

INSTALLING AND REGISTERING AutoDutyPRO

Administrator / Installers Guide

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Abstract

This document details items you need to know before you install and run **AutoDutyPRO**. It addresses installing **AutoDutyPRO** on Windows-based computers, activating the software, and dealing with the issues that may arise due to security settings on individual computers.

About AutoDutyPRO

AutoDutyPRO is a desktop application designed for computers running Microsoft Windows operating systems.

In its current form, **AutoDutyPRO v4.0** is a 32-bit program first released in 1999 (it replaced earlier, 16-bit versions [v1.x, v2.x, 3.x] that were released as early as 1991). The core application itself was last updated to version 4.32.1.0 (hereafter, referred to as **v4.32**) in March 2017.

Although the **AutoDutyPRO** series has passed the 18-year mark, it has aged well and still performs the tasks which it has been designed to do; i.e., calculating DA-6s with a minimum of fuss -- No Aspirin Required!

As technology has matured, the security requirements of computers and the environment in which they operate has also matured. Unfortunately, later versions of Windows and stricter security policies in place at military installations have combined to make installing, activating, and running **AutoDutyPRO** not quite as simple as it used to be. The issues that present themselves have more to do with environment changes than anything else.

By following our recommendations below, and installing the most recent version of **AutoDutyPRO**, the software may be installed and activated properly and individuals can continue to rely on **AutoDutyPRO** with confidence.

If the recommendations *do* conflict with security policies at your location, please let us know so your concerns may be addressed. Contact information is at the end of this document.

License Policy

Be sure that you understand our license policy: a single license of a purchased product may be used by only one unit. For licensing purposes, a unit corresponds to a single Unit Alpha Roster, usually at the company-level or smaller. For example, a battalion with five companies or batteries would need five licenses of the software.

Each license of a purchased product may be installed on up to two computers *within a single unit*. The *spirit* of this requirement means that a license purchased by Alpha Company may be installed on up to two computers within Alpha Company. Or, it may be installed on the 1SG's office computer at the company, and also a personal computer. It may **not** be shared between Alpha Company and Bravo Company because the unit alpha rosters are different for each company. If Alpha Company requires the software installed on more than two computers within the unit, additional licenses would need to be purchased.

Each installed copy of the software must be **activated** (unlocked/registered) to remove restrictions on the dates for which you calculate DA6s. The registration process is unique to each computer; i.e., an unlock code from one computer will not work on another computer.

With any version of **AutoDutyPRO** v4.31 or later, activation is carried out by **AutoDutyPRO** itself, either during the installation or later during operation, as long as an internet connection is available.

Other methods are via phone or via our website, although the automatic method is recommended and preferred.

Before You Begin

In this document, the following terms below are used:

- **OS** – *operating system*; the software that makes a computer work.
- **government computer** – refers to a computer owned by a government or military entity. In most cases, this is a computer connected to a domain network and centrally managed by NEC and/or NETCOM. Government computers are becoming increasingly restrictive in terms of what software may be installed and utilized; in addition, many security policies prevent **AutoDutyPRO** from operating without taking a few additional steps once it has been installed (covered in this document). Government computers typically run specialized configurations of the Microsoft Windows OS.
- **personal computer** – refers to a computer owned or used by an individual; it is not managed by NEC or NETCOM. Typically, these computers has less-restrictive configurations than government computers, and usually run home version of the Microsoft Windows OS.
- **CoN** - *Certificate of Networthiness*; this is a certification that NETCOM has tested and approved an application to be installed and utilized on government computers. **AutoDutyPRO**'s current CoN is **201518662**, valid through February 2018.

Before you begin to install and activate **AutoDutyPRO**, you will need the following items:

1. The most recent version of the distribution (installer), available at no cost directly from our web site's Download Center: <http://www.autodutypro.com/download/patches.htm>

When you visit the web page referenced above, the most recent version can be found at the bottom of the page, under the heading **Complete Installation File**.

