

**ACE<sup>TM</sup>**  
**(AVIATION CHECKLIST EDITOR)**

*User's Guide*



Record of Revision			
Revision	Date	Affected Pages	Description
A	June, 2004	i-13	Initial release
B	December, 2007	i-13	Updated and made applicable to all Integrated Flight Deck Systems
C	November, 2010	1, 5, 6	Updated and made applicable to G3X, G300, GDU 37X, and GPSMAP 696 units

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This manual reflects the operation of the Garmin Aviation Checklist Editor (ACE) software application version 2.2. Some differences in operation may be observed when comparing the information in this manual to earlier or later software versions.

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## SECTION 1: INSTALLING ACE

The Garmin Aviation Checklist Editor (ACE) software application is designed to help build and customize aircraft checklists for the G3X, G300, GDU 37X, GPSMAP 696, and Integrated Flight Deck systems. This Garmin software application resides on a CD-ROM and can be installed on any PC that uses a Microsoft Windows 98, 2000, XP, or Vista operating system (OS). G900X customers may also download the software from my.Garmin.com, G3X customers may download the software from Garmin.com.



**NOTE:** Reference to 'ACE compatible products' throughout this document apply equally to the G3X, G300, GDU 37X, GPSMAP 696, and Integrated Flight Deck systems.



**NOTE:** Additional Microsoft downloads may be needed for Vista compatibility. If needed, Vista will provide instructions on how to download these plug-ins.

### Installing the ACE software application:

1. Insert the ACE CD-ROM into the CD-ROM drive of the PC on which this software application is to be installed. If auto-run is enabled, the installer file should automatically start running. If this file does not start, click the 'Start' menu button, select 'Run...', then type in the drive letter of the CD-ROM drive and click 'OK'.
2. Once the installer file is running, the InstallShield Wizard window is displayed for a few seconds while the installer verifies the version of the operating system, then an Aviation Checklist Editor (ACE) – InstallShield Wizard window is displayed, prompting the user to continue the installation process. Click 'Next'.

3. A window containing the End User License Agreement (EULA) is displayed. After carefully reading the terms of this agreement, select the option 'I accept the terms in the license agreement' if you agree with the terms, then click 'Next'.
4. A window containing a default destination folder for the ACE software application is displayed together with an option to select a different destination folder. Once the destination folder has been set, click 'Next'.
5. Before the software installation starts, a window is displayed, prompting the user to either review the installation settings by clicking 'Back' or proceed with the installation by clicking 'Install'. Click 'Install' to install the ACE software application.
6. After the software application has been successfully installed, a window is displayed, prompting the user to exit the InstallShield Wizard. Click 'Finish' to exit the installer file.

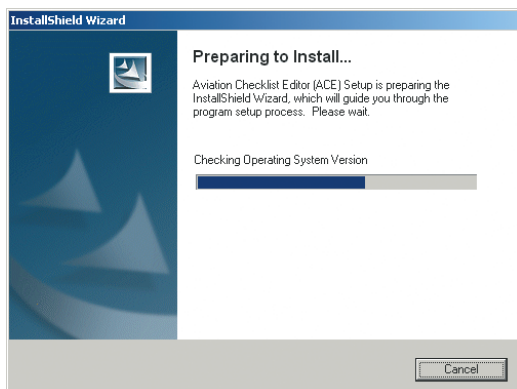


**NOTE:** Figure 1-1 shows the various windows that are displayed during the ACE software application installation process.

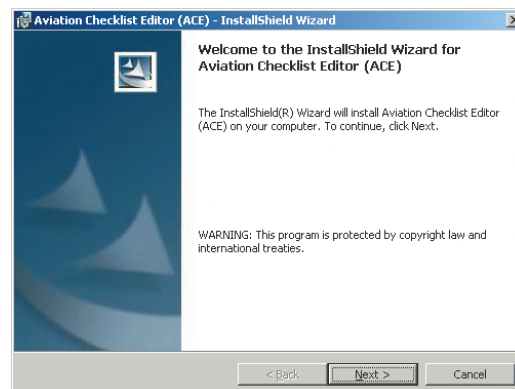
### Launching the ACE software application:

- 1a. If the option to 'Launch the program' appeared checked in the last InstallShield Wizard installer window, the ACE software application should be automatically launched right after the user exits the installer file (this option is checked by default).
- 1b. If the 'Launch the program' option has been unchecked, go to the selected destination folder for this software application and double-click the file named "ACE.exe".

