



# Tank Car Application for Approval & Certification of Construction User Guide



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## Tank Car Application for Approval and Certificate of Construction

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## Tank Car Application for Approval and Certificate of Construction

AAR Manual of Standards and Recommended Practices, Section C Part III, Specifications for Tank Cars (M-1002) Chapter 1, section 1.4 General states the following: Paragraph 1.3.6 of this specification and U.S. Department of Transportation (DOT) and Transport Canada (TC) regulations require AAR Tank Car Committee (Committee) approval of designs and materials used for the construction, conversion, alteration, or welded repair of tank car tanks. The Committee has delegated to the AAR Safety and Operations Department the authority on its behalf to approve applications provided that they have been reviewed and deemed to be in accord with AAR, DOT, and TC requirements by an independent third party (ITP) that has been certified by the Committee in accord with paragraph 1.5, or, they meet the requirements for precedent approval outlined in Paragraph 1.4.2.3.

Procedures for Securing Approval can be found within Chapter 1 of the AAR Manual of Standards and Recommended Practices Section C-III Specifications for Tank Car (M-1002).

The Tank Car Application for Approval and Certificate of Construction makes it easier and more efficient for the Tank Car Builder, ITPs and the AAR to process tank car applications. The system provides a centralized location for all documents related to tank car application process including the application, drawings, Independent Third Party (ITP) checklists, as well as automated billing for certification services. This system makes it easier for AAR to effectively manage and respond to customer's needs. Features include:

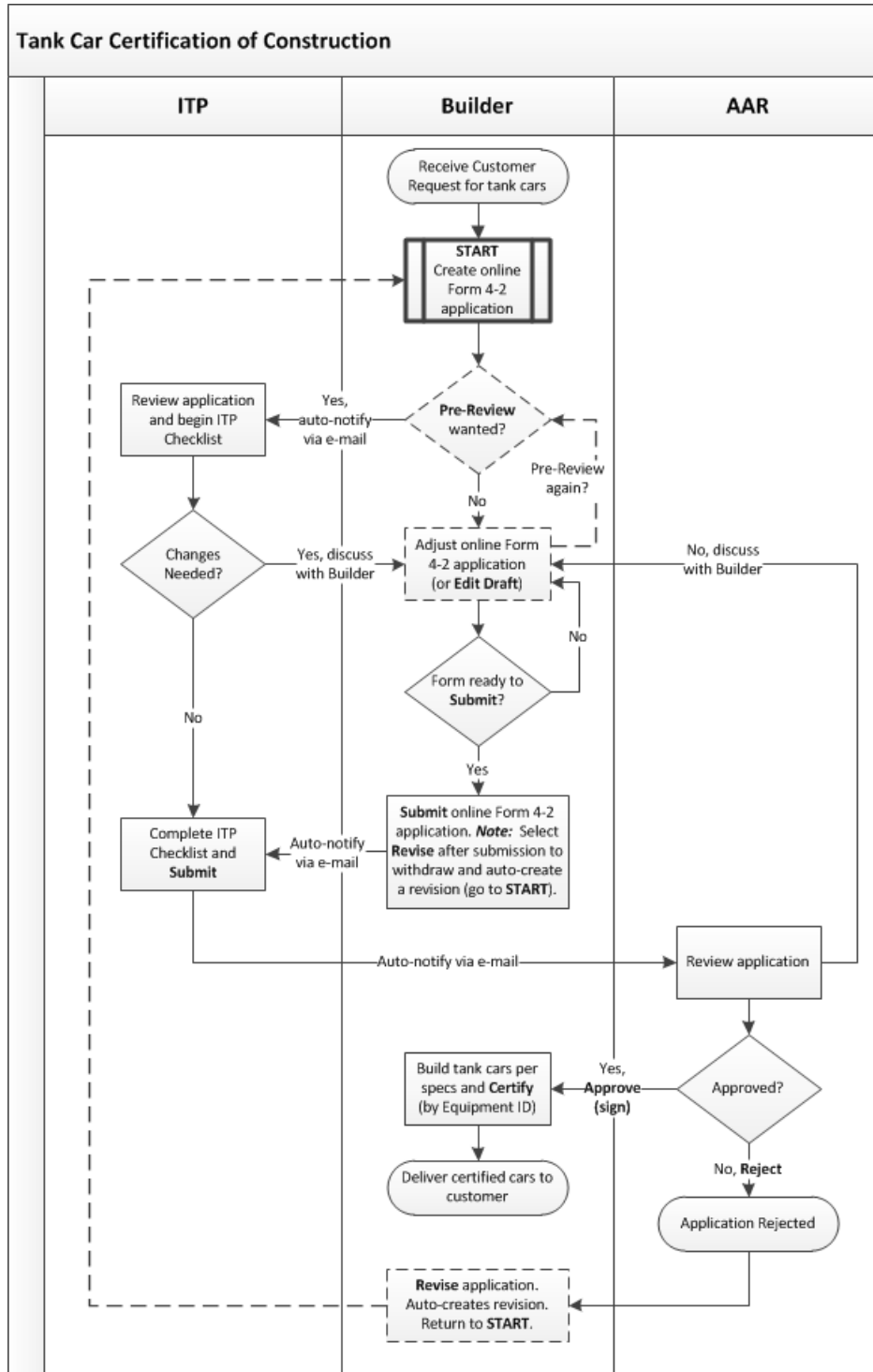
- Allows authorized tank car builders to electronically submit tank car applications (includes Form AAR 4-2 and Form 4-2.1 supplementary page), including drawings, for review and approval
- Allows authorized Independent Third Party engineers to review applications online and electronically complete the ITP checklist (Form AAR 4-2, Attachment 1) for each application
- Allows the AAR to review applications from the builders and approve or reject those applications
- Allows the AAR to review ITP checklist
- Allows the Railinc accounting department to create invoices for submission, revision, and review services
- Allows authorized users the ability to query their own applications
- Allows the builder to certify the AAR approved tank car application resulting in the tank car(s) certification of construction

This system has been built in such a way that it can be expanded to integrate other types of AAR applications and processes. Other expansion applications the AAR Safety and Operations Department might include in the future: PRD/valve/fitting new and renewal applications (AAR 4-3, 4-5 and 4-7 Forms), tank car facility certifications, tank car service trials, and remote monitoring equipment applications.

An overview of the system flow is shown in [Exhibit 1](#). Optional flows and activities are shown with dotted lines.

# Tank Car Application for Approval and Certificate of Construction Workflow

Exhibit 1. Tank Car Application for Approval and Certificate of Construction Workflow



## User Guide Structure

This document has been organized to reflect the application menu order of the Tank Car Application for Approval and Certificate of Construction. It describes use and interpretation of interface elements in the Tank Car Application for Approval and Certificate of Construction.

The Tank Car Application for Approval and Certificate of Construction User Guide is in an “offset” style. Dictionary-like retrieval text is used in the header.

Railinc Single Sign-On (SSO) information is included, and references to the Railinc Single Sign-On User Guide added. SSO information for the Tank Car Application for Approval and Certificate of Construction administrators is also in the [Railinc Single Sign-On User Guide](#).

Whenever possible the term “select” is used to indicate making a choice using either the mouse or keyboard. Left-clicking generally activates a control or selects an item. Where a double-click is required, it is specified. Typical keyboard selection equivalents are described in [Interface Elements](#) starting on page [8](#).

Underlined blue links are functional links to go to another location in the user guide.

## Web Interface

The Tank Car Application for Approval and Certificate of Construction interface provides the same navigational tools found in most Windows applications and Internet sites. This section provides basic explanations of the elements and components that assist in moving through the various pages of the application to complete tasks. Mouse and keyboard equivalents are discussed for each element.

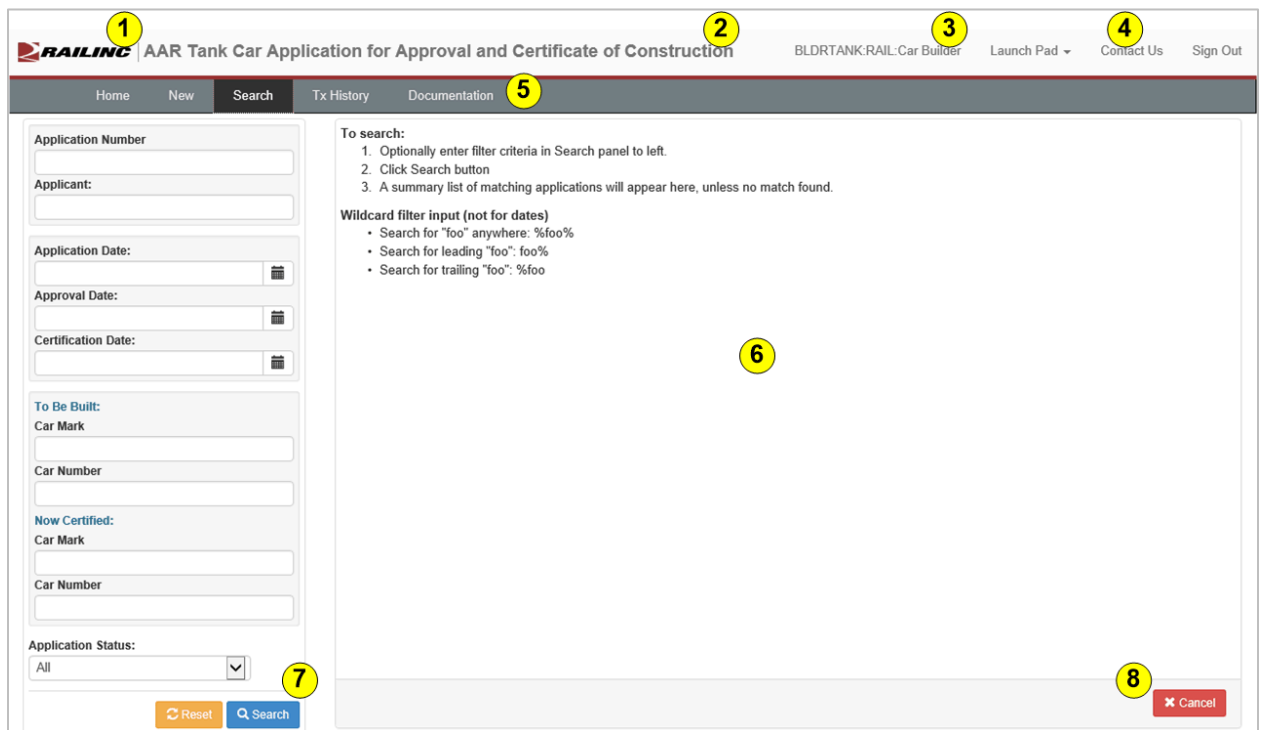
## General Users Interface and System Requirements

General user interface information (typical keyboard selection equivalents and shortcuts), as well as system requirements are available in the [Railinc UI Dictionary](#). Application-specific interface information is described in the next section.

## Web Page Layout

Each page in Tank Car Application for Approval and Certificate of Construction has the same structure; however menu items are different depending on the user's role.

**Exhibit 2. Web Application Page Layout**



- 1 **Logo**—Railinc logo.
- 2 **Application Title**—Tank Car Application for Approval and Certificate of Construction.
- 3 **Sign-On Information**—Shows the currently logged on user.
- 4 **Navigational Links**—Links for the following functions:



- **Launch Pad**—opens user’s Launch Pad page in a new window. Close the window to return to Tank Car Application for Approval and Certificate of Construction.
  - **Contact Us**—opens a page of contact information for the Railinc Customer Success Center in a new window. Close the window to return to Tank Car Application for Approval and Certificate of Construction.
  - **Sign Out**—logs out of all SSO applications and returns to the Railinc SSO Login page.
- 5 Main Menu**—The options on this menu allow user to perform the various functions of the application. This can include New, Search, and Documentation. Selecting populates the content area at the right. Different menu options are available depending on assigned access rights.
- 6 Page content area**—The area of the page where data is displayed and tasks are executed (shown outlined with red dashes). These vary and may include a number of different elements, which are described in the next sections.
- 7 and 8 Executables**—Command buttons for the displayed content. This can include View, Search, Reset, Cancel, Revise, Clone, and Submit. These vary by user role. See [Exhibit 12](#).

## Interface Elements

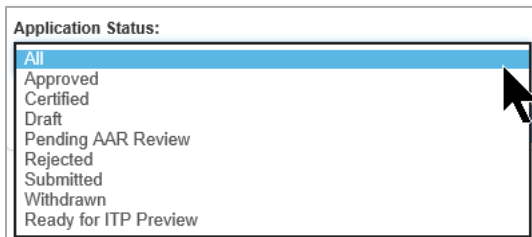
### Application Menu

The Tank Car Application for Approval and Certificate of Construction menu has different choices based on assigned access rights, including New, Search, and Documentation. Selecting an item populates the content area at the right. Menu items must be selected using a pointing device (e.g., mouse or touchpad).

### Drop-Down Text Boxes

Some text boxes have arrows located on the right side. These arrows indicate that predetermined input options are available for that text box. Selecting the arrow displays a list of the available data entry options. Alternatively, press **Ctrl+ ↓** (down arrow key) to open a focused drop-down. Use the up and down cursor movement keys (↑↓) to navigate through the choices. Select one of the available choices by clicking it, or pressing **Enter** when the item is highlighted.

**Exhibit 3. Drop-Down Text Box**



Longer drop-down lists can have a scroll bar at the right, and most long lists also offer first letter navigation, where typing a letter or number scrolls to that part of the list.

### Mandatory Fields

Fields that are mandatory have a red asterisk beside the field name. Additionally, when exiting an incomplete mandatory field, a warning is displayed ([Exhibit 4](#)).

**Exhibit 4. Mandatory Field Warning**



**Check Boxes**

Select an empty check box by clicking with mouse or pressing the spacebar when the check box is focused. A selected check box contains a check mark. To uncheck, select again.

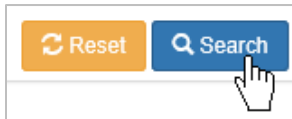
**Exhibit 5. Checked Check Box**



**Command Buttons**

Command buttons are used to execute tasks on web pages. Command buttons are generally at the bottom of Tank Car Application for Approval and Certificate of Construction content areas. To activate a command button, select the button with a left mouse click, or press **spacebar** when the button has focus as shown in [Exhibit 6](#).

**Exhibit 6. Command Button (Search button has focus)**



[Exhibit 7](#) contains general descriptions of buttons found throughout the Tank Car Application for Approval and Certificate of Construction interfaces.

**Exhibit 7. Command Buttons**

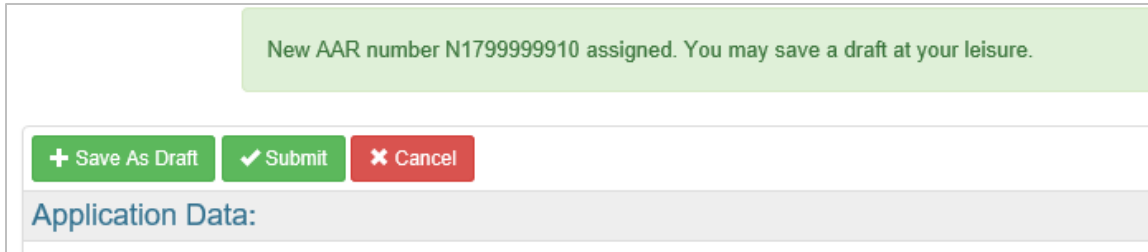
Name	Function
<b>Add Row</b>	Adds diagram row to application.
<b>Apply Signature</b>	Electronically signs approvals.
<b>Cancel</b>	Causes the system to discard any work performed on the current page. The system returns to the page representing the beginning of the current task or subtask.
<b>Clear</b>	The system clears data from a comment field text box.
<b>Clone</b>	The system copies an eligible selected application.
<b>Edit Draft</b>	Open an draft application in edit mode. Only available to builder role users.
<b>Edit Note</b>	Opens a supplemental note box for editable data and drawing fields.
<b>ITP Preview</b>	Send the draft application to ITP for a preliminary review.
<b>OK</b>	Confirms an action or acknowledges an action has taken place.
<b>Remove Row</b>	Removes diagram row from application.
<b>Revise</b>	Allows a user to create a revision for a rejected, approved, or certified application.
<b>Save</b>	Saves entered data changes in comment text boxes.

