

Appendix I –

Installing NASGRO, System Requirements, and User Data Migration

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I Installing NASGRO, System Requirements, and User Data Migration

I.1 Basic Installation Information

The NASGRO software suite is distributed via *two* or *three* installation programs (program files, data files, and license file). The filenames of these three installation programs are:

Program Files installer:	<i>nasgro###X-setup-progfiles.exe</i>
Data Files installer:	<i>nasgro###X-setup-datafiles.exe</i>
License File installer:	<i>nasgro###X-setup-license-file-xxxx.exe</i>

The *standard* installation of NASGRO (for Consortium members, most domestic (US) licensees, and the government organizations defined below) is delivered with the three installers above. For all other licensees (non-US users, universities, demo versions, etc.) only the first two installers (the program files and data files installer) are provided and a *secure* license file must be generated as described in Section I.3 below.

In these filenames, the three digits *###* and the single letter *X* denote the NASGRO version and release, where *X* = *a* for an Alpha release, *b* for a Beta release, and *f* for a “final” or production release. For example, *1000a* denotes the alpha release of NASGRO version 10.00, while *1000f* denotes the production release of version 10.00.

It is possible to install NASGRO in the following environments:

- Entirely on a local personal computer (PC)
 - Standard installation (see Section I.2) for US commercial and government licensees (and some others)
 - Secure installation (see Section I.3) for non-US commercial licensees
- In a client/server environment using a token-based licensing scheme (see Section I.4) where the program files are installed on a server and the data files are installed in the user’s folders either on a local PC or also on a server
- In a Windows Terminal Services (or virtual desktop) environment

In all cases appropriate Read/Write file access privileges and Administrator rights are required for installation and program execution. Even with Administrator rights, it is recommended to right-click an installer file and select “Run as administrator”.

The four characters *xxxx* in the License File installer denote which of two standard usage licenses applies: “*govt*” for government usage or “*cons*” for NASGRO Consortium and commercial usage.

The *government* usage license restricts NASGRO use to:

- NASA, ESA, and FAA employees
- NASA contractors for use on NASA projects
- ESA contractors for use on ESA projects
- FAA contractors and FAA Designated Engineering Representatives for Damage Tolerance for use on FAA projects or FAA certification activities

The *consortium/commercial* usage license is for use by NASGRO Consortium members and commercial licensees. Some Consortium members or commercial licensees who are also NASA, ESA, or FAA contractors may use their *consortium/commercial* usage license for NASA, ESA, or FAA purposes.

The type of NASGRO *consortium/commercial* license agreement dictates which types of installation are allowed:

- Single-seat licensees can install NASGRO only on a single local PC.
- Only Consortium members and site licensees are allowed to install NASGRO on a server or in a Windows Terminal Services environment.

Users of the government version are also allowed to install NASGRO on a server or in a Windows Terminal Services environment.

The order in which the program files and data files installation programs are run is not important, but the license file **must** be installed last.

I.2 Standard Installation Entirely on a Local PC

The program files and data files installation programs will prompt the user for the destination folders. The prompts suggest “*C:\Program Files (x86)*” for the program files and “*Documents*” for the data files, but the user may choose any desired locations. The program and data files do not need to be installed in the same folders. Please consult Section I.6 in this chapter for additional information on required file access permissions.

It is highly recommended to **NOT** install the NASGRO **data** files in the “*C:\Program Files*” or “*C:\Program Files (x86)*” location. Microsoft operating systems use User Account Control (UAC), a feature that can help prevent unauthorized changes to your computer. UAC uses a special folder called the VirtualStore which is designed to add an extra layer of security protection for applications installed under the *Program Files* folder. All changes made to files in the “*C:\Program Files*” or “*C:\Program Files (x86)*” folder tree require a special Administrator permission or are stored in the VirtualStore. It is recommended to install the NASGRO data files in the user’s “*Documents*” path. This is the default location used by the data files installer. (Note that prior to Windows 10, this folder was named “*My Documents*”.)

Also, even with Administrator rights it is recommended to install NASGRO by right-clicking on the installation programs and selecting “Run as Administrator”.

