



CALS TEST NETWORK

CTN Test Report

92-015

AFTB-ID

92-025



Technical Publication Transfer Test

Using VSE Corporation



MIL-D-28001A (SGML)

MIL-R-28002A (Raster)



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Quick Short Test Report



10 November 1992

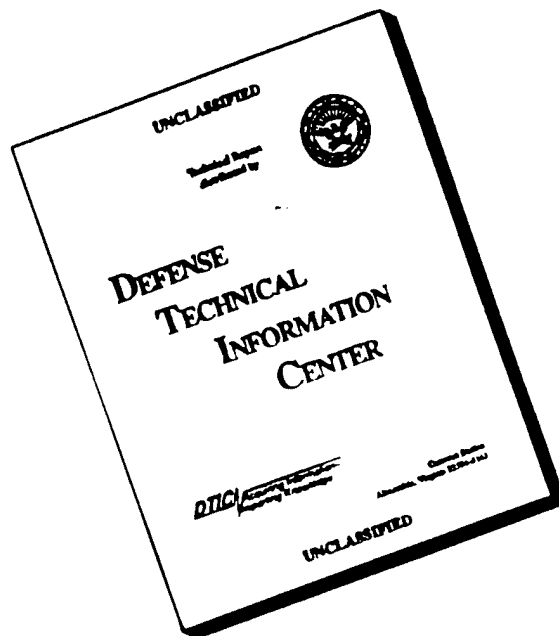
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Prepared for
Air Force Materiel Command

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**Technical Publication Transfer
Using VSE Corporation**

MIL-M-28001A (SGML)

MIL-R-28002 (Raster)

Quick Short Test Report

10 November 1992

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1. Introduction

1.1 Background

The DoD Computer-aided Acquisition and Logistics Support (CALs) Test Network (CTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The CTN is a DoD-sponsored confederation of voluntary participants from industry and government managed by the Air Force Materiel Command.

The primary objective of the CTN is to evaluate the effectiveness of the CALs Standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards, formal and informal. Formal tests are large, comprehensive tests that follow a written test plan, require specific authorization from DoD, and may take months to prepare, execute, and report.

Informal tests are used by the CTN technical staff to broaden the testing base by including representative samples of the many systems and applications used by CTN participants. They also allow the CTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALs initiative, and to respond, in a timely manner, to the many requests for help that come from participants. Participants take part voluntarily and are benefited by receiving an evaluation of their latest implementation (interpretation) of the standards, interacting with the CTN technical staff, gaining experience in use of the standards, and developing increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test reported in this QSTR was to analyze VSE Corporation's interpretation and use of the CALs Standards in transferring technical publications data. VSE Corporation used its CALs Technical Data Interchange System to produce data in accordance with the standards and delivered it to the CTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFTB 92-25

Date of Evaluation: 3 April 1992

Evaluator: George Elwood
Air Force CALS Test Bed
HQ AFMC/ENCT
4027 Colonel Glenn Hwy
Suite 200
Dayton, OH 45431-1601

Data Originator: Steve Weber
VSE Corporation
Marine Corp Systems Division
2760 Eisenhower Ave.
Alexandria, VA 22314

Data Description: Technical Manual Test
1 document declaration file
1 DTD
1 TEXT file
1 TEXT file
31 Raster files

Data Source System:

Text/SGML

HARDWARE
Sun 3/60
Sun 3/280

SOFTWARE
ProPub II
VSE Tag Conversion Program
Exoterica XGML Normalizer

Raster

HARDWARE
Sun 3/60

SOFTWARE
CAPS Graphics Translator

**Evaluation
Tools Used:**

MIL-STD-1840A (TAPE)

SUN 3/280

CTN Tapetools (v1.2.8) UNIX
Agfa Compugraphics CALS v40.4

MIL-M-28001 (SGML)

Cheetah Gold 486

Exoterica XGML V1.2e3.2
Datalogics ParserStation v3.36

MIL-R-28002 (Raster)

SUN 3/60

CTN Raster Tools
AGFA Compugraphics
Rosetta Technology Preview V3.1

Cheetah

Inset Systems HiJaak V2.02
Xerox Ventura Publisher

**Standards
Tested:**

MIL-STD-1840A

MIL-M-28001A

MIL-R-28002

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force Test Bed enclosed in a box IAW ASTM D 3951. The exterior of the box was marked with the required magnetic tape warning label, MIL-STD-1840A, para. 5.3.1.3.

The tape was enclosed in a barrier bag as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed the required label indicating the recording density as required by MIL-STD-1840A, para. 5.3.1. Enclosed in the box was a packing list showing all files that were recorded on the tape.

3.2 Transmission Envelope

The 9-track tape received by the Air Force Test Bed contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The 1840A Tape was run through the AFTB TAPETOOL utility version 1.2.8. Two warnings were encountered while evaluating the contents of the tape labels. All of the errors are shown in Appendix A, Section Two, Tape Import Log.

Both reported warnings were the same. Tapetool encountered carriage returns in the two text files, D001T032 and D001G033. This problem normally occurs when text files are generated on a PC and then transferred to a UNIX based system. While not an error, these characters could cause a problem on some systems.

**** WARNING - This variable length record type file contained carriage control characters. Carriage control characters are used as record terminators and are interpreted differently among dissimilar systems.*

The tape was also read using Agfa CAPS read1840A tape utility without a reported error.

3.2.2 Declaration and Header Fields

No errors were reported in the Declaration file or the data file header records.

4. IGES Analysis

No IGES files were included on the tape.

5. SGML Analysis

The DTD and text file from this document were tested using the Exoterica *XGMLNormalizer* parser. During the parsing operation on the DTD four errors were reported. The first error was the duplicate definition of the entity reference fax. The entity was added to the list of external graphics entities and was also found in the DTD. It was also noted that the "!" was missing from the line. This line was commented out. It was also noted that the DOCTYPE statement was also missing the "!".

```
<DOCTYPE doc PUBLIC "-//USA-DOD//DTD MIL-M-38784C 093090//EN" [
```

```
<NOTATION fax PUBLIC "-//USA-DOD//NOTATION CCITT Group 4 Facsimile//EN">
```

The second set of errors were reported immediately after the external graphics references. The classification line had the comment line constructed incorrectly. The comment out termination was inserted after the graphic entities and a second termination was inserted after the first of two classification statements. The first comment termination was removed and the DTD parsed without reported error.

```
Removed this termination _____ <!ENTITY fig6-6.2 SYSTEM "d001r0  
NDATA fax> ]> -->  
<doc service="MC" docid="TM 2350-25&P/2" security="uc"> -->  
<doc service="MC" docid="TM 2350-25&P/2" security="u">
```

Using the compiled DTD, the text file parsed without error.

The DTD and text file were then parsed using the Datalogics *Pars-erStation* software. The required changes were made to the DTD

and it parsed without reported error. The compiled DTD was then used to parse the text file. This was accomplished without a reported error. It should be noted that the DataLogics parser does not use the added memory capability of the computer. This limits the size of text files that can be parsed. If the menu structure is used, it is not possible to parse the complete document. If the command line parsing operation is used, it is possible to complete the task. This memory limitation made it impossible to use the USLynx *CALS Solution* software to generate sample pages from the document.

6. Raster Analysis

All 31 raster images were checked using the CTN *validg4* utility. File D001R006, D001R007, and D001R008 were reported as not meeting the CALS Standards. The error logs for these three files are included in the appendix to this report.

All sections of the raster files were converted using Rosetta Technologies *Prepare*. Files D001R006, D001R007, and D001R008 would not convert and reported that the files were bad. The remainder of the selected files converted without a reported error. The converted files were then viewed and printed using Rosetta's *Preview*. The printing was produced medium quality on a postscript printer with the exception of file D001R020 which was printed in high quality. The higher quality output indicates a very good raster image. No orphan pixels were noted on the selected files. The hard copies are included in the appendix to this report.