As of the time this document was last updated, the most recent installer has a version of 4.32.1.0. The version information on any **AutoDutyPRO** installer can be checked by right-clicking *setup.exe*, choosing *Properties*, and then clicking the *Details* tab. If the version information is not found, or is prior to 4.32.1.0, be sure to download the latest installer at the location above.

2. The license file for the license you are installing. The license file is a small, binary file with the name **a4w.lf** (alpha-four-whiskey-dot-lima-foxtrot). This is not a file that can be opened and viewed with Adobe Acrobat Reader, Microsoft Word, or any other program. Only **AutoDutyPRO** understands this file.

The license file is provided with each purchase of the software. If a backup CD was ordered, the license file is included on that CD. We also provide the license via email attachment when the software is first ordered; the email with the attachment has the subject "**[autodutypro.com] License & Instructions**"

If the purchase was made some time ago, and you cannot locate the license file for the software you are installing, please contact **AutoDutyPRO** Technical Support (reference the **Contact Us** section at the end of this document). Generally, if we can locate a valid license for the unit in our database, we will send the license file as an attachment to an email with the subject **"[autodutypro.com] Replacement License File"**

3. This **Administrators/Installers Guide** document.
4. Point-of-Contact information for the individual who will be using **AutoDutyPRO**. This includes the rank and name, phone number, and email address of the individual.

Once you have the items above, you are ready to install and then activate **AutoDutyPRO**.

Installing AutoDutyPRO

AutoDutyPRO runs on Microsoft Windows OSs, from XP to 10. Specific to Windows 10, **AutoDutyPRO** runs on all versions from retail HOME versions to ENTERPRISE, SHB, LTSB, and CB releases.

Installing **AutoDutyPRO** requires administrator privileges, but does not usually require the administrator to be logged in as the current user. Please keep in mind, however, that depending on how individual computers have been configured, logging in as an administrator may be required after all to successfully install **AutoDutyPRO**. Additionally, you may be required to be a *local* administrator on the machine versus a *domain* administrator, depending on how the computer has been configured.

Later versions of Windows recognize the installation file ('AutoDutyPRO_setup.exe') as needing administrator permissions and will prompt for administrator credentials (unless the logged-in user has administrator privileges). Under Windows XP, right-click the 'AutoDutyPRO_setup.exe' file and choose 'Run as administrator' (unless the logged-in user has administrator privileges).

The installation program will allow you to choose the destination folder for the AutoDutyPRO program files (the application itself, help files, system files, etc.). It is recommended that you stay with the default location, if possible.

If this is a new installation of **AutoDutyPRO** (i.e., it is not being updated) and a valid license file is present, the installer will prompt to activate **AutoDutyPRO**. This is the preferred time to do this.

Activating (Registering/Unlocking) AutoDutyPRO

Activating **AutoDutyPRO** accomplishes two things:

- ensures that we have the most current contact information for you; this helps us give you the best support possible
- unlocks the software so that there are no restrictions on the dates for which you can calculate DA6s

Activation is only required for *purchased* copies. **TESTDRIVE** versions cannot be activated. If you have a **TESTDRIVE** version and have not yet purchased **AutoDutyPRO**, you may skip the rest of this section as it does not apply.

With any version of **AutoDutyPRO** v4.31 or later, activation is carried out by **AutoDutyPRO** itself, either during the installation or later during operation, as long as an internet connection is available. Other methods are via phone or via our website, although the automatic method is recommended and preferred.

When following the instructions below, **AutoDutyPRO** must already have been installed onto the computer, and you must have the license file for your purchased copy.

If **AutoDutyPRO** was installed from the backup CD

If you installed **AutoDutyPRO** from a backup CD provided by First Shirt Software, the license file has already been installed for you and you may start with the instructions on the next page.

