

Revisions to this document are noted by a stripe in the left-hand margin.

#1207A
Page 1 of 8

SUBJECT: Allison DOC™ For PC–Service Tool V7.0.0

MODELS AFFECTED: All 1000, 2000, 3000, 4000 Product Families, 5000, 6000, 8000, 9000 Series Transmissions, and MT(B) 600, CL(B)T, V, HT(B) 700 Series Transmissions

AFFECTED SERIAL NUMBERS: All

Introduction

In July of 2007, Allison Transmission will be releasing Allison DOC™ For PC–Service Tool **V7.0.0** which represents the latest PC diagnostic tool for use with 1000, 2000, 3000, 4000 Product Families, 5610, 6610, 8610, 9610 Series Transmissions, 5000, 6000, 8000, 9000 Series Transmissions, and electronically controlled MT(B) 600, CL(B)T, V, HT(B) 700 Series Transmissions. Allison Transmission recommends all Allison DOC™ For PC–Service Tool users to upgrade to V7.0.0, as this latest version incorporates the new features and enhancements discussed below.

Allison DOC™ For PC–Service Tool V7.0.0 will only be available on a CD which will automatically upgrade any previous version of the tool to V7.0.0. Current registered users of the program will not need to re-register the tool, nor re-enable the reprogramming function.

Allison DOC™ For PC–Service Tool V7.0.0 is considered a “cumulative” upgrade, which means that it includes all features and fixes available in any previously released updates, in addition to new enhancements.

New features, enhancements, essential tool status, purchasing information, PC platform requirements, and translator device support for Allison DOC™ For PC–Service Tool V7.0.0 are some of the topics described in this document.

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Summary of New Features and Enhancements Included in Allison DOC™ For PC–Service Tool V7.0.0

- Added Windows Vista™ to the OS support list
 - Reorganized functions and screen accessibility for easier navigation:
 - o Diagnostic screens can now be selected from tabs or buttons at the bottom of every screen. Description of what these screens contain is displayed as a tool tip when placing the cursor on these buttons.
 - o Main menu has been reorganized to facilitate navigation within the tool.
 - o F-buttons bar has been reorganized for quick access to common functions.
 - o Data Bus Viewer is now accessible from the Connect/Disconnect dialog box.
 - Improvements to snapshot files:
 - o Snapshot files are saved as **.ad**, instead of **.zip** (example: *test123.ad*). Users do not need to rename the snapshot files when sending them via e-mail.
 - o Snapshot files can be played back directly by double-clicking on the **.ad** files, as long as the Allison DOC™ tool is locally installed.
 - o Translator device and Allison DOC™ version number information are now captured in Snapshot files. This information is displayed on the Calibration Information screen.
 - o The tool will automatically start recording a snapshot when any active DTC is present in the TCM memory.
 - DTC and General Information screen (formerly known as Trouble Codes screen) now displays DTCs, TCM Information, Shift Inhibits, and a customizable Transmission Data grid. Additionally, DTC-related screens (e.g. Failure Records, DTC Test, etc.) are accessible from this screen.
 - Strip Chart screen has been expanded to select up to **15** transmission parameters (instead of just 8), and to display a floating window with all selected parameter values when using the Cursor button.
 - Includes the latest available versions of every Allison Transmission troubleshooting manual supported by the service tool.
 - Includes support for 3 additional languages: Russian, Korean, and French.
 - o The language selection occurs during the installation process
 - o Translations include Allison DOC™ GUI and Allison 4th Generation Controls troubleshooting manuals
- NOTE: New and re-worded text strings recently added to this new version of Allison DOC™ For PC–Service Tool will appear in English, due to normal timing discrepancies between the translations activities and new features supported by the Allison 4th Generation Controls system. Future versions of the tool will include translations for these strings.**
- Includes an enhancement for the Reset Shift Adaptive Parameters action request when connected to an Allison 4th Generation Controls system. Refer to SIL 14-TR-07 for more information on this topic.
 - Includes a new function called TRANSHEALTH™ Monitor that allows users (regardless of their reprogramming authorization status) to obtain a general transmission clutch condition. Refer to the Help Topics in Allison DOC™ or embedded User Guide (located at *...Allison Transmission\Allison DOC For PC–Service Tool\DOCS*), for more information on this new feature.
 - Added a regular Windows **Open** dialog box to the Data Bus Viewer and TRANSHEALTH™ Reports windows.
 - The Data Bus Viewer supports new J1939 messages/parameters and contains a feature that allows users to continuously save data, as opposed to just the last two minutes of data.
 - Includes the ability to automatically save the Failure Records as they get logged and reported by the TCM. The Failure Records files will be saved in the *...Allison Transmission\Allison DOC For PC–Service Tool\Failure Records* folder.
 - The DTC Lookup function, which has been only available for Allison 4th Generation Controls system, has been expanded to include the WTEC II, WTEC III, 1000/2000 (Pre-Allison 4th Generation Controls), and CEC2 control systems.
 - Eliminated the Shift Solenoid and HSD grid on the Data Monitor screen.
 - NEXIQ USB-Link™ added to the list of approved translator devices.

