



TECM 5200 | TEAM X3

Content Audit

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1. EXECUTIVE SUMMARY

ZZ Trucks, a leading truck manufacturer, is actively transitioning to digital delivery for operator manuals, emphasizing a commitment to "content excellence" and an enhanced end-user experience. This concise report evaluates two operator manuals, providing general feedback on content and ensuring consistency during the digital transition. The analysis focuses on the current situation, methodologies employed, and a detailed examination of visual presentation, with conclusive recommendations to support ZZ Trucks' goals for a seamless transition to digital delivery.

The evaluation covers two manuals: Model Z11, Z33, and Z55 Operator's Manual, and Model Z77X Operator's Manual. The report outlines our analysis methods, results, and feedback based on ten criteria categorized into three themes: Conformance to ZZ Trucks Style Guide, Visual Presentation, and Consistency. The discussion encompasses content inventory, audit processes, and key takeaways based on our comprehensive analysis of ZZ Trucks' operator manuals.

2. METHODS

Our analysis focused on the Controls sections within ZZ Trucks' operator manuals, addressing the fundamental need for operators to use trucks seamlessly. This targeted approach aligns with the client's directive for operators to navigate controls easily. We selected approximately 20 pages from the various Controls sections to balance a comprehensive assessment with a manageable scope.

Considering the diverse audience (dealers, owners, and operators), our analysis accounted for the distinct needs of each persona:

- **Dealers** – *require comprehensive information for sales and support.*
- **Owners** – *seek manuals aiding maintenance.*
- **Operators** – *prioritize clarity for swift and confident navigation during truck operation.*

Understanding the unique requirements of each user group is integral to the audit, ensuring we tailor content to meet the expectations and needs of dealers, owners, and operators during the transition to digital delivery.

3. AUDIT CRITERIA

Figure 1 provides an expanded view of the criteria considered in our audit, categorized under three main themes. Additionally, Figure 2 provides a detailed breakdown of the specific pages audited within Manual Z11, Z33, Z55, and Manual Z77X.

Conformance to ZZ Trucks Style Guide	Visual Presentation	Consistency
ZZ Trucks Standardized Language	Relevance	Formatting
Acronyms	Visual Hierarchy	Language Style
Sentence Structure	White Space	Cross-Referencing
	Diagram & Table Quality	

Figure 1. Themes and criteria taken into consideration for the audit.

Manual Z11, Z33, Z55		
Chapter Number	Page Number(s)	Section
Chapter 3	52 and 53	Instrument Cluster
Chapter 3	54-55	ZZ Trucks Digital Display Controls
Chapter 3	55-58	ZZ Trucks Digital Display
Chapter 3	59 - 63	Selecting a View
Chapter 3	64 - 69	Configure Settings
Chapter 3	69	Drive Summary
Chapter 3	69	Driver Rewards (option)
Chapter 3	70	Driver Performance Assistant (option)
Chapter 3	71 - 73	Bulb Check
Chapter 3	73 - 82	Guide to Warning Symbols

Manual Z77X		
Chapter Number	Page Number(s)	Section
Chapter 3	48-52	Instrument Cluster
Chapter 3	53	Bulb Check
Chapter 3	53-63	Guide to Warning Symbols
Chapter 3	64-66	Gauges
Chapter 3	67	ZZ Trucks Digital Display
Chapter 3	68 and 69	Display Notifications
Chapter 3	70-73	Views
Chapter 3	74 and 75	Menu
Chapter 3	76	Post Trip
Chapter 3	76	Menu Control Switch

Figure 2. Manuals, page numbers, and sections audited.

3. SPREADSHEET

Our Excel file comprises three distinct spreadsheets. The first sheet outlines our audit criteria and grading scale, the second sheet contains audit findings for Manuals Z11, Z33, and Z55, and the third sheet contains findings for Manual Z77X. Text highlighted in red denotes suggestions for improvement.

4. GRADING SCALE

Our team used a tiered grading system—high, mid, and low—to evaluate our client’s content. Sections with 0 issues receive a high score, while those with 1-2 issues receive a mid score. Sections with 3 or more issues receive a low score.

High (0 mistakes or issues)	Mid (1 - 2 mistakes or issues)	Low (3 or more mistakes or issues)
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Figure 3. Audit grading scale.