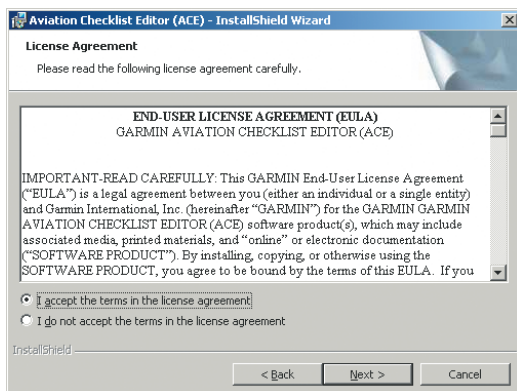
Once the installer file starts running (Step 1),  
InstallShield Wizard automatically checks the OS Version



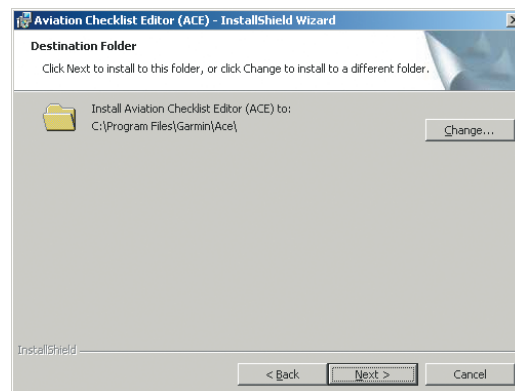
## Step 2



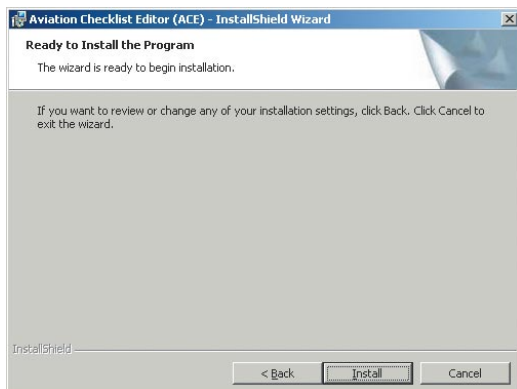
## Step 3



## Step 4



## Step 5



## Step 6

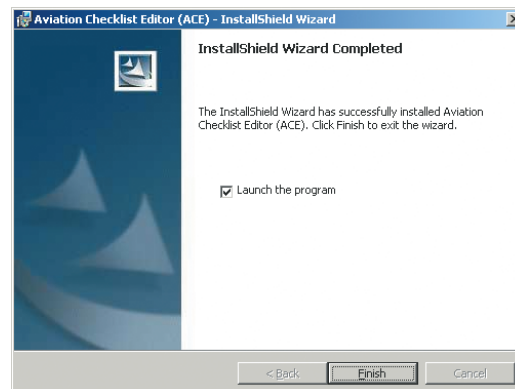


Figure 1-1 Installing ACE  
Garmin ACE User's Guide



# SECTION 2: USING ACE

## 2.1 INTERFACE DESCRIPTION

The ACE user interface (Figure 2-1) is an aviation checklist building platform composed of a menu bar and two (2) user-sizable frames. ACE can also be configured to display a toolbar as well as a status bar.