The files were then converted to an IMG format using Inset Systems *HiJaak*. These files were then inserted into a graphics document using Xerox *Ventura Publisher*. This document is included in the appendix to this report. *HiJaak* was able to convert files D001R006 and D001R007 but the files displayed that they were bad. *HiJaak* would not convert file D001R008.

7. CGM Analysis

No CGM files were included on the tape.

8. Conclusions and Recommendations

In summary, the MIL-STD-1840A tape from VSE Corporation was correct. The tape could be read using the software tools available in the Air Force CALS Test Bed with reported problems. Two warnings were generated by TAPETOOL on the use of carriage returns in the text files.

There were four reported errors in the DTD. Three of these errors relate to the incorrect placement of a comment termination. The other error was the duplicate definition of an entity. The text file parsed without reported error using the two parsers available in the AFCTB.

The 31 raster images were evaluated and three were found to be bad. The remaining raster images were valid and hard copies were made and are included in this report.

The tape from VSE Corporation, with the above noted exceptions, met the current CALS Standards.

9. Appendix A - Tape Tool Report Logs

9.1 Tape Catalog

CALS Test Network Catalog Evaluation - Version 1.2; Release Number 8

Standards referenced:

- MIL-STD-1840A (1987) - Automated Interchange of Technical Information
- ANSI X3.27 (1987) - File Structure and Labelling of Magnetic Tapes
for Information Interchange
- ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Apr 3 10:59:05 1992

MIL-STD-1840A File Catalog

File Set Directory: /cals/tapetool8/Set099

Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D001G033	DTD	D/00260	02048/000016	Extracted
D001R001	Raster	F/00128	02048/000006	Extracted
D001R002	Raster	F/00128	02048/000010	Extracted
D001R003	Raster	F/00128	02048/000082	Extracted
D001R004	Raster	F/00128	02048/000003	Extracted
D001R005	Raster	F/00128	02048/000014	Extracted
D001R006	Raster	F/00128	02048/000019	Extracted

<<<< PART OF LOG REMOVED HERE >>>>

D001R030	Raster	F/00128	02048/000006	Extracted
D001R031	Raster	F/00128	02048/000013	Extracted
D001T032	Text	D/00260	02048/000212	Extracted

Catalog Process terminated normally.

9.2 Tape Evaluation Log

CALS Test Network Tape Evaluation - Version 1.2; Release Number 8

Standards referenced:

ANSI X3.27 (1987) - File Structure and Labelling of Magnetic Tapes
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Fri Apr 3 10:58:08 1992

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1VSEC01

4

Label Identifier: VOL1
Volume Identifier: VSEC01
Volume Accessibility:
Owner Identifier:
Label Standard Version: 4

HDR1D001 VSEC0100010001000000 92069 00000 000000

Label Identifier: HDR1
File Identifier: D001
File Set Identifier: VSEC01
File Section Number: 0001
File Sequence Number: 0001
Generation Number: 0000
Generation Version Number: 00
Creation Date: 92069
Expiration Date: 00000
File Accessibility:
Block Count: 000000
Implementation Identifier:

HDR2D0204800260

00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 1.

***** Tape Mark *****

EOF1D001 VSEC0100010001000000 92069 00000 000001

Label Identifier: EOF1
File Identifier: D001
File Set Identifier: VSEC01
File Section Number: 0001
File Sequence Number: 0001
Generation Number: 0000
Generation Version Number: 00
Creation Date: 92069
Expiration Date: 00000
File Accessibility:
Block Count: 000001
Implementation Identifier:

EOF2D0204800260

00

Label Identifier: EOF2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

HDR1D001G033 VSEC0100010002000000 92069 00000 000000

Label Identifier: HDR1
File Identifier: D001G033
File Set Identifier: VSEC01
File Section Number: 0001
File Sequence Number: 0002
Generation Number: 0000
Generation Version Number: 00
Creation Date: 92069
Expiration Date: 00000
File Accessibility:
Block Count: 000000
Implementation Identifier:

HDR2D0204800260

00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

Actual Block Size Found = 2048 Bytes.

*** WARNING - This variable length record type file contained carriage control characters. Carriage control characters are used as record terminators and are interpreted differently among dissimilar systems.

Number of data blocks read = 16.

***** Tape Mark *****

EOF1D001G033 VSEC0100010002000000 92069 00000 000016

Label Identifier: EOF1
File Identifier: D001G033
File Set Identifier: VSEC01
File Section Number: 0001
File Sequence Number: 0002
Generation Number: 0000
Generation Version Number: 00
Creation Date: 92069
Expiration Date: 00000
File Accessibility:
Block Count: 000016
Implementation Identifier:

EOF2D0204800260

00

Label Identifier: EOF2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

HDR1D001R001 VSEC0100010003000000 92069 00000 000000

Label Identifier: HDR1
File Identifier: D001R001
File Set Identifier: VSEC01

File Section Number: 0001
File Sequence Number: 0003
Generation Number: 0000
Generation Version Number: 00
Creation Date: 92069
Expiration Date: 00000
File Accessibility:
Block Count: 000000
Implementation Identifier:

HDR2F0204800128

00

Label Identifier: HDR2
Recording Format: F
Block Length: 02048
Record Length: 00128
Offset Length: 00

***** Tape Mark *****

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 6.

***** Tape Mark *****

EOF1D001R001 VSEC0100010003000000 92069 00000 000006

Label Identifier: EOF1
File Identifier: D001R001
File Set Identifier: VSEC01
File Section Number: 0001
File Sequence Number: 0003
Generation Number: 0000
Generation Version Number: 00
Creation Date: 92069
Expiration Date: 00000
File Accessibility:
Block Count: 000006
Implementation Identifier:

EOF2F0204800128

00

Label Identifier: EOF2
Recording Format: F
Block Length: 02048
Record Length: 00128
Offset Length: 00

***** Tape Mark *****

<<<< PART OF LOG REMOVED HERE >>>>

***** Tape Mark *****

HDR1D001T032 VSEC0100010034000000 92069 00000 000000

Label Identifier: HDR1
File Identifier: D001T032
File Set Identifier: VSEC01
File Section Number: 0001
File Sequence Number: 0034
Generation Number: 0000
Generation Version Number: 00
Creation Date: 92069
Expiration Date: 00000
File Accessibility:
Block Count: 000000
Implementation Identifier:

HDR2D0204800260

00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

Actual Block Size Found = 2048 Bytes.

**** WARNING - This variable length record type file contained carriage control characters. Carriage control characters are used as record terminators and are interpreted differently among dissimilar systems.*

Number of data blocks read = 212.

***** Tape Mark *****

EOF1D001T032 VSEC0100010034000000 92069 00000 000212

Label Identifier: EOF1
File Identifier: D001T032
File Set Identifier: VSEC01
File Section Number: 0001
File Sequence Number: 0034

Generation Number: 0000
Generation Version Number: 00
Creation Date: 92069
Expiration Date: 00000
File Accessibility:
Block Count: 000212
Implementation Identifier:

EOF2D0204800260

00

Label Identifier: EOF2
Recording Format: D
Block Length: 02048
Record Length: 00260
Offset Length: 00

***** Tape Mark *****

***** Tape Mark *****

End of Volume VSEC01

End Of Tape File Set

Deallocating /dev/rmt0...

Tape Import Process terminated with 0 error(s), 2 warning(s),
and 0 note(s).

9.3 Tape File Set Validation Log

CALS Test Network File Set Evaluation - Version 1.2; Release Number 8

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information
MIL-R-28002 (1989) - Raster Graphics Representation In Binary
Format, Requirements For

Fri Apr 3 10:59:06 1992

MIL-STD-1840A File Set Evaluation Log

File Set: Set099

Found file: D001

Extracting Document Declaration Header Records...