If **AutoDutyPRO** was installed from the web site download

If you recently purchased **AutoDutyPRO**, but did not order a backup CD (or cannot locate the backup CD), you should have an email from us with the subject "**[autodutypro.com] License & Instructions**"

If the purchase was made some time ago, and you cannot locate the license file for the software you are installing, please contact **AutoDutyPRO** Technical Support (reference the **Contact Us** section at the end of this document). Generally, if we can locate a valid license for the unit in our database, we will send the license file as an attachment to an email with the subject "**[autodutypro.com] Replacement License File**"

In either case, each email contains a single attachment: a small, binary file named **a4w.If** (alpha-four-whiskey-dot-lima-foxtrot). This is the license file itself, and is required to unlock or activate **AutoDutyPRO**. This is not a file that can be opened and viewed with Adobe Acrobat, Word, or any other program. Only **AutoDutyPRO** understands this file.

To install the license file so that **AutoDutyPRO** can be unlocked, simply save the license file email attachment to the desktop, keeping the **a4w.If** filename. If additional user profiles on the same computer will need to access **AutoDutyPRO**, the license file email attachment should be saved to the *Public Documents* folder.

Once the license file has been saved, **AutoDutyPRO** may be activated following the steps below.

Start **AutoDutyPRO** to activate

Start **AutoDutyPRO** and after a few moments (if **AutoDutyPRO** has not yet been activated) you will see a notice regarding the program's status.

If some sort of error message is displayed instead, please review the **Error Messages** section of this document on page 9 for troubleshooting steps.

If the screen indicates the program is **RESTRICTED**, the license file was not saved/copied to the correct location. Please review the instructions above regarding saving and copying the license file attachment and try again, as **RESTRICTED** versions cannot be unlocked. If you still have trouble, please contact **AutoDutyPRO** Technical Support (reference the **Contact Us** section at the end of this document).

If the screen indicates the program is a **TESTDRIVE**, and you believe you have a valid, purchased license, please contact us for assistance, as **TESTDRIVE** versions cannot be unlocked.

If the activation wizard appears, follow the steps to activate **AutoDutyPRO**.

Please note that the POC information for the actual end-user is **required**. If you are not the end-user, please provide **their** information as the POC, including unit, phone number, and email address. Be sure to select the correct POST, when requested:

- If the software was purchased with personal funds (versus unit funds), select "- **N/A** -"
- If you are stationed at an APO, AP address, select "**PACIFIC**"
- If you are stationed at an APO, AE address, select "**EUROPE**"
- All others, select **your current duty station**. If your duty station is not listed, select "- **N/A** -"

If all of the information is correct, and you have not exceeded the number of licenses permitted, **AutoDutyPRO** will be activated and all restrictions removed.

NOTE: If an internet connection is not available on the computer on which **AutoDutyPRO** has been installed, choose the phone option in the wizard. If you contact us by phone, you will want to have this screen up when you call. We will gather the Serial #, Code Entry #, and Computer ID from you, and give you back registration codes that unlock the software. Please be aware that the phone option has limited hours of availability (see our web site for the latest contact numbers and hours of service).

If you are unable to complete the activation process at this time, click the CANCEL button and the program will continue.

Where to Go From Here

To get started, please review the Setup Guide that is included with the program. It takes you through step-by-step setting up the program; by the end of the steps you will have calculated your first duty roster using **AutoDutyPRO**.

The Setup Guide can be found here:

Windows START menu -> PROGRAMS -> AutoDutyPRO -> Step-by-Step Setup

It is about 50 pages total, but well worth going through to get the program setup as quickly and easily as possible.

File/Data Locations

Under Windows 64-bit versions, the **AutoDutyPRO** program files are located here:

C:\Program Files (x86)\AutoDutyPRO

Under Windows 32-bit versions, the **AutoDutyPRO** program files are located here:

C:\Program Files\AutodutyPRO

Prior to version 4.32.1.0, **AutoDutyPRO** creates and stores all of its data files in the end-user's Application Data folder (%appdata%) and Documents folder.