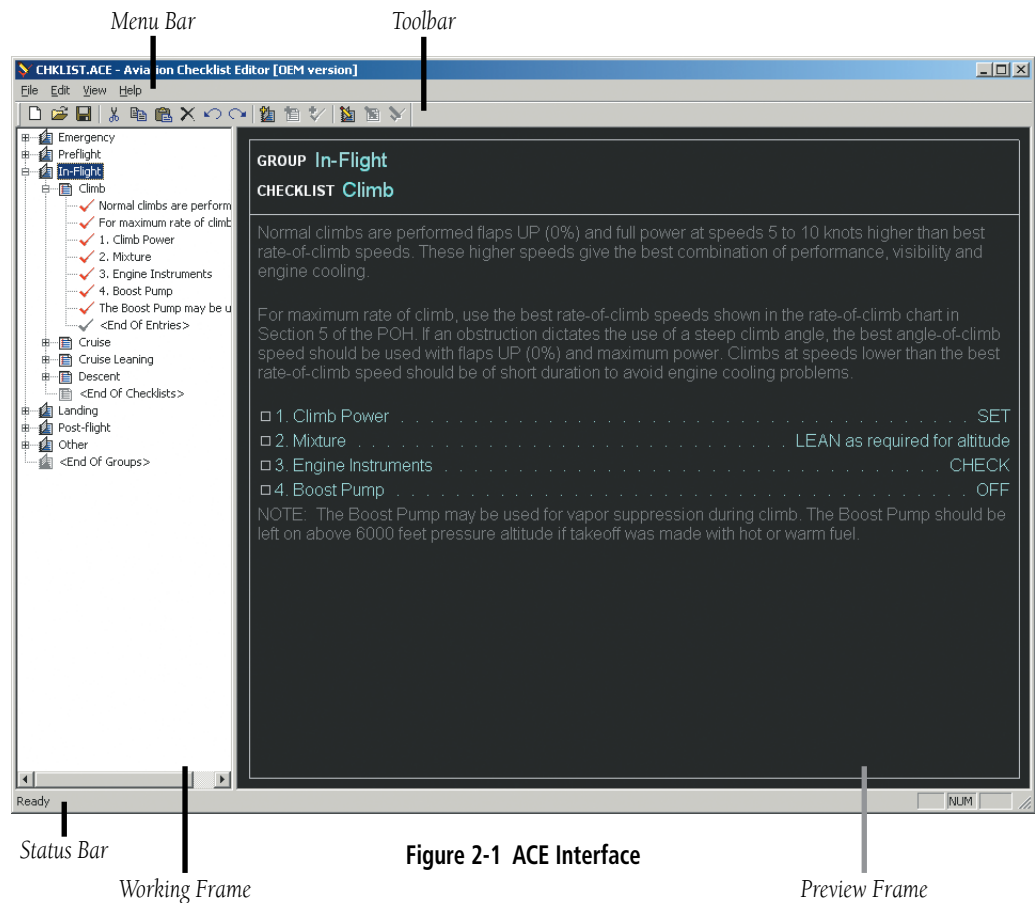


Figure 2-1 ACE Interface

## Menu Bar

The menu bar features the following menus (menu options are listed in parentheses):

- **File** (New, Open, Save, Save As, Exit)
- **Edit** (Undo, Redo, Cut, Copy, Paste, Delete, Add New Group, Add New Checklist, Add New Entry, Group Properties, Checklist Properties, Entry Properties, File Properties)
- **View** (Toolbar, Status Bar)
- **Help** (ACE Help, About ACE)

## Frames

ACE displays two (2) vertically tiled frames. The left frame—the working frame—contains the document outline from which the user can build the aviation checklist file, while the right frame—the preview frame—shows a document preview and can only be modified through the left frame.

## Toolbar

The ACE toolbar helps to expedite action commands and is composed of fifteen command icons, as shown in Figure 2-2. The ACE toolbar can either be hidden or shown below the menu bar by clicking the 'View' menu, then by selecting 'Toolbar'. When the toolbar is shown, a check mark is displayed in the 'View' menu to the left of the 'Toolbar' menu option. Conversely, no check mark is displayed to the left of this menu option if the toolbar is hidden.



**NOTE:** When the mouse cursor is placed over a command icon, a tag describing the command icon in question appears below the mouse cursor.



**NOTE:** The toolbar cannot be customized.

## Status Bar

The status bar can either hidden or shown at the bottom of the interface by clicking the 'View' menu, then by selecting 'Status Bar'. When the status bar is shown, a check mark is displayed in the 'View' menu to the left of the 'Status Bar' menu option. Conversely, no check mark is displayed to the left of this menu option if the status bar is hidden.



**NOTE:** The status bar displays information on the mouse cursor location. For instance, if the mouse cursor is placed over the 'Cut' icon, the words 'Cut the Item' appear in the status bar.



**NOTE:** When the mouse cursor is not over an active part of the interface (i.e., if it is neither over the menu bar commands, nor over the toolbar icons), the status bar displays the word 'Ready'.

