



Ministry Of Defence

## Army Equipment Support Publication

# Truck Utility Light (TUL) HS, Truck Utility Medium (TUM) HS and (TUM) Battlefield Ambulance HS, All Variants

## Failure Diagnosis

2320-D-128-512

3<sup>rd</sup> Edition May 2017

Superseding 2<sup>nd</sup> Edition December 1998

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Operational Support Vehicles Programme (OSVP)

### U05V9

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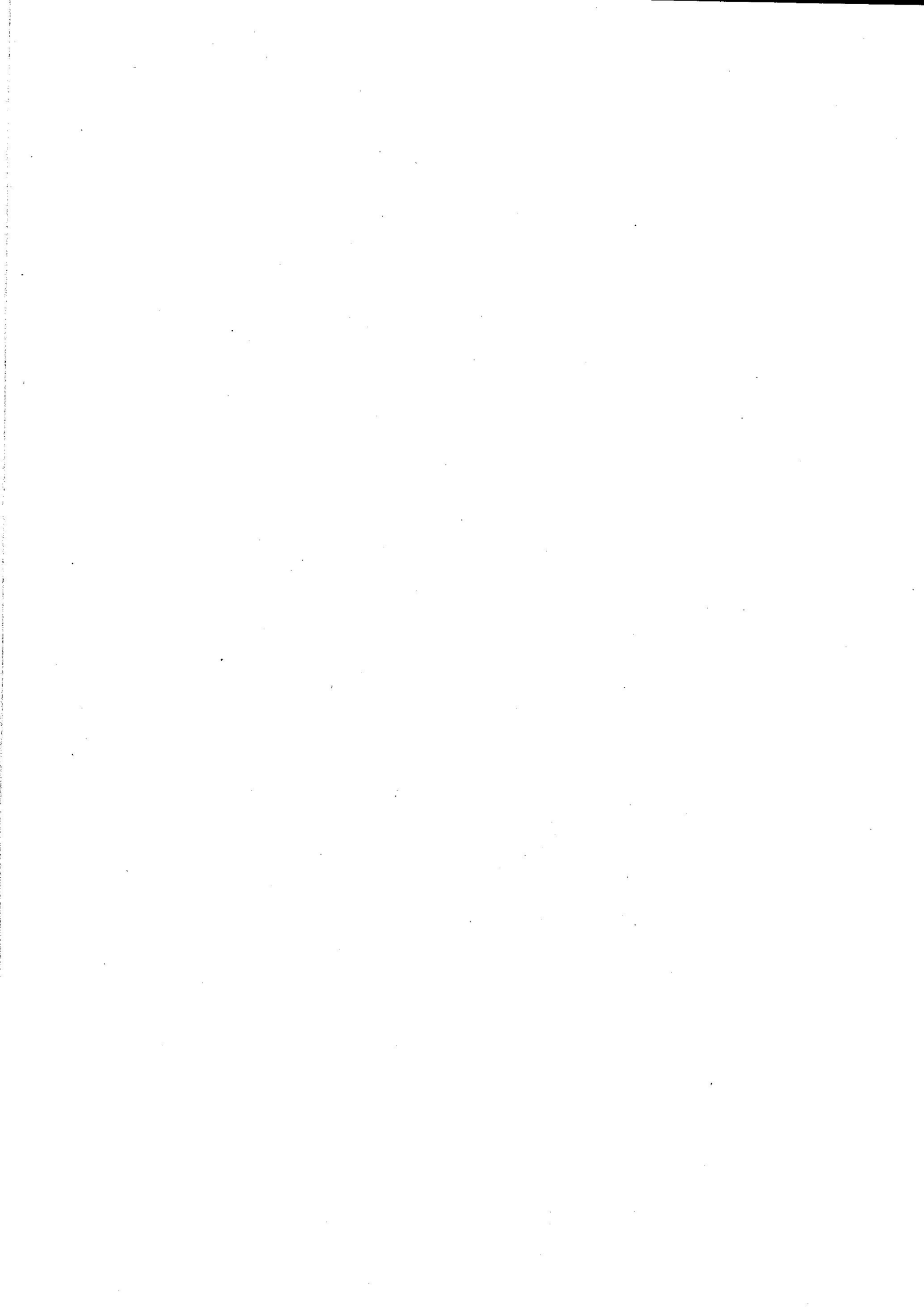
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AMENDMENT RECORD

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**PREFACE**

Sponsor: Operational Support Vehicles Programme (OSVP)  
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Publication Authority: DES-LE-OSP-OSVP-CVS

**INTRODUCTION**

1 Any comments by service users on this publication should be forwarded through the channels prescribed in Army Equipment Support Publication (AESP) 0100-P-011-013. An AESP Form 10 is provided at the end of this publication; it should be photocopied and used for forwarding comments on this AESP. This procedure is only to be used for the purpose of commenting on the content of an individual AESP and must not be used as follows:

1.1 In place of the Equipment Failure Reporting (EFR) procedure outlined in the Land Equipment Unit Maintenance Standards (LEUMS) Edition 4.