5. RESULTS

5.1 CONFORMANCE TO ZZ TRUCKS STYLE GUIDE

5.1.1 ZZ Trucks Standardized Language

Without access to ZZ Trucks’ database of preferred terms or Acronym Library, our team performed the audit against the samples in the ZZ Trucks style guide.

We identified several issues during the audit, notably instances where the subject-verb-object (SVO) guideline was not consistently followed. This observation suggests that multiple writers may have contributed to the creation of the manual, indicating a potential deviation from the client's expectation of maintaining ZZ Trucks’ singular voice. The ZZ Trucks standardized language, encompassing elements like sentence structure, plays a pivotal role in establishing a cohesive and recognizable communication style.

5.1.2 Acronyms

Consistent acronym usage across both manuals is lacking. Several occurrences exist where a term is fully spelled out following its initial use as an acronym. For example, we found inconsistent acronym usage on page 59 of Manual Z77X. The acronym "DEF" follows the full spelling of "Diesel Particulate Filter" in the topic heading, which is appropriate. However, the term is subsequently spelled out twice in the paragraph's body. The acronym should have been used after its initial mention.

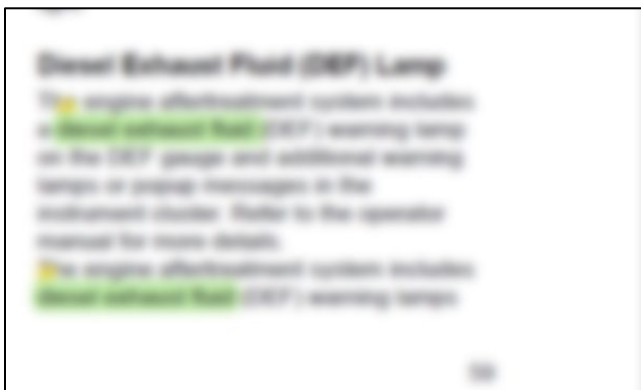


Figure 4. Acronym “DEF” should have been used in the paragraph. Manual Z77X, page 59.

There are also instances within both manuals where acronyms are introduced without initially spelling out the full term. For example, the acronym "PTO" is used without prior expansion of its meaning on page 67 of Manual Z77X.

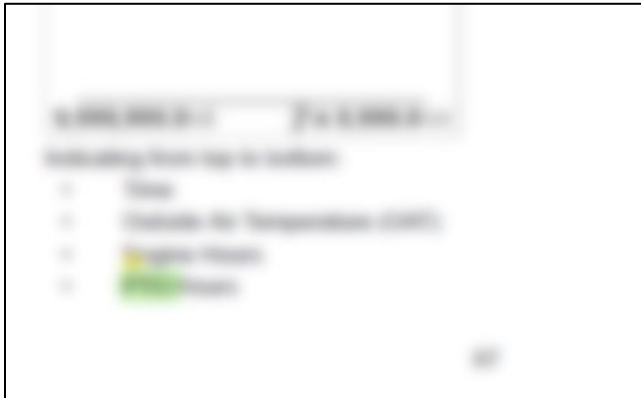


Figure 5. "PTO" should have been spelled out. Manual Z77X, page 67.

The deviation from the SVO guideline raises concerns about the uniformity of language used throughout the manual, potentially impacting the overall clarity and coherence of the content. Addressing these issues will align the manual with ZZ Trucks' desired singular voice and ensure a consistent and professional linguistic approach across all sections. For example, Figure 6 shows that the sections on the left follow the SVO guideline, but the sections on the right do not. This may indicate that two writers authored this page. This deviates from the client's desire to have readers only hear the ZZ Trucks' "voice" when reading their manuals.



Figure 6. Left side follows SVO guideline, the right side does not. Manual Z77X, page 61.

5.2 VISUAL PRESENTATION

The Visual Presentation theme encompasses four key criteria: relevance, visual hierarchy, white space, and diagram and table quality. Detailed notes on identified issues within the manuals can be referenced inside the marked-up Visual Presentation manuals in the appendix.

5.2.1 Relevance

Overall, we found imagery to be highly relevant and instrumental in helping ZZ Trucks' readers understand the concepts presented in the manuals. The inclusion of visuals proved particularly effective in facilitating the navigation of equipment and explaining various actions. We recommend continuing to incorporate imagery throughout the manuals, focusing on areas where visual aids can further clarify complex processes or technical information.