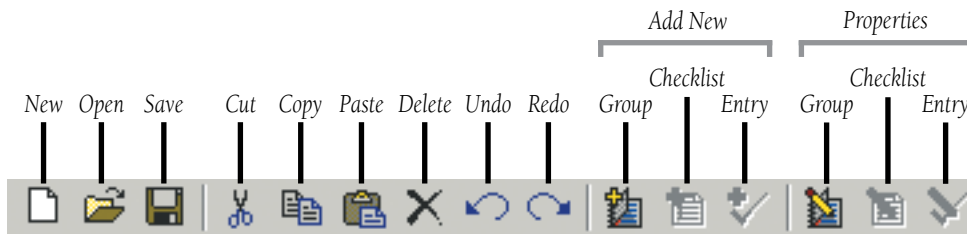


Figure 2-2 ACE Toolbar

## 2.2 WORKING WITH ACE FILES



**NOTE:** *G1000 ACE files provided by the aircraft manufacturer should not be edited by the customer.*

### Creating a New ACE File

To create a new ACE file, click the 'File' menu, then click 'New', or click the 'New' icon located on the toolbar. ACE displays a new file composed of a working frame containing the highlighted character string '<End of Groups>' (preceded by a grayed-out group icon) and a blank, gray preview frame, as shown in Figure 2-3.



**NOTE:** *When the ACE application is opened, a new ACE file entitled "chklist" is automatically presented to the user.*

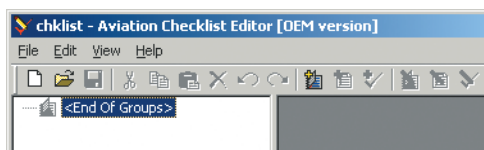


Figure 2-3 New ACE Document



**NOTE:** *Only one file can remain open at a time. Thus, if an ACE file is already open and the user opens or creates another ACE file, ACE first closes the opened file before opening or creating the newly requested one (a prompt to save the displayed file is presented beforehand, as appropriate).*

### Opening an Existing ACE File

To open an ACE file, click the 'File' menu, then click 'Open...', or click the 'Open' icon located on the toolbar.



**NOTE:** *Links to the last four (4) distinct opened ACE files are displayed in the 'File' menu, above the 'Exit' menu option.*

### Saving an ACE File

To save an ACE file, click the 'File' menu, then select the 'Save' menu option, or click the 'Save' icon located on the toolbar.

An ACE file can also be saved with a new file name by clicking the 'File' menu and selecting the 'Save As...' menu option.



**NOTE:** *Neither a new blank ACE file, nor an already saved ACE file can be saved with the 'Save' menu option; the 'Save As...' menu option is the only save menu option available in this case.*



**NOTE:** *All ACE files names end in the extension ".ACE".*



**NOTE:** *Before uploading the ACE checklist file to a Secure Digital (SD) card for the purpose of transferring the checklist to an ACE compatible product, consult the appropriate OEM or Garmin documentation for applicable file name.*

### Closing an ACE File

ACE files can only be closed by closing the ACE application or by opening another ACE document. To close ACE, click the 'File' menu, then click 'Exit', or click the 'x' icon located at the top right corner of the application interface.

## Checking or Editing File Properties

The following information may be entered in the Ace Properties window:

- Checklist Name
- Aircraft Make and Model
- Aircraft Information  
(i.e., aircraft-specific identification)
- Manufacturer Identification
- Copyright Information
- Default Group
- Default Checklist

All of the user-selected information that appears on the Ace Properties window is displayed on the ACE compatible product display once the corresponding ACE file has been loaded onto the system. For example, the group and checklist selected as default items are automatically displayed when the ACE checklist is first accessed on the ACE compatible product.

### Opening the Ace Properties window (Figure 2-4):

1. Click the 'Edit' menu.
2. Select the 'File Properties...' menu option.

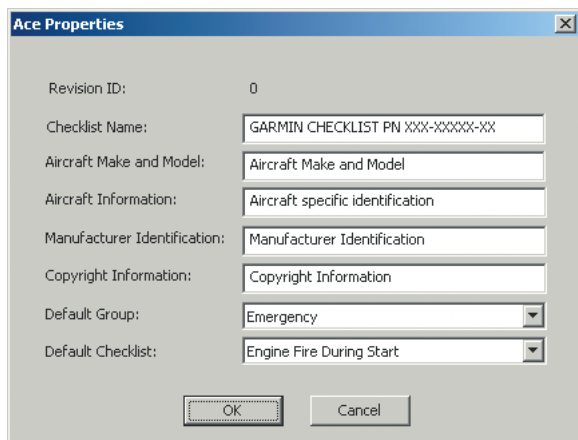


Figure 2-4 Ace Properties Window

## Transferring ACE Files to the ACE compatible product

ACE files can be transferred to the system via the SD card (Integrated Flight Deck Systems must use the SD card that contains terrain information).