Evaluating Document Declaration Header Records...

srcsys: VSE Corporation, Marine Corps Systems Division, 2760 Eisenhower Ave., Alexandr
22314

srcdocid: TM 2350-25&P/2

srcrelid: NONE

chglvl: ORIGINAL

dteis: 19920108

dstsys: CTN Wright-Patterson

dstdocid: TM 2350-25&P/2

dstrelid: NONE

dtetrn: 19920309

dlvacc: NONE

filcnt: G1,R31,T1

ttlcls: UNCLASSIFIED

doccls: UNCLASSIFIED

doctyp: Technical Publication

doctl: Special Mission Kits for AAV

Found file: D001G033

Extracting DTD Header Records...

Evaluating DTD Header Records...

srcdocid: TM 2350-25&P/2

dstdocid: TM 2350-25&P/2

notes: NONE

Saving DTD Header File: D001G033_HDR

Saving DTD Data File: D001G033_DTD

Found file: D001R001
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: TM 2350-25&P/2
dstdocid: TM 2350-25&P/2
txtfilid: W
figid: cover
srcgph: usmc
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 000720,000709
rdensty: 0600
notes: NONE

Saving Raster Header File: D001R001_HDR
Saving Raster Data File: D001R001_GR4

<<<< PART OF LOG REMOVED HERE >>>>

Found file: D001R031
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: TM 2350-25&P/2
dstdocid: TM 2350-25&P/2
txtfilid: W
figid: 6-6.2
srcgph: fig6-6.2
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 002111,002160
rdensty: 0600
notes: NONE

Saving Raster Header File: D001R031_HDR
Saving Raster Data File: D001R031_GR4

Found file: D001T032
Extracting Text Header Records...
Evaluating Text Header Records...

srcdocid: TM 2350-25&P/2
dstdocid: TM 2350-25&P/2
txtfilid: W
doccls: UNCLASSIFIED
notes: NONE

Saving Text Header File: D001T032_HDR
Saving Text Data File: D001T032_TXT

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

10. Appendix B - SGML Parser Logs

10.1 XGML Parser Log

No reported errors.