<b>Name</b>	<b>Function</b>
<b>Save as Draft</b>	Saves entered data changes (e.g., changes to drafts).
<b>Search</b>	Executes a specified search.
<b>Submit</b>	Submits completed actions to continue the application approval process.
<b>Upload</b>	Uploads selected related drawings to application.
<b>View</b>	Opens a View panel which allows the user to execute specific tasks.
<b>Yes/No</b>	Responses for Tank Car Application for Approval and Certificate of Construction confirmation panels, to either continue with the requested action or not.

## Message Areas

When an action has been requested and confirmed, Tank Car Application for Approval and Certificate of Construction displays a success message at the top of the content area ([Exhibit 8](#)).

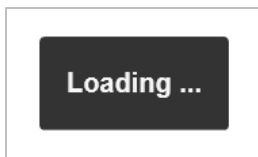
**Exhibit 8. Success Message after drop equipment action**



Messages in green are generally confirmations of success.

- Messages in red are warnings or errors (input validation errors).
- Messages in yellow are informational.

**Exhibit 9. Other Message Displays**



## Icons

Icons are graphic images used to display conditions, status, or to invoke secondary searches.

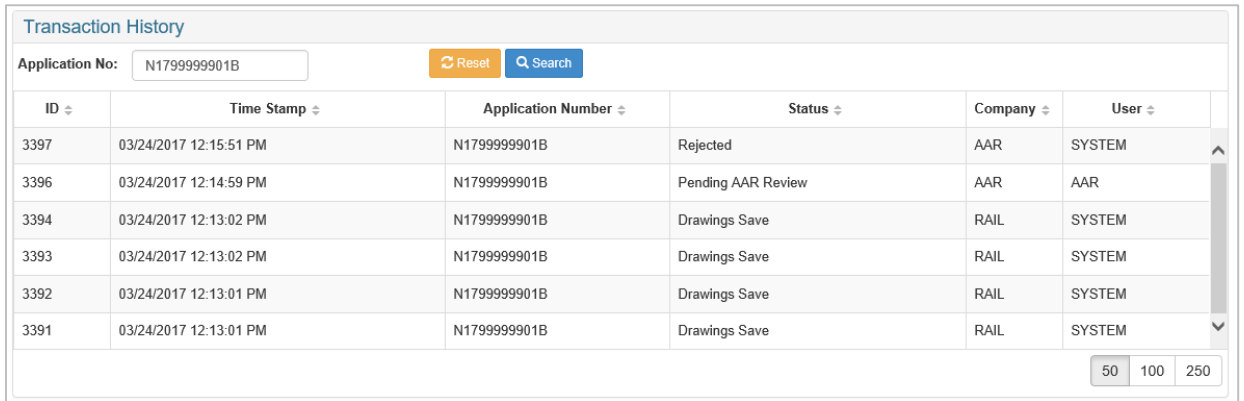
**Exhibit 10. Icons**

Icon	Description
<b>Table List Manipulation</b>	
	Sort Column Descending. Appears in table column headings.
	Sort Column Ascending. Appears in table column headings.
<b>Form Input</b>	
	Click to insert a comment to clarify input. Appears when empty, toggles with pencil icon when there is a comment to edit.
	Comment icon becomes a pencil icon after a comment is entered to show it is editable.
	Click to remove both a drawing and the note for the related drawing. No removal confirmation is given.
	Click the information icon for details about a field.
	Click the calendar icon to choose a date.

## Tables

Many web pages use tables to display complex lists, and to organize data.

**Exhibit 11. Table**



The screenshot shows a web interface titled "Transaction History". At the top, there is a search bar labeled "Application No:" containing the value "N1799999901B". To the right of the search bar are two buttons: "Reset" (with a circular arrow icon) and "Search" (with a magnifying glass icon). Below the search bar is a table with the following columns: "ID", "Time Stamp", "Application Number", "Status", "Company", and "User". The table contains six rows of data. At the bottom right of the table, there are three buttons for pagination: "50", "100", and "250". A vertical scrollbar is visible on the right side of the table, indicating that the table content extends beyond the visible area.

ID	Time Stamp	Application Number	Status	Company	User
3397	03/24/2017 12:15:51 PM	N1799999901B	Rejected	AAR	SYSTEM
3396	03/24/2017 12:14:59 PM	N1799999901B	Pending AAR Review	AAR	AAR
3394	03/24/2017 12:13:02 PM	N1799999901B	Drawings Save	RAIL	SYSTEM
3393	03/24/2017 12:13:02 PM	N1799999901B	Drawings Save	RAIL	SYSTEM
3392	03/24/2017 12:13:01 PM	N1799999901B	Drawings Save	RAIL	SYSTEM
3391	03/24/2017 12:13:01 PM	N1799999901B	Drawings Save	RAIL	SYSTEM

- Tables longer than one screen have a scroll bar at the right.
- Heading Links at the top of some table columns provide *sorting* capability, ascending or descending.

## Getting Started

The Tank Car Application for Approval and Certificate of Construction is accessed using Railinc Single Sign-On (SSO). If you have an SSO login, go to the Railinc portal at <https://public.railinc.com/> and log into SSO by selecting the **Customer Login** link in the top right corner. Enter your user ID and password in the fields and select **Sign In**.

## Register to Use Railinc Single Sign-On (SSO)

Every user of the Tank Car Application for Approval and Certificate of Construction must register with Railinc for a SSO account. It is beyond the scope of this document to describe the use of SSO. Refer to [Railinc Single Sign-On User Guide](#). Once SSO registration is complete, then users must request access to Tank Car Application for Approval and Certificate of Construction within SSO.

## Role-Based Application

Access and authorization for Tank Car Application for Approval and Certificate of Construction is determined when requesting access through Railinc SSO. Below is a complete list of Tank Car Application for Approval and Certificate of Construction roles as seen in SSO.

**Exhibit 12. User Roles and Tasks**

Roles	Task	Description
<ul style="list-style-type: none"> <li>Tank Car AAR Reviewer</li> </ul>	<b>View, Approve, or Reject tank car applications</b>	<ul style="list-style-type: none"> <li>Review applications</li> <li>Review ITP Checklists</li> <li>Approve applications</li> <li>Reject applications</li> <li>View applications and checklists</li> </ul>
<ul style="list-style-type: none"> <li>Tank Car Builder</li> <li>Tank Car Builder Assistant (assistant role cannot submit applications)</li> </ul> <p>Note: A <b>new tank car builder</b> must contact AAR to obtain access to the application and become associated with an ITP. The main contact for each tank car builder will be contacted by AAR if any requests are made for additional tank car builder roles, tank car certifier role, and/or tank car builder assistant role to ensure that they are an approved agent for the company.</p>	<b>Create, Modify, Query, View, and Certify tank car applications</b>	<ul style="list-style-type: none"> <li>Add (new or clone) application for Tank Car Certificate of Construction</li> <li>View applications</li> <li>Modify applications</li> <li>Request Pre-review</li> <li>Add/remove drawings</li> <li>Submit applications</li> <li>Withdraw submitted applications</li> <li>Certify Equipment IDs to an approved application</li> </ul>
<ul style="list-style-type: none"> <li>Tank Car Certifier</li> <li>Tank Car Builder</li> </ul>	<b>Certify tank car applications</b>	<ul style="list-style-type: none"> <li>View applications</li> <li>Certify Equipment IDs to an approved application</li> </ul>
<ul style="list-style-type: none"> <li>Tank Car ITP Reviewer</li> </ul>	<b>ITP Checklist activities and query applications</b>	<ul style="list-style-type: none"> <li>Create ITP Checklist</li> <li>Edit Checklist</li> <li>Submit to AAR for approval</li> <li>View applications</li> <li>View drawings for applications</li> </ul>

## Allowable Actions by Status and User Role

After locating a Tank Car application using a search (see [Search](#) on page 31), based on user role and the application's status, the following actions shown in [Exhibit 13](#) can be performed.

**Exhibit 13. Role/Status-Based Actions**

Status	Builder	ITP	AAR
Approved	V1, L, C, R, M	V1, V2, M	V1, V2, D, M
Certified	V1, L, M	V1, V2, M	V1, V2, D, M
Draft	E, V1, M, S	—	—
Pending AAR Review	V1, L, M, R	V1, V2, M	V1, V2, A, J, D, M
Ready for ITP Preview	E, V1, M, S	VI, V2, I, M	V1, V2, D, M
Rejected	V1, R, M	V1, V2, M	V1, V2, D, M
Submitted	L, R, V1, M	VI, V2, I, M	V1, D, M
Withdrawn	V1, M	V1, V2, M	V1, V2, D, M
<b>Legend:</b>		L = Clone (button)	M = Email (View panel)
A = Approve (View panel)		M = Email (View panel)	R = Revise (button, to withdraw )
C = Certify (View panel)		S = Submit (button)	V1 = View application/drawings (View panel)
D = Download CSV (View panel)		V2 = View checklist (View panel)	
E = Edit Draft (button)			
I = create/revise ITP checklist (View panel)			
J = Reject (View panel)			

## Requesting Tank Car Application for Approval and Certificate of Construction Access

After authorization to use Railinc SSO is received, the user must request role access to Tank Car Application for Approval and Certificate of Construction following the instructions in the [Railinc Single Sign-On User Guide](#).

### Exhibit 14. Request Application Access

The screenshot displays the 'Tank Car CoC' application interface. At the top, it says 'Tank Car CoC' and 'Tank Car Certificate of Construction Resource'. Below this is a progress bar with three steps: '1 Select Roles', '2 Confirm', and '3 Done'. The '1 Select Roles' step is active. There are five role selection options, each with a checkbox and a description:

- Tank Car AAR Reviewer ( MARK required )  
This role will allows users to view, approve or reject Tank Car Applications
- Tank Car Builder ( MARK required )  
This role will allows users to Create, Modify, Query, View and Certify Tank Car Applications
- Tank Car Builder Assistant ( MARK required )  
This role allows the user to carry out all builder activities, except submitting an AAR 4-2 application, on behalf of the given builder company
- Tank Car Certifier ( MARK required )  
This role allows the user to certify an AAR 4-2 application on behalf of the given builder company
- Tank Car ITP Reviewer ( MARK required )  
This role will allow users to perform activities related to ITP checklist and query approved Tank Car Applications

Below the roles is a 'Comments...' field with a character count '0/255'. At the bottom right, there are 'Return' and 'Next' buttons.

**Note:** Requesting a role does NOT imply automatic approval for the selected roles.

When email notification of access to Tank Car Application for Approval and Certificate of Construction is received, the user can login and begin using Tank Car Application for Approval and Certificate of Construction.



## Logging In

To log into Tank Car Application for Approval and Certificate of Construction:

1. Open your internet browser and enter <https://public.railinc.com> to open the Railinc website.
2. Select the **Customer Login** link in the upper right of the page. The Account Access page is displayed.
3. Enter your **User ID** and **Password**. Select **Sign In**. The Railinc Launch Pad is displayed.
4. In the My Applications section, select **Tank Car CoC**.
  - a. For the user who represents a **Builder**, the following Welcome page is displayed ([Exhibit 15](#)).

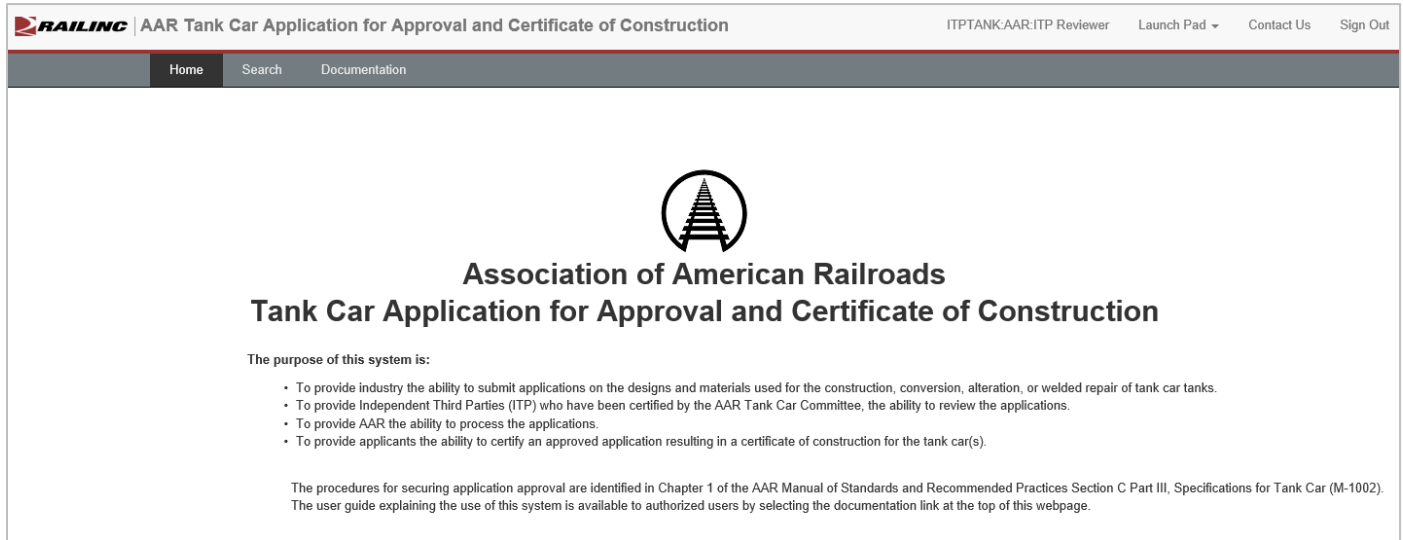
### Exhibit 15. Welcome Page - Builder Role



A main menu is displayed at the top. Continue by selecting a Tank Car Application for Approval and Certificate of Construction application menu item (refer to [Exhibit 17](#)).

- b. For the user who represents an *ITP*, the following Tank Car Application for Approval and Certificate of Construction Welcome page is displayed ([Exhibit 16](#)).

**Exhibit 16. Welcome Page - ITP Role**



Continue by selecting a Tank Car Application for Approval and Certificate of Construction application menu item (refer to [Exhibit 17](#)).

The Tank Car Application for Approval and Certificate of Construction Welcome page can have the following menu items:

**Exhibit 17. Menu Item Functions**

<b>Home</b>	Returns to the Home Page (similar to <a href="#">Exhibit 15</a> or <a href="#">Exhibit 16</a> )
<b><a href="#">New</a></b>	Allows builders to create a new application ( <a href="#">Exhibit 19</a> )
<b><a href="#">Search</a></b>	Allows all users to query tank car applications by various criteria ( <a href="#">Exhibit 36</a> )
<b><a href="#">Tx (Transaction) History</a></b>	Allows builders to view the transaction history of their applications ( <a href="#">Exhibit 60</a> )
<b><a href="#">Documentation</a></b>	Allows users to download the latest version of this User Guide ( <a href="#">Exhibit 63</a> ) and

**Note:** Menu content varies based on SSO role-based permissions granted. Refer to [Exhibit 14](#).

## Logging Out

Select the **Sign Out** link to end a Tank Car Application for Approval and Certificate of Construction session.

If multiple SSO applications are open (in separate browser windows), and the users wants to close only one, close the unwanted session window by **X**ing out or pressing **Alt +F4**. Do NOT select the **Sign Out** link. The Sign Out link ends the entire Single Sign-On session and closes *all* open SSO applications.

If the user session has been idle for over 30 minutes, the system will automatically time out and the user must log back in as directed.