The data files installation program and the program files installation program each create a configuration file in the “*NASGRO*” subdirectory of the user’s “*AppData*” directory. Respectively they are named “*nasgro.ini*” and “*nasgrolic.ini*”. Most users would not need to access these files; however, the following descriptions may be helpful in some cases:

- The two “*ini*” or configuration files are located in a folder named “*C:\Users\username\AppData\Roaming\nasgro*”. Since these are “system files”, they may be hidden from plain view. The user would need to modify the settings of Windows Explorer to see all files. The steps start by highlighting any Windows folder and select “Tools > Folder options” from the top menu to pop up a separate Window named “Folder Options”. Then, select the “View” tab. Within the Advanced settings, modify the “Hidden files and folders” item to enable showing hidden files, folders, and drives.
 - “*nasgro.ini*”, created by the data files installation program, contains the location of the data files (so that the program files know where to find the files).
 - “*nasgrolic.ini*”, created by the program files installation program, contains the location of the program files (so that the license file installation program knows where to install the license file ... hence the license file must be installed after the program files are installed).
- If the end user does not have Administrator rights, and the installation was done by an IT person, then the above “*ini*” files need to be copied from the Administrator’s *AppData* folder into the User’s *AppData* folder.

I.2.1 NASGRO Startup Icon

Desktop: Some users have reported that their Windows 10 environment prevents the NASGRO installation process from putting a NASGRO icon (from which to launch NASGRO) on their desktop. To place the icon on the desktop, navigate to the folder where the program files were installed, right-click on the nasgro###.exe file (where ## corresponds to the NASGRO version number, e.g. nasgro100.exe for NASGRO 10.0) and select “Create shortcut”. This creates a new file called “nasgro###.exe – Shortcut” in that folder. Copy or move this file to the desktop.

Start Button: If you wish to have the NASGRO icon available via the start button, navigate to the folder where the program files were installed, right-click on the nasgro###.exe file and click “Pin to start”.

Windows 10 Tile: If you wish to have the NASGRO icon available as a Windows 10 tile, copy the shortcut created as described above from the desktop to the following location:

C:\Users\your_user_name\AppData\Roaming\Microsoft\Windows\Start Menu\Programs

I.3 Special Instructions for *Secure* Version Installation

Some NASGRO single-seat licenses require installation of a secure version with additional restrictions or security provisions. Beginning with the release of NASGRO v8.1, this process has been completely changed from earlier versions.

For the secure versions, the user will execute the first two installers: the program files installer and the data files installer, as described in Section I.1 for the standard installation. The third installer for the license file will be skipped since the secured license file must be provided to the user by SwRI. As noted, the nature of “secured” is to restrict the NASGRO license file to a specific machine for NASGRO usage.

Prior to generating the secured license file, the user will need to identify the physical address (*aka*, the MAC address or the Ethernet hardware address) of the PC on which NASGRO is to be installed and send it to SwRI. The physical address of the PC consists of six groups of two hexadecimal digits, separated by hyphens (-), for example: 12-34-56-78-AB. To obtain the physical address of a PC, the user should open a Command Prompt window and enter the following command: **ipconfig /all | more**. Usually the Command Prompt application can be found in **All Programs → Accessories**. An example screen is shown below, with the physical address listing enclosed by the dashed yellow lines:

```

Command Prompt
Windows IP Configuration

Host Name . . . . . : 
Primary Dns Suffix . . . . . : 
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : 

Ethernet adapter Ethernet:

Connection-specific DNS Suffix . . : 
Description . . . . . : Intel(R) Ethernet Connection (7) I219-LM
Physical Address. . . . . : 
Dhcp Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : 
IPv4 Address. . . . . : 
  
```

Note that when issuing the **ipconfig** command as instructed above, it is likely that a number of different physical addresses will be displayed. The physical address that is needed is the one corresponding to the “*Ethernet adapter Ethernet*” as shown in the above screen.

Once this physical address is obtained, please send it by e-mail to SwRI (Joe Cardinal, jcardinal@swri.org) and a license file will be generated and returned along with instructions for where to save it on the user’s machine (provided below in Section I.3.1).