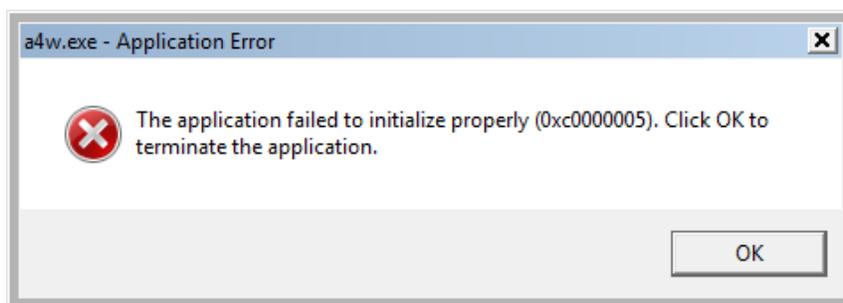
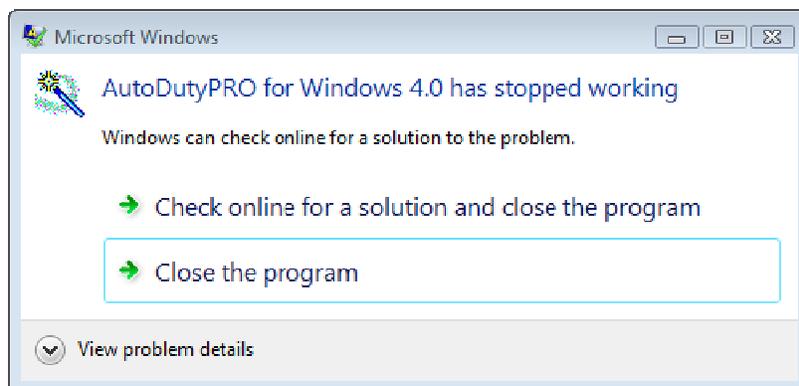
As of version 4.32.1.0 and later, **AutoDutyPRO** defaults to storing the common data in to the *Public Documents/AutoDutyPRO* folder.

Under Windows XP, these locations are under the end-user's and All Users folder in the C:\DOCUMENTS AND SETTINGS folder.

To determine where the data is stored from within **AutoDutyPRO**, run the program, double-click the copyright statement at the bottom of the program window (this brings up the **About...** screen) and double-click the **AutoDutyPRO** logo/graphic. In the list that is displayed, the data file location is the *AppDataPath* entry.

Error Messages and other issues

On startup, Windows displays “AutoDutyPRO for Windows 4.0 has stopped working”, “application failed to initialize” error messages



Once these messages appear, clicking CLOSE THE PROGRAM and clicking OK clears the error message; however, **AutoDutyPRO** will not operate at all.

How it is triggered

This is most likely caused by a Microsoft Windows security feature called **Data Execution Prevention**, or **DEP**. DEP is an advanced system setting in Windows that is meant to protect memory during an application's use.

If this occurs on a personal computer, a simple change to the DEP configuration will resolve this. If this occurs on a government computer, there are several steps to the solution, depending on the security policy in force.