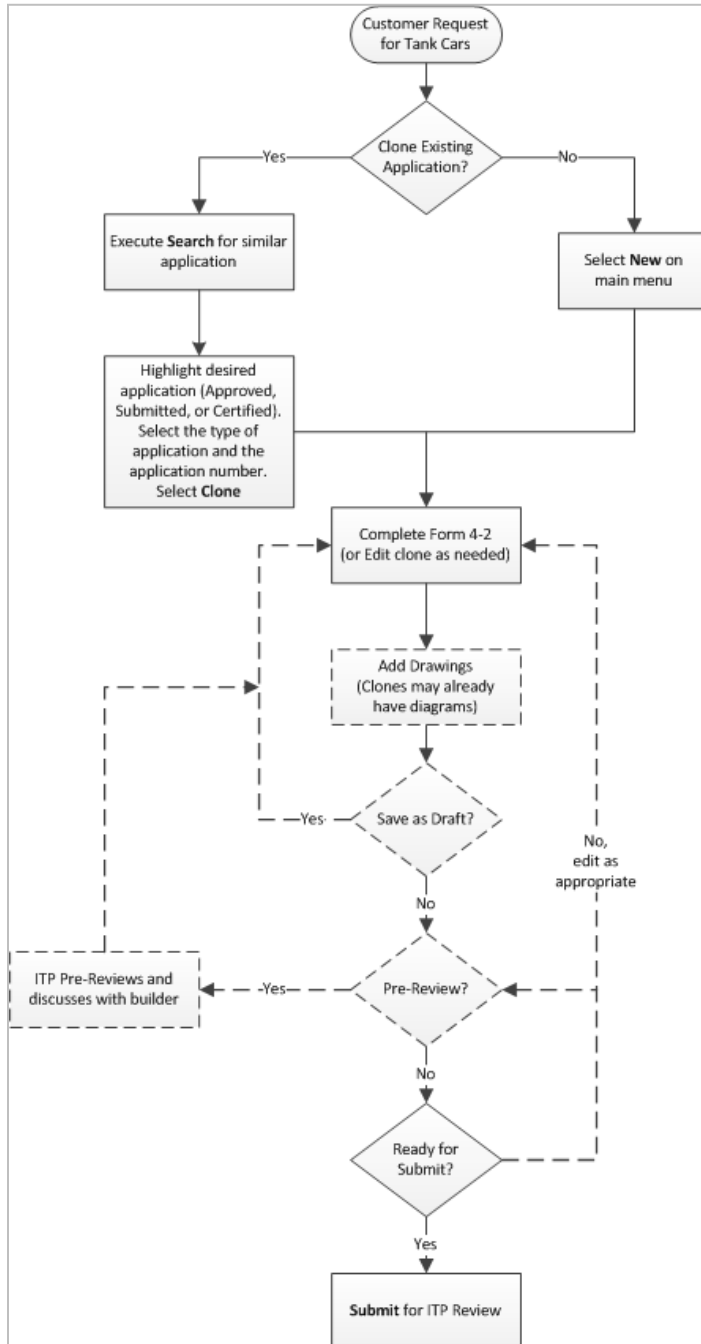
## New Menu Item

**Note:** These tasks can only be performed by user with either the SSO Tank Car *Builder* or *Builder Assistant* (except submitting applications) role assigned.

New applications can be built in one of two ways:

- 1) Select **New** menu item. Refer to [New Menu Item](#) on page 20.
- 2) **Clone** from the Search menu item. Refer to [Clone](#) on page 49.

**Exhibit 18. Create New Application Flow**



## New Menu Item

When an authorized user selects **New** on the Tank Car Application for Approval and Certificate of Construction main menu, the Application Data panel is displayed ([Exhibit 19](#)).

**Exhibit 19. New Application showing Application Data Fields 1–8**

The input is divided into three sections:

- Application Data (Fields 1–38)
- Drawings (Fields 39–54)
- Supplement Data (Entries by field/drawing number, usually notes to provide additional detail)

Click on the information icons (**i**) for details about a corresponding field

## Application Data

1. The very first decision is to select a Nature of Application (field 3.1). Complete field 3.1.
2. The Choose Year and Series Number pop-up is displayed ([Exhibit 20](#)).

**Exhibit 20. Choose Year and Series Number**

The screenshot shows a web form titled "Choose Year and Series Number". It contains the following elements:

- User's Mark:** RAIL
- Application Year:** A dropdown menu currently showing 2017.
- Available Series Numbers:** A list box containing numbers from 99999903 to 99999917. The number 99999903 is highlighted in blue.
- Buttons:** Three buttons at the bottom right: a green "Submit" button with a checkmark, an orange "Refresh" button with a circular arrow, and a red "Cancel" button with an 'X'.


3. First select the application year (up to five years in the future are available). Second, select an available series number (two-hundred per chosen year are available). Next, select **Submit**. By setting these values, and other fields in the form will be automatically populated (notably fields 1, 2, and 3).
4. Complete the remaining Application Data field using the guidance in [Field Definitions](#) on page 57. For each field:
  - a. Optional: Add/remove Comments as needed to clarify the application. Refer to [Comments](#) in the next section.
  - b. Optional: Select **Save as Draft** from the executable buttons provided at the bottom right hand corner of the web page to ensure no work is lost during input.
5. Before drawings can be added to the application, select **Save as Draft** from the executable buttons provided at the top left corner of the page.
6. Add applicable drawings. Refer to [Drawings](#) on page 22.
7. Select a processing option. See [Processing Options for New Applications](#) on page 30.

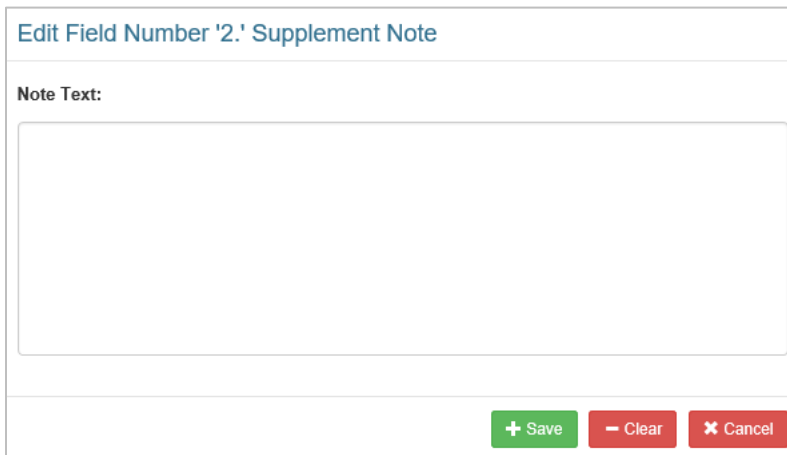
## Comments


Most Tank Car Application for Approval and Certificate of Construction fields can have comments added to help clarify the application data, or provide an explanation of deviations.

### Add Supplemental Data

To add a comment to a field:


1. Select the comment icon (  ) to the right. A text input panel is displayed ([Exhibit 21](#)).

**Exhibit 21. Supplement Note example**


2. Type the needed comment and select **Save**. The panel closes, and the comment icon becomes an edit pencil (  ). Entries can be found in the Supplement Data at the bottom of the entire New Application panel (similar to [Exhibit 34](#)).



**Edit Supplemental Data**

To edit supplemental data:

1. Select the pencil icon (  ) beside the field. The Edit Field panel is displayed with the existing data (refer to [Exhibit 21](#)).
2. Overtyping or deleting sections of the text as needed.
3. When the text box content is correct, select **Save**. The panel closes. The data is changed in the Supplemental data at the bottom of the application.

**Remove Supplemental Data**

To remove supplemental data:

1. Select the pencil icon (  ) beside the field. The Edit Field panel is displayed with the existing data (refer to [Exhibit 21](#)).
2. Select **Clear** (or select the text and press **Delete**).
3. When the text box is empty, select **Save**. The panel closes and the pencil icon toggles back to the comment icon (  ). The comment is removed from the Supplemental data at the bottom of the application (similar to [Exhibit 34](#)).

**Drawings**


---

**Note:** An application must be saved as a draft before any drawings can be added. This includes selecting the Nature of the Application (Field 3.1). See [Exhibit 22](#).

Size limit for individual PDF drawings is **50MB!**

---

**Exhibit 22. Drawings for new application**

Drawings:

Prior to adding drawing informatoin and/or attaching drawing to an application you must save the application as a draft. Please select the Save as Draft button at the top left of

39. General Arrangement:

ID	Drawing No	Drawing File Name	Prior Drawing No	Prior App/Cert No

Most applications are submitted with drawing to assist the ITP with determining conformance with various AAR and DOT standards.

1. Save the new application as a draft.
2. Scroll to the Drawings section of the application ([Exhibit 23](#)).

**Exhibit 23. Drawings after saved draft**

Drawings:

+ Add or Remove Drawings

39. General Arrangement:

ID	Drawing No	Drawing File Name	Prior Drawing No	Prior App/Cert No

3. Select the Add or Remove Drawings button. The Drawing Manager panel opens ([Exhibit 24](#)).

**Exhibit 24. Drawing Manager**

Railinc Tank Car Certification: Drawing Manager

Select a Drawing Type

- General Arrangement
- Tank Arrangement
- Reinforced Openings, Including Calculations
- Anchorage, Including Calculations
- Fitting Arrangement
- Manway Assembly
- Protective Housing
- Venting, Loading, and Discharge Valves
- Pressure Relief Devices
- Heater Systems Interior
- Heater Systems Exterior
- Gauging Devices
- Bottom Outlet Valve
- Repairs Drawing
- Manway Cover
- Calculations
- Tank Qualification

General Arrangement

ID	Drawing No	Drawing File Name	Prior Drawing No	Prior App/Cert No

+ Add Row   ✖ Remove Row   + Save Rows   ✖ Close

4. Select a Drawing Type at the left (default is General Arrangement).



5. Select **Add Row** from the executable buttons provided at the bottom right hand corner of the web page to add the first drawing. The first ID is automatically assigned and the Drawing Number field is active ([Exhibit 25](#)).

**Exhibit 25. Drawing Manager after adding a row**

**Railinc Tank Car Certification: Drawing Manager**

Select a Drawing Type

- General Arrangement
- Tank Arrangement
- Reinforced Openings, Including Calculations
- Anchorage, Including Calculations
- Fitting Arrangement
- Manway Assembly
- Protective Housing
- Venting, Loading, and Discharge Valves
- Pressure Relief Devices
- Heater Systems Interior
- Heater Systems Exterior
- Gauging Devices
- Bottom Outlet Valve
- Repairs Drawing
- Manway Cover
- Calculations
- Tank Qualification

General Arrangement

ID	Drawing No	Drawing File Name	Prior Drawing No	Prior App/Cert No
1	TankCar C	<input type="button" value="Choose File"/> No file chosen		

+ Add Row   x Remove Row   + Save Rows   x Close

6. Type up to 50 characters to label the builder's Drawing No. for the drawing to be attached.

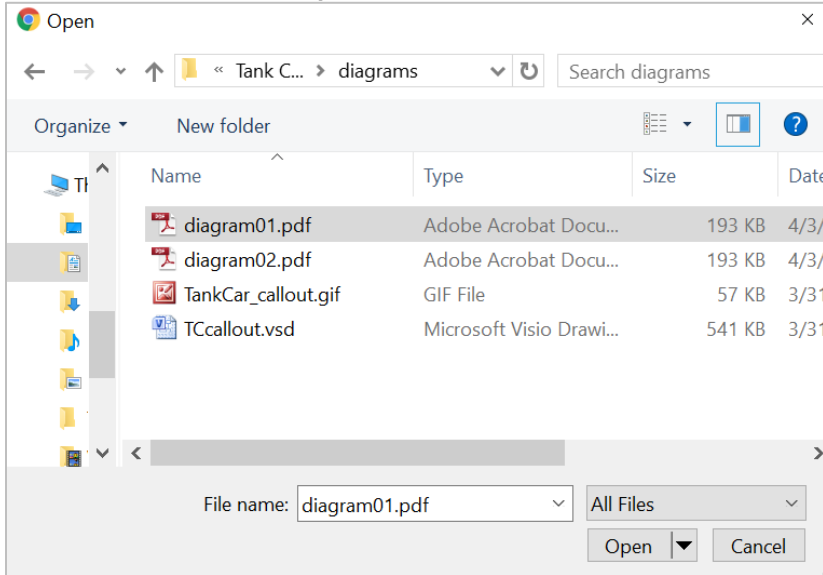
---

**Note:** More than one Drawing number can be entered without having an associated uploaded drawing file. If multiple drawing numbers are entered they should be comma-delimited and the builder should ensure that these drawing numbers are included in the associated drawing file.

---

7. Click the **Choose** file button in the Drawing File Name field and the file selection panel opens (
8. [Exhibit 26](#)).

**Exhibit 26. Choose File to Upload**




9. Locate the correct drawing, click on it, and select **Open**.
10. Select **Save Rows** to complete the file upload ([Exhibit 27](#)).

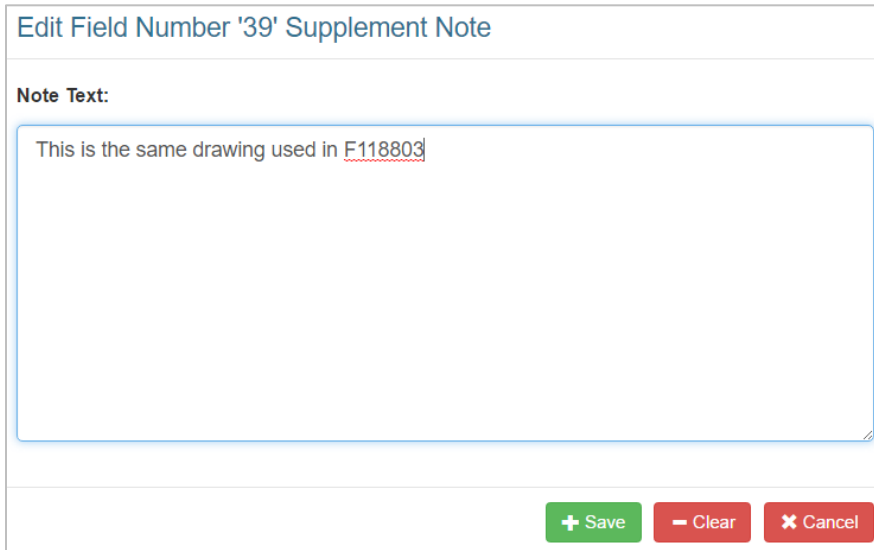
**Exhibit 27. Drawing Manager after successful upload of drawing file**

General Arrangement				
ID	Drawing No	Drawing File Name	Prior Drawing No	Prior App/Cert No
1	8804-GA0	diagram01.pdf		
2	8804-GA0	diagram02.pdf		

11. Optional: If the drawing has been used previously for another application:
  - a. Type in the Drawing No. used previously. See the [Note](#) on page [24](#).
  - b. Type in the approved application number or certification number.

12. **VERY IMPORTANT:** Select **Save Rows** from the executable buttons provided at the bottom right hand corner of the web page after each row of information has been entered before taking any further actions. This will ensure that the file and entered information has been stored into the system correctly. Then select the **Close** button to close the Drawings Manager.
13. Optional: Add comments for the drawing by selecting the Comment Icon (  ). The Edit Field Supplement Note panel is displayed ([Exhibit 28](#))

**Exhibit 28. Select the Comment Icon to add a Supplement Note**



Edit Field Number '39' Supplement Note

Note Text:

This is the same drawing used in F118803

+ Save - Clear x Cancel

- a. Type appropriate text to clarify the drawing for the ITP review.
  - b. Select **Save**. The panel closes. This note is displayed is displayed in the **Supplement Data** section at the bottom of the page (refer to [Exhibit 34](#)).
14. Continue adding drawings, repeating steps 4–13.b.

---

**Note:** To remove a drawing while in the Drawing Manager, highlight the drawing row and select **Remove Row** from the executable buttons provided at the bottom right hand corner of the web page. A confirmation panel is displayed (not shown). Select **Yes**. An Information panel indicates the row (drawing) is removed. When finished adding specified type drawings, select **Close**.

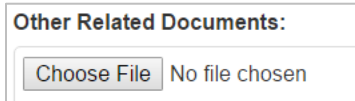
---

15. Optional: Add related drawings. See [Add Other Related Drawings](#) on page [27](#).

## Add Other Related Drawings

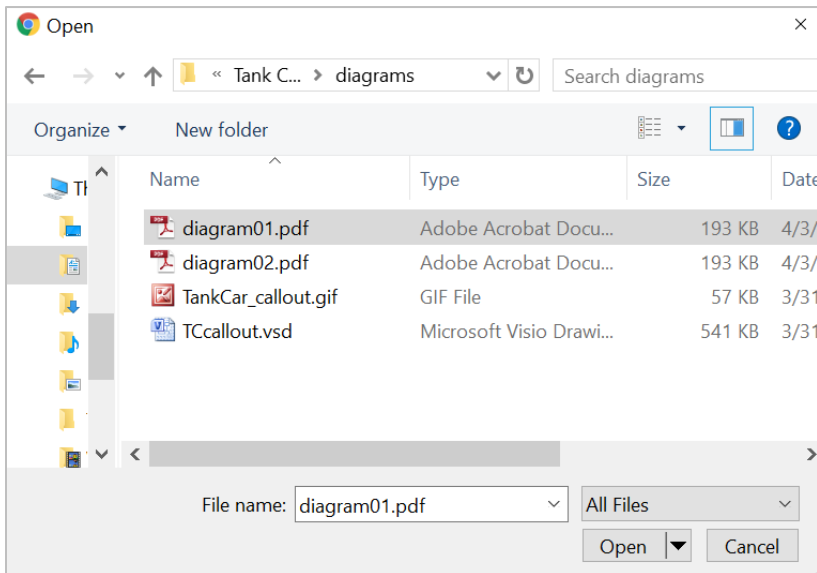
Occasionally, additional drawings might be needed that do not fall into the available drawing types in the Drawing Manager. Scroll down below Tank Qualification to Other Related Drawings ([Exhibit 29](#)).