A typical single-seat license file may look like this:

```
FEATURE nasgro.10.00.f.c nasgro 1.000 permanent uncounted \
  HOSTID=[REDACTED] TS_OK SIGN="0010 [REDACTED] B262 5901 D078 0331 \
  5208 [REDACTED] 28AC [REDACTED] 5A01 [REDACTED] C875 B249 FE66 C5E3 [REDACTED] A25D \
  C1D9 [REDACTED] A7DA"
```

I.3.1 Instructions for Saving the Secure License File

The secure license file is a text file having a name of the form *nasgro###fc_XXXXXX.txt* where ### corresponds to the NASGRO version number and XXXXXX is an identifier for the user's company name. After receiving the license file from SwRI:

1. Rename the above text file to *nasgro.lic*. Note it is helpful to have Windows display the file extensions to ensure that you have renamed the file properly. See the description previously to modify the Folder options.
2. Copy the supplied license file to the NASGRO Program Files installation folder. For example, assuming the default location was chosen during installation, this would be *C:\Program Files (x86)\nasgro###f* or *C:\Program Files\nasgro###f*. Otherwise, if you did not install in the suggested folders, you will need to copy the license file to the folder that you specified. As noted, the aforementioned copy-and-paste step in the "Program Files" folder requires Administrator's privilege. If it is not granted, the user would need assistance from IT.

I.4 Installation in Server/Client Environment

A token-based licensing scheme is deployed by NASGRO for this application. In this approach, two license files are issued with the NASGRO daemon (*nasgro.exe*). One is for the server and the other is for the client; *i.e.*, users' computers. The license file for the server is tied to a specific computer; *i.e.*, the server, by its MAC address and the installation requires users' IT personnel to (1) put both license file and NASGRO daemon in place and (2) enable the token broadcasting. In contrast, the license file for the client refers to the usage of this specific server and it can be distributed and installed in user's computers.

For SwRI to generate the license files, the user would follow the procedure for secured licensing to identify the MAC address of the server (as discussed in Section I.3). The MAC address and the host ID of the server are needed for SwRI to generate consistent license files for both server and client.

The installation starts by completing the two-step installation process described in Section I.3 for secured licensing. This will ensure the two "*ini*" files ("*nasgro.ini*" and "*nasgrolic.ini*") are put in place. The next step is to place the license files (provided by SwRI) in their separate locations as indicated previously on each user computer. As noted, there are two license files; the one for the server can be renamed as long as it is invoked accordingly through the license manager. However, for the client's license file it is required to be named "*nasgro.lic*". The last step is to update the "*nasgrolic.ini*" file to ensure the consistency in pointing to the license file on the users' side. For example, if the license file "*nasgro.lic*" is in the folder named "*c:\nasgro_license*" the path specification in "*nasgrolic.ini*" needs to refer to this location (see the following).

```
[nasgro1000f]
```

```
nasgrolicdir=C:\nasgro_license
```

As noted, the license file for the client can be distributed and installed in computers within the users' network. As long as the server can be accessible through network, the token-based approach would provide users NASGRO analysis capabilities (pending on the license agreement on analysis features, number of tokens and expiration date).

For aforementioned scenarios where installation cannot be completed due to insufficient user's privilege, Section I.6 in this Appendix describes additional information on required file access permissions.

I.4.1 Token Counting in Server Environment for Multiple Users

As indicated, depending on the license agreement, the number of tokens may be limited. As a result this limits the number of concurrent users that can access NASGRO. Currently each GUI incident; *i.e.*, opening a GUI screen for analysis, takes one token. A simple straightforward analysis such as starting NASGRO GUI first, selecting NASSIF and then performing computation can take up three tokens. Once the computation is complete, the third token will be returned to the daemon. Nonetheless, there remain two used tokens by two GUI incidents.

For user's community limited by the number of tokens, the most efficient way to proceed with the analysis is first to get the GUIs running to generate analysis batch files at one

time and quit the GUIs to release the tokens. Then use the batch or sequential computations method to obtain the results and complete the analysis.

I.4.2 Usage of Remote Desktop

“Remote Desktop” is an application feature enabling users to connect to other computers remotely. There are several products containing such a feature. The free version (“Remote Desktop Connection”) bundled with Microsoft Windows provides sufficient capabilities to support users to access their computers from remote ends. The issued NASGRO license usually embeds keywords to allow such a remote usage. If the policy at the user’s end requires disabling such a usage, please contact SwRI prior to issuing the license files.

I.4.3 Additional Files Distributed for Token Based Licensing

In addition to the installation files to support NASGRO core computation, seven files are also provided by SwRI to support the deployment of token based licensing. Two of them are license files; one for the server and the other for the client or the end users. Both are text files. The rest are binary programs. One is the daemon program named “*nasgro.exe*” and the others are the utility programs to support license management. The vendor daemon is a program that keeps track of license activities and should be invoked through license manager. In the following table the application of the utility programs is described. For more details, attaching the flag “*-help*” at the end of the command would list all the options. As noted, the deployment of these utility programs is up to the institution’s policy; for example, to grant the end user the access privilege to initiate or terminate the NASGRO licensing at the server end, or to partially allow the end user for status inquiry.