### To transfer ACE files to an SD card:

- 1a. **If the ACE file is open**, use the 'Save' or 'Save As...' File menu option to save the ACE checklist to the root directory of the SD card.
- 1b. **If the ACE file is not open**, copy this checklist file via the file browser application to the root directory of the SD card.



**NOTE:** In order to be recognized by the ACE compatible product System, the ACE file must be named according to the applicable OEM or Garmin documentation.

### Uploading ACE files onto the Integrated Flight Deck System:

1. Ensure that the system is powered off before inserting the SD card.
2. Insert the SD card to which the desired ACE checklist file has been copied into the SD card slot (bottom slot for Integrated Flight Deck systems (Figure 2-5).

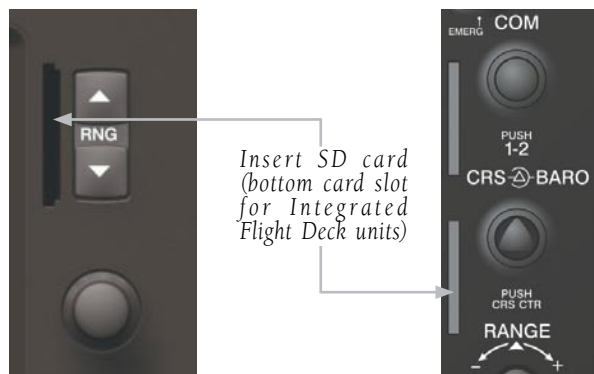


Figure 2-5 SD Card Insertion

## 2.3 BUILDING ACE DOCUMENTS

### Groups, Checklists and Entries

To build an aviation checklist file, the user should create a number of groups, checklists, and entries.

#### Groups

A group is a set of checklists such as that containing preflight procedures or in-flight operations.



**NOTE:** The group containing the emergency procedures should ALWAYS be the first group that appears in the ACE file working frame hierarchy so that this group can be the group that is automatically displayed on the MFD when the **EMERGENCY** softkey of the Checklist Page is pressed.

#### Checklists

A checklist is a subset of a group and is typically composed of more than one entry. An instance of a checklist title under the “In-Flight” group could be “Climb”, as shown in Figure 2-6.

#### Entries

An entry is a subset of a checklist and can be formatted in various ways depending on the type of information that it is meant to present.

The following entry types are available:

- Plain Text – used for paragraphs that do not constitute notes, subtitles, warnings, cautions, or challenges.
- Note
- Subtitle – title of a section within a checklist.
- Warning
- Caution
- Challenge – if appearing without a response, a challenge represents an action to be taken, as in “2. Maintain directional control with the brakes and rudder.” A challenge can also be the title of an action if it appears with a response. For instance, “4. Boost Pump” could be a challenge and “OFF” could be its response.

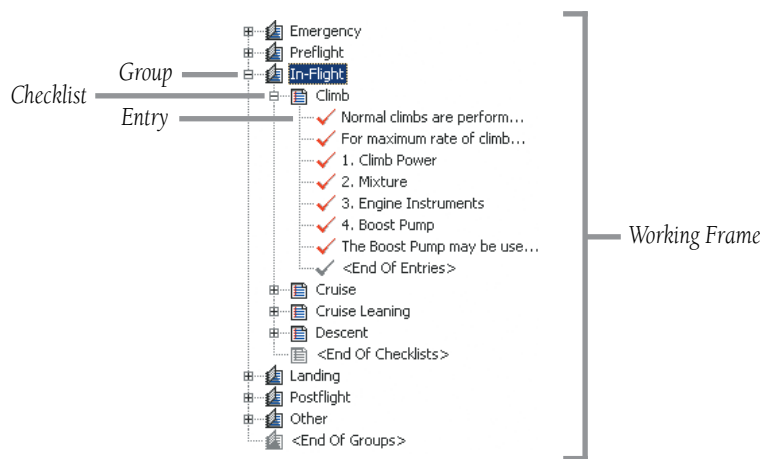


Figure 2-6 Groups, Checklists and Entries

## Creating Groups

ACE offers the following ways to create groups:

- By clicking the 'Edit' menu, then by selecting the 'Add New Group...' option.
- By right-clicking a group, then by selecting the 'Add New Group...' option.
- By clicking the 'Add New Group' icon located on the toolbar.