### Exhibit 29. Other Related Drawings



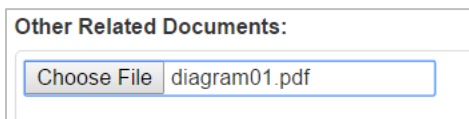
1. Select **Browse**. The Select File to Upload panel is displayed ([Exhibit 30](#)).

### Exhibit 30. Select File to Upload



2. Locate the correct drawing, highlight, and select **Open**. The panel closes and the selected file appears in the field ([Exhibit 31](#)).

### Exhibit 31. Other Related Drawings (with file selected)





3. When the upload completes, the mandatory Add Note to Drawing panel is displayed ([Exhibit 32](#)). A comment must be added first before the file upload completes.

**Exhibit 32. Add Note to Drawing**

4. Type clarifying text in the field and select **Save**. This text appears in the **Other Related Drawings Notes** section located at the bottom of the screen ([Exhibit 34](#)). The panel closes and the file is shown in the Other Related Drawings field ([Exhibit 33](#)).

**Exhibit 33. Other Related Drawings after successful upload**

Two icons appear to the right of the drawing file name:

-  Select to remove both the drawing and the note for the related drawing. No removal confirmation is given.
-  Select to edit the text for the drawing. This is similar to [Edit Supplemental Data](#) on page 22. Select **Save** after editing.

5. Select **Save as Draft** at the top of the application to save your changes.

## Supplement Data

Supplement data is automatically added to the bottom of the application by comments as it is added to the Application Data or Drawing sections. These are identified by field numbers (to assist with editing or removal as needed. Refer to [Comments](#) on page 21). Changes to this data must be made by editing the comments in the Application Data section.

**Exhibit 34. Supplemental Notes with Other Related Drawing Notes**

Notes:	Field No.	Notes
	2	Alteration type comment
	39	This is the same drawing used in F118803

Other Related Drawing Notes:	Name	Notes
	diagram01.pdf	Adding other related document diagram01

---

**Note:** Double-click an entry in the **Notes** field to open the **Edit Field Number** <> panel and edit the notes. Refer to [Comments](#) on page 21. Double-clicking does NOT work in the **Other Related Drawing Notes** field. Use the icons shown in [Exhibit 33](#) to edit those notes.

---

## Processing Options for New Applications

When all data has been entered for a new application, the user can choose from the following options:

***Exhibit 35. Application Processing Options***

<b>ITP Preview</b>	Send the application (for a fee) to the ITP for a preliminary review before submitting. ITP receives an email notifying them of the builders request to have them review before officially submitting the application to AAR. Status is <b>Ready for Preview</b> .
<b>Save as Draft</b>	Saves a draft (viewable only by builder) of the application. Status remains <b>Draft</b> .
<b>Submit</b>	Submit the application to the ITP for review. ITP receives an email that the application is ready to be reviewed and an ITP checklist needs to be created and submitted. Automatically sets the status to <b>Submitted</b> .
<b>Cancel</b>	Exit without saving.

## Search

Search is the basic tool for finding applications that require additional work or specific actions.

**Note:** Search results are dependent on a user's situation. Examples: A tank car builder receives only results for his company's applications based upon his search criteria. AAR receives results for all builders, and ITPs receive only results for those builders to which they are associated to perform reviews.

## Simple Search

The simplest form of a search is to select **Search** without setting criteria and accepting the default Status = All. For a company builder user, the results include those applications created by their company's users only.

1. On the main menu, select **Search**. The Search panel opens in the content area ([Exhibit 36](#)).

### **Exhibit 36. Search for Builder and AAR users**

The screenshot shows the RAILINC AAR Tank Car Application for Approval and Certificate of Construction search interface. The top navigation bar includes 'Home', 'New', 'Search', 'Tx History', and 'Documentation'. The search panel on the left contains the following fields:

- Application Number
- Applicant
- Application Date
- Approval Date
- Certification Date
- To Be Built: Car Mark
- Car Number
- Now Certified: Car Mark
- Car Number
- Application Status: All

At the bottom of the search panel are 'Reset' and 'Search' buttons. The main content area on the right displays instructions for searching and wildcard filter input (not for dates):

**To search:**

1. Optionally enter filter criteria in Search panel to left.
2. Click Search button
3. A summary list of matching applications will appear here, unless no match found.

**Wildcard filter input (not for dates)**

- Search for "foo" anywhere: %foo%
- Search for leading "foo": foo%
- Search for trailing "foo": %foo

A 'Cancel' button is located at the bottom right of the search panel.

**Note:** ITP Reviewers are NOT able to see or use date criteria fields for searching.

2. Choose criteria. See [Search Criteria](#) on page 32.

**Note:** Use **Reset** to clear the fields and start over.

3. Select **Search**.
  - a. If the search is unsuccessful, a warning is displayed ([Exhibit 37](#)).
  - b. If the search is successful, the results are shown in the content area ([Exhibit 38](#)).



## Search Criteria

Users can select various criteria for searching including:

**Application number:** A percent sign (%) wildcard can be entered into the Application number field to search when an exact number is unknown.

**Applicant:** Actual name of the user, the address, and any other relevant identifying information.

When the date field is provided, user can select the calendar icon to choose a single date for:

- **Application Date:** When the application was first entered
- **Approval Date:** When AAR approved the application
- **Certification Date:** When the Builder assigned Equipment IDs to the approved application.

**To Be Built:** Car Mark and Car Number of equipment to be built.

**Now Certified:** Car Mark and Car Number of certified equipment.

**Application Status:** Restrict the applications displayed to the status of the application. Valid values are:

- *All*—Includes all statuses in the search. This is the default.
- *Approved*—Approved by AAR and Builder can begin building to those specifications.
- *Certified*—Equipment IDs have been assigned by Builder to the approved application.
- *Draft*—Builder has begun the application, which is editable by Builder.
- *Pending AAR Review*—ITP has completed the ITP Checklist and has sent the application to AAR for approval/rejection.
- *Ready for ITP Preview*—Builder has sent the draft application to ITP for a review prior to submission.
- *Rejected*—AAR has rejected the application. Builder cannot build to the application specifications.
- *Submitted*—Application is at ITP for review and ITP Checklist completion.
- *Withdrawn*—The Builder chose to revise a submitted application. A new lettered revision is created with a status of Draft.

## Search Results

### No Search Results

If criteria do not produce any results, the following warning is displayed ([Exhibit 37](#)).

#### Exhibit 37. No Search Results



User can choose less restrictive criteria (e.g., dates, or an application number), or perhaps use a wildcard where allowed.

### Successful Search Results

#### Exhibit 38. Search Results for Builder with no qualifiers or criteria selected

Application Number		Applications																																																																																									
Applicant: <input type="text"/>		<div style="text-align: left; margin-bottom: 5px;"> <span style="color: red; font-weight: bold;">✖ Cancel</span> </div> <table border="1"> <thead> <tr> <th>AAR No</th> <th>Revision</th> <th>Applicant</th> <th>Application Date</th> <th>Approval Date</th> <th>Certification Date</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>L179999906</td> <td></td> <td>Union Tank Car</td> <td>04/03/2017</td> <td></td> <td></td> <td>Draft</td> </tr> <tr> <td>A179999917</td> <td></td> <td>Union Tank Car</td> <td>04/03/2017</td> <td></td> <td></td> <td>Draft</td> </tr> <tr> <td>N179999915</td> <td></td> <td>Union Tank Car</td> <td>03/31/2017</td> <td></td> <td></td> <td>Draft</td> </tr> <tr> <td>N179999902</td> <td></td> <td>UTLX Manufacturing</td> <td>03/30/2017</td> <td></td> <td></td> <td>Draft</td> </tr> <tr> <td>A179999912</td> <td></td> <td>UTLX Manufacturing</td> <td>03/30/2017</td> <td>03/31/2017</td> <td>03/31/2017</td> <td>Certified</td> </tr> <tr> <td>L179999908</td> <td></td> <td>A-1 Tank Car</td> <td>03/29/2017</td> <td></td> <td></td> <td>Draft</td> </tr> <tr> <td>N179999703</td> <td></td> <td>A-1 Tank Car</td> <td>03/24/2017</td> <td></td> <td></td> <td>Submitted</td> </tr> <tr> <td>N179999901B</td> <td>B</td> <td>A-1 Tank Car</td> <td>03/23/2017</td> <td></td> <td></td> <td>Rejected</td> </tr> <tr> <td>N179999901A</td> <td>A</td> <td>BCB Manufacturing</td> <td>03/23/2017</td> <td></td> <td></td> <td>Rejected</td> </tr> <tr> <td>N179999901C</td> <td>C</td> <td>BCB Manufacturing</td> <td>03/23/2017</td> <td>03/24/2017</td> <td>03/24/2017</td> <td>Certified</td> </tr> <tr> <td>N179999900</td> <td></td> <td>BCB Manufacturing</td> <td>03/22/2017</td> <td>03/24/2017</td> <td></td> <td>Approved</td> </tr> </tbody> </table>						AAR No	Revision	Applicant	Application Date	Approval Date	Certification Date	Status	L179999906		Union Tank Car	04/03/2017			Draft	A179999917		Union Tank Car	04/03/2017			Draft	N179999915		Union Tank Car	03/31/2017			Draft	N179999902		UTLX Manufacturing	03/30/2017			Draft	A179999912		UTLX Manufacturing	03/30/2017	03/31/2017	03/31/2017	Certified	L179999908		A-1 Tank Car	03/29/2017			Draft	N179999703		A-1 Tank Car	03/24/2017			Submitted	N179999901B	B	A-1 Tank Car	03/23/2017			Rejected	N179999901A	A	BCB Manufacturing	03/23/2017			Rejected	N179999901C	C	BCB Manufacturing	03/23/2017	03/24/2017	03/24/2017	Certified	N179999900		BCB Manufacturing	03/22/2017	03/24/2017		Approved
AAR No	Revision	Applicant	Application Date	Approval Date	Certification Date	Status																																																																																					
L179999906		Union Tank Car	04/03/2017			Draft																																																																																					
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N179999902		UTLX Manufacturing	03/30/2017			Draft																																																																																					
A179999912		UTLX Manufacturing	03/30/2017	03/31/2017	03/31/2017	Certified																																																																																					
L179999908		A-1 Tank Car	03/29/2017			Draft																																																																																					
N179999703		A-1 Tank Car	03/24/2017			Submitted																																																																																					
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N179999901C	C	BCB Manufacturing	03/23/2017	03/24/2017	03/24/2017	Certified																																																																																					
N179999900		BCB Manufacturing	03/22/2017	03/24/2017		Approved																																																																																					
Application Date: <input type="text"/>	Approval Date: <input type="text"/>	Certification Date: <input type="text"/>	To Be Built: Car Mark: <input type="text"/>				Car Number: <input type="text"/>																																																																																				
Now Certified: Car Mark: <input type="text"/>	Car Number: <input type="text"/>	Application Status: <input type="text" value="All"/>	<input type="button" value="Reset"/> <input type="button" value="Search"/>				<input type="button" value="50"/> <input type="button" value="100"/> <input type="button" value="250"/>																																																																																				

Available actions for an application appear at the top when an application is selected ([Exhibit 39](#)).

**Exhibit 39. Search Results for Builder with an application selected**

The screenshot displays a search results interface. On the left is a sidebar with filters for Application Number, Applicant, Application Date, Approval Date, Certification Date, To Be Built (Car Mark, Car Number), and Now Certified (Car Mark, Car Number). The main area shows a table of applications with columns for AAR No, Revision, Applicant, Application Date, Approval Date, Certification Date, and Status. The first row is highlighted in blue.

AAR No	Revision	Applicant	Application Date	Approval Date	Certification Date	Status
L179999906		Union Tank Car	04/03/2017			Draft
A179999917		Union Tank Car	04/03/2017			Draft
N179999915		Union Tank Car	03/31/2017			Draft
N179999902		UTLX Manufacturing	03/30/2017			Draft
A179999912		UTLX Manufacturing	03/30/2017	03/31/2017	03/31/2017	Certified
L179999908		A-1 Tank Car	03/29/2017			Draft
N1799999703		A-1 Tank Car	03/24/2017			Submitted
N179999901B	B	A-1 Tank Car	03/23/2017			Rejected
N179999901A	A	BCB Manufacturing	03/23/2017			Rejected
N179999901C	C	BCB Manufacturing	03/23/2017	03/24/2017	03/24/2017	Certified
N179999900		BCB Manufacturing	03/22/2017	03/24/2017		Approved

In [Exhibit 39](#), actions available include: **View**, **Edit Draft** and **Cancel**. Actions depend on the application status and are available when an application is selected. Other actions available are **Clone** and **Revise**.

**Note:** For ITPs, the application number of a selected application will carry over from here for viewing the [Tx \(Transaction\) History](#).

## View Application Panel Actions

After a successful search, and highlighting an application, select **View** from the executable buttons provided at the bottom right hand corner of the web page to open the View Panel ([Exhibit 40](#)).

**Exhibit 40. View Application Panel for AAR Reviewer**

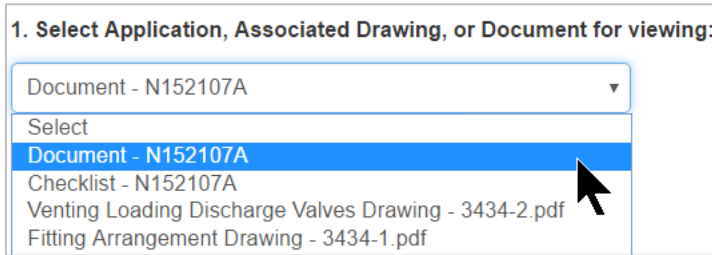
The screenshot shows the 'View Application Panel' for AAR Reviewer. It has a title 'View Application "N152107A"'. Below the title, there are two main sections:

- Select Application, Associated Drawing, or Document for viewing:** A dropdown menu is shown with 'Document - N152107A' selected.
- Select Action to carry out:** A list of radio buttons with the following options:
  - View
  - AAR Approve
  - AAR Reject
  - Download CSV
  - Email

At the bottom right, there are three buttons: 'Do It' (green), 'Reset' (orange), and 'Close' (red).

The drop-down list offers a list of items for viewing ([Exhibit 41](#)).

**Exhibit 41. View Application Panel drop-down list**



What is available for viewing can vary. For example, there may be no drawings attached, or a ITP checklist. The drop-down list in [Exhibit 41](#) shows the application, a checklist, and two drawings.

The radio button actions available on the panel can include:

- **View**—View the selection chosen in the drop-down list. This is the *default* radio button selection. See [Viewing Applications](#) on page [36](#).
- **Email**—Send Email to ITP and/or Builder. See [Email](#) on page [43](#).
- **Create Checklist**—Create the ITP checklist for preview or for a submitted application. See [Create Checklist](#) on page [41](#).
- **Edit Checklist**—Opens a draft ITP checklist. See [Edit Checklist](#) on page [43](#).
- **Certify**—Assigns Equipment IDs to an approved application. See [Certify](#) on page [46](#).

When a radio button action has been selected, the user must select the **Do It** button to execute.

# Viewing Applications

**Note:** All users can view applications.

To view an application:

1. After a successful search with an application highlighted, select **View** from the executable buttons provided at the top to open the View Panel (similar to [Exhibit 40](#)). By default, the application is selected in the drop-down list.
2. Select **Do It**. The File Download panel opens at the bottom of the screen.
3. Select **Open** (or press Enter). The file opens the PDF in a new browser tab ([Exhibit 42](#)).