Filename	Description
<i>lmdiag.exe</i>	FlexNet diagnosis Usage: <i>lmdiag -c server_license.lic</i>
<i>lmdown.exe</i>	FlexNet termination Usage: <i>lmdown -c server_license.lic</i>
<i>lmgrd.exe</i>	FlexNet Initiation Usage: <i>lmgrd -c server_license.lic -l debug.log</i>
<i>lmstat.exe</i>	FlexNet license manager status Usage: <i>lmstat -c server_license.lic</i>

I.4.4 License Files for Server/Client Environment

As mentioned, two license files are issued; one for the server and the other for the end users. In this section their typical formats are depicted. The license file for server may look like the data lines inside the following rectangle, where

- SERVER: this example shows the server’s name is “y4587” with ID “abCDefGHijKL” communicating through port #27008¹.

¹ Clients should indicate their preferred communication port for any potential conflicts when requesting license files. Otherwise either 28000 or 27008 will be assigned automatically.

- **VENDOR:** the vendor keyword indicates the required vendor daemon is named “*nasgro.exe*”.
- **FEATURE:** its support for NASGRO v8.90f (an example) commercial licensing up to 1000 tokens with no expiration date. The **TS_OK** flag signifies the support for remote desktop. The rest of the four-letter data segments are from FlexNet encryption.

```
SERVER y4587 abCDefGHijKL 27008
VENDOR nasgro
FEATURE nasgro.8.90.f.c nasgro 1.0 31-dec-0000 1000 \
  TS_OK SIGN="02A0 7C64 2E58 █████ 5285 CC42 3333 9FF7 █████ 23CC \
  6303 1C92 CABA 203D 6649 DF39 EFC3 05FF 4759 A634 B920"
```

On the client end, the license file would look like the data lines in the following rectangle, where

- **SERVER:** server name, ID and communication port are indicated
- **USE_SERVER:** usage of license at the server is required
- **FEATURE:** feature version is specified; *i.e.*, NASGRO v8.90f (an example)

It’s evident that the consistency of the information in the first and last lines with those in the server license file is crucial.

```
SERVER y4587 abCDefGHijKL 27008
USE_SERVER
FEATURE nasgro.8.90.f.c
```

I.5 General System Requirements

I.5.1 Operating System

NASGRO has been successfully installed and tested on a variety of different Windows operating systems. **Beginning with NASGRO v9.0, NASGRO requires installation on a 64-bit Windows operating system with at least 4GB of RAM.** Current development and testing activity is focused on Windows 10 implementations. NASGRO also runs successfully on Linux and MacOS using the *Wine* Windows compatibility program.

I.5.2 Requirements for Disk Space and RAM

- Installation: 500MB disk space for NASGRO program and data files
- Running: 150MB of RAM to run, including sufficient space for user data files (e.g. load spectrum files) and program output files (dependent on user-selected frequency of writing output to file).

I.5.3 Recommended Graphics Settings

- **A minimum vertical screen resolution of 800 pixels;** for example, a resolution of 1280x800 (width x height) would be sufficient. Going to the Control Panel or right-clicking in the desktop will allow you to display and/or change the screen resolution.
- **A main display setting of 100%;** Access to the display settings and the ability to change them depends on the version of Windows on the user's machine. Generally, going to the Control Panel or right-clicking in the desktop will allow you to display and/or change these settings. For example, the display from a Windows 10 machine is shown below; a main display setting of 100% is recommended. .

Scale and layout

Change the size of text, apps, and other items

100% (Recommended) ▾

[Advanced scaling settings](#)

Display resolution

1920 × 1080 (Recommended) ▾

Display orientation

Landscape ▾

- On some older Windows systems the display setting is labeled as the “Smaller - 100% (default)” setting or the “Normal size (96 DPI)”. At settings other than 96 DPI some NASGRO GUI elements (input boxes, drop down menus, etc.) overlap each other.
- With certain **font settings**, some NASGRO GUI elements (input boxes, drop down menus, etc.) may overlap each other. The font setting can be accessed via the Windows Control Panel and clicking on “Appearance and Personalization” and then on “Fonts” to select a font and font size. Select "Tahoma" at size 8 if available. If not, then experiment with other fonts in that size or close to that size.

