ASC-10
Programming Instructions

Part Number AGA4686
Rev 1.1

ASC-10 Programming Instructions

Abstract:

This document contains the instructions for programming an ASC-10 ECU.

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Version notice

All revisions of this document are listed in chronological order. There is no relationship between the document number and the software release number.

Document release	Date	Description
V0.1	17/02/2011	Initial document
V1.0	15/06/2011	Revision 1.0
V1.1	25/09/2013	Revision 1.1

Trademarks

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1 X30 System

Programming an X30 system requires X30 software version greater than V3.05.05 and ASC-10 firmware version greater than V2.2.2.

X30 system programming requires the following harnesses:

- AGA4598 - HARNESS, ASC-10 CAN with Deutsch Termination
- A3489 - HARNESS, ASC-10 Drive/Sense

Each ASC-10 ECU is unique and requires installation via the New button and following the on-screen prompts.

Entire system must be powered and comms must be present.

1. Navigate to the settings screen.
2. Select the Implement\ECU option. See Figure 1.
3. Press the version number for the ASC-10 to be upgraded.
4. Follow the prompts to complete the programming.

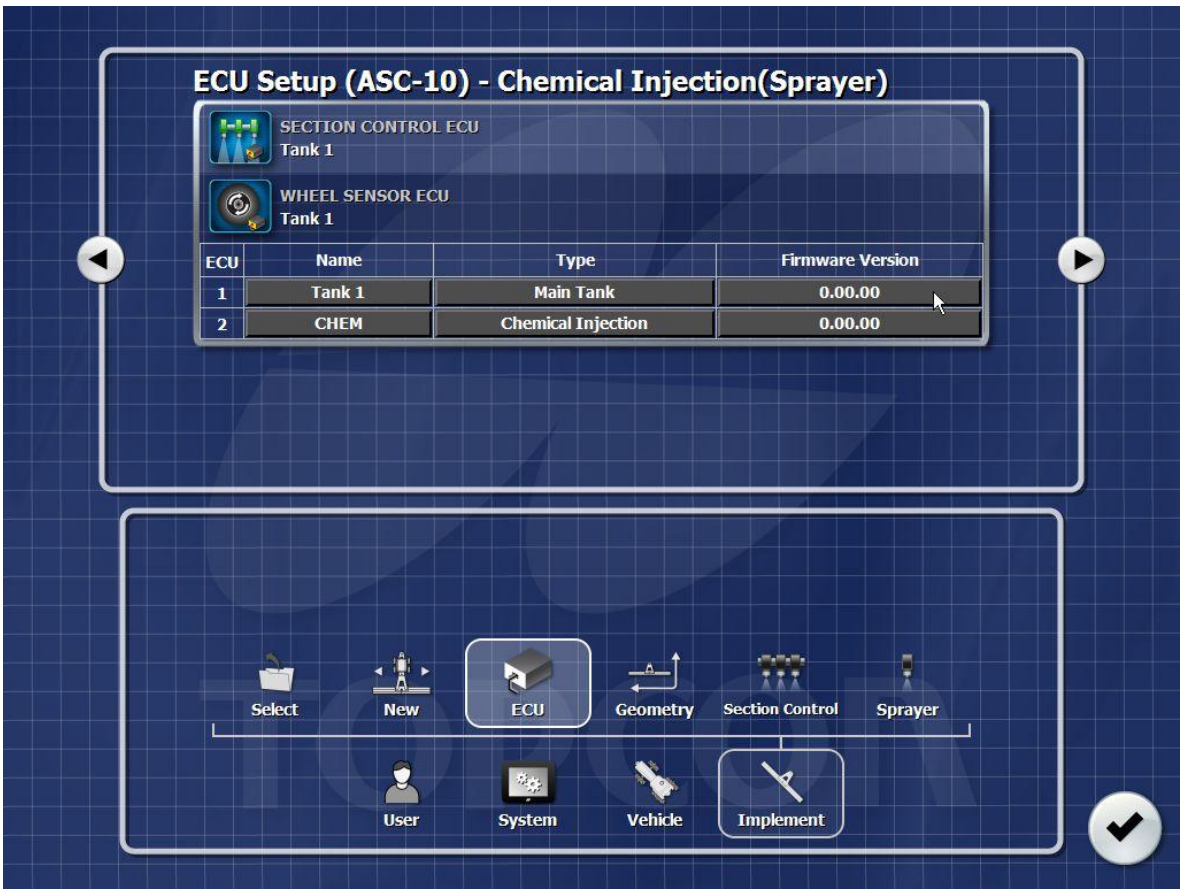

Figure 1 – X30 ECU menu

2 X20 System – ASC-10 Version numbers less than V2.2.2

Programming ASC-10 in an X20 system can be performed with any version of the ASC-10 firmware. Entire system must be powered and comms must be present.