10.2 Datalogics Parser Log

No reported errors

11. Appendix C - Raster Files

11.1 Error Logs

11.1.1 D001R006

density = 600
path length = 1868
scan lines = 2190
bit format = MSB

error, scan length exceeds pel count
s=1 a0=0 bstop=1869 pos=0

file = r006.cal

11.1.2 D001R007

density = 600
path length = 1931
scan lines = 2434
bit format = MSB

error, scan length exceeds pel count
s=1 a0=0 bstop=1932 pos=0

file = r007.cal

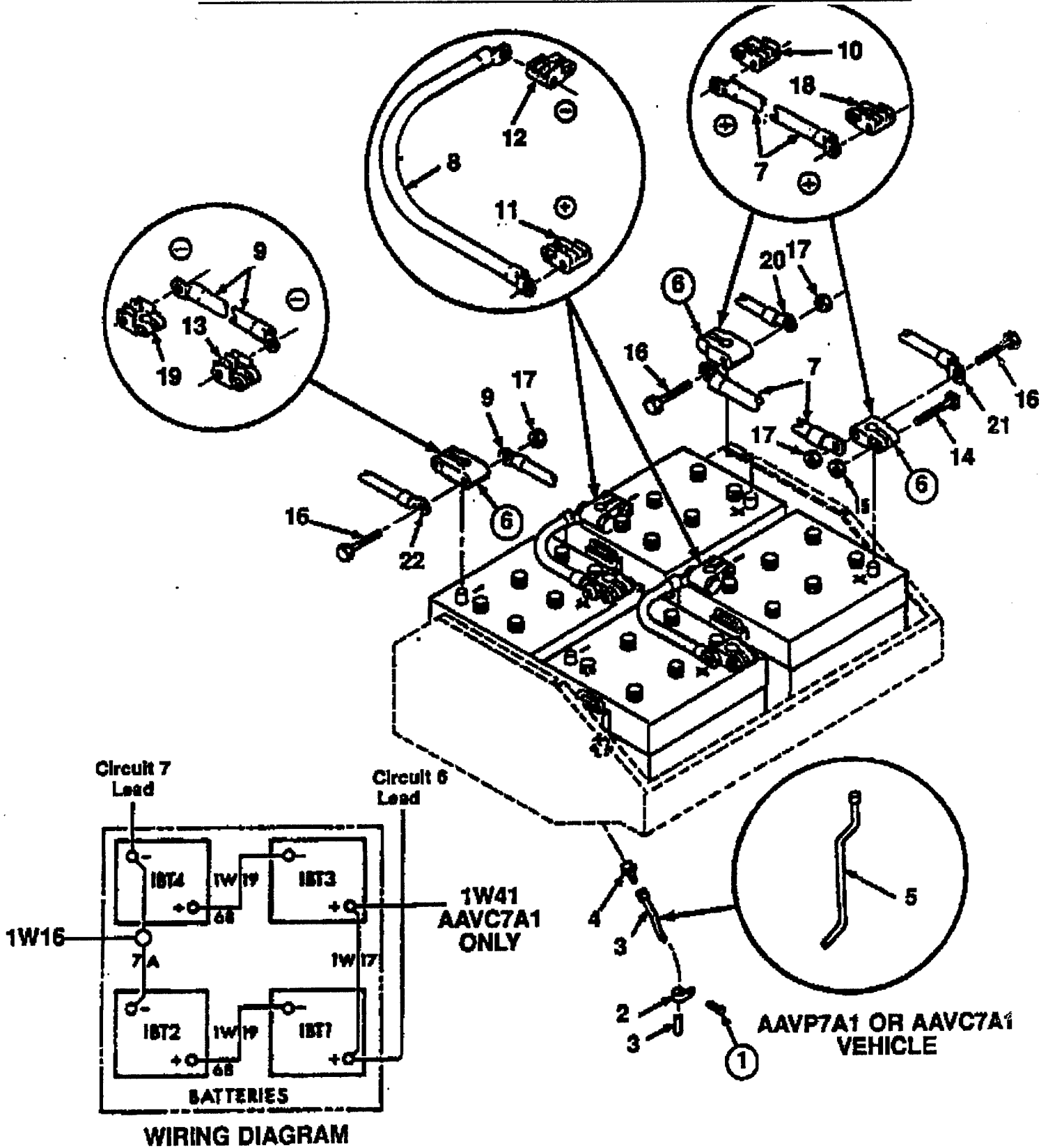
11.1.3 D001R008

density = 600
path length = 1879
scan lines = 2119
bit format = MSB

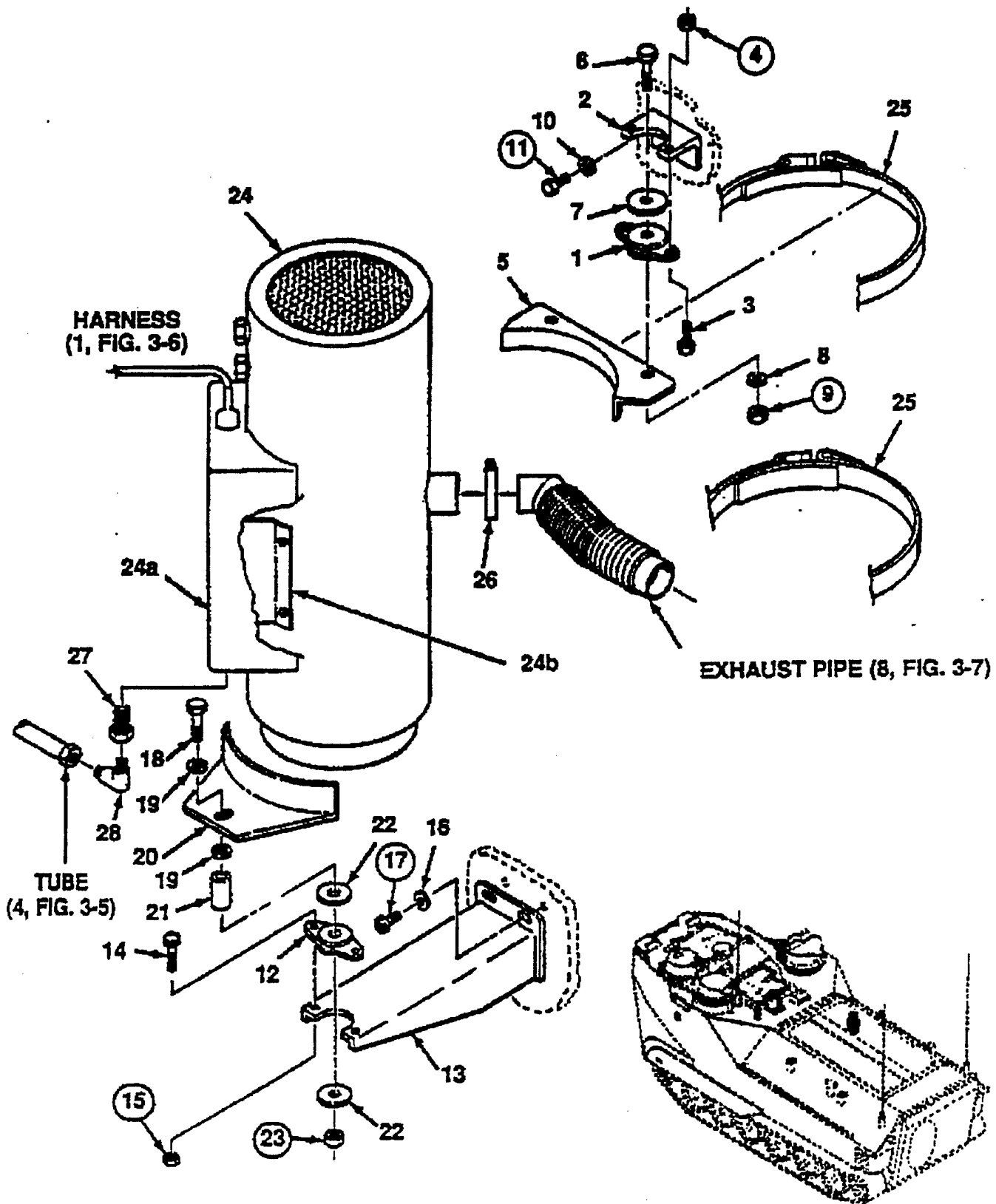
error, scan length exceeds pel count
s=39 a0=0 bstop=1909 pos=21