**Exhibit 42. View Application PDF (top and bottom)**

APPLICATION FOR APPROVAL AND CERTIFICATE OF CONSTRUCTION			
1 APPROVAL REQUESTED OF:		2 TYPE:	
6 APPLICANT:		3 AAR NO:	
9 REPORTING MARKS AND CAR NUMBERS:		4 DATE:	
		4.1 ORDER DATE:	
		5 APPLICANT'S NO:	
		7 TANK SPECIFICATION:	
		8 STENCILED SPEC:	
		10 NUMBER OF CARS:	
11	Initial Commodity	12	Density (LB Per Gallon)
13	Full Water Capacity (Gallons)	14	Dome Capacity or Outage (Gallons)
15	Material Type / Grade Heads	15.1	Tank Head Material Normalized
15.2	Tank Head Spliced	15.3	Charpy Requirements
16	Material Type and Grade Shell	16.1	Tank Shell Material Normalized
16.2	Charpy Requirements	17	Material Thickness Heads (Inches)
18	Material Thickness Shell (Inches)	19	Lining Type
20	Inside Diameter - Center (Inches)	21	Inside Diameter - End Rings (Inches)
22	Head Radius, Main (Inches if not 2:1)	23	Test Pressure (PSI)
24	Insulation Type	25	Insulation Thickness (Inches)
26	Thermal Conductivity (BTU - in/hr. -ft sq. - degree F)	27	Type of Safety Relief Devices
27.1	Number of Safety Relief Devices	28	Pressure Relief Device Start-to-Discharge (PSI)
29	Pressure Relief Device Flow Capacity (CFM Required)	30	Pressure Relief Device Flow Capacity (CFM Actual)
31	Tank Surface Area (Sq Ft)	32	Underframe or Stub Sill Type
33	Center of Gravity, Loaded (Inches)	34	Estimated Light Weight (lb)
35	AAR Clearance Diagram	36	Rail Load Limit (lb)
37	Truck Capacity (Tons)	38	Head Shield Type
38.1	Head Shield Thickness (inches)		
Notes:		Original Certificate:	
		Builder:	
		Date:	
		Former lading:	

<p>The Following Drawings Apply:</p> <p>39 General Arrangement</p> <p>40 Tank Arrangement</p> <p>41 Reinforced Openings, Including Calculations</p> <p>42 Anchorage, Including Calculations</p> <p>43 Fittings Arrangement</p> <p>44 Manway Assembly</p> <p>45 Protective Housing</p> <p>46 Venting, Loading, and Discharge Valves</p> <p>47 Pressure Relief Devices</p> <p>48 Heater Systems</p> <p>49 Gauging Devices</p> <p>50 Bottom Outlet Valve</p> <p>51 Repairs</p> <p>52 Manway Cover</p> <p>53 Calculations</p> <p>54 Tank Qualification Drawing</p>	<b>The Following Prior Approvals Apply:</b>		
	Drawing Number	Drawing Number	Application/Certificate No

REVISIONS:

APPLICATION BY:  
I certify that the foregoing conforms to all applicable DOT and AAR requirements, including specifications, regulations, rules of interchange, and the DOT Railroad Safety Appliance Standards.  
SIGNATURE:  
TITLE:

---

APPROVAL - AAR Tank Car Committee

Date Approved \_\_\_\_\_  
(signature) on behalf of the Tank Car Committee

---

APPROVAL COMMENTS:

CERTIFICATION: The cars enumerated below conform to the above approved description and to all applicable DOT and AAR requirements, including specifications, regulations, rules of interchange, and the DOT Railroad Safety Appliance Standards. Copy of this Certificate of Construction will be furnished to the owner and others, as required by 49 CFR Part 179.5, before these cars are placed in service

Initials and Car Numbers: \_\_\_\_\_ Name: \_\_\_\_\_ Date: \_\_\_\_\_  
Title: \_\_\_\_\_

Scroll through the pages as needed. The PDF is a printable format.

4. Once you are finished reviewing or printing the PDF, close the browser tab (X) to return to the View Application Panel to view other items or do other actions.

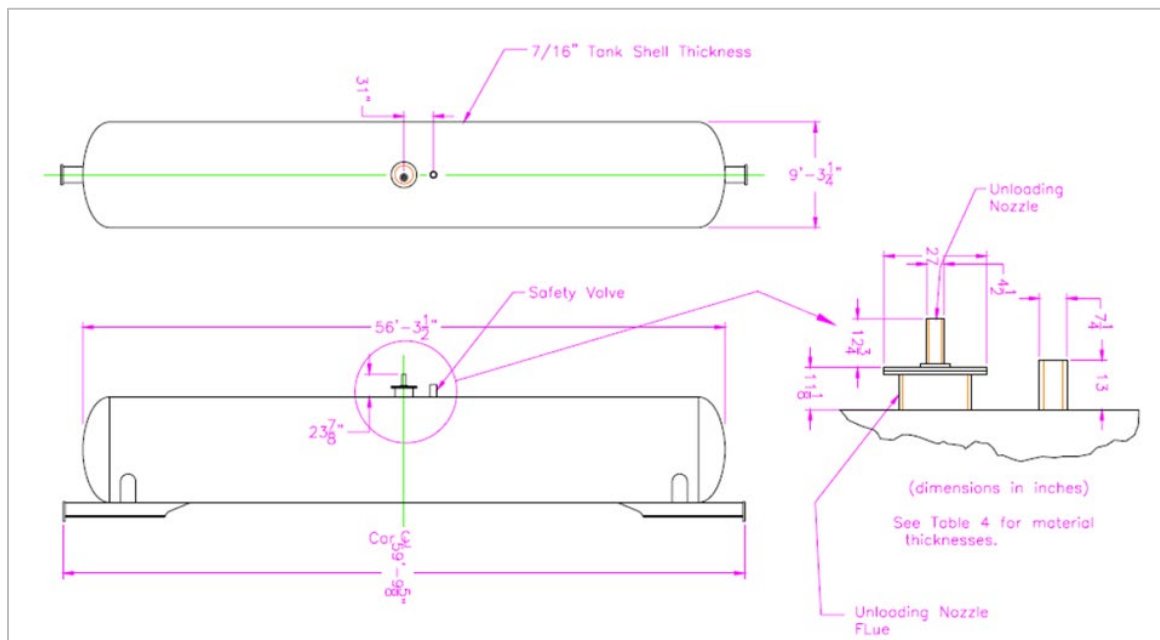
## Viewing Drawings

**Note:** All users can view applications.

To view a drawing:

1. After a successful search with an application highlighted, select **View** from the executable buttons provided at the top of the page to open the View Panel (similar to [Exhibit 40](#)).
2. Use the View drop-down list to select a drawing to view.
3. Select **Do It**. The File Download panel opens at the bottom of the screen.
4. Select **Open** (or press Enter). The drawing opens in a new browser tab ([Exhibit 43](#)).

**Exhibit 43. View Drawing PDF**



Scroll using scrollbars as needed. Use the zoom controls to enlarge the image for better viewing. It is beyond the scope of this user guide to describe printing large graphics.

5. When finished viewing, close the browser tab (**X**) to return to the View Application Panel for other actions.

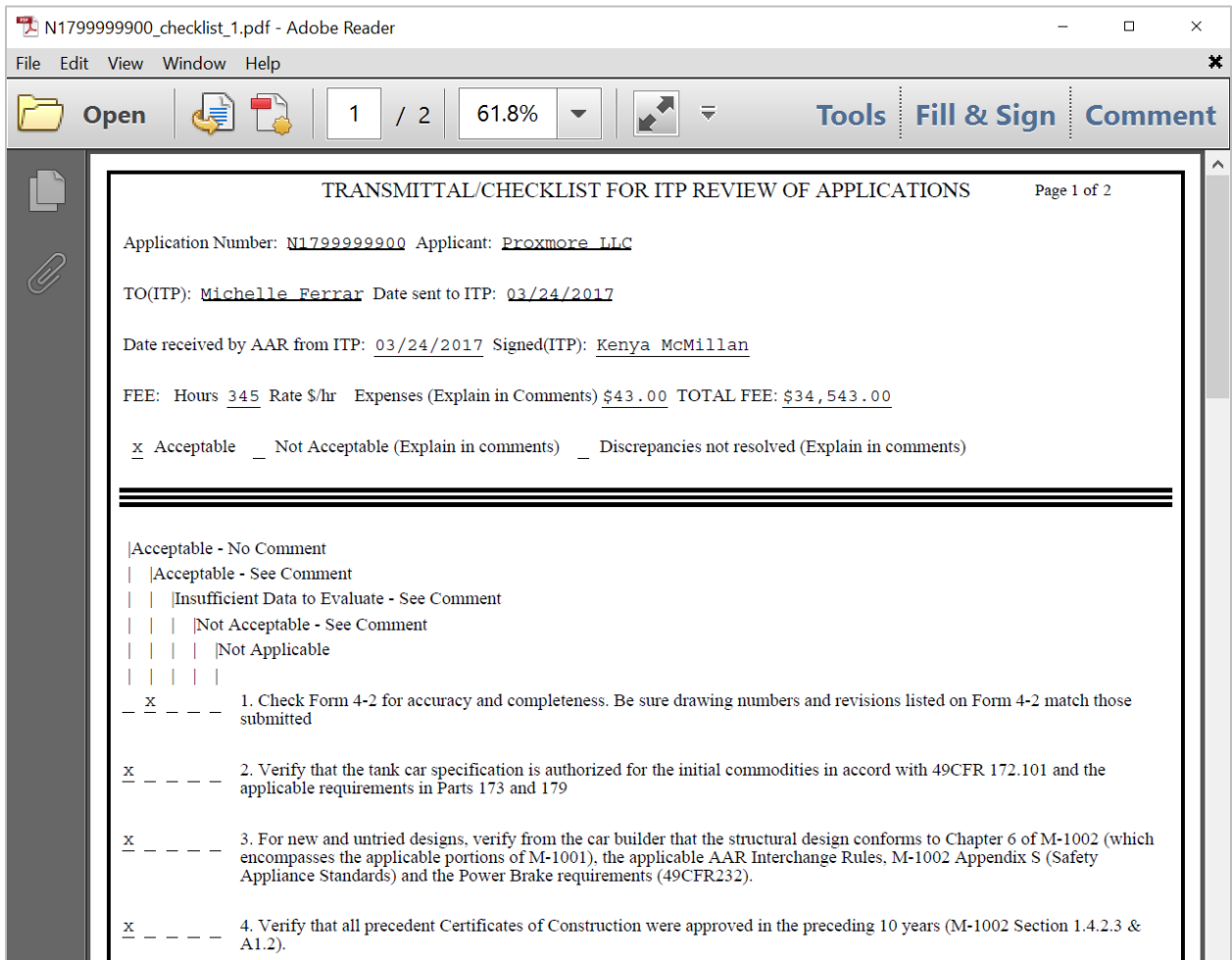
## Viewing Checklists

**Note:** Checklists can only be viewed by ITP Reviewers and AAR Reviewers. Builders *cannot* view the ITP Checklist.

To view a checklist:

1. After a successful search with an application highlighted, select **View** from the executable buttons provided at the top of the page to open the View Panel (similar to [Exhibit 40](#)).
2. Use the View drop-down and select the checklist to view.
3. Select **Submit**. The File Download panel opens, defaulted to "open" the checklist as a PDF.
4. Select **Open** (or press Enter). The file opens in a new browser tab ([Exhibit 42](#)).

**Exhibit 44. View top of Checklist PDF**





**Exhibit 45. Continued View of Checklist PDF (bottom of first page)**

<input checked="" type="checkbox"/>	5. Verify that the fittings drawings list the approval Certificate of Construction for each fitting and that it was approved in the preceding ten years (M-1002 Section A1.2).
<input checked="" type="checkbox"/>	6. Verify the materials used comply with M-1002 Appendix M.
<input checked="" type="checkbox"/>	7. Verify that tank shell and head thickness meet the specification requirements.
<input checked="" type="checkbox"/>	8. Verify that reinforcement calculations meet minimum requirements (M-1002 Section E3.0).
<input checked="" type="checkbox"/>	9. Verify that the stub sill design has been approved and that the style designation is shown on line 32 of Form 4-2.
<input checked="" type="checkbox"/>	10. Verify that the tank of a full sill car is anchored in accord with M-1002 Section 5.2.1.
<input checked="" type="checkbox"/>	11. Verify that rupture disc, if used, has a protection device installed (M-1002 Section A4.7.4).
<input checked="" type="checkbox"/>	12. Verify that safety relief valve size is reasonable.
<input checked="" type="checkbox"/>	13. Verify that the bottom outlet valve, bottom washout and sump are protected in accord with M-1002 Section E9.0 or E10.0 (or Appendix Y for existing cars).
<input checked="" type="checkbox"/>	14. Verify that a bottom outlet nozzle, or nozzle with an auxiliary valve, has a breakage groove, or breakage groove equivalent, in compliance with M-1002 Section E14.0.

Scroll through the pages as needed. The PDF is a printable format.

6. Once you have reviewed or printed the PDF, close the browser tab (X) to return to the View Application Panel for other actions.

## Create Checklist

**Note:** Only ITP Users can create draft and submit final ITP Checklists.

To create a checklist for an application:

1. After a successful search with an eligible application highlighted (either Submitted or Ready for ITP Preview), select **View**. The View application panel is displayed (similar to [Exhibit 40](#)). By default, the application appears in the drop-down list.
2. Select the **Create Checklist** radio button and select **Do It**. The Transmittal Check List for ITP Review of Application panel is displayed ([Exhibit 46](#) and [Exhibit 47](#)).

**Exhibit 46. Transmittal Check List for ITP Review of Applications (top)**

**Transmittal/Check List For ITP Review of Applications**

Application No.:	L176002	Applicant	Trinity Rail	Date Received By AAR:	
To(ITP):	Kenya McMillan			Date Sent to ITP:	03/31/2017
Date Received by ITP:	04/03/2017	Date Returned to AAR		Date Rec'd by AAR from ITP:	
Signed ITP:				Date:	
FEE (Hours):	<input type="text" value="0"/>			Rate (\$/hr):	\$100.00
Expenses(\$)(Explain in Comments):	<input type="text" value="0"/>			TOTAL Fee(\$):	\$0.00
Application Status:	<input type="text" value="Blank"/>				

1. Check Form 4-2 for accuracy and completeness. Be sure drawing numbers and revisions listed on Form 4-2 match those submitted.	<input type="text" value="Blank"/>
2. Verify that the tank car specification is authorized for the initial commodities in accord with 49CFR 172.101 and the applicable requirements in Parts 173 and 179.	<input type="text" value="Blank"/>
3. For new and untried designs, verify from the car builder that the structural design conforms to Chapter 6 of M-1002 (which encompasses the applicable portions of M-1001), the applicable AAR Interchange Rules, M-1002 Appendix S (Safety Appliance Standards) and the Power Brake requirements (49CFR232).	<input type="text" value="Blank"/>
4. Verify that all precedent Certificates of Construction were approved in the preceeding 10 years (M-1002 Section 1.4.2.3 & A1.02)	<input type="text" value="Blank"/>
5. Verifu that the fittings drawings list the approval Certificates of	<input type="text" value="Blank"/>

Comments:	Item No.	Comments

**Note:** If Expenses are entered, a comment is required.

**Exhibit 47. Transmittal Check List for ITP Review of Applications (bottom)**

**Transmittal/Check List For ITP Review of Applications**

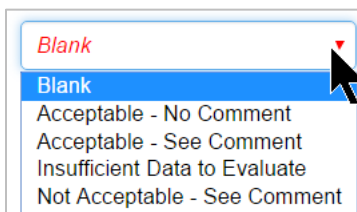
Application No.:	L176002	Applicant	Trinity Rail	Date Received By AAR:	
To(ITP):	Kenya McMillan			Date Sent to ITP:	03/31/2017
Date Received by ITP:	04/03/2017	Date Returned to AAR		Date Rec'd by AAR from ITP:	
Signed ITP:				Date:	
FEE (Hours):	<input type="text" value="0"/>			Rate (\$/hr):	\$100.00
Expenses(\$)( Explain in Comments):	<input type="text" value="0"/>			TOTAL Fee(\$):	\$0.00
Application Status:	<input type="text" value="Blank"/>				

18. Verify that all attachments to the tank are installed on reinforcement pads in accordance with 49CFR 179.100-16, 179.200-19 and M-1002 Section E.15.00.	<input type="text" value="Blank"/>
19. Verify that top fittings on non-pressure cars comply with height profile requirements of M-1002 Section A4.16, which references Figures E.19-1 through E.9-10.	<input type="text" value="Blank"/>
20. Verify that interior piping is adequately supported.	<input type="text" value="Blank"/>
21. Verify that repair procedures comply with Appendix R requirements.	<input type="text" value="Blank"/>
22. Verify that applications for other than new construction are clear with respect to what is being requested.	<input type="text" value="Blank"/>

Comments:	Item No.	Comments

- Complete the checklist in accordance with AAR standards. Valid values for the checklist drop-down are pictured in [Exhibit 48](#).