1. From the desktop, start the PIC18UPG program. See Figure 2
2. Configure the settings as in Figure 3. The 'Target PROC' can be modified from 'Target' menu
3. Press the Connect button.
4. Power cycle the ASC-10 and press the ID button within 2.5 seconds. Bootloader found message should be displayed. See Figure 3
5. Import ASC-10_CLEAR_STAY_IN_BL_FLAG_OFFSET300.hex by selecting 'Open…' from the 'File' menu and navigating to the file location. File details will be output to the memo box.
6. Press the 'Erase' button and allow the process to complete
7. Press the 'Program' button and allow the process to complete
8. Press the 'Verify' button and allow the process to complete. See Figure 4
9. Press the 'Start Program' button and wait. The RS232 and CAN LED's flash alternatively at 0.5 Hz when the program has completed. The program takes approximately 6 seconds to complete.
10. Follow the instructions in **Section 3 X20 System – ASC-10 Version numbers from V2.2.2**

Figure 2 – Starting P18UPG (Highlighted icon)

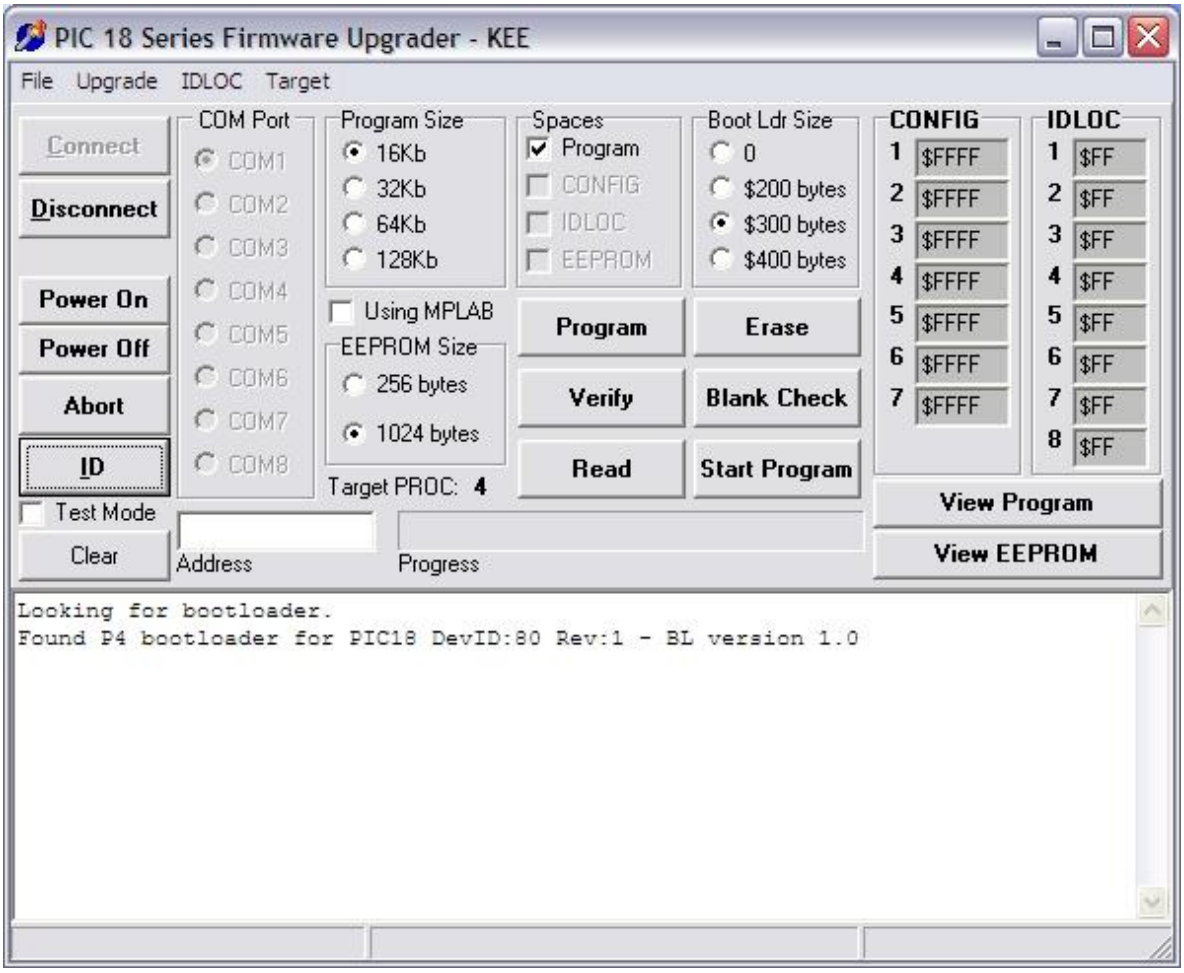

Figure 3 - Settings and Connected message

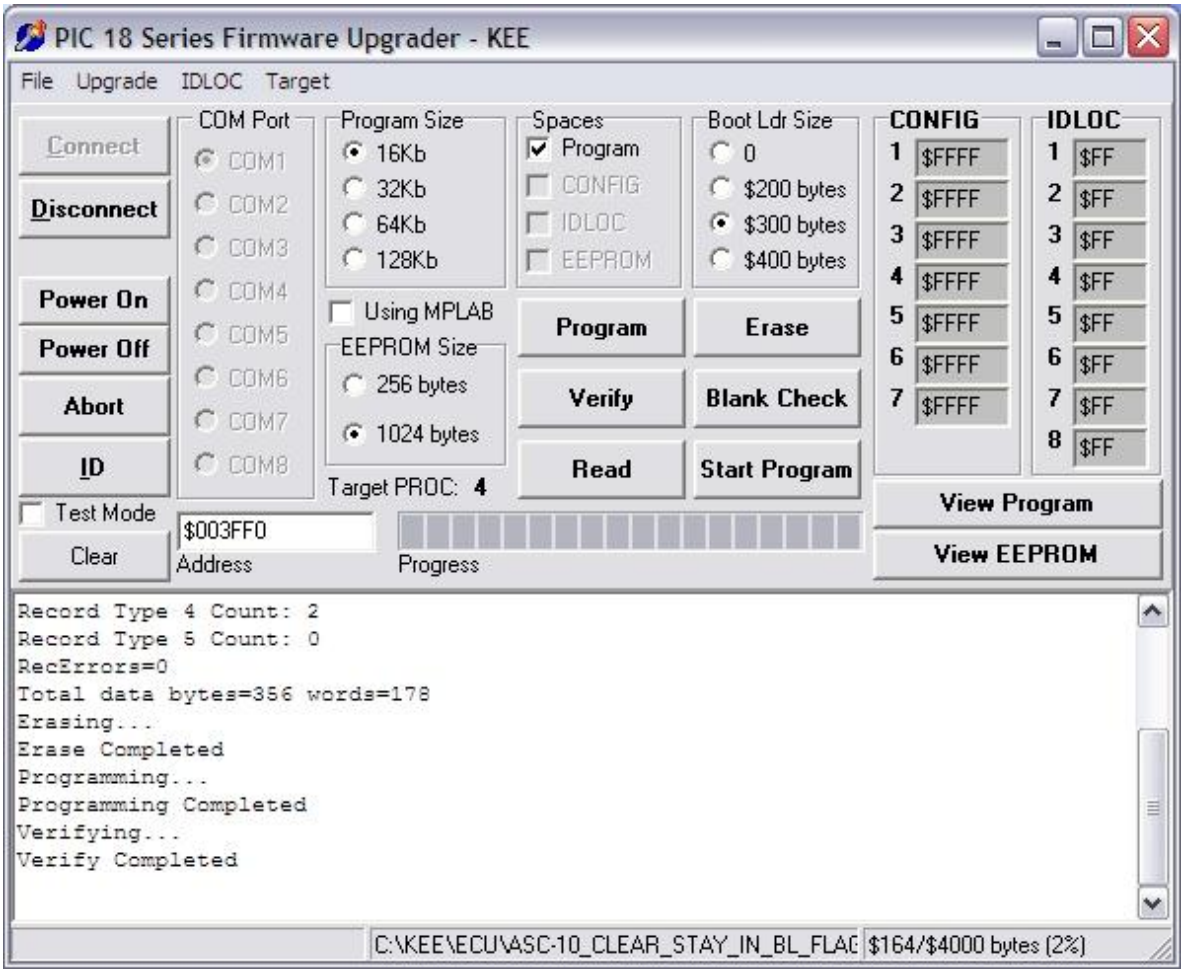

Figure 4 - Programming completed

3 X20 System – ASC-10 Version numbers from V2.2.2

Programming an ASC-10 in an X20 system can be performed with any version of the ASC-10 firmware. Entire system must be powered and comms must be present.