'Add New Group' Icon



**NOTE:** In order to create a new group, a group must be highlighted in the left frame. When any group is highlighted, options associated with groups are selectable by the user, while options associated with checklists and entries are grayed out and thus not available to the user.



**NOTE:** Upon the creation of a group, a new checklist containing a new entry is automatically created under the new group.



**NOTE:** To create a group at the end of the sequence of groups, highlight the '<End Of Groups>' character string by clicking it. To create a group before a specific group, highlight the latter by clicking it and use one of the aforementioned group creation procedures.

## Creating Checklists

ACE offers the following ways to create checklists:

- By clicking the 'Edit' menu, then by selecting the 'Add New Checklist...' option.
- By right-clicking a checklist, then by selecting the 'Add New Checklist...' option.
- By clicking the 'Add New Checklist' icon located on the toolbar.



'Add New Checklist' Icon



**NOTE:** To create a checklist at the end of the sequence of checklists, highlight the '<End Of Checklists>' character string by clicking it. To create a checklist before a specific checklist, highlight the latter and use one of the aforementioned checklist creation procedures.

## Creating Entries

ACE offers the following ways to create entries:

- By clicking the 'Edit' menu, then by selecting the 'Add New Entry...' option.
- By right-clicking an entry, then by selecting the 'Add New Entry...' option.
- By clicking the 'Add New Entry' icon located on the toolbar.



'Add New Entry' Icon



**NOTE:** To create an entry at the end of the sequence of entries, highlight the '<End Of Entries>' character string by clicking it. To create an entry before a specific entry, highlight the latter and use one of the afore-mentioned entry creation procedures.

## Cutting, Copying and Deleting Groups, Checklists, or Entries

When selected/highlighted, a group, checklist, or entry can be cut, copied, or deleted in the following ways:

- By clicking the 'Edit' menu, then by selecting the 'Cut', 'Copy', or 'Delete' option.
- By right-clicking, then by selecting the 'Cut', 'Copy', or 'Delete' option.
- By clicking the 'Cut', 'Copy', or 'Delete' icon located on the toolbar.
- By using the appropriate keyboard key or keystroke combination (i.e., "Ctrl-X", "Ctrl-C", and "Del" respectively).

## Pasting Groups, Checklists, or Entries

When a group, checklist, or entry has been copied (and is still in the memory buffer), it can be pasted in the following ways:

- By clicking the 'Edit' menu, then by selecting the 'Paste' option.
- By right-clicking, then by selecting the 'Paste' option.
- By clicking the 'Paste' icon located on the toolbar.
- By using the "Ctrl-V" keystroke combination.

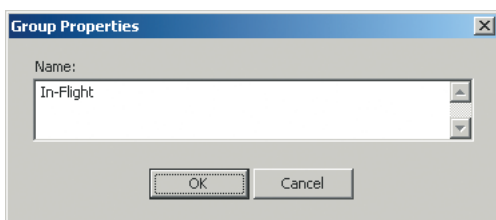


Figure 2-7 Group Properties Window

## Editing Group, Checklist, and Entry Properties

ACE offers the following ways to edit properties related to groups, checklists, or entries:

- By clicking the 'Edit' menu, then by selecting the 'Group Properties...', 'Checklist Properties...', or 'Entry Properties...' option.
- By right-clicking the group, checklist, or entry of interest, then selecting the 'Properties' option.
- By double-clicking the group, checklist, or entry of interest.
- By clicking the properties icon of the highlighted item (i.e., group, checklist, or entry).



'Group Properties' Icon



'Checklist Properties' Icon



'Entry Properties' Icon

## Editing properties

1. Use one of the methods listed above to open the Properties window of a group, checklist, or entry.
2. Edit properties as appropriate.
3. Click 'OK' to apply the properties and close the Properties window.