For more detailed information on these and other features and enhancements, please refer to the Allison DOC™ User Guide located on the Help menu bar.

Essential Tool Status

Allison DOC™ For PC–Service Tool V7.0.0 has been classified as an **ESSENTIAL TOOL** for facilities authorized as Maintenance/Overhaul/Service Outlets for one or more of the following transmission families/models:

- 1000, 2000, 3000, 4000 Product Families
- 5610, 6610, 8610, 9610 Series
- 5000, 6000, 8000, 9000 Series
- MT(B) 648, CL(B)T 700 Series
- V(R) 731(RH) Series
- HT(B) 741, HT 746, HT(B) 748, HT(B) 755(DR), HT(B) 755(CR) Series

Service outlets currently enrolled in the Essential Tool program have received the Essential Tool notification letter, informing about the release of this new version of the service tool. While Allison DOC™ For PC–Service Tool V7.0.0 is an Essential Tool for MT(B) 600, V, and HT(B) 700 Series maintenance or overhaul dealers outlets, the installation CD will not be shipped under the sponsorship of the Essential Tool program subscription service to outlets only servicing (one or all) of the following: MT(B) 600, V, and HT(B) 700 Series transmissions.

Purchasing Information

Allison DOC™ For PC–Service Tool V7.0.0 is available on CD only and can be purchased through SPX/Kent Moore using the following part numbers:

- New Users: **J 44950-H**
- Registered Users: **J 44950-UPD7**

For more information (price and availability) please contact SPX/Kent Moore. For contact information, refer to the [Vendor Information](#) section in this Service Tip.

Support Information and Updates

Support Information:

Allison DOC™ For PC–Service Tool is shipped with a comprehensive Help Topics section (available from the Help menu), User Guide (C:\Program Files\Allison Transmission\Allison DOC For PC–Service Tool\DOCS), and a laminated tri-fold Job Aid Card (JA3434EN). These sources of information will provide the user with the necessary guidelines to install, utilize, and manipulate the software application.

The Technical Support Help Desk (US and Canada: **1-866-621-2128**, Fax: **1-800-962-8734**; International: **1-800-345-2233** or **1-507-455-7223**, Fax: **1-507-455-7063**) is available to owners of Allison DOC™ For PC–Service Tool to address any topic or issues related to **password activation, application and updates installation, and connectivity (e.g. translator devices, cables, diagnostic connectors, part numbers, etc.) to a vehicle.**

Please contact your company Information Technology (IT) department or refer to the documentation provided with your PC for operating system and other PC related issues. Contact your Allison Transmission Distributor or the Allison Technical Assistance Center (TAC) for transmission data interpretation.