1. From the desktop, start the PIC18UPG program. See Figure 2
2. Configure the settings as in Figure 5. The 'Target PROC' can be modified from 'Target' menu
3. Press the Connect button.
4. Power cycle the ASC-10 and press the ID button within 2.5 seconds. Bootloader found message should be displayed. See Figure 5
5. Import ASC-10_X_X_X_CAN_BL_OFFSET300.hex by selecting 'Open…' from the 'File' menu and navigating to the file location. File details will be output to the memo box.
6. Press the 'Erase' button and allow the process to complete
7. Press the 'Program' button and allow the process to complete
8. Press the 'Verify' button and allow the process to complete. See Figure 4
9. Press the 'Start Program' button to release from the bootloader.
10. The version number can be verified by running the X20 sprayer software

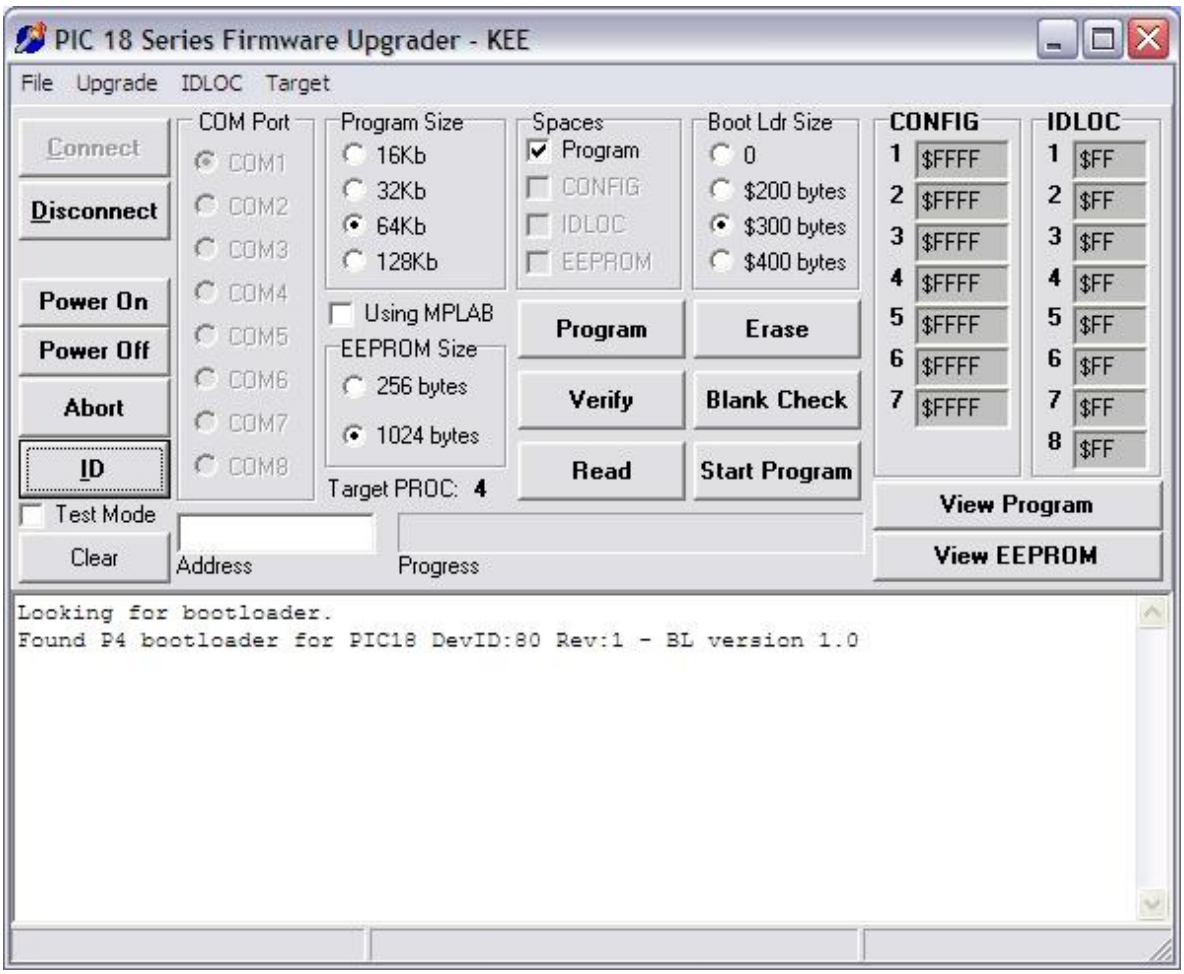

Figure 5 - Settings and Connected message

4 System 150 – ASC-10 Version numbers less than V2.2.2

An ASC-10 in a System 150 cannot be programmed via a PCS150 console.