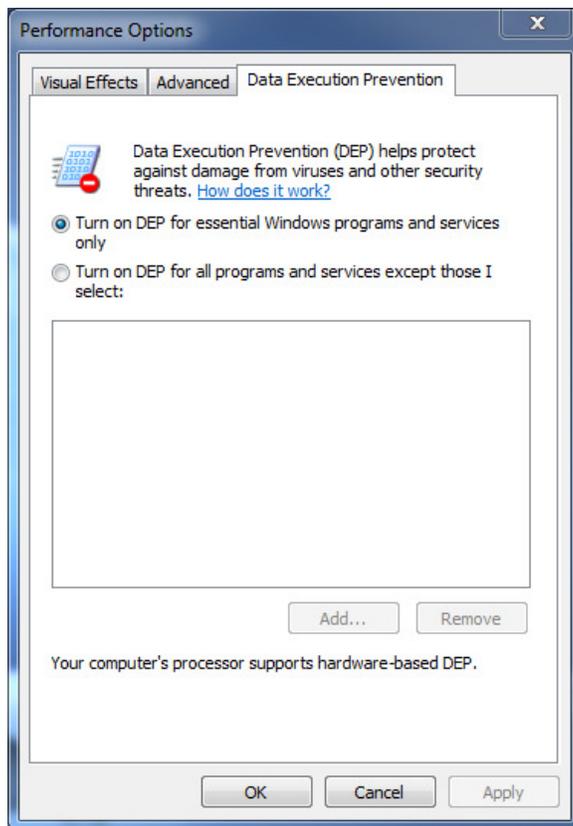
Solution

Verify that **AutoDutyPRO** v4.32 or later has been installed. With v4.32 and later, there are no DEP issues. With versions prior to v4.32, you can try the solutions below, but it is HIGHLY recommended you update. See <http://www.autodutypro.com/download/patches.htm>

Verify that DEP is the cause; if so, the **AutoDutyPRO** executable will need to be added to the exception

list (this only applies to v4.31 and earlier).

1. Click the Windows START button, right-click COMPUTER, and choose PROPERTIES
2. From the panel on the left, choose ADVANCED SYSTEM SETTINGS
3. In the box labeled PERFORMANCE..., click the SETTINGS button
4. Click the DATA EXECUTION PREVENTION tab



5. If the DEP tab is greyed out, this means that the DEP settings are being managed by another tool, such as EMET, and you will need to use that tool to fix this issue (see page 11 for EMET information).

If the DEP tab is **NOT** greyed out, and the first option is selected, the computer is already set to OPT-OUT mode (only operating system programs and services are affected), and DEP is **NOT** the cause of this issue. Skip the remaining steps.

If the DEP tab is **NOT** greyed out, and the second option is selected, **AutoDutyPRO** will need to be added to the exception list. Click the Add button and navigate to the **AutoDutyPRO** executable.

Under Windows 64-bit versions, the **AutoDutyPRO** executable is located here:

C:\Program Files (x86)\AutoDutyPRO\a4w.exe

Under Windows 32-bit versions, the **AutoDutyPRO** executable is located here:

C:\Program Files\AutodutyPRO\a4w.exe

Click **OK**, then **OK** again to close out the ADVANCED SYSTEM SETTINGS window.

6. Changes to DEP settings may require the computer to be restarted; if so, reboot the computer. After the computer is back up, **AutoDutyPRO** should run without the errors above.
7. If the issue continues, and EMET is installed on this computer, one or more mitigations must be disabled for the **AutoDutyPRO** executable.

The simplest method to make these changes is via the EMET GUI; if that is not available, the changes may be made via the command-line (EMET v5.0-v5.4), or via policy settings (EMET v5.5+).

For all versions of EMET, disable the DEP mitigation and test. Using the command-line method as an example:

```
EMET_conf -set program.exe -DEP (where "program.exe" is A4W.EXE, including the path)
```

If **AutoDutyPRO** is still prevented from running, then disable both EAF and CALLER mitigations:

```
EMET_conf -set program.exe -EAF (where "program.exe" is A4W.EXE, including the path)  
EMET_conf -set program.exe -Caller (where "program.exe" is A4W.EXE, including the path)
```

If EMET v5.5+ is in use, most likely these changes will need to be done via policy settings, not through the command-line.

8. If some other mitigation software is in use (e.g., CREDANT), start with disabling the DEP mitigation for the **AutoDutyPRO** executable.
9. If the solution here does not resolve the issue, please contact us.

On startup, **AutoDutyPRO** displays "Unable to create directory"

Once this message appears, clicking the OK button clears the error message; however, **AutoDutyPRO** will not operate at all.

How it is triggered

When **AutoDutyPRO** starts up, it checks for the existence of data files in the end-user's **%appdata%** and **Documents** folders. If the **AutoDutyPRO** folder (and subfolders) do not exist, it attempts to create those.