file = r008.cal

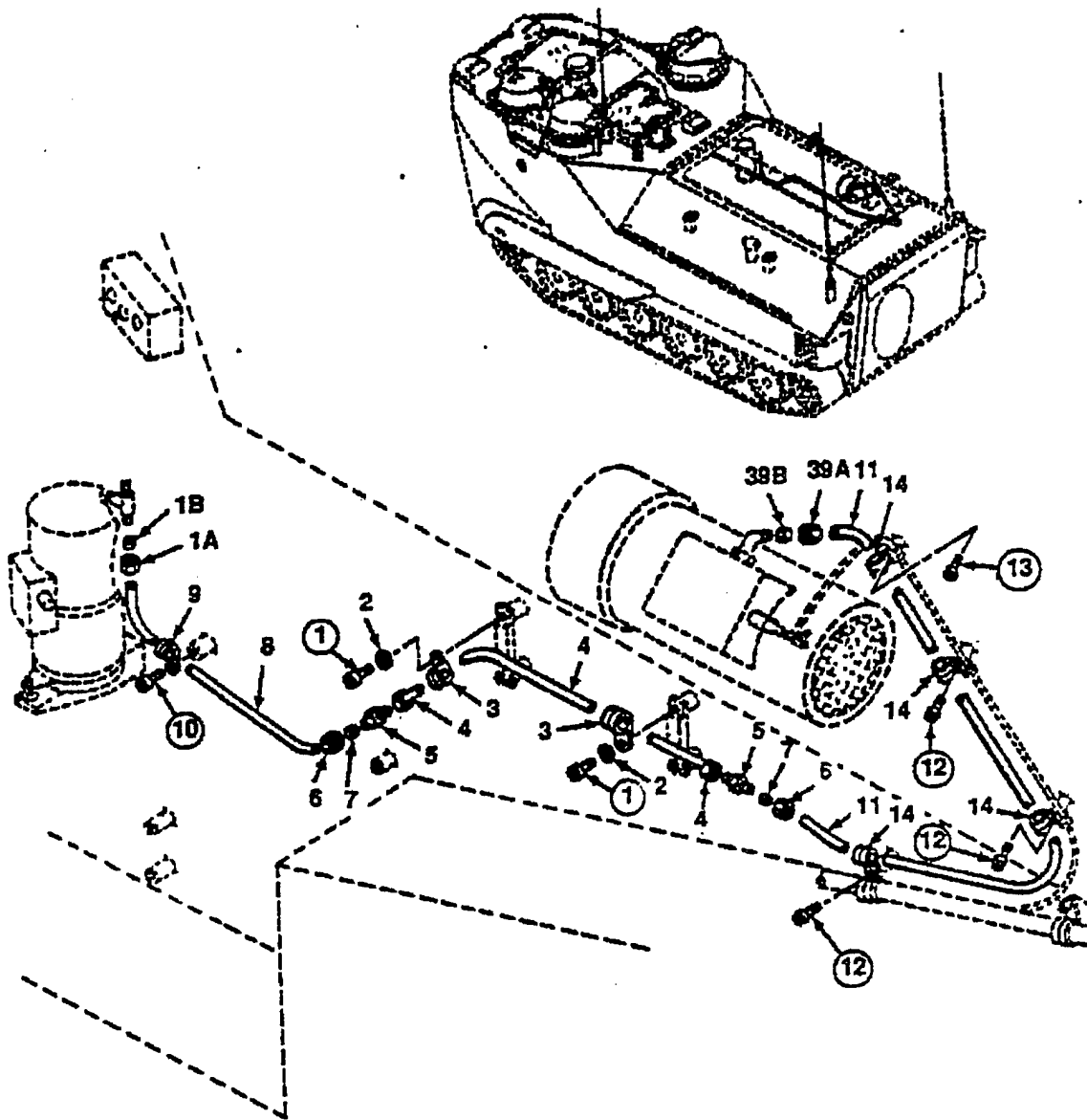
11.2 Preview
11.2.1 D001R005



11.2.2 D001R010

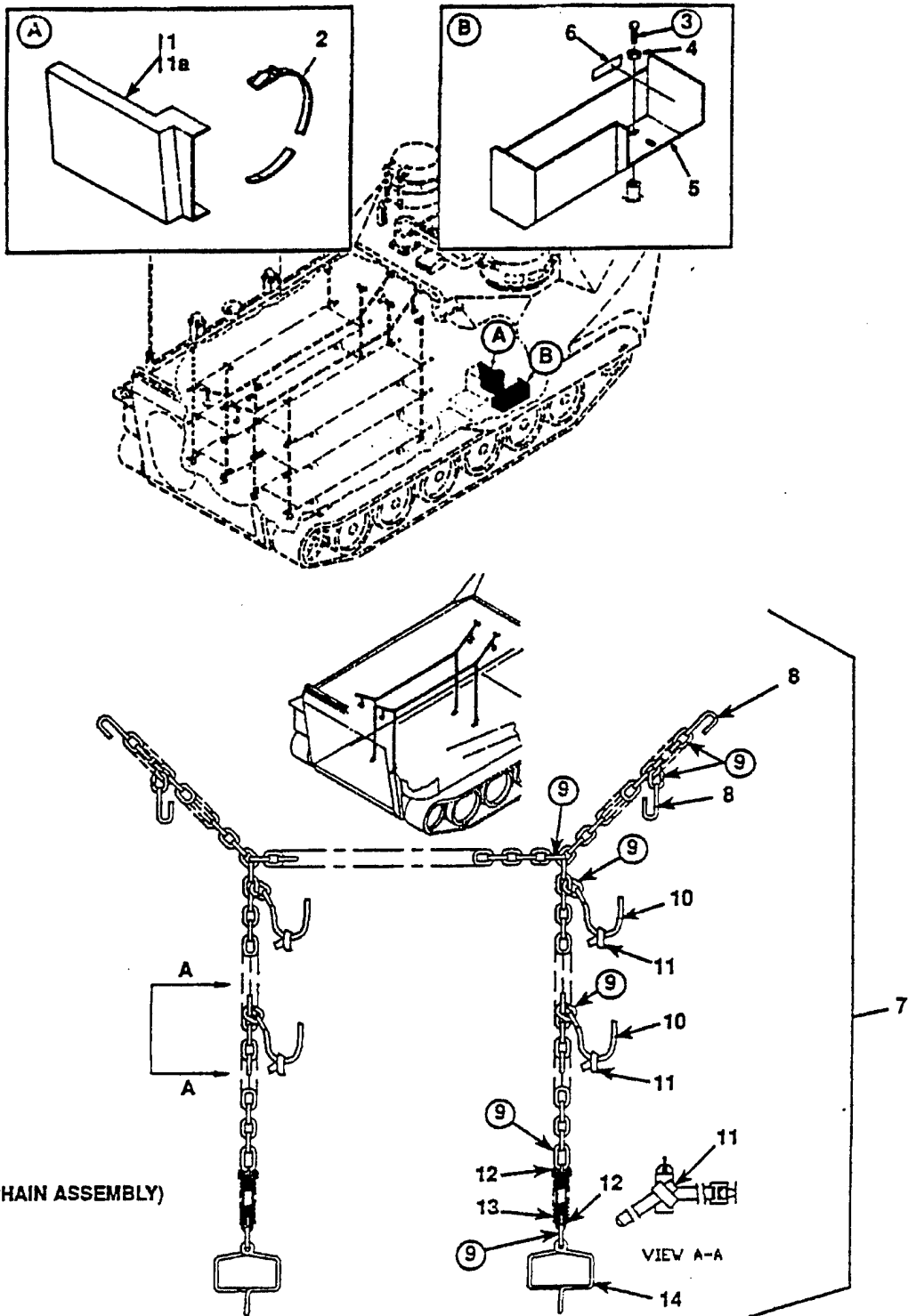


11.2.3 D001R015

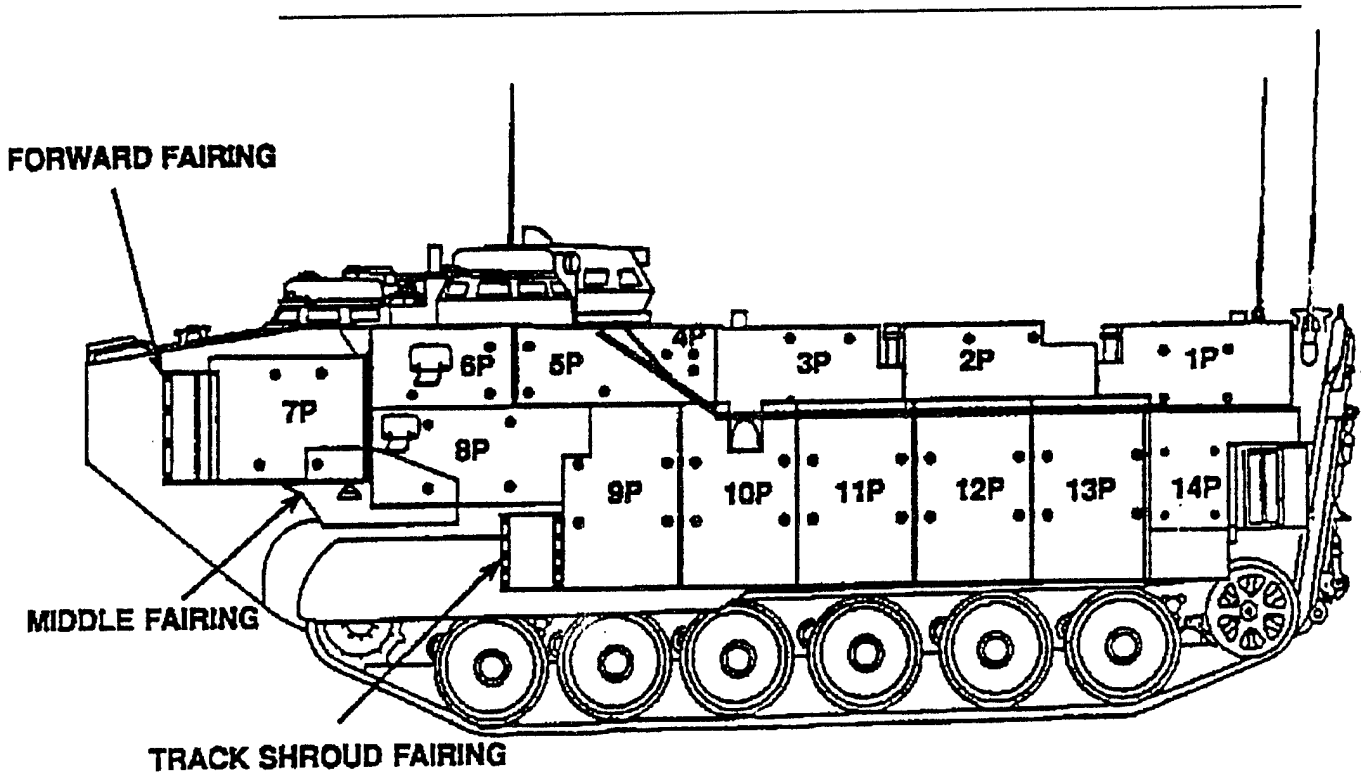


- NOTES:
1. Nut 1A and sleeve 1B are part of tee (1, Figure 3-5).
 2. Nut 39A and sleeve 39B are part of elbow (39, Figure 3-16).