1. Remove the CAN comms cable from the ASC-10. Leave the main connector attached as this is required to supply power to the ASC-10.
2. Remove the end cap from the comms connector (grey) end.
3. Set the DIP switches to the following state

    - SW1 - ON
    - SW2 - OFF
    - SW3 - ON
    - SW4 - OFF
    - SW5 - ON
    - SW6 - OFF
    - SW7 - OFF
    - SW8 – OFF

5 Connect the ASC-10 to a PC using an ‘ASC-10 RS232 Programming Harness’. See

System 150 – ASC-10 Version numbers from V2.2.2

An ASC-10 in a System 150 cannot be programmed via a PCS150 console. Programming can be performed using the following instructions or by connecting to an X30 system and following the instructions in **Section 1 X30 System**.

1. Remove the CAN comms cable from the ASC-10. Leave the main connector attached as this is required to supply power to the ASC-10.
2. Remove the end cap from the comms connector (grey) end.
3. Set the DIP switches to the following state

    - SW1 - ON
    - SW2 - OFF
    - SW3 - ON
    - SW4 - OFF
    - SW5 - ON
    - SW6 - OFF
    - SW7 - OFF
    - SW8 – OFF

4. Connect the ASC-10 to a PC using an 'ASC-10 RS232 Programming Harness'. See **Error! Not a valid bookmark self-reference.**.
5. From the desktop on a PC, start the PIC18UPG program. See Figure 2
6. Configure the settings as in Figure 5. The 'Target PROC' can be modified from 'Target' menu
7. Press the Connect button.
8. Connect the switched power wire from the 'ASC-10 RS232 Programming Harness' to 12V and press the ID button on the PIC18UPG program within 2.5 seconds. Bootloader found message should be displayed. See Figure 5
9. Import ASC-10_X_X_X_CAN_BL_OFFSET300.hex by selecting 'Open…' from the 'File' menu and navigating to the file location. File details will be output to the memo box.
10. Press the 'Erase' button and allow the process to complete
11. Press the 'Program' button and allow the process to complete
12. Press the 'Verify' button and allow the process to complete. See Figure 4
13. Remove the 'ASC-10 RS232 Programming Harness'
14. Set the DIP switches to the following state

    - SW1 - OFF
    - SW2 - ON
    - SW3 - OFF
    - SW4 - ON
    - SW5 - OFF
    - SW6 - OFF
    - SW7 - OFF
    - SW8 – OFF

15. Replace the end cap and reconnect the CAN comms cable
4. The version number can be verified by running the System 150 sprayer software.
5. On the PC, start the PIC18UPG program.
6. Configure the settings as in Figure 3. The 'Target PROC' can be modified from 'Target' menu
7. Press the Connect button.
8. Connect the switched power wire from the 'ASC-10 RS232 Programming Harness' to 12V and press the ID button on the PIC18UPG program within 2.5 seconds. Bootloader found message should be displayed. See Figure 3

9. Import ASC-10_CLEAR_STAY_IN_BL_FLAG_OFFSET300.hex by selecting ‘Open…’ from the ‘File’ menu and navigating to the file location. File details will be output to the memo box.
10. Press the ‘Erase’ button and allow the process to complete
11. Press the ‘Program’ button and allow the process to complete
12. Press the ‘Verify’ button and allow the process to complete. See Figure 4
13. Press the ‘Start Program’ button and wait. The RS232 and CAN LED’s flash alternatively at 0.5 Hz when the program has completed. The program takes approximately 6 seconds to complete.
14. Follow the instructions in **Section 6 System 150 – ASC-10 Version numbers from V2.2.2**