AutoDutyPRO uses established Microsoft standards and recommendations to retrieve the location of these files from the Windows registry, and to then create and store **AutoDutyPRO** data in those folders

(see page 8 for these actual locations). This error is triggered when **AutoDutyPRO** has been unable to determine the current user's **AutoDutyPRO** data folder from the registry; because it doesn't know where to create the data on the computer, any attempts to use the program would not work and the error message is displayed.

The code in **AutoDutyPRO** to retrieve the location of these folders and then create the missing folders has not changed in years. What has changed at most military locations, however, is how **AutoDutyPRO** is being deployed to the machines.

More posts are using Microsoft's SCCM software to deploy **AutoDutyPRO** packages; in some of these package configurations, a registry key entry is missing which then causes this error to trigger.

Initially, we might only see this error when an administrator runs the program the initial time to register; however, it is becoming more common with standard users.

In each case, whomever the current user is at the time (admin or non-admin), one or two registry key entries are missing.

Solution

There is essentially one solution: create the missing registry key entries. There are two approaches:

1. Approach #1

If SCCM is being used to deploy **AutoDutyPRO**, modify the SCCM package to create the missing registry key entries under the HKEY_CURRENT_USER hive. This solution requires the **AutoDutyPRO** SCCM package to be modified, rebuilt, and then redeployed.

2. Approach #2

Manually create the missing registry key entries under the HKEY_CURRENT_USER hive.

If only the administrator-level access is getting this error during the activation process, logging in as the administrator and manually creating the registry keys is sufficient.

If non-administrative users are getting this error message, the normal user should log in but administrator credentials may be required when manually creating the missing registry key entries.

For each approach, the information to be added is:

1. Ensure the following key(s) exist in the registry:

HKEY_CURRENT_USER\Software\First Shirt Software\AutoDutyPRO\4.2

2. Ensure a string data value (REG_SZ) exists in the key from Step 1:

DataDir

3. Ensure the string data value is set to the current user's Roaming folder, with 'AutoDutyPRO' appended to the end:

C:\Users\[username]\AppData\Roaming\AutoDutyPRO

[username] refers to the current user's folder as indicated in C:\Users.

For step 3, the Roaming path value can be determined from the environmental variable **%appdata%**; i.e., click on the Windows Start orb, and type in `%appdata%` in the search box and press enter.

Windows will open an explorer window into the current user's Roaming folder. You can right-click the path at the top of the window, choose the 'Copy address as text' option, and paste into the DataDir string value. Don't forget to add `'\AutoDutyPRO'` to the end of the pasted text!

Once this registry key entry has been created, the current user should be able to run **AutoDutyPRO** as expected. If more than one user on the machine is experiencing this error, these steps will need to be followed for each user; i.e., each user logs in and the missing registry entry is added to *their* HKEY_CURRENT_USER hive.

If the issue still continues, it may be necessary to add a second registry key:

4. Ensure the following key(s) exist in the registry:
`HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\Shell Folders`
5. Ensure a string data value (REG_SZ) exists in the key from Step 4:
`Personal`
6. Ensure the string data value is set to the current user's Documents folder:
`C:\Users\[username]\Documents`

[username] refers to the current user's folder as indicated in `C:\Users`.

For step 6, the path value can be determined from the environmental variable **%userprofile%**; i.e., click on the Windows Start orb, and type in `%userprofile%` in the search box and press enter.

Windows will open an explorer window into the current user's folder. Double-click on Documents, and then you can right-click the path at the top of the window, choose the 'Copy address as text' option, and paste into the Personal string value.

Once this registry key entry has been created, the current user should be able to run **AutoDutyPRO** as expected. If more than one user on the machine is experiencing this error, these steps will need to be followed for each user; i.e., each user logs in and the missing registry entry is added to *their* HKEY_CURRENT_USER hive.

If the solutions above do not resolve the issue, or you have a different solution that works for you, please let us know so we can update our technical notes and help others who may have this issue.

Contact Us

Need help? We are just a web site, email, or phone call away!

www: www.autodutypro.com
eMail: tech@autodutypro.com
phone: 909-972-6795 (see web site for hours of availability)