart.

The ECU should synchronize and the
firmware version is only visible for the Aux
firmware. You may have to shut
the tractor off or unplug the ISO Plug at the
back of the tractor, and plug it back in if it
does not upload the info from the ECU.

In order to Upgrade the Main Firmware you will have to create a "dummy" profile. Do this after you have Upgraded all ECU's on machine. (Once Upgrade is complete you must then return to original profile)

Go to Implement/
New/
Factory
Select a new implement
with only one ECU select
The first item in each list
6000/
6280/
6280 2 TANK MTRG 1FAN
Select Apollo for ECU type

Name new profile UPGRADE

While the system is re-starting
unplug all of the COMMS
connectors from all ECU's except
the one you want to Upgrade,
CM-40 (Slave)(the slave only has 1 or 2
Channels used if you have a slave the
Master will have all 4 Channels used)

Comms Port being Detected

Comms Unplugged

Go to Implement/
ECU/
Add/Replace ECU

Select Replace CM-40
Press check mark.

Follow directions of wizard
to replace ECU.

Press the Arrow when it turns yellow
to advance to next step.

Once complete press green tab with
Check mark.
Monitor will re-start.
If ECU is not detected unplug ISO plug
 at back of tractor

If ECU is selected should get a green tab indicating the ECU information is being uploaded.

Once this is complete you can now Upgrade the firmware, select Update Main CPU, press check mark.

The right tab will turn red.
Press the Upgrade ECU Firmware tab
at the top to begin Upgrade.

Will get warning that a restart must occur
if you proceed. Press the check mark.

Wizard will guide you through the
Firmware update.

Insert Thumbdrive with Upgrade
into USB port on side of X30

Upgrade files should be visible.

Once complete press check mark
to initiate restart.

Once firmware is detected check both
Main and Aux firmware to make sure they
are the correct versions.

You will now have to switch profiles back to
the original profile of your actual machine.

Re-plug all of the COMMS connectors into the
proper ECU's.

You may have to shut down/unplug ISO connector at the back of the tractor to get
ECU information to upload.

This completes the Upgrade for the Main portion of the CM-40 1 (slave Master ECU,
5 tank and 6 tank machines)

If tank has either sectional control or blockage or both firmware for Apollo EM-24 must also be completed.
This must be done for each EM-24 on machine. There will be one EM-24 for sectional control and one EM-24 for blockage. (blockage EM-24 mounted on drill)

Go to Implement/
ECU/
Upgrade ECU

Press tab to right of EM-24 to be
Upgraded, select Upgrade both,
 press the check mark
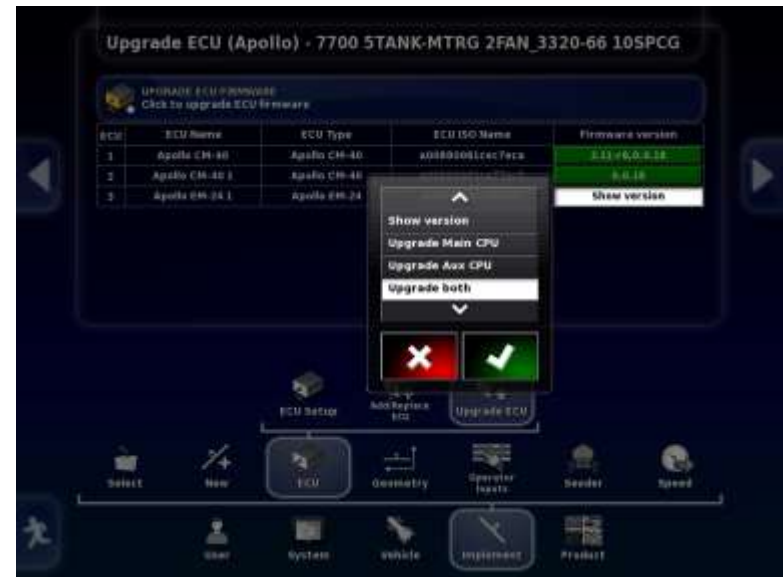
Tab selected will turn red.

Press the tab labelled
Upgrade ECU Firmware
to initiate Upgrade

Upgrade ECU (Apollo) - 7700 5TANK-MTRG 2FAN_3320-66 10SPCG

UPGRADE ECU FIRMWARE
Click to upgrade ECU firmware

ECU	ECU Name	ECU Type	ECU ISO Name	Firmware version
1	Apollo CM-40	Apollo CM-40	a00880081cec7eca	2.11-r6,0.0.18
2	Apollo CM-40 1	Apollo CM-40	a00880081ce77ec5	0.0.18
3	Apollo EM-24 1	Apollo EM-24	a00880101cfd7ef9	Upgrade both

Should get warning that a restart is required.

Press the check mark.

Follow steps given by wizard.

Once firmware is loaded press the check mark at bottom right of X30 screen.

Monitor will restart
If monitor does not detect
ECU power down by shutting
tractor off or unplugging the
ISO plug at the back of the
Tractor.
Once synchronized the
firmware should be visible,
Check that it is the correct
version.
If only one EM-24 you are
finished.

If you have a second EM-24
repeat procedure for second
EM-24. (Second EM-24 will
be named Apollo EM-24 2)
Upgrade complete

The X30 software version for spring 2015: 3.18.513bg

The firmware version for Apollo ECU's for spring 2015:
        CM-40 main: 2.12-r8
        CM-40 auxiliary: 1.0.2
        EM-24: 0.1.6