5.2.2 Visual Hierarchy

The visual hierarchy emerged as another positively graded theme in both manuals. The effective use of headlines and symbols provided clear distinctions between different sections, notes, and cautionary warnings. However, we identified certain general issues that could enhance the visual cues in conveying information.

For instance, bolded words lack sufficient contrast, making it difficult for individuals with visual impairments to read the text (see Figure 7). To address this issue, we recommend incorporating additional text decoration such as underlines or highlights to provide greater contrast for these actions throughout the manual.



Current action example	After recommended changes
	

Figure 7. Contrasting action example with recommendations. Manual Z11, Z33, Z55, page 55.

Additionally, different symbol sizes in the "Guide to the Warning Symbols" sections of both manuals may indicate erroneously implied visual hierarchy. When symbols are sized inconsistently, it may be implied that one symbol might be more important than the other – which may not be the intention. Figure 8 shows that the "Brake Trailer Hand" symbol is significantly smaller than the others on the page, indicating that it may not be important to understand.



Figure 8. Varied icon sizing example. Manual Z11, Z33, Z55, page 90.

5.2.3 White Space

We observed large amounts of white space throughout each manual. Too much white space can make it difficult to locate important information. Furthermore, too much white space can often give the impression of incomplete information. Figure 9 shows several particularly extreme examples of this issue.