Please check regularly the Allison Transmission Web site and look for information that could clarify common questions/concerns with respect to the different Allison Transmission diagnostic tools. Specifically, go to **www.allisontransmission.com | Service | Electronic Tools.**

Updates:

The Allison DOC™ For PC–Service Tool application includes a feature that allows the user to check for, and download available updates by connecting (via the internet) to a tool update server. Due to the constant ECU/TCM calibration enhancements, it is important to regularly check for Allison DOC™ updates to ensure proper tool functionality. Updates can also be obtained from our Web site: **www.allisontransmission.com | Service | Electronic Tools | Updates.**

Reprogramming Information

Allison DOC™ For PC–Service Tool is the only Allison authorized reprogramming tool. No other diagnostic tools shall be used to reprogram Allison Transmission controllers. Refer to Service Tip #2804A, for detailed information on this topic.

For new users, or for those who did not enable the Reprogramming function in earlier version of Allison DOC™ For PC, the Allison DOC™ Diagnostic Tool Training program, or equivalent, has to be completed in order to activate the Reprogramming function. Appropriate proof of certification will need to be submitted to SPX/Kent Moore (along with the Serial Number provided on the installation CD case) to receive the corresponding authorization password, which will activate the Reprogramming function of the service tool. Registered owners of Allison DOC™ For PC–Service Tool who had previously enabled this function **will not** need to re-authorize it in Allison DOC™ For PC–Service Tool V7.0.0.

To learn more about the course availability, please contact your local Allison Transmission distributor training facility or visit: www.allisontransmission.com | **Service | Training**.

PC Platform Definition

Allison DOC™ For PC–Service Tool V7.0.0 has only been tested and validated on PCs with the following configurations:

- Microsoft® Windows® XP Professional, Windows® 2000 (SP4 or later) Professional, and Windows Vista™ Home Basic (or better)

NOTE: In order to install and run Allison DOC™ For PC–Service Tool V7.0.0 on Windows Vista™, the user must have full administrator privileges, and must have the User Account Control feature turned OFF.

- 20 GB Hard Drive, (40 GB or greater recommended)
- 600 MB free hard drive space required to install the program (after software installation, the operating system requires sufficient free hard disk space to run the program)
- 1GHz (or greater) 32-bit (x86) or 64-bit (x64) processor
- 512MB of RAM system memory (1GB recommended)
- One available USB port—USB 1.1 (USB 2.0 recommended)
- A serial port is required if connecting legacy CEC1 controllers, or if using the J 44652-A-SPX J1850-VPW (Class 2) translator device
- 16x CD-ROM, (48x or greater recommended)
- **Full administrative privileges are required to install, use, and update the Allison DOC™ For PC–Service Tool**
- Internet connection capability (Internet Explorer® 5.0.1 or greater) (NOTE: A broadband internet connection is recommended for receiving updates and file downloads)
- Windows Media® Player is installed by default
- Adobe® Acrobat Reader® is installed by default

Error messages, sudden disconnections, and poor performance are some of the results users will experience if Allison DOC™ For PC–Service Tool V7.0.0 is installed on PCs that do not meet one or more of the above specifications.

Translator Device Support

The **Dearborn DPA4 USB** is the essential-rated translator device for the Allison Transmission Service Tools and therefore, it is the translator device Allison Transmission recommends to use with Allison DOC™ For PC–Service Tool V7.0.0.

NOTES:

- Driver: **DR121032** V1.10 (or later); Firmware: V37.146 (or later). If using Windows Vista™, DR121032 V1.18 is required.
- Allison DOC™ For PC–Service Tool V7.0.0 automatically installs V1.18 of the DR121032 drivers. However, it is recommendable to visit the Allison Transmission web site to obtain information on the latest version of the **DR121032** drivers for the DPA4 USB. The **DG121032** drivers (available on the J 47943 DPA4 installation CD) will **not** work with any of the Allison Transmission service tools.
- A Quick Reference Guide for this device can be downloaded from: www.allisontransmission.com | Service | Electronic Tools | Support. This document contains detailed information on how to install and use the drivers, basic troubleshooting steps, and other relevant information.
- Supported Communication Protocols: J1939, J1708/J1587, and GMLAN. It **does not** support the J1850 communication protocol.
- For availability contact: SPX Corporation (Kent-Moore Service Solutions); P/N (Kit): **J 47943**