As mentioned in the earlier sections on specific installation environments, even with Administrator rights it is recommended to install NASGRO by right-clicking on the installation programs and selecting “Run as Administrator”.

I.6 File and Folder Access Permissions

Several folders require “write” permissions for successful operation of NASGRO:

- NASGRO executable files location
 - Suggested at installation: “*C:\Program Files (x86)*” path, but can be anywhere
 - Access required during runtime
 - Files/folders affected
 - Temporary runtime folder (all data files needed for run are copied here because computational core requires all files to be in one folder)
- NASGRO data files location
 - Suggested at installation: “*Documents*” path, but can be anywhere
 - Access required during runtime
 - Files affected
 - User materials files
 - User stress distribution and load spectrum files
 - Program output files

It is highly recommended to **NOT** install the NASGRO **data** files in the “*C:\Program Files*” or “*C:\Program Files (x86)*” location. Microsoft operating systems use User Account Control (UAC), a feature that can help prevent unauthorized changes to your computer. UAC uses a special folder called the VirtualStore which is designed to add an extra layer of security protection for applications installed under the *Program Files* folder. All changes made to files in the “*C:\Program Files*” or “*C:\Program Files (x86)*” folder tree require a special Administrator permission or are stored in the VirtualStore. It is recommended to install the NASGRO data files in the user’s “*Documents*” path. This is the default location used by the data files installer. (Note that prior to Windows 10, this folder was named “*My Documents*”.)

I.7 Installation Error Messages

Most installation related error messages can be avoided by ensuring that appropriate Read/Write file access privileges and Administrator rights were used during the installation process. Even with Administrator rights, it is recommended to right-click an installer file and select “Run as administrator”.

Another common cause of error messages (for secure license installations) is mistakes made in saving and renaming the license file (see Section I.3.1).

Below is a list of possible error messages that may occur along with a description of their meaning and a recommendation for their resolution.

Error Message #1:

No entry for this version was found in "nasgrolc.ini" or "nasgrolc.ini" was not found.

Meaning and Resolution:

This means that the "nasgrolc.ini" file is not located in the proper directory (C:\Users\username\AppData\Roaming\nasgro) *OR* that the version in question (say, 8.1f) does not have an entry in "nasgrolc.ini". Both indicate an issue with installation, usually the absence of "nasgrolc.ini". First debugging step: Verify the location of the "nasgrolc.ini" file and view its contents to ensure the version exists. (It can be opened using Notepad). See Section I.2 of this Appendix. This file should be located in C:\Users\username\AppData\Roaming\nasgro.

Error Message #2:

"nasgro.lic" was not located in the directory specified in "nasgrolc.ini"

Meaning and Resolution:

This means that the "nasgro.lic" file was not in the directory listed for that version in "nasgrolc.ini". Either the file is missing, named incorrectly, or the "nasgrolc.ini" entry is pointing to the wrong directory. Debugging: Open *nasgrolc.ini* in Notepad, find the directory for that version, verify that "nasgro.lic" is there (case sensitive) and named properly (no hidden .txt extensions). The file type should read "License" or “LIC” when viewed in the File Explorer. This is a common error message (for secure license installations) caused by making a mistake in saving and renaming the license file (see Section I.3.1).

Error Message #3:

There was an error parsing "nasgrolc.ini" or "nasgro.lic"

Meaning and Resolution:

This is a generic error indicating either *nasgrolc.ini* or *nasgro.lic* is malformed in some way. The best recourse to resolve this error is to send a copy of "nasgrolc.ini" and "nasgro.lic" to SwRI for debugging.

Error Message #4:

There is an error in the contents of the license feature "type" -- the license type is not correctly defined

Meaning and Resolution:

This means the license file is malformed or has been edited in some way. The best recourse to resolve this error is to send a copy of "nasgro.lic" to SwRI for debugging. It's either a mistake made when generating the license or someone has edited it. The latter will also generate error message number 6.

Error Message #5:

There is an error in the contents of the license feature "Version" -- the License version does not match the NASGRO version.