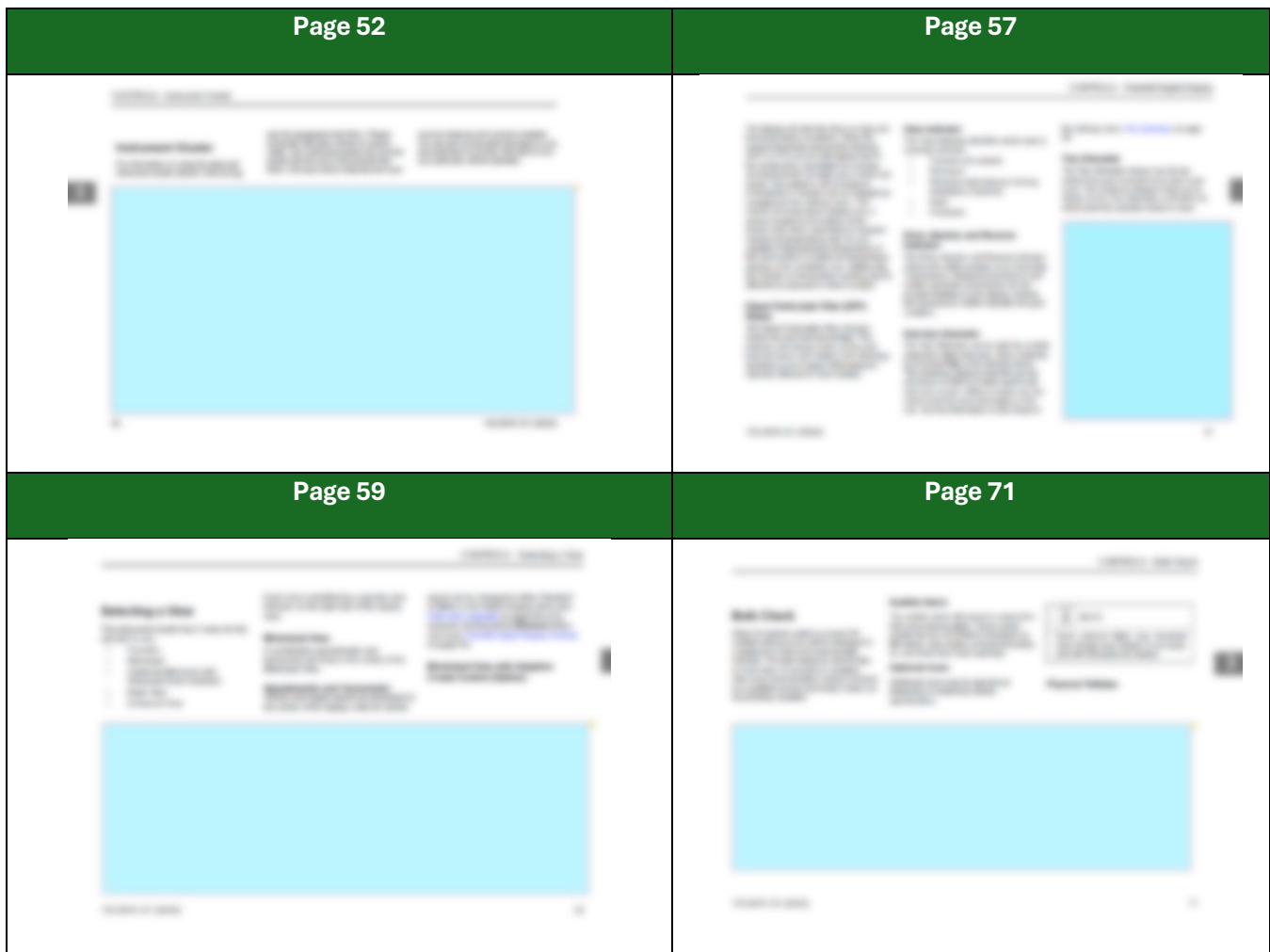


Figure 9. Large white space examples. Manual Z11, Z33, Z55, page 52, 57, 59, and 71.

5.2.4 Diagram & Table Quality

The most notable area of weakness within the visual presentation theme pertained to diagram and table quality. We identified issues regarding style consistency, image resolution, and the absence of labels in each manual. However, one consistent aspect was the use of a clockwise label system for illustrations, which aided in navigating parts within diagrams.

Style inconsistencies were prevalent in diagrams, particularly concerning the use of outlines versus fills for illustrations and symbols. In several instances, the use of outlines impeded the accurate interpretation of relevant details within the illustrations, rendering certain parts ineffective for conveying information. These issues varied, ranging from densely packed lines to overly thin lines and image pixelation, as depicted in Figure 10.

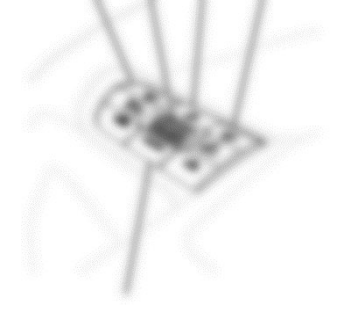
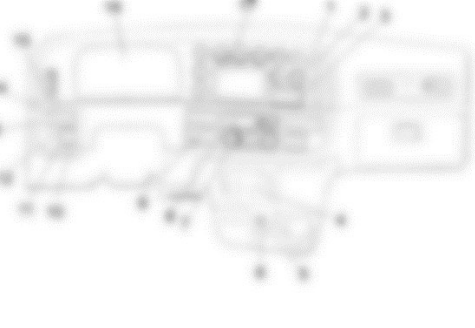

Dense line proximity	Thin line illustration	Image pixelation
		<p>Brakes, Parking Brake Valve</p>  <p>Pull yellow knob to activate parking</p>

Figure 10. Examples of outline and image inconsistencies.

Furthermore, we observed multiple instances of missing borders in information tables across both manuals, seemingly deviating from the guidelines outlined in the ZZ Trucks Style Guide. The absence of borders can detrimentally impact the readability of tables, although the style guide does not provide clear direction on the necessity of borders.

Addressing these issues is crucial to improving the overall quality and usability of the manuals, ensuring that readers can effectively access and comprehend the information presented.

5.3 CONSISTENCY

5.3.1 Formatting

We identified several formatting issues during our content audit of ZZ Trucks' operator manuals. For example, we recommend splitting two sentences into separate paragraphs for improved readability on page 55 of Manual Z11, Z33, Z55. Additionally, we recommend properly aligning the images on page 69 of Manual Z11, Z33, Z55 to enhance visual appeal (see Figure 11).



Figure 11. Misaligned image. Manual Z11, Z33, Z55, page 69.

We noted inconsistency in the spacing between paragraphs and images in both manuals. For example, we noticed incorrect paragraph spacing on page 72 of Manual Z11, Z33, Z55. Plus, we identified a heading that lacked accompanying information on page 73 of Manual Z11, Z33, Z55, suggesting a need for content completion.

These findings highlight areas for improvement in the formatting and presentation of the operator manuals to enhance user experience.

5.3.2 Structural

Our team identified several structural issues during the content audit of ZZ Trucks' operator manuals. We discovered an issue with the structural setup on page 56 of Manual Z11, Z33, Z55. We recommend reworking this section to improve information flow and readability. On page 57 of Manual Z11, Z33, Z55,

we noted that a paragraph of information was by itself without a heading. We recommend aligning the paragraph with the preceding or succeeding page to enhance cohesion. On page 58 of Manual Z11, Z33, Z55, we identified unevenly proportioned information. We recommend resizing the image for better balance.