Allison DOC™ For PC–Service Tool V7.0.0 was also tested and validated with the following translator devices:

- ***NEXIQ USB-Link™***

NOTES:

- Driver: V3.1 (or later). This driver version is required if using Windows Vista™.
- The NEXIQ USB-Link™ requires the user to manually install the driver set which can be found either on the Allison DOC™ For PC–Service Tool V7.0.0 installation CD, under the “NEXIQ USB-Link” folder, or on NEXIQ’s website: www.nexiq.com | Support | Download section.
- Supported Communication Protocols: J1708/J1587, J1939, GMLAN, and J1850.
- The ‘Litelink OBDII/16-pin connector to a DB15 (socket)’ J1962 cable (NEXIQ P/N: 443013) is required to connect the NEXIQ USB-Link™ device to the vehicle J1850 Protocol diagnostic connector.
- For availability contact: NEXIQ Technologies P/N (Kit): **125032**, SPX Corporation (Kent-Moore Service Solutions) P/N (Kit): **J 48624**, or Canton Parts Distribution Center P/N (Kit): **125032**

NOTE: NEXIQ Technologies is offering the Allison Service Channel a special pricing and ordering process for the NEXIQ USB-Link. The NEXIQ USB-Link™ Special Product Offer form contains all details on this limited offer and is located on the Allison Transmission Extranet: Service | Allison TCM Reflash (under the Downloads section).

- ***NEXIQ MagiKey® Parallel Port Data Module (PDM)***

NOTES:

- Driver: V1.0 Universal (or later). This translator device might not work on Windows Vista™. Please contact NEXIQ Technologies for more information.
- The NEXIQ MagiKey® PDM requires the user to manually install the driver set which can be found either on the Allison DOC™ For PC – Service Tool V7.0.0 installation CD, under the “NEXIQ Universal Drivers” folder, or on NEXIQ’s website: www.nexiq.com | Support | Download section.
- Supported Communication Protocols: J1708/J1587 and J1939.
- For availability contact: SPX Corporation (Kent-Moore Service Solutions) P/N (Kit): **J 42660**; or NEXIQ Technologies P/N (Kit): **126032**

- ***Noregon Systems Data Link Adapter (DLA)***

NOTES:

- Drivers:
 - o S/P DLA: V2.2.6 (or later).
 - o USB DLA: V1.5.0.0 (or later)
- The DLA requires the user to manually install the driver set which can be found on the Allison DOC™ For PC–Service Tool V7.0.0 installation CD:
 - o Under the “Noregon DLA V2.2.6” folder for the S/P DLA translator device
 - o Under the “Noregon USB DLA V1.5.0.0” folder for the USB DLA translator device.
- Supported Communication Protocols: J1708/J1587 and J1939.
- For availability contact Noregon Systems, Item (Kit): **Data Link Adapter Kit**

- ***SPX Adapter J1850-VPW***

NOTES:

- The SPX J1850-VPW **only** supports J1850 communication protocol, and therefore it is only suitable for vehicles equipped with a J1850 communication link, such as Pre-A4GC GM Pickup Trucks (i.e. Chevrolet Silverado HD or GMC Sierra HD pickups), and Pre-A4GC GMT560.
- Allison DOC™ For PC–Service Tool V7.0.0 automatically installs the drivers for this device.
- The SPX J1850 VPW drivers do not support Windows Vista™. Users with PCs running Windows Vista™ will need to use the NEXIQ USB-Link™ to communicate via J1850.
- Supported Communication Protocols: J1850.
- For those users with PCs that do not have serial ports, a “**USB-To-Serial**” cable has been approved to use with this adapter. This USB-To-Serial cable can be purchased at RadioShack® (Model & Catalog #: 26-183). For more information, please refer to the “*Can I use the SPX J1850-vpw translator device with a USB-To Serial cable?*” FAQ, located on our website: www.allisontransmission.com | Service | Electronic Tools | Support -> FAQ.
- Refer to SIL **14-1K2K-06** for specific information on when this translator device should be used.
- If the user requires an adapter that communicates via J1850 and has not purchased the SPX J1850 VPW translator device yet, it is recommendable to purchase the Nexiq USB-Link, instead. The SPX J1850 VPW has some technical issues (refer to SIL 14-1K2K-06) and the Nexiq USB-Link, in addition to supporting J1850, also supports J1939, GMLAN and J1708, in addition to offering some other advantages.