**Exhibit 48. ITP Checklist Drop-Down**



**Note:** If any selection other than Acceptable - No Comment is chosen, a comment must be entered. Refer to [Comments](#) on page 21. Submitting is not allowed if comments have not been entered. Drafts can be saved with omissions, but a warning is given.

**Note:** The **Accept All N/C** button at the bottom of the screen can be used to automatically fill fields 1-22 with acceptable/no comment.

---

Comments entered appear at the bottom of the checklist beside the corresponding Item Number.

4. When all items have been addressed, select a processing option:

**Exhibit 49. Checklist Processing Options**

<b>Submit</b>	Send your application to AAR for approval/rejection. Automatically sets the status to <b>Pending AAR Review</b> .
<b>Save as Draft</b>	Save a draft checklist (viewable only by ITP and AAR). Status does not change.
<b>Accept All N/C</b>	Automatically fills fields 1-22 with acceptable/no comment.
<b>Cancel</b>	Exit without saving.

## Edit Checklist

**Note:** Only ITP Users can edit ITP Checklists.

---

To create a checklist for an application:

1. After a successful search with an eligible application highlighted (either Submitted or Ready for ITP Preview), select **View**. The View application panel is displayed (similar to [Exhibit 40](#)). By default, the application appears in the drop-down.
2. Select the **Edit Checklist** radio button and select **Do It**. The Transmittal Check List for ITP Review of Application panel is displayed ([Exhibit 46](#) and [Exhibit 47](#)).
3. Continue work on the checklist as described in Steps 3 and 4 starting on page [42](#).

## Email

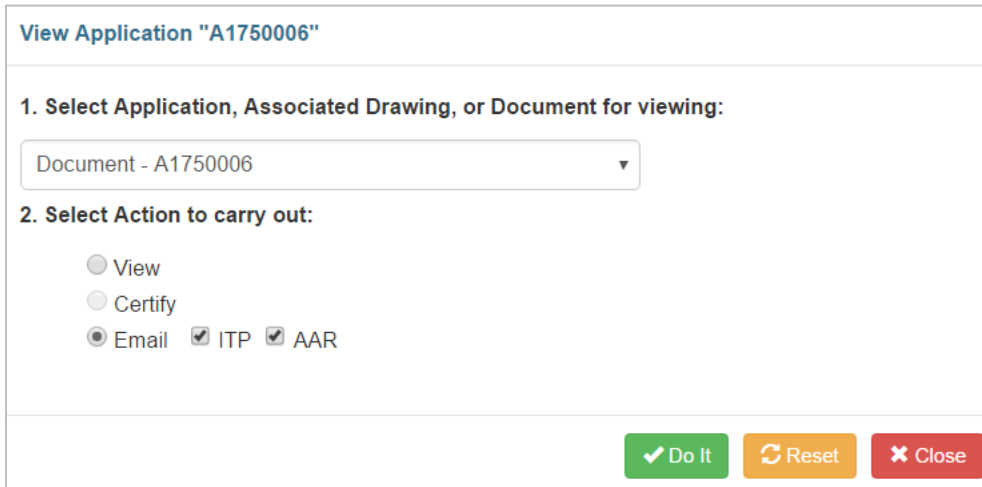
**Note:** All users can send emails about any application, no matter the status.

---

To send an email regarding an application:

1. Search for the eligible application and select it, then select **View**. The View application panel is displayed (similar to [Exhibit 40](#)). By default, the application appears in the drop-down.
2. Select the **Email** radio button. Two checkboxes appear to indicate who should receive the email. Email recipients vary depending on your role:
  - Builders see ITP and AAR
  - ITP Reviewers see AAR and Builder
  - AAR sees Builder and ITP

**Exhibit 50. View Application with Email selected**



View Application "A1750006"

1. Select Application, Associated Drawing, or Document for viewing:

Document - A1750006

2. Select Action to carry out:

View

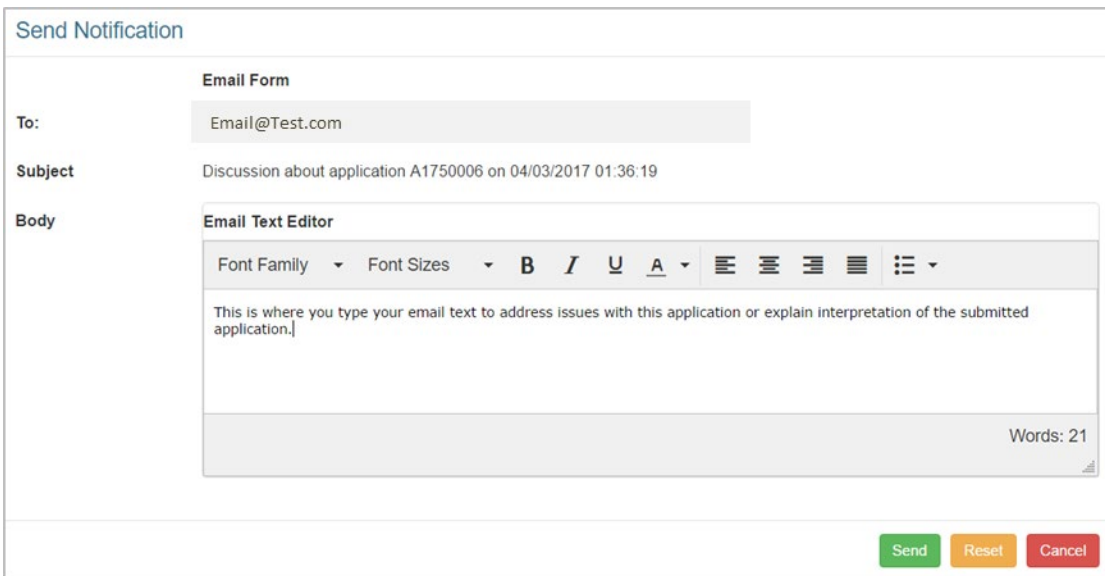
Certify

Email  ITP  AAR

Do It Reset Close

3. Check either or both recipient boxes and select **Submit**. The Send Notification panel opens ([Exhibit 51](#)).

**Exhibit 51. Send Notification Example**



Send Notification

Email Form

To: Email@Test.com

Subject: Discussion about application A1750006 on 04/03/2017 01:36:19

Body

Email Text Editor

Font Family Font Sizes B I U A

This is where you type your email text to address issues with this application or explain interpretation of the submitted application.]

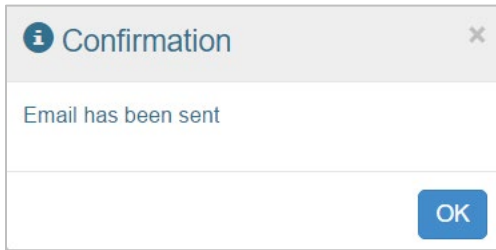
Words: 21

Send Reset Cancel

The recipients are preselected and the Subject contains the Application number and a timestamp.

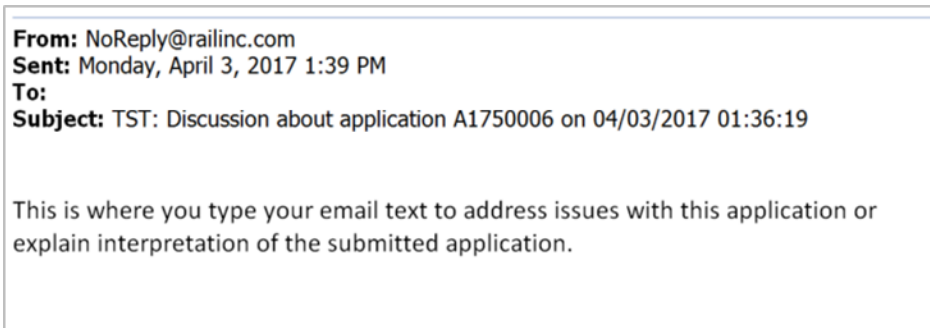
4. Type the text in the Body field below the formatting options.
5. Select **Send**. A confirmation is displayed ([Exhibit 52](#)).

**Exhibit 52. Email Confirmation**



6. Select **OK** to close the confirmation and return to the Search Results.
7. As the sender, you'll receive a copy of the email generated from Tank Car Application for Approval and Certificate of Construction, similar to the one shown in [Exhibit 53](#).

**Exhibit 53. Email Generated Example**



## Certify

---

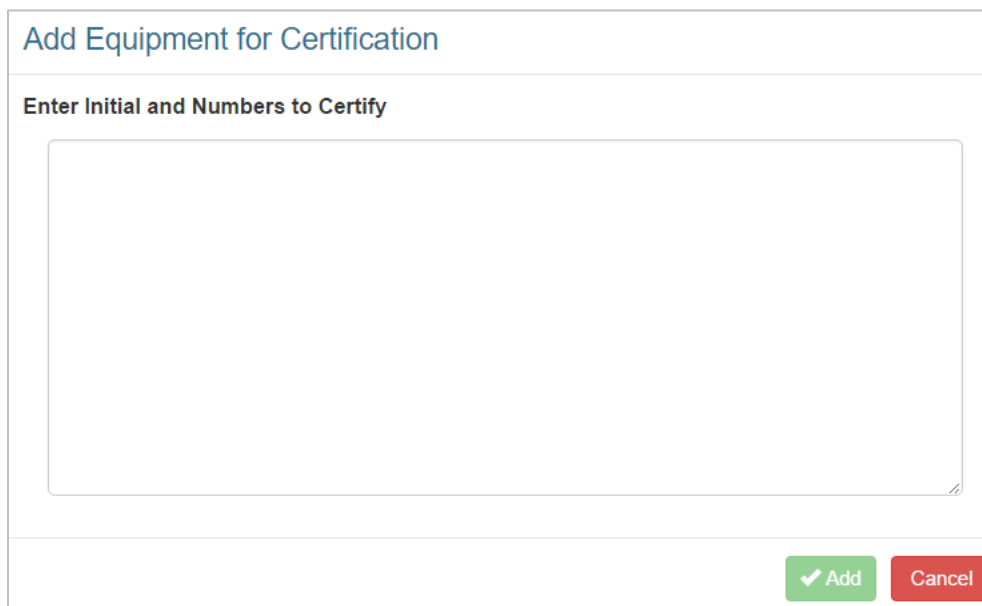
**Note:** Only Builders can certify Equipment IDs to an approved application.

---

To associate newly built tank cars with their Equipment IDs, they must be certified. To certify equipment:

1. After a successful search with an eligible application in **Approved** status selected, select **View**. The View application panel is displayed (similar to [Exhibit 40](#)). By default, the application appears in the drop-down.
2. Select the **Certify** radio button and select **Do It**. The Add Equipment for Certification panel is displayed ([Exhibit 54](#)).

**Exhibit 54. Add Equipment for Certification**



The screenshot shows a dialog box titled "Add Equipment for Certification". Below the title is a subtitle "Enter Initial and Numbers to Certify". The main area of the dialog is a large, empty text input field. At the bottom right of the dialog, there are two buttons: a green "Add" button with a checkmark icon and a red "Cancel" button.

3. Type or paste in the Equipment IDs for the new tanks cars built under this approved application. Ranges can be used as well as comma-delimited entries. The **Add** button becomes active after the first entry.
4. Select **Add**. The Certify Tank Car Application panel is displayed ([Exhibit 55](#)).

**Exhibit 55. Certify Tank Car Application**

Certify Tank Car Application

**⚠ Is this equipment correct? Are you sure you want to continue with certification?**

Here is the equipment you are requesting to certify on this application:  
RAIL999-1050

You have chose to Certify this application, please provide you signature to indicate that this application is now certified.

1. If unsure about the approval, select **Cancel**. Otherwise, select **Apply Signature**.

When the application is certified, the panel closes and the user returns to the Search, where the status is shown as **Certified**. When the certified application is viewed by others, the user who certified the application is shown in the application.



## Command Button Actions

Some actions can be selected directly from the Search Results list. These include:

[Edit Draft](#)—Opens a Draft application in Edit mode.

[Clone](#)—Creates a Draft copy of a Submitted, Certified, or Approved application with a new application number.

[Revise](#)—Creates a Draft revision of a selected Approved, Certified, or Rejected application.

## Edit Draft

---

**Note:** Only Builders can edit application drafts.

---

To edit an application draft:

1. After a successful search with an eligible application selected (Draft status), select **Edit Draft**. The Application Data page is displayed (refer to [Exhibit 19](#)). Data is partially or completely provided.
2. Complete the remaining Application Data field using the guidance in [Field Definitions](#) on page 57. For each field:
  - a. Optional: Add/remove Comments as needed to clarify the application. Refer to [Comments](#) on page 21.
  - b. Optional: Select **Save as Draft**, to ensure no work is lost during input.
3. Add drawings as needed. Refer to [Drawings](#) on page 22.
4. Select a processing option. See [Exhibit 35](#).

## Clone

**Note:** Only Builders can Clone existing Approved, Submitted, or Certified applications.

Cloning can save a great deal of time completing a new application. For example, if a customer had previously ordered 25 cars, and wants 25 more of the same, the builder can clone the original application and submit the new application with the new Equipment IDs, referencing the original approved request.

To clone an application:

1. Search for the eligible application, which must be in the Approved, Submitted, or Certified status. Select the application and select Clone. The Create Application from Prototype panel is displayed ([Exhibit 56](#)).

**Exhibit 56. Create Application from Prototype**

Create Application From Prototype H162112

Please select an application nature and builder, then click the Clone button at the lower right.

Prototype AAR No.:

New AAR No.:

Nature of Application:

Builder:

2. Select the Nature of Application from the drop-down list. Confirmation of the assigned AAR number is displayed ([Exhibit 57](#)).

**Exhibit 57. Create Application from Prototype Confirm**

### Create Application From Prototype H162112

New AAR Number N1799999903 has been assigned  
You may click the Clone button to edit your new draft

Please select an application nature and builder, then click the Clone button at the lower right.

Prototype AAR No.:

New AAR No.:

Nature of Application:

Builder:

3. Select **Clone**. The Edit Draft Application <New Number> panel is displayed (not shown, similar to [Exhibit 19](#)). Data is partially or completely provided.
4. Complete the remaining Application Data fields using the guidance in [Field Definitions](#) on page [57](#). For each field:
  - a. Indicate the new Reporting Marks & Car Numbers for the application.
  - b. Optional: Add/remove Comments as needed to clarify the application. Refer to [Comments](#) on page [21](#).
  - c. Optional: Select **Save as Draft**, to ensure no work is lost during input.
5. Add drawings as needed. Refer to [Drawings](#) on page [22](#).
6. Select a processing option. See [Exhibit 35](#).

## Revise

---

**Note:** Only Builders can Revise existing Approved, Rejected, or Submitted applications. **Revise** can only be performed once for an application. Thereafter, all work must be done on subsequent revisions.

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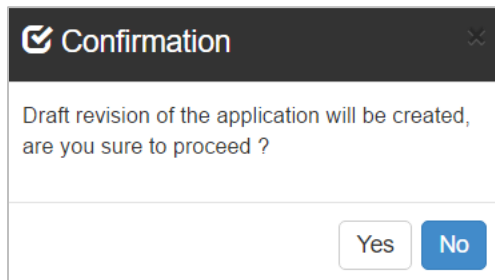
If an application is rejected and the builder wants to submit the application again with required changes; or an approved application needs equipment IDs added (not originally specified), the application can be revised.

### Approved or Rejected Status Revision

To revise an Approved or Rejected application:

1. Search for the eligible application, which must be in the Approved or Rejected status. Select the application and select **Revise**. A Confirmation panel is displayed ([Exhibit 58](#)).

#### *Exhibit 58. Confirmation for Revising an Approved Application*



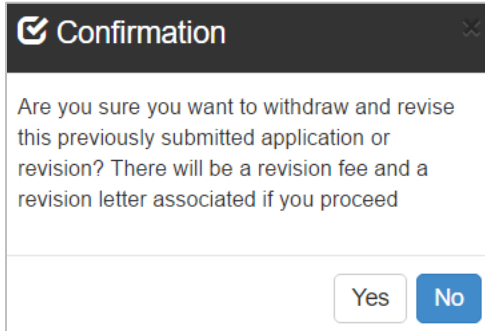
2. If unsure about the new draft, select **No**. Otherwise, select **Yes**. The Edit Draft Application <New lettered revision Number> panel is displayed (not shown, similar to [Exhibit 19](#))
3. Complete the remaining Application Data fields using the guidance in [Field Definitions](#) on page [57](#). For each field:
  - a. Optional: Add/remove Comments as needed to clarify the application. Refer to [Comments](#) on page [21](#).
  - b. Optional: Select **Save as Draft**, to ensure no work is lost during input.
4. Add drawing as needed. Refer to [Drawings](#) on page [22](#).
5. Select a processing option. See [Exhibit 35](#).