Additionally, our team observed that information on page 61 of Manual Z11, Z33, Z55 was pushed to the top, resulting in excessive white space at the bottom and impacting the overall visual balance (see Figure 12). An image was also noted to appear random and out of place on page 62 of Manual Z11, Z33, Z55, affecting the document's coherence.



Figure 12. "Enhanced View" is pushed upward. Manual Z11, Z33, Z55, page 61.

On page 63 of Manual Z11, Z33, Z55, we identified several issues such as a missing label for #3 and inconsistent formatting of the heading and paragraph compared to "Basic View." We recommend structural improvements to ensure a seamless reading experience.

5.3.3 Language Style and Cross-Referencing

We discovered some issues on page 59 of Manual Z11, Z33, Z55 (Figure 13). First, there was a lack of "See ____" for directing hyperlinks. Additionally, we noted the paragraph was parenthesis-heavy. We suggest rewriting the content to achieve a more cohesive structure, improve overall readability, and provide clearer navigation.



Figure 13. Manual Z11, Z33, Z55, page 59.

These identified issues on pages 59 and 60 underscore the importance of refining language and presentation for a more user-friendly experience in the manuals.

6. CONCLUSIONS

6.1 SUGGESTIONS FOR IMPROVING CONFORMANCE

It is plausible that the ZZ Trucks style guide used by our team to audit the manuals was published after the manuals were released. This could account for the recurrent use of the term "popup(s)" instead of "notification(s)."

Addressing the issues related to acronyms and adherence to the SVO guideline would necessitate individual discussions with each writer on the team to ensure their comprehension of proper usage in each aspect. Such efforts align with our client's objective of ensuring that the ZZ Trucks' "voice" remains consistent and predominant throughout their manuals and other content.

6.2 SUGGESTIONS FOR IMPROVING VISUAL PRESENTATION

The primary areas requiring attention within the visual presentation theme were White Space and Diagram and Table Quality. To improve the visual presentation and enhance user experience, our team recommends clarifying the ZZ Trucks Style Guide direction on visual design, particularly the following aspects:

1. **Table design requirements** – include considerations for borders or the absence thereof.
2. **Symbol style** – focus on clarity regarding fills, outlines, and sizing.
3. **Diagram labeling style** – ensure consistency and ease of understanding.

Addressing these aspects will not only foster greater visual consistency but also significantly improve the readability of the manuals, enabling personas to access information efficiently.

Furthermore, we suggest exploring the possibility of transitioning to a 3D diagram illustration style akin to that seen in HY car manuals (Figure 14). This approach allows readers to quickly identify areas of reference to the vehicle, enhancing overall comprehension. HY's manuals also use zoomed "pop-ups" to view smaller details of an object, a feature worth considering for improved usability.



Figure 14. 3D car diagram example. HY Manual, page 20.

6.3 SUGGESTIONS FOR IMPROVING CONSISTENCY

We recommend implementing several improvements to enhance readability and clarity. First, consider formatting images to optimize white space utilization. Additionally, relocating certain details to adjacent pages could better integrate them with the succeeding paragraphs. Ensure consistency with previous heading formats and include any missing information for completeness. Address spacing issues to improve readability by appropriately spacing out paragraphs. Begin bullets and sentences as complete

sentences for consistency. Realign images to align with appropriate white space and replace unclear images with clearer alternatives.

In conclusion, we acknowledge that the practicality of revising the manuals to rectify these discrepancies may not be cost-effective. However, it is conceivable that these issues can be readily addressed when ZZ Trucks revises their manuals in preparation for their transition to digital delivery.

APPENDIX

This is a list of resources that we referenced or used within this audit. Direct links to materials can be selected for each item.

ZZ Trucks PDFs

- **ZZ Trucks Style Guide**
- **ZZ Trucks Manual 365, 367, 389**
- **ZZ Trucks Manual 520**
- **Content Audit Spreadsheet for Team X3**

Annotated PDFs for Manual 365, 367, 389

- **Conformance to ZZ Trucks Style Guide**
- **Visual Presentation**
- **Consistency**

Annotated PDFs for Manual 520

- **Conformance to ZZ Trucks Style Guide**
- **Visual Presentation**
- **Consistency**

HY PDF

- **2024 HY Owner Manual**