- ***Allison Transmission CEC Translator Device***

NOTES:

- The Allison Transmission CEC Translator Device is the **only** translator device that supports transmissions equipped with CEC1 controllers.
- The drivers for the Allison Transmission CEC Translator Device can be installed either from the Allison DOC™ For PC –Service Tool V7.0.0 installation CD, located in the “Noregon RP1210A API” folder, or from our website: www.allisontransmission.com | Service | Electronic Tools | Translator Devices -> Allison Transmission CEC Translator Device.

- Supported Communication Protocols: Allison Proprietary CEC1 communication protocol.
- For availability contact SPX Corporation (Kent-Moore Service Solutions) P/N: **J 47134**, or SGI, Inc. P/N: **CD3723EN**
- ***Softing CANCard2 (PCMCIA), Softing CAN-AC2-PCI (PCI bus), and Softing CANCard2 (USB)***

NOTES:

- In addition to the Softing driver that comes with the Softing adapter, the user must install the RP1210A-compliant driver in order to make any of these Softing CAN devices work with Allison DOC™ For PC – Service Tool V7.0.0. The RP1210A-compliant drivers are automatically installed with Allison DOC™ For PC – Service Tool V7.0.0 and can also be obtained from the Allison Transmission Extranet: Service | Allison TCM Reflash - > Softing CANCard2 (PCMCIA) Devices Drivers (For DOC USE ONLY).

NOTE: In order to make the service tool to work with the Softing translator devices, some PC systems with Windows® XP Professional require the user to manually find the “Cancard.dll” file, and copy it into the following two directories:

1. C:\WINNT
2. C:\WINNT\system32

- Supported Communication Protocols: J1939.
- Softing CAN devices can only be used on vehicles/transmission/TCM systems that communicate to the Allison DOC™ For PC–Service Tool through the J1939 data link. This translator device cannot be used for J1708/J1587, GMLAN, or J1850 communications. Consequently, these Softing CAN devices can only be used to connect Allison DOC™ For PC–Service Tool V7.0.0 with Allison 4th Generation Controls systems, and/or 1000/2000 (Pre-Allison 4th Generation Controls) via J1939.
- A ‘Deutsch 9-pin connector (SAE J1939-13) to a DB9 (socket)’ cable is required to connect the Softing CAN devices to the vehicle diagnostic connector. This cable can be purchased from SPX Corporation (Kent-Moore Service Solutions) **P/N: J 46710**
- For availability contact Noregon Systems P/N: **N 00001**, or Softing North America, Inc.

Vendor Information

SPX Corporation (Kent-Moore Service Solutions)

28635 Mound Road
Warren, MI 48092
Phone:
US and Canada: 1-866-621-2128
International: 1-507-455-7223
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29 Water Street
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E-mail: info.usa@softing.com
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Canton Parts Distribution Center

515 11th Street, SE
Canton, OH 44707
Phone: 1-330-430-4384

Acronyms List:

A4GC — Allison 4th Generation Controls
DOC — Diagnostic Optimized Connection
DPA — Dearborn Protocol Adapter
DTC — Diagnostic Trouble Code
GM — General Motors
GMLAN — General Motors proprietary communication protocol
GUI — Graphical User Interface
PC — Personal Computer
P/N — Part Number
SIL — Service Information Letter
S/P — Serial/Parallel
TCM — Transmission Control Module
USB — Universal Serial Bus