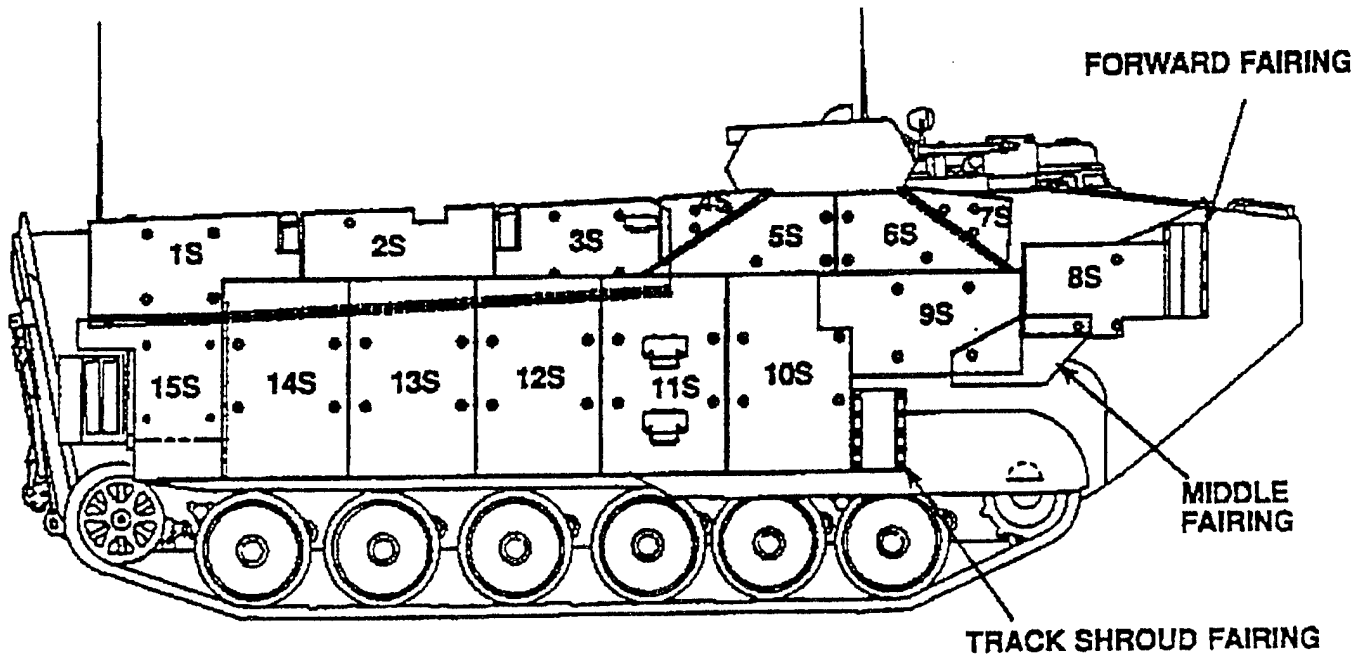
11.2.4 D001R020 - High Quality



11.2.5 D001R025

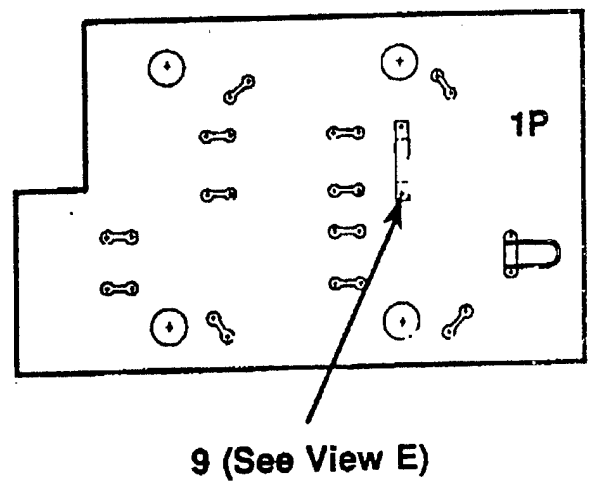
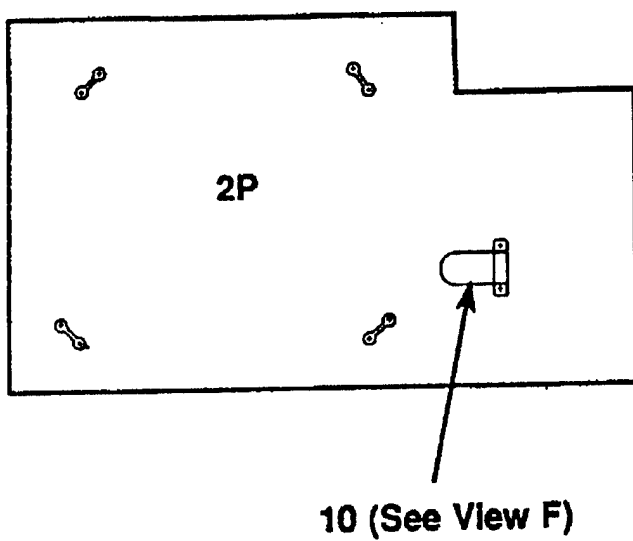
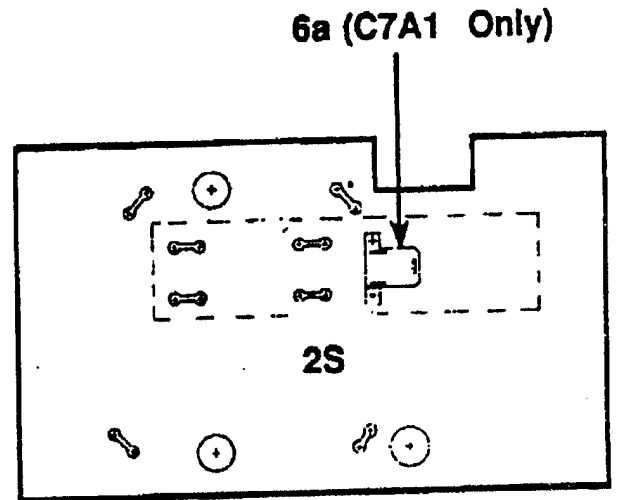
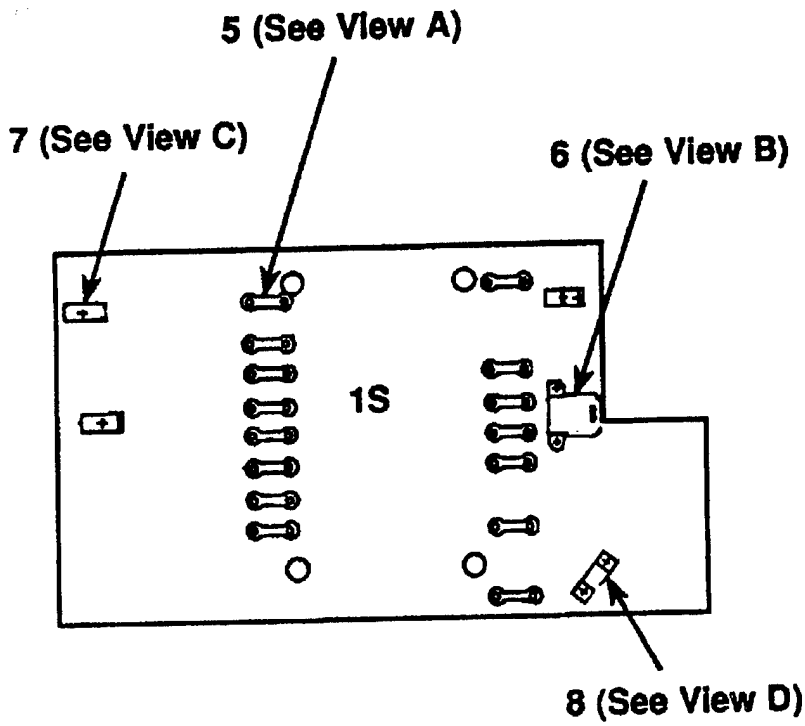


PORT

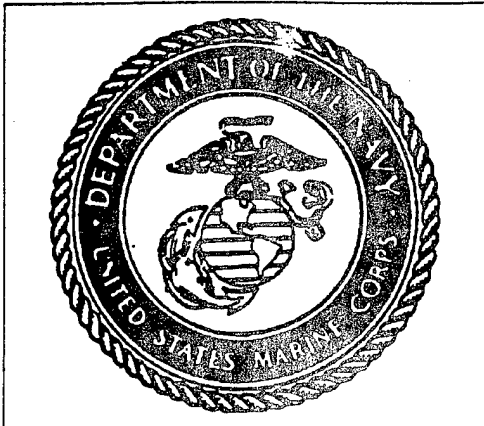


STARBOARD

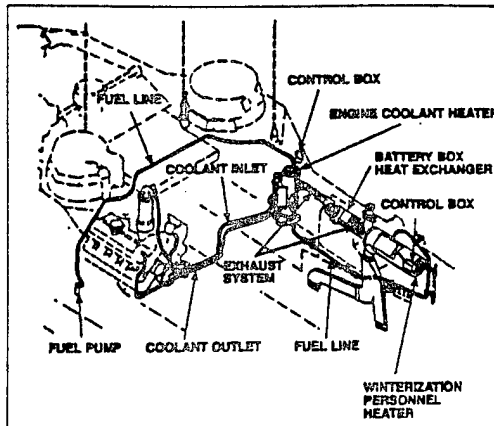
11.2.6 D001R030



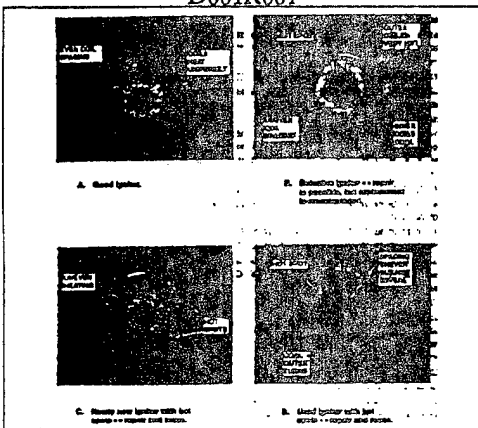
11.3 HiJaak/Ventura Publisher
11.3.1 D001R001 - D001R006