## Submitted Status Revision

To revise a Submitted application:

1. After a successful search with an eligible application highlighted (Submitted status), select **Revise**. A Confirmation panel is displayed ([Exhibit 59](#)).

### *Exhibit 59. Confirmation for Revising a Submitted Application*



2. If unsure about the new draft, select **No**. Otherwise, select **Yes**. The Edit Draft Application <New lettered revision Number> panel is displayed (not shown, similar to [Exhibit 19](#))
3. Complete the remaining Application Data fields using the guidance in [Field Definitions](#) on page [57](#). For each field:
  - a. Optional: Add/remove Comments as needed to clarify the application. Refer to [Comments](#) on page [21](#).
  - b. Optional: Select **Save as Draft**, to ensure no work is lost during input.
4. Add drawings as needed. Refer to [Drawings](#) on page [22](#).
5. Select a processing option. See [Exhibit 35](#).

## Tx (Transaction) History

The Tank Car Application for Approval and Certificate of Construction application allows builders to view the history of the transactions for their own records.

1. Select **Tx History** from the main menu. The Tx History search page is displayed ([Exhibit 60](#)).

### Exhibit 60. Transaction History Search

Transaction History

Application No:  Reset Search

2. Enter an application number.

**Note:** A specific application number must be entered. Wildcards are not allowed for this search.

3. Select **Search**. A summary list of matching application is displayed ([Exhibit 61](#)).

### Exhibit 61. Transaction History Search Results

ID	Time Stamp	Application Number	Status	Company
3221	08/26/2016 02:50:02 PM	N152100E	Approved	AAR
3220	08/26/2016 02:32:57 PM	N152100E	Pending AAR Review	AAR
3219	08/26/2016 02:29:23 PM	N152100E	Submitted	RAIL

4. Select a listed result to view details of the transaction. The Transaction History Detail page is displayed ([Exhibit 62](#)).

**Exhibit 62. Transaction Detail**

N152100E Transaction Detail

Transaction ID: 3221  
Timestamp: 08/26/2016 02:50:02 PM  
Application number: N152100E  
Status: Approved  
Company: AAR  
User: AAR

Field #	Name	Transaction Element Value	Previous Element Value
N/A	Approval Date	2016-08-26	
N/A	Approvers Name	John Doe	
N/A	Status of Application	Z	I

Previous Next Close

5. As desired, use the **Previous** and **Next** buttons to view additional detail records. Select **Done** to exit the Transaction Detail page.

## Documentation and Information Icons

### User Guide

When you select **Documentation** from the main menu, the Tank Car Application for Approval and Certificate of Construction User Guide PDF open in a new browser tab ([Exhibit 63](#)).

**Exhibit 63. Documentation Menu Item**



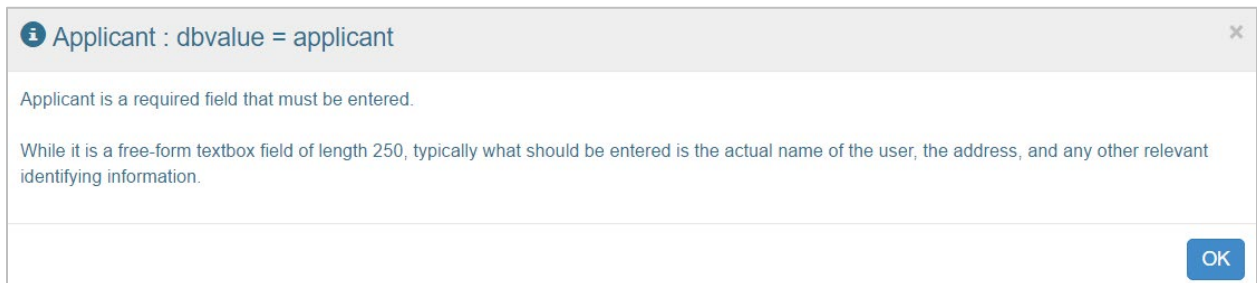
To exit the user guide, close the document tab.

---

### Information Icons

For detailed explanation about a field on the application, select the information icon (i) next to the field name. [Exhibit 64](#) shows an example of the field details when the Applicant field information icon is selected.

**Exhibit 64. Applicant Field Details after Information Icon is Selected**





## Glossary

Abbreviation or Term	Description
<b>AAR</b>	Association of American Railroads
<b>Application</b>	Application Form AAR 4-2. Once the form is approved and the builder certifies the application and Form AAR 4-2 becomes the tank cars certification of construction.
<b>Certify</b>	Applicant signs and dates Form AAR 4-2 stating that the foregoing conforms to all applicable DOT and AAR requirements, including specifications, regulations, rules of interchange, and the DOT Railroad Safety Appliance Standards.
<b>Certification</b>	The cars enumerated conform to the approved description and to all applicable DOT and AAR requirements, including specifications, regulations, rules of interchange, and the DOT Railroad Safety Appliance Standards. Copy of this Certificate of Construction will be furnished to the owner and others as required by 49 CFR Part 179.5 before these cars are placed in service.
<b>ITP</b>	Independent Third Party that has been certified by the AAR Tank Car Committee in accordance with Chapter 1 section 5 of the AAR Manual of Standards and Recommended Practices Section C-III Specifications for Tank Car (M-1002). ITP Engineers responsible for examining tank car applications to ensure they are in accordance with AAR, DOT, and TC requirements.
<b>ITP Checklist</b>	Form AAR 4-2, Attachment 1, which is prepared by the ITP and submitted to AAR prior to a review for approval or rejection of a tank car certificate of construction.
<b>Mark</b>	The 2–4 character abbreviation for a railroad, shipper, lease agent, shop, etc.

## Field Definitions

ID	Field Name	Type	Field Length*	Values/Format	Mandatory / Optional	Other Rules/Notes
1	Approval Requested of <i>(auto-populated by field 3.1)</i>	Radio button	1	One of the following: <b>P</b> – Precedent <i>(default)</i> <b>N</b> – Nonprecedent	M	<i>Not editable</i>
2	Type <i>(auto-populated by field 3.1)</i>	Dropdown	1	One of the following Blank <i>(default)</i> <b>C</b> – Construction <b>A</b> – Alteration <b>V</b> – Conversion <b>W</b> – Welded Repairs <b>O</b> - Other	M	<i>Not editable</i>
3	AAR No. <i>(auto-generated)</i>	Text Box	10	All	M	<i>Not editable.</i> First letter indicates the nature of the application, next 2 numbers indicate the year of application, last 4 numbers indicates next available number in applicant's series

## Field Definitions

ID	Field Name	Type	Field Length*	Values/Format	Mandatory / Optional	Other Rules/Notes
3.1	Nature of Application	Dropdown	1	<b>A</b> – Construction–Nonprecedent Committee Ballot <b>B</b> – Conversion–Nonprecedent Committee Ballot <b>C</b> – Alteration–Nonprecedent Committee Ballot <b>D</b> – Welded Repair–Nonprecedent Committee Ballot <b>E</b> – Other–Nonprecedent Committee Ballot <b>F</b> – Construction–Precedent AAR Approve <b>G</b> – Conversion–Precedent AAR Approve <b>H</b> – Alteration–Precedent AAR Approve <b>J</b> – Welded Repair–Precedent AAR Approve <b>K</b> – Other–Nonprecedent AAR Approve <b>L</b> – Construction–Nonprecedent AAR Approve <b>M</b> – Conversion–Nonprecedent AAR Approve <b>N</b> – Alteration–Nonprecedent AAR Approve <b>P</b> – Welded Repair–Nonprecedent AAR Approve <b>Q</b> – Other–Nonprecedent AAR Approve	M	<i>Not editable.</i> First letter indicates the nature of the application, next 2 numbers indicate the year of application, last 4 numbers indicates next available number in applicant's series
3.2	Revision Number		3			<i>Not editable</i>
4	Original Application Date <i>(auto-generated)</i>	Date	10	Date (MM/DD/YYYY)	M	Date of Original application
4.1	Order Date	Date	10	Date (MM/DD/YYYY)	M	The value specifies the date which the customer placed an order with the Tank Car Builder to build tank cars made to the specifications of the application. This date can be in the future.
5	Applicants No.	Text Box	10	All	O	Builder lot number
6	Applicant	Text Box	1000/100	All	M	Applicant must be the tank car builder

## Field Definitions

ID	Field Name	Type	Field Length*	Values/Format	Mandatory / Optional	Other Rules/Notes
7	Tank Specification	Dropdown	50	One of the following: None (default) Refer to <a href="#">Appendix A</a>	M	Subset of field A072 in Umler. Output value will not include DOT or AAR in front of the specification
8	Stenciled Specification	Dropdown	50	One of the following: None (default) Refer to <a href="#">Appendix A</a>	M	Subset of field A237 in Umler. Output value will not include major class nor DOT/AAR in front of the specification
9	Reporting Marks/Car Numbers	Text Box	300	All	M	Reporting marks and car numbers covering the cars in question at time of applying for approval
10	Number Of Cars (auto-generated)	Numeric	4	Number		Total number of cars represented by the car numbers or series shown on line 9
11	Initial Commodity	Text Box	50	All	M	If the checkbox is selected instead of typing in commodity, note contains default note regarding products authorized by DOT Part 173
12	Density (lbs. per gallon)	Numeric	12/7	All (including decimal and fractions)	M	Valid range is 0 to 9999.99 lbs/gallon
13	Full Water Capacity (gallons)	Numeric	12/5	All (including decimal and fractions)	M	Numeric in the range of 0 to 99999 gallons
14	Dome Capacity or Outage (Gallons)	Dropdown	30	All (including decimal and fractions)	M	Provided in dropdown
15	Material Type and Grade Heads	Dropdown	50	One of the following: None (default) Refer to <a href="#">Appendix B</a>	M	Provided in dropdown and output file
15.1	Tank Head Material Normalized	Dropdown	50	One of the following: None (default) N – No Y – Yes	O	Provided in dropdown
15.2	Tank Head Spliced	Dropdown	50	One of the following: None (default) N – No Y – Yes	M	Provided in dropdown
15.3	Charpy Requirements	Dropdown	50	One of the following: None (default) -30F Longitudinal, -30F Transverse, -50F Longitudinal	O	Provided in dropdown
16	Material Type and Grade Shell	Dropdown	50	One of the following: None (default) Refer to <a href="#">Appendix B</a>	M	Provided in dropdown and output file

## Field Definitions

ID	Field Name	Type	Field Length*	Values/Format	Mandatory / Optional	Other Rules/Notes
16.1	Tank Shell Material Normalized	Dropdown	50	One of the following: None ( <i>default</i> ) N – No Y – Yes	O	Provided in dropdown
16.2	Charpy Requirements	Dropdown	50	One of the following: None ( <i>default</i> ) N – No Y – Yes	O	Provided in dropdown
17	Material Thickness Heads (Inches)	Numeric	12/8	All (including decimal and fractions)	M	Valid range is .25 to 1.3 inches
18	Material Thickness Shell (Inches)	Numeric	12/8	All (including decimal and fractions)	M	Valid range is .1875 to 1.3
19	Lining Type	Dropdown	200	One of the following: None ( <i>default</i> ) Refer to <a href="#">Appendix C</a>	O	Provided in dropdown and output file
20	Inside Diameter – Center (Inches)	Numeric	12/9	All (including decimal and fractions)	M	Valid range is 0 and 999999.9999
21	Inside Diameter – End Rings (Inches)	Numeric	12/9	All (including decimal and fractions)	M	Valid range of 0 and 999999.9999
22	Head Radius, Main (Inches If Not 2:1)	Text Box	12	All (including decimal and fractions)	M	Valid number in inches and parts of inches
23	Test Pressure (PSI)	Numeric	12/6	All (including decimal and fractions)	M	Valid range of 60-600 psi, 100 psi or 300+ psi
24	Insulation Type	Dropdown	50	One of the following: None ( <i>default</i> ) Refer to <a href="#">Appendix D</a>	O	Provided in dropdown and output file
25	Insulation Thickness (Inches)	Numeric	12/5	All (including decimal and fractions)	O	Valid range of .5 to 12 inches
26	Thermal Conductivity, (BTU-IN/HR- FT <sup>2</sup> -°F)	Numeric	12/7	All (including decimal and fractions)	O	Valid range of 0 to 9999999
27	Type Of Safety Relief Devices	Dropdown	50	Valve ( <i>default</i> ), Combination, Vent or Total Controlled Prod	M	Provided in dropdown and output file
27.1	Number of Safety Relief Devices	Numeric	12/1	All (including decimal and fractions)	M	Valid value for Total Controlled Product is 0; for other devices, valid range of >0 and <=9
28	Pressure Relief Device Start-To- Discharge (PSI)	Text Box	12/8	All (including decimal and fractions)	M	Valid range of 0 to 99999999
29	Pressure Relief Device Flow Capacity (CFM Required)	Text Box	12/8	All (including decimal and fractions)	M	Valid range of 1 and 999999999
30	Pressure Relief Device Flow Capacity (CFM Actual)	Text Box	12/11	All (including decimal and fractions)	M	Valid range of 1 and 999999999
31	Tank Surface Area (Sq Ft.)	Text Box	12/8	All (including decimal and fractions)	M	Valid range of 0 and 9999.999

## Field Definitions

ID	Field Name	Type	Field Length*	Values/Format	Mandatory / Optional	Other Rules/Notes
32	Underframe Or Stub Sill Type	Dropdown	50	One of the following: None ( <i>default</i> ) Refer to <a href="#">Appendix E</a>	M	Provided in dropdown and output file
33	Center Of Gravity, Loaded, (Inches)	Numeric	12/7	All (including decimal up to 3 decimal places)	M	Valid range of 1 and 999
34	Estimate Light Weight (Lb.)	Numeric	12/6	All (including decimal and fractions)	M	Valid range of 31000 and 200000
35	AAR Clearance Diagram	Dropdown	50	One of the following: B ( <i>default</i> ), C, E or F	M	Provided in dropdown and output file
36	Rail Load Limit (Lb.)	Dropdown	12	One of the following: 263000, 286000	M	Provided in dropdown and output file
37	Truck Capacity (Tons)	Dropdown	12	One of the following: 100, 125	M	Provided in dropdown and output file
38	Head Shield Type	Dropdown and Text Box	50	One of the following: None ( <i>default</i> ) Refer to <a href="#">Appendix F</a>	O	Provided in dropdown and output file
38.1	Head Shield Thickness	Text Box	12/8	All (including decimal and fractions)	O	Required if Head Shield Type is F, H or T; valid range of .5 and 1.0
39	General Arrangement Drawing	Table	100/50	All (including decimal and fractions)	O	Drawings apply to Application
40	Tank Arrangement Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
41	Reinforced Openings, Including Calculations Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
42	Anchorage, Including Calculations Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
43	Fitting Arrangement Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
44	Manway Assembly Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
45	Protective Housing Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
46	Venting, Loading, And Discharge Valves Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
47	Pressure Relief Devices Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
48	Heater Systems Interior Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
49	Heater Systems Exterior Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
50	Gauging Devices Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
51	Bottom Outlet Valve Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
52	Repairs Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
53	Manway Cover Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application

## Field Definitions

ID	Field Name	Type	Field Length*	Values/Format	Mandatory / Optional	Other Rules/Notes
54	Calculations Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
55	Tank Qualification Drawing	Text Box	100/50	All (including decimal and fractions)	O	Drawings apply to Application
N/A	Other Related Drawings					
N/A	Supplement	Text Box	4000	All (including decimal and fractions)	O	<i>Not editable.</i> This field captures all information provided on the Form AAR 4-2.1
N/A	Notes	Text Box	300	All (including decimal and fractions)	O	<i>Not editable.</i> This field captures entered comments by field
N/A	Original Certificate	Text Box	12		M	Applications for conversion, alteration, or repair must indicate current specification, former lading, date built new, and previous certificate number(s) under "Notes" and must show specification and new commodity on line 7 and line 11, respectively. Supply a supplemental sheet, if necessary, to associate the car numbers with their previous certificate numbers.
N/A	Builder	Text Box	250	All	M	When a modification is made to an existing car the original builder is provided here
N/A	Date	Date	10	Date (MM/DD/YYYY)	O	When a modification is made to an existing car the original certificate date is provided here
N/A	Former Lading	Text Box	50	All	O	When a modification is made to an existing car the formal lading is provided here
N/A	Revisions	Text Box	100	All	O	Dates of revisions to the application must be shown in this field.