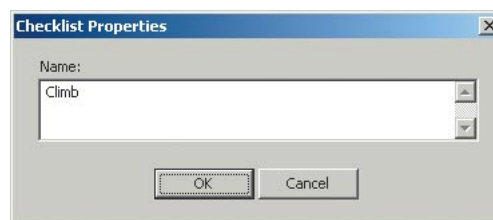


Figure 2-8 Checklist Properties Window

## Editing Entry Properties

Whereas group and checklist properties are limited to the group and checklist names respectively, entry properties (Figure 2-9) include the following items:

- Text
- Response
- Entry Type
- Justification
- Number of blank lines to follow entry



**NOTE:** By default, a new entry is always formatted as a left-justified Challenge with no blank lines to follow the entry and with the words “New Entry” in the Entry Properties Text box.

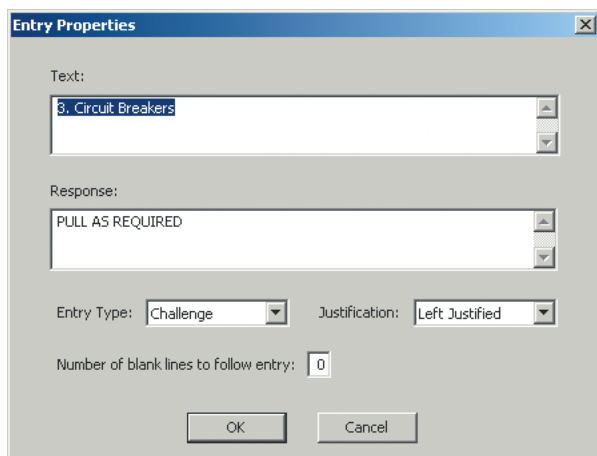


Figure 2-9 Entry Properties Window

## Text

All keyboard characters and digits may be entered in the Text box. However, ACE does not recognize the following symbols:

` = [ ] ~ @ ^ { } |



**NOTE:** If the Text box is left empty upon clicking ‘OK’ in the Entry Properties window, ACE automatically enters the word “Entry” in the Text box. On the preview window, the ACE-inserted word “Entry” is preceded by “NOTE: ”, “WARNING: ”, or “CAUTION: ”, if appropriate.

## Response

The Response box should contain text associated with the response to a challenge. For example, if “1. Mixture” is entered in the Text box of a Challenge entry, “CUTOFF” could be entered in the Response box.



**NOTE:** The Response box is only usable if the entry type has been set to ‘Challenge’. When other types of entries are selected, the Response box is grayed out.



**NOTE:** A challenge does not necessarily need to be accompanied by a response.



Entry Type

The following text formatting options are available from the Entry Type pulldown list (Figure 2-10):

- Plain Text – white text
- Note – gray text preceded by the word “NOTE: ”
- Subtitle – white text in boldface format
- Warning – yellow text preceded by the word “WARNING: ”
- Caution – white text preceded by the word “CAUTION: ”
- Challenge – cyan text preceded by a hollow white box (text entered in the ‘Response’ box always appears right-justified on the checklist).



**NOTE:** Capitalization is user-defined, except for the words “NOTE”, “WARNING” and “CAUTION”, which automatically precede the text entered for the ‘Note’, ‘Warning’ and ‘Caution’ entry types.

Justification

The following text justification options for the entry types are available from the Justification pulldown list (Figure 2-11):

- Left Justified
- Indent 1 Level – corresponds to one (1) left tab
- Indent 2 Levels – corresponds to two (2) left tabs
- Indent 3 Levels – corresponds to three (3) left tabs
- Indent 4 Levels – corresponds to four (4) left tabs
- Center (not available for the ‘Challenge’ entry type)

Number of Blank Lines to Follow Entry

A number from zero (0) to ninety-nine (99) can be entered in the ‘Number of blank lines to follow entry’ box in order to add blank lines between checklist entries.