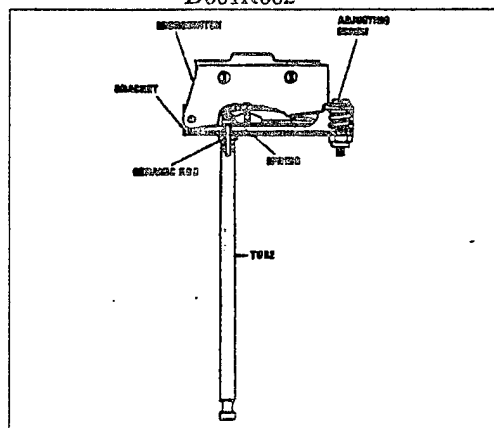
D001R001



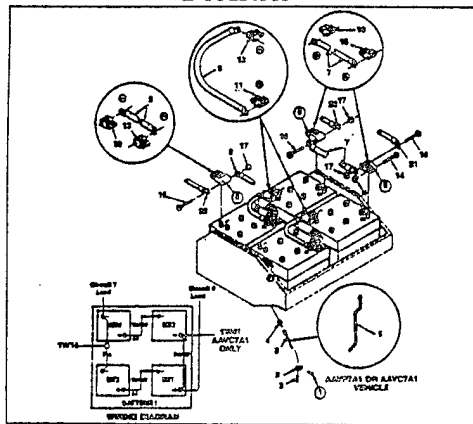
D001R002



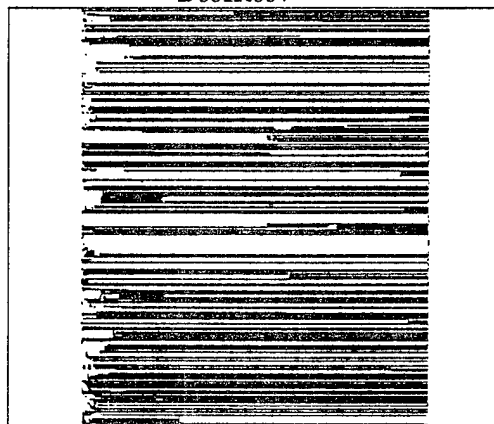
D001R003



D001R004

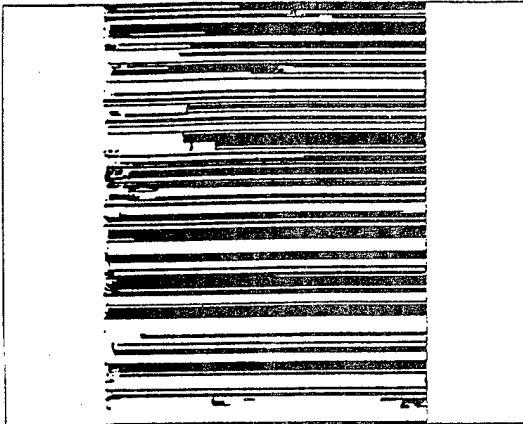


D001R005

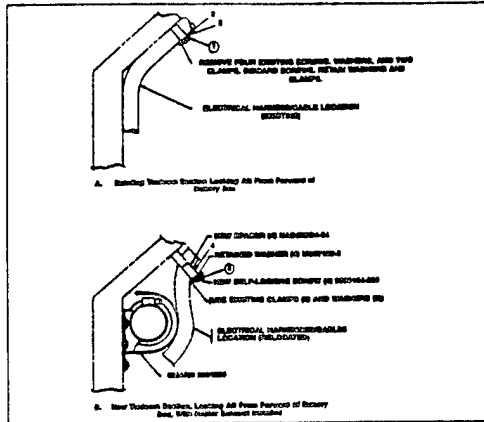


D001R006

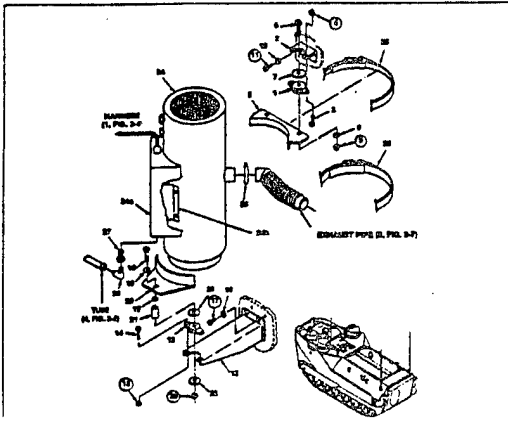
11.3.2 D001R007 - D001R013



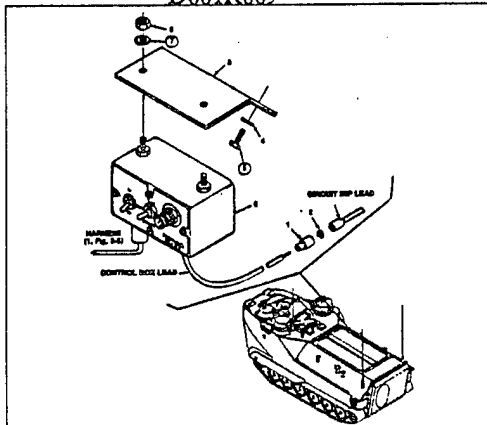
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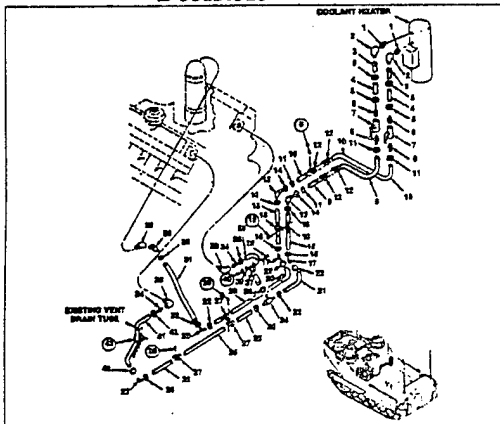
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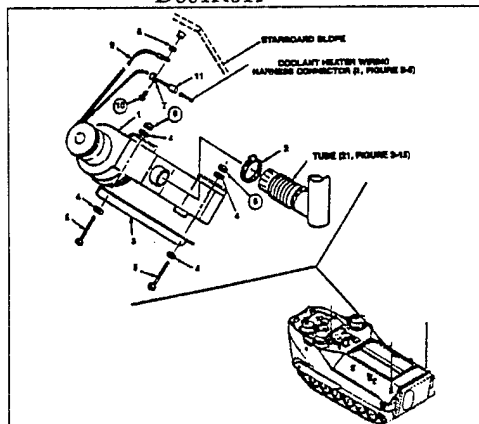
D001R010



D001R011



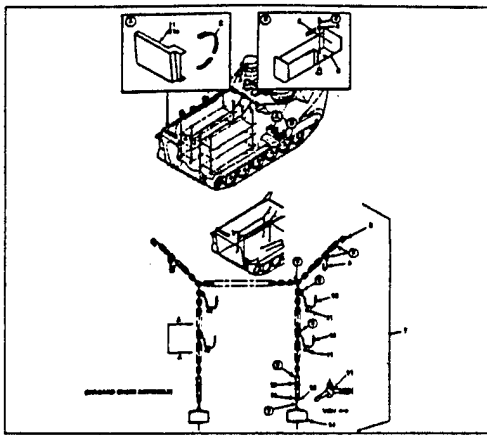
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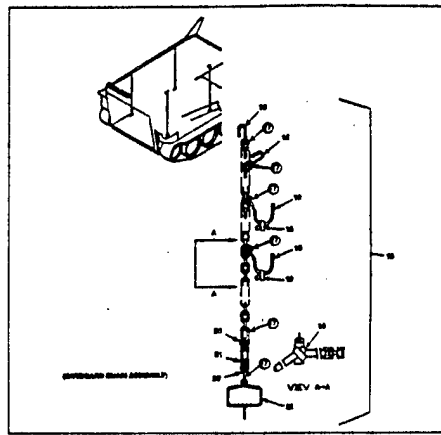
D001R013