## Field Definitions

ID	Field Name	Type	Field Length*	Values/Format	Mandatory / Optional	Other Rules/Notes
N/A	Application By <i>Auto-populated from tank car builder info within application.</i>	Text Box	100	All	O	Applicants full name certifying that the AAR 4-2 application conforms to all applicable DOT and AAR requirements, including specifications, regulations, rules of interchange, and the DOT Railroad Safety Appliance Standards.
N/A	Signature <i>Auto-populated from tank car builder info within application.</i>	Assigned Image	100		O	Applicants signature certifying that the AAR 4-2 application conforms to all applicable DOT and AAR requirements, including specifications, regulations, rules of interchange, and the DOT Railroad Safety Appliance Standards
N/A	Title <i>Auto-populated from tank car builder info within application.</i>	Text Box	100	All	O	Applicants full job title certifying that the AAR 4-2 application conforms to all applicable DOT and AAR requirements, including specifications, regulations, rules of interchange, and the DOT Railroad Safety Appliance Standards.
N/A	Date Of Approval <i>Auto-populated.</i>	Date	10	Date (MM/DD/YYYY)	O	
N/A	Approval Signature <i>Auto-populated info from AAR within the application.</i>	Assigned Image				Signature on behalf of the Tank Car Committee (AAR Executive Director of Tank Car Safety, currently Ken Dorsey)
N/A	Certification Initials And Car Numbers	Text Box	50	All		



## Field Definitions

ID	Field Name	Type	Field Length*	Values/Format	Mandatory / Optional	Other Rules/Notes
68	Name Of Person Certifying Application <i>Auto-populated from tank car builder info within application.</i>	Text Box	50	All		Typically performed by the applicants QA manager. Applicants certifying that the AAR 4-2 application conforms to all applicable DOT and AAR requirements, including specifications, regulations, rules of interchange, and the DOT Railroad Safety Appliance Standards.
69	Certification <i>(auto-populated)</i>	Date	10	Date (MM/DD/YYYY)		
70	Title Of Person Certifying Application	Text Box	50	All		

\*When database field length and UI input length are identical, only one value appears representing both. Otherwise two values will appear, the length of the field stored in the database/the length of the UI input bounding of the field.

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## Appendix A Tank Specification

Value	Description of Value provided in dropdown (e.g., 103 = DOT 103)	Value	Description of Value provided in dropdown (e.g., 103 = DOT 103)	Value	Description of Value provided in dropdown (e.g., 103 = DOT 103)
203DW	AAR 203DW	105S100W	DOT 105S100W	112A200W	DOT 112A200W
203W	AAR 203W	105S200W	DOT 105S200W	112A340W	DOT 112A340W
204W	AAR 204W	105S300W	DOT 105S300W	112A400W	DOT 112A400W
206W	AAR 206W	105S400W	DOT 105S400W	112A500W	DOT 112A500W
207A20W	AAR 207A20W	105S500W	DOT 105S500W	112J200W	DOT 112J200W
207A28W	AAR 207A28W	105S600W	DOT 105S600W	112J340W	DOT 112J340W
207A40W	AAR 207A40W	106A500X	DOT 106A500X	112J400W	DOT 112J400W
207A40W6	AAR 207A40W6	106A800X	DOT 106A800X	112J500I	DOT 112J500I
207A48ALW	AAR 207A48ALW	107A	DOT 107A	112J500W	DOT 112J500W
207A48W	AAR 207A48W	109A100ALW	DOT 109A100ALW	112S200W	DOT 112S200W
207A60ALW	AAR 207A60ALW	109A200ALW	DOT 109A200ALW	112S340W	DOT 112S340W
207A60W	AAR 207A60W	109A300ALW	DOT 109A300ALW	112S400W	DOT 112S400W
207A80ALW	AAR 207A80ALW	109A300W	DOT 109A300W	112S500W	DOT 112S500W
207A80W	AAR 207A80W	110A1000W	DOT 110A1000W	112T200W	DOT 112T200W
208	AAR 208	110A2000W	DOT 110A2000W	112T340W	DOT 112T340W
211A100ALW1	AAR 211A100ALW1	110A500W	DOT 110A500W	112T400W	DOT 112T400W
211A100W1	AAR 211A100W1	110A600W	DOT 110A600W	112T500W	DOT 112T500W
211A100W3	AAR 211A100W3	110A800W	DOT 110A800W	113A60W	DOT 113A60W
211A100W5	AAR 211A100W5	111A100ALW	DOT 111A100ALW	113A90W	DOT 113A90W
211A100W6	AAR 211A100W6	111A100ALW1	DOT 111A100ALW1	113C120W	DOT 113C120W
211A200W1	AAR 211A200W1	111A100ALW2	DOT 111A100ALW2	114A340W	DOT 114A340W
211A60ALW1	AAR 211A60ALW1	111A100W1	DOT 111A100W1	114A400W	DOT 114A400W
211A60W1	AAR 211A60W1	111A100W2	DOT 111A100W2	114J340W	DOT 114J340W
211A60W7	AAR 211A60W7	111A100W3	DOT 111A100W3	114J400W	DOT 114J400W
211J100W1	AAR 211J100W1	111A100W4	DOT 111A100W4	114S340W	DOT 114S340W
103	DOT 103	111A100W5	DOT 111A100W5	114S400W	DOT 114S400W
105A100ALW	DOT 105A100ALW	111A100W6	DOT 111A100W6	114T340W	DOT 114T340W
105A100W	DOT 105A100W	111A100W7	DOT 111A100W7	114T400W	DOT 114T400W
105A100W	DOT 105A1DOW	111A60ALW	DOT 111A60ALW	115A60W1	DOT 115A60ALW
105A200ALW	DOT 105A200ALW	111A60ALW1	DOT 111A60ALW1	115A60W1	DOT 115A60W1
105A200W	DOT 105A200W	111A60ALW2	DOT 111A60ALW2	115A60W6	DOT 115A60W6
105A300W	DOT 105A300ALW	111A60W1	DOT 111A60W1	120A100W	DOT 120A100W
105A300W	DOT 105A300W	111A60W2	DOT 111A60W2	120A200ALW	DOT 120A200ALW
105A400W	DOT 105A400W	111A60W5	DOT 111A60W5	120A200W	DOT 120A200W
105A500W	DOT 105A500W	111A60W6	DOT 111A60W6	120A300W	DOT 120A300W
105A600W	DOT 105A600W	111A60W7	DOT 111A60W7	120A400W	DOT 120A400W
105J100W	DOT 105J100W	111J100W1	DOT 111J100W1	120A500W	DOT 120A500W
105J200ALW	DOT 105J200ALW	111J100W3	DOT 111J100W3	120A600W	DOT 120A600W
105J200W	DOT 105J200W	111J100W4	DOT 111J100W4	120J100W	DOT 120J100W
105J300ALW	DOT 105J300ALW	111S100ALW2	DOT 111S100ALW2	120J200W	DOT 120J200W
105J300W	DOT 105J300W	111S100W1	DOT 111S100W1	120J600W	DOT 120J600W
105J400W	DOT 105J400W	111S100W2	DOT 111S100W2		
105J500I	DOT 105J500I	111S100W5	DOT 111S100W5		
105J500W	DOT 105J500W	111S100W6	DOT 111S100W6		
105J600I	DOT 105J600I	111S60ALW1	DOT 111S60ALW1		
105J600W	DOT 105J600W	111S60ALW2	DOT 111S60ALW2		

## Appendix B: Material Type and Grade—Head & Shell

Value	Description of Value provided in dropdown (e.g., 115 = AAR M115)
115	AAR M115
128A	AAR TC128 Gr. A
128B	AAR TC-128, Gr. B
129	AAR TC-129
130	AAR TC-130
131	AAR TC-131
132	AAR TC-132
133	AAR TC-133
134	AAR TC-134
15565	ASTM A515, Gr. 65
162	ASTM B162
201A	ASTM A201, Gr. A
201B	ASTM A201, Gr. B
2095052	ASTM B209, ALLOY 5052
2095083	ASTM B209, ALLOY 5083
2095086	ASTM B209, ALLOY 5086
2095154	ASTM B209, ALLOY 5154
2095254	ASTM B209, ALLOY 5254
2095454	ASTM B209, ALLOY 5454
2095652	ASTM B209, ALLOY 5652
212A	ASTM A212, Gr. A
212B	ASTM A212, Gr. B
240304	ASTM A240, TYPE 304

Value	Description of Value provided in dropdown (e.g., 115 = AAR M115)
240304L	ASTM A240, TYPE 304L
240316	ASTM A240, TYPE 316
240316L	ASTM A240, TYPE 316L
285A	ASTM A285, Gr. A
285B	ASTM A285, Gr. B
285C	ASTM A285, Gr. C
302B	ASTM A302 Gr. B
304L	ASTMA515, Gr. 70 -- 304L (DOT113)
316L	ASTMA516, Gr. 70 -- 316L (DOT115)
353	ASTM A353
51555	ASTM A515, Gr. 55
51560	ASTM A515, Gr. 60
51570	ASTM A515, Gr. 70
5157128	A -- 515, Grade 70 and AAR TC-128
51655	ASTM A516, Gr. 55
51660	ASTM A516, Gr. 60
51665	ASTM A516, Gr. 65
51670	ASTM A516, Gr. 70
5167128	A -- 516, Grade 70 and AAR TC-128
5371	ASTM A537, C1.1
537A	ASTM A537, Gr. A
537B	ASTM A537, Gr. B
89	ASTM A89

## Appendix C: Lining Type

Value	Description of Value provided in dropdown [e.g., L = Lead lined (any thickness)]
<b>B</b>	Nickel electroplating, e.g., Bart, (Not applicable to Major Class 19)
<b>F</b>	Fiberglass
<b>K</b>	Electroless plating, e.g., Kanigen
<b>L</b>	Lead lined (any thickness)
<b>R</b>	Rubber (applied in sheet form). Applicable to Carbon Steel cars only
<b>T</b>	Paint, Phenolic, Epoxy and metal spray deposits such as Lithcote, Amercoat, Hersite, PPG Columbia #7 Neoprene Rubber Latex
<b>V</b>	PolyVinyl Chloride

## Appendix D: Insulation Type

<b>Value</b>	<b>Description of Value provided in dropdown (e.g., CF = Ceramic Fiber)</b>
<b>CF</b>	Ceramic Fiber
<b>CK</b>	Cork
<b>CR</b>	Cork and Closed Cell Rubber Foam
<b>FC</b>	Fiberglass & Ceramic Fiber
<b>FG</b>	Standard Fiberglass
<b>FS</b>	Fiberglass and Spray On Foam
<b>FT</b>	High Temp Fiberglass
<b>MW</b>	Mineral Wool
<b>PC</b>	Polyurethane Foam and Ceramic Fiber
<b>PE</b>	Perlite
<b>PF</b>	Polyurethane Foam
<b>PI</b>	High Temperature Polyurethane Foam
<b>RF</b>	Rubatex
<b>SP</b>	Spray On Exterior Thermal Protection
<b>UE</b>	(or just +U+) for Unequipped

## Appendix E: Underframe or Stub Sill Type

Value	Description of Value provided in dropdown (e.g., ACF100 = ACF100 Stub Sill Design)
ACF100	ACF100 Stub Sill Design
ACF200	ACF200 Stub Sill Design
ACF230	ACF230 Stub Sill Design
ACF270	ACF270 Stub Sill Design
ACF300	ACF300 Stub Sill Design
AMFABC	AMFABC Stub Sill Design
AMFJKL	AMFJKL Stub Sill Design
ARI300	ARI300 Stub Sill Design
CNC001	CNC001 Stub Sill Design
CNC002	CNC002 Stub Sill Design
DSLABC	DSLABC Stub Sill Design
DSLJKL	DSLJKL Stub Sill Design
EVAEVA	EVAEVA Stub Sill Design
EVAWBR	EVAWBR Stub Sill Design
FULL	FULL Sill Design
GAT016	GAT016 Stub Sill Design
GAT017	GAT017 Stub Sill Design
GAT018	GAT018 Stub Sill Design
GAT020	GAT020 Stub Sill Design
GAT090	GAT090 Stub Sill Design
GAT095	GAT095 Stub Sill Design
GAT096	GAT096 Stub Sill Design
GAT097	GAT097 Stub Sill Design
GAT098	GAT098 Stub Sill Design
GAT099	GAT099 Stub Sill Design
GAT100	GAT100 Stub Sill Design
GAT101	GAT101 Stub Sill Design
GAT102	GAT102 Stub Sill Design
GAT18A	GAT18A Stub Sill Design
GAT18B	GAT18B Stub Sill Design
GUL270	GUL270 Stub Sill Design
GULGUL	GULGUL Stub Sill Design
GULWBR	GULWBR Stub Sill Design
GUN001	GUN001 Stub Sill Design
HARHAR	HARHAR Stub Sill Design
HST080	HST080 Stub Sill Design
HST081	HST081 Stub Sill Design
HST098	HST098 Stub Sill Design
HSTABC	HSTABC Stub Sill Design
HSTJKL	HSTJKL Stub Sill Design
LOXLOX	LOXLOX Stub Sill Design
NACABC	NACABC Stub Sill Design
NACDEF	NACDEF Stub Sill Design
NACGHI	NACGHI Stub Sill Design
NACJKL	NACJKL Stub Sill Design
NACZBN	NACZBN Stub Sill Design
PENPEN	PENPEN Stub Sill Design

Value	Description of Value provided in dropdown (e.g., ACF100 = ACF100 Stub Sill Design)
PRO00F	PRO00F Stub Sill Design
PROCBO	PROCBO Stub Sill Design
PROCBR	PROCBRS tub Sill Design
PROCWO	PROCWO Stub Sill Design
PROFBR	PROFBR Stub Sill Design
PROZBA	PROZBA Stub Sill Design
PROZBD	PROZBD Stub Sill Design
PROZBF	PROZBF Stub Sill Design
PROZBG	PROZBG Stub Sill Design
PROZBH	PROZBH Stub Sill Design
PROZBI	PROZBI Stub Sill Design
PROZBL	PROZBL Stub Sill Design
PROZBN	PROZBN Stub Sill Design
PROZBR	PROZBR Stub Sill Design
RICRIC	RICRIC Stub Sill Design
RICWBR	RICWBR Stub Sill Design
RILRIL	RILRIL Stub Sill Design
RILWBR	RILWBR Stub Sill Design
TEXTEX	TEXTEX Stub Sill Design
TRN021	TRN021 Stub Sill Design
TRN022	TRN022 Stub Sill Design
TRN023	TRN023 Stub Sill Design
TRN024	TRN024 Stub Sill Design
TRNTY1	TRNTY1 Stub Sill Design
TRNTY2	TRNTY2 Stub Sill Design
TRNTY3	TRNTY3 Stub Sill Design
TRNTYA	TRNTYA Stub Sill Design
TWLTWL	TWLTWL Stub Sill Design
UTL00F	UTL00F Stub Sill Design
UTLCBO	UTLCBO Stub Sill Design
UTLCBR	UTLCBR Stub Sill Design
UTLCWO	UTLCWO Stub Sill Design
UTLFBR	UTLFBR Stub Sill Design
UTLZBA	UTLZBA Stub Sill Design
UTLZBB	UTLZBB Stub Sill Design
UTLZBC	UTLZBC Stub Sill Design
UTLZBD	UTLZBD Stub Sill Design
UTLZBE	UTLZBE Stub Sill Design
UTLZBF	UTLZBF Stub Sill Design
UTLZBG	UTLZBG Stub Sill Design
UTLZBH	UTLZBH Stub Sill Design
UTLZBI	UTLZBI Stub Sill Design
UTLZBL	UTLZBL Stub Sill Design
UTLZBN	UTLZBN Stub Sill Design
UTLZBR	UTLZBR Stub Sill Design

## Appendix F: Head Shields

Value	Description of Value provided in dropdown (e.g., F = Full Shield)
C	No Head Shield, but Head Protection
F	Full Shield
H	Half Shield
T	Trapezoid Shield
U	Unequipped

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