System 150 – ASC-10 Version numbers from V2.2.2 from step 6

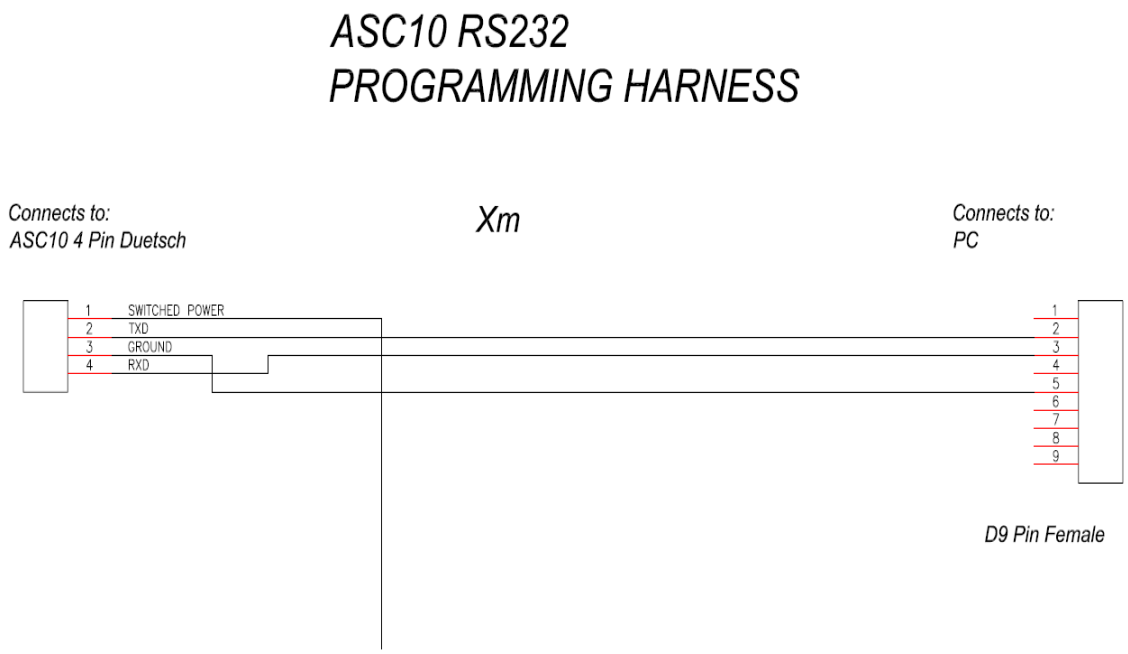

Figure 6 - ASC-10 RS232 Programming Harness

6 System 150 – ASC-10 Version numbers from V2.2.2

An ASC-10 in a System 150 cannot be programmed via a PCS150 console. Programming can be performed using the following instructions or by connecting to an X30 system and following the instructions in **Section 1 X30 System**.

4. Remove the CAN comms cable from the ASC-10. Leave the main connector attached as this is required to supply power to the ASC-10.
5. Remove the end cap from the comms connector (grey) end.
6. Set the DIP switches to the following state

    - SW1 - ON
    - SW2 - OFF
    - SW3 - ON
    - SW4 - OFF
    - SW5 - ON
    - SW6 - OFF
    - SW7 - OFF
    - SW8 – OFF

16. Connect the ASC-10 to a PC using an ‘ASC-10 RS232 Programming Harness’. See **Error! Not a valid bookmark self-reference.**.
17. From the desktop on a PC, start the PIC18UPG program. See Figure 2
18. Configure the settings as in Figure 5. The ‘Target PROC’ can be modified from ‘Target’ menu
19. Press the Connect button.
20. Connect the switched power wire from the ‘ASC-10 RS232 Programming Harness’ to 12V and press the ID button on the PIC18UPG program within 2.5 seconds. Bootloader found message should be displayed. See Figure 5
21. Import ASC-10_X_X_X_CAN_BL_OFFSET300.hex by selecting ‘Open…’ from the ‘File’ menu and navigating to the file location. File details will be output to the memo box.
22. Press the ‘Erase’ button and allow the process to complete
23. Press the ‘Program’ button and allow the process to complete
24. Press the ‘Verify’ button and allow the process to complete. See Figure 4
25. Remove the ‘ASC-10 RS232 Programming Harness’
26. Set the DIP switches to the following state

    - SW1 - OFF
    - SW2 - ON
    - SW3 - OFF
    - SW4 - ON
    - SW5 - OFF
    - SW6 - OFF
    - SW7 - OFF
    - SW8 – OFF

27. Replace the end cap and reconnect the CAN comms cable
28. The version number can be verified by running the System 150 sprayer software