11.3.3 D001R014 - D001R019

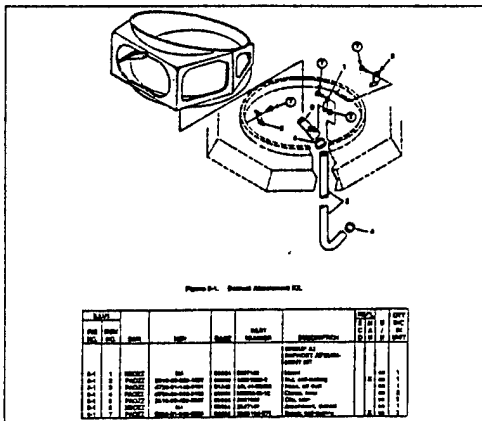
11.3.4 D001R020 - D001R025



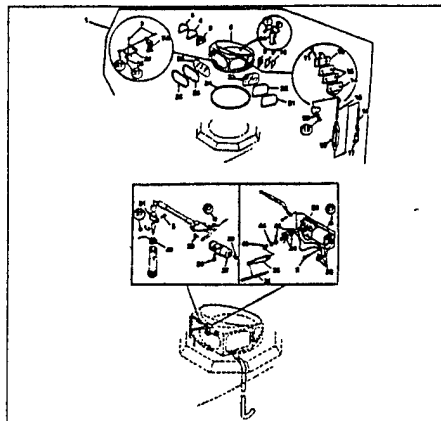
D001R020



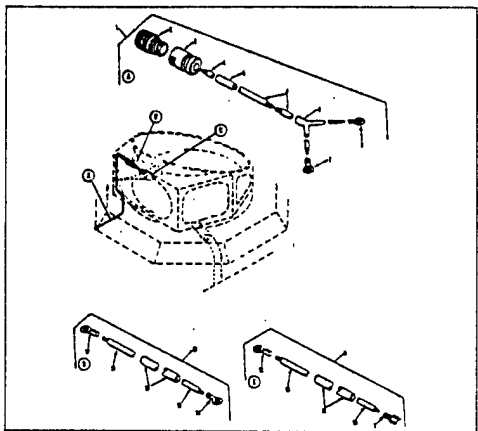
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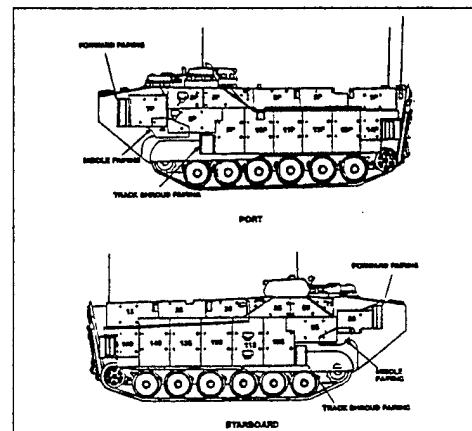
D001R022



D001R023

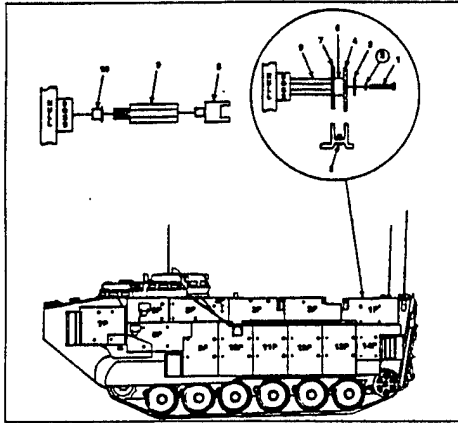


D001R024



D001R025

11.3.5 D001R026 - D001R031



D001R026

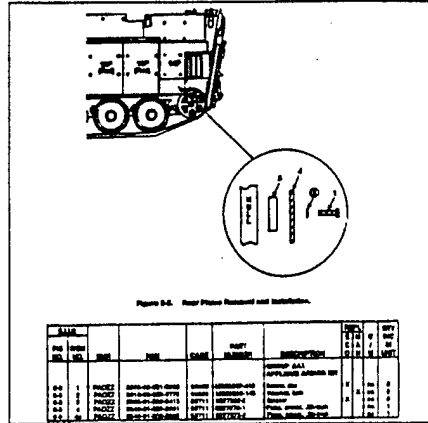
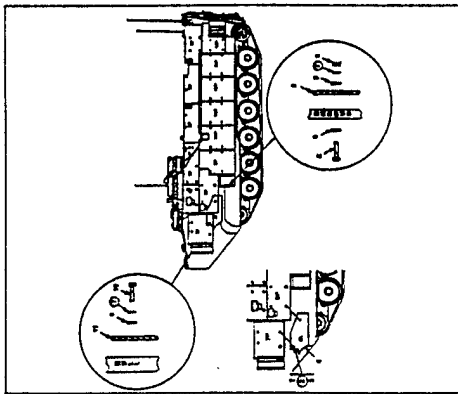


Figure 8-1. Rear Wheel Removal and Installation.

QTY	ITEM NO.	UNIT	NEW	DATE	PART NUMBER	DESCRIPTION	REP. C	QTY	QTY
1	1				GROUP A-3				
1	2				APPL. KIT				
1	3				APPL. KIT				
1	4				APPL. KIT				
1	5				APPL. KIT				
1	6				APPL. KIT				
1	7				APPL. KIT				
1	8				APPL. KIT				
1	9				APPL. KIT				
1	10				APPL. KIT				

D001R027



D001R028

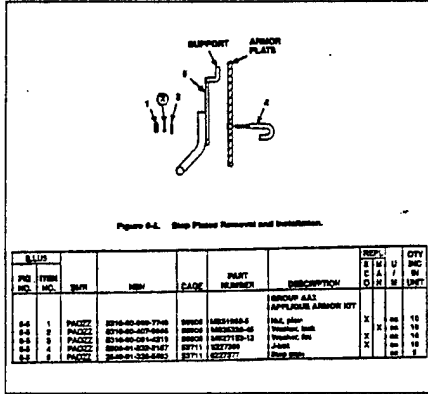
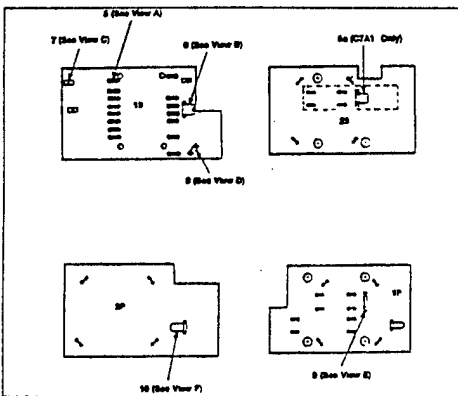


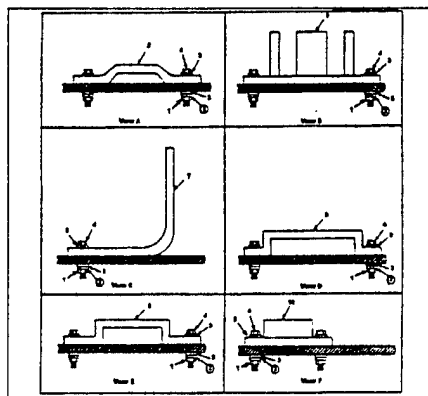
Figure 8-2. Step Plate Removal and Installation.

QTY	ITEM NO.	UNIT	NEW	DATE	PART NUMBER	DESCRIPTION	REP. C	QTY	QTY
1	1				GROUP A-3				
1	2				APPL. KIT				
1	3				APPL. KIT				
1	4				APPL. KIT				
1	5				APPL. KIT				
1	6				APPL. KIT				
1	7				APPL. KIT				
1	8				APPL. KIT				
1	9				APPL. KIT				
1	10				APPL. KIT				

D001R029



D001R030



D001R031