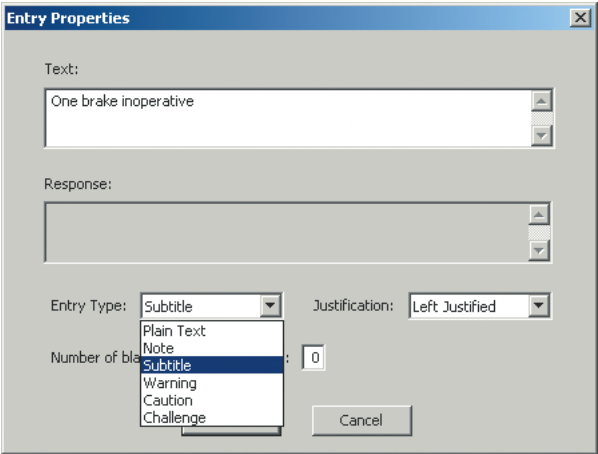


Figure 2-10 Entry Type Pulldown List

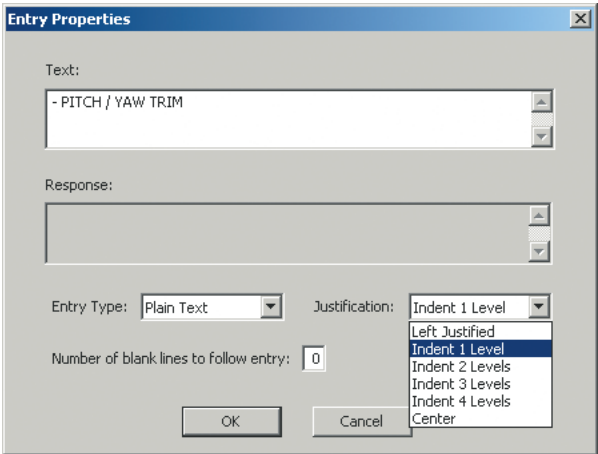


Figure 2-11 Justification Pulldown List

## 2.4 USING THE HELP MENU

The Help menu contains the following menu options:

- ACE Help (Figure 2-12) – activates the Help capability.
- About ACE (Figure 2-13) – displays the ACE software version number.

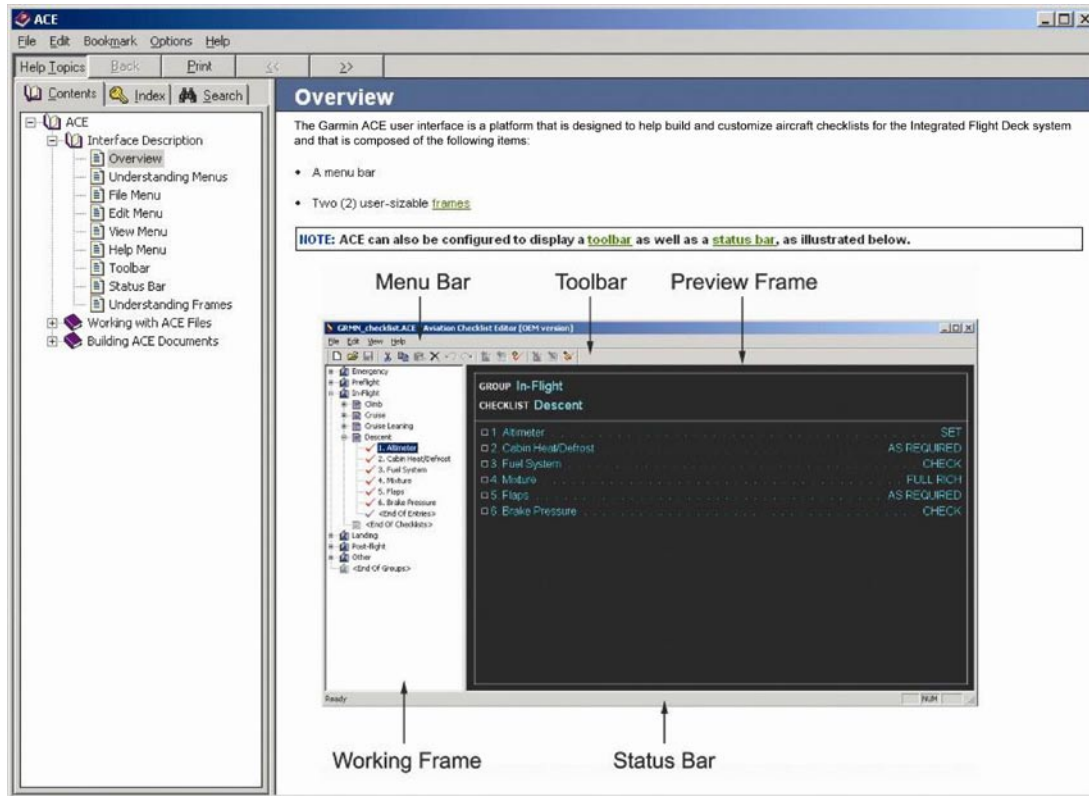


Figure 2-12 ACE Help



Figure 2-13 About ACE





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