Meaning and Resolution:

This means the version of NASGRO being executed does not match the version listed in the feature keyword in the license. If you are running 8.1f and it opens a file with the feature ("nasgro.8.20.b.g") --- it will generate this error, because that is an 8.2b license. Most likely cause: Error in the "nasgrolic.ini" file (user edited it to point to an already existing location), installed the incorrect license (say, one for a previous version) or other such copy and paste error. Solution is to send the "nasgrolic.ini" file and the "nasgro.lic" file to SwRI for debugging.

Error Message #6:

There is an error in the contents of the license "Return Code" -- this license is not valid.

Meaning and Resolution:

This means the license has been denied because the digital signature is incorrect -- someone has edited the license, inadvertently or otherwise. A new license will need to be installed, or replaced with an unaltered copy of the previous license.

Error Message #7:

This license has expired.

Meaning and Resolution:

This message is issued when a time-limited license has expired, usually for a demo version. Contact SwRI to resolve.

In the event that the user needs to contact SwRI for debugging, the user should provide the following items:

- A copy of their "nasgrolic.ini" file in the user's AppData directory and the full path to that file (or a screen shot showing the path)
- A copy of their "nasgro.lic" file in the user's AppData directory and the path to that file (or a screen shot showing the path)
- A screen shot of the NASGRO program files folder (including the file types and sizes), i.e., C:\Program Files (x86)\nasgro910f
- A screen shot of the NASGRO program files folder (including the file types and sizes), i.e., C:\Users\username\Documents\nasgro910f

I.8 Migrating User Data Files from Prior NASGRO Versions to a Current Version

Starting with version 6.2, NASGRO is distributed with a User Data Files Migration Utility which, similar to the other NASGRO modules, is called up from the NASGRO main window by clicking on the “*Migrate User Data*” button (at the bottom of the NASGRO main window). The purpose of this utility is to make it easier for a user to copy user data files from an older installation when upgrading to a newer version of NASGRO, without having to manually find and copy these files. Some users install new NASGRO versions in the same location as older ones; this utility is useful for those who install new versions in different locations from prior versions.

A detailed description of the User Data File Migration Utility is available by clicking on the “*Help*” button that appears on this utility’s main screen after clicking on the “*Migrate User Data*” button.

In addition, starting with version NASGRO 6.2, the suggested installation location for NASGRO data files has changed from the “*C:\Program Files*” path to the “*Documents*” path due to increased restrictions in newer versions of the Microsoft Windows operating system on accessibility to files placed in the “*C:\Program Files*” path. In this situation, this utility will allow a user to copy user data files from a pre-6.2 installation that was in the “*C:\Program Files*” path to the new path used for v6.2 (and up) installations.

The user data files this utility applies to include the following:

- 1) NASFLA material files: USREEM, USRETM, USREWM, USRMFC, USRMFM, USRMTC, USRMTM, USRMXC, USRMXM, USRTBC, USRTBM, USRTTC, USRTTM
- 2) NASFLA spectrum files: *BLOCKS*, *BLOCKT*
- 3) NASMAT files: userdata.dat, userdkeffdata.dat, userdkeffhead.dat, userhead.dat, usrkcddata.dat

Starting with NASGRO version 7.1, NASFLA material files are distributed in the XML format. During data file migration, this utility will convert to XML any older data files that use the pre-7.1 format.

I.9 Uninstalling a NASGRO Version

A number of options are available for uninstalling NASGRO from the computer. The first is to open the Windows Settings through the Start Menu, and select Apps. This will bring up a list of the applications installed on the computer. Scrolling to or searching for NASGRO will bring the user to the NASGRO #.## Program Files, Data Files, and License Files. Selecting each, and then selecting “Uninstall,” will remove that portion of the installation from the computer.

A second option is to go to the directories in which the files were installed, and to use the Uninstall executable directly, as detailed below:

- To uninstall the program files, go to C:\Program Files (x86)\nasgro###X, and run unins000.exe as an administrator.
- The license file can be deleted from C:\Program Files (x86)\nasgro###X. This may need to be done as an administrator.
- To uninstall the data files, go to C:\Users\xxxxx\Documents\nasgro###X (or wherever the data files were installed, if not there), and run unins000.exe as an administrator.
- If a desktop shortcut was created for the program, and the uninstall utility does not delete it, right-click on the shortcut and select Delete.

A third option that is usually available is to click on the Start button to display the list of installed programs. Scroll down to find NASGRO, click the little “down” arrow to expand the folder contents and click on the “Uninstall” entries.