1.2 For subjects which are the concern of the GEMS Defence Ideas Scheme. For advice on the GEMS procedure contact your GEMS Local Awards Group (LAG) through your Equipment Support (ES) Chain of Command. Details of the GEMS LAG locations and Points Of Contact (POC) can be obtained through the GEMS website or through:

GEMS Scheme Manager  
Level 6, Zone I  
MOD Main Building  
Whitehall  
London

2 AESPs are issued under United Kingdom (UK) Ministry Of Defence (MOD) authority and where AESPs specify action is to be taken, the AESP will of itself be sufficient authority for such action and also for the demanding of the necessary stores, subject to the provisions of Para 3 below.

3 The subject matter of this publication may be affected by Defence Instructions and Notices (DIN), Standard Operating Procedures (SOP) or by local regulations. When any such instruction, Order or Regulation contracts any portion of this publication it is to be taken as the overriding authority.

EQUIPMENT IDENTITY

4 The details are listed in Table 1.

TABLE 1 EQUIPMENT IDENTITY

Serial (1)	Nomenclature (2)	NSN (3)	Asset Code (4)
1	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (Non EEGR)	[REDACTED]	[REDACTED]
2	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
3	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (Non EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
4	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (Non EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
5	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
6	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (Non EEGR) Diesel [REDACTED] Land Rover	[REDACTED]	[REDACTED]
7	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
8	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
9	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
10	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
11	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
12	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) Tropical with Medical Monitoring IK	[REDACTED]	[REDACTED]
13	Ambulance Battlefield (HS) 4 Stretcher RHD 4x4 Land Rover 2.5 Tdi (Non EEGR) [REDACTED]	[REDACTED]	[REDACTED]
14	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
15	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (Non EEGR) [REDACTED]	[REDACTED]	[REDACTED]
16	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
17	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]

(continued)

TABLE 1 EQUIPMENT IDENTITY (continued)

Serial (1)	Nomenclature (2)	NSN (3)	Asset Code (4)
18	Ambulance Battlefield (HS) [REDACTED] Land Rover 2.5 Tdi (Non EEGR) [REDACTED]	[REDACTED]	[REDACTED]
19	Truck Utility Light (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
20	Truck Utility Light (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
21	Truck Utility Light (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
22	Truck Utility Light (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
23	Truck Utility Light (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
24	Truck Utility Light (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) Winter	[REDACTED]	[REDACTED]
25	Truck Utility Light (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
26	Truck Utility Light (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
27	Truck Utility Light (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
28	Truck Utility Light (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
29	Truck Utility Light (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
30	Truck Utility Light (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
31	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
32	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
33	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
34	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
35	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
36	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
37	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
38	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (Non EEGR)	[REDACTED]	[REDACTED]
39	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]

(continued)



TABLE 1 EQUIPMENT IDENTITY (continued)

Serial (1)	Nomenclature (2)	NSN (3)	Asset Code (4)
62	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
63	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
64	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
65	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
66	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
67	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
68	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
69	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
70	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
71	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
72	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
73	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
74	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
75	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
76	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
77	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
78	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
79	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
80	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
81	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]

(continued)

TABLE 1 EQUIPMENT IDENTITY (continued)

Serial (1)	Nomenclature (2)	NSN (3)	Asset Code (4)
40	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
41	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (Non EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
42	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
43	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (Non EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
44	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (Non EEGR) [REDACTED]	[REDACTED]	[REDACTED]
45	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
46	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
47	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
48	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
49	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
50	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
51	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) With [REDACTED]	[REDACTED]	[REDACTED]
52	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) With [REDACTED]	[REDACTED]	[REDACTED]
53	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
54	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
55	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
56	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
57	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
58	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
59	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
60	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	2 [REDACTED]	[REDACTED]
61	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]

(continued)

TABLE 1 EQUIPMENT IDENTITY (continued)

Serial (1)	Nomenclature (2)	NSN (3)	Asset Code (4)
82	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
83	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
84	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
85	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
86	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR)	[REDACTED]	[REDACTED]
87	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) with [REDACTED]	[REDACTED]	[REDACTED]
88	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi [REDACTED]	[REDACTED]	[REDACTED]
89	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi [REDACTED]	[REDACTED]	[REDACTED]
90	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi [REDACTED]	[REDACTED]	[REDACTED]
91	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi [REDACTED]	[REDACTED]	[REDACTED]
92	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi [REDACTED]	[REDACTED]	[REDACTED]
93	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
94	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
95	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
96	Truck Utility Medium 130 (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
97	Truck Utility Medium (HS) [REDACTED] Land Rover 2.5 Tdi (EEGR) [REDACTED]	[REDACTED]	[REDACTED]
98	Truck Utility Medium (HS) [REDACTED] 2.5 TDi [REDACTED]	[REDACTED]	[REDACTED]
99	Truck Utility Medium (HS) [REDACTED] 2.5 TDi [REDACTED]	[REDACTED]	[REDACTED]
100	Truck Utility Medium (HS) [REDACTED] 2.5 TDi (w/EEGR) [REDACTED]	[REDACTED]	[REDACTED]

(continued)

**TABLE 1**      **EQUIPMENT IDENTITY (continued)**

Serial (1)	Nomenclature (2)	NSN (3)	Asset Code (4)
101	Truck Utility Medium (HS) [REDACTED] 2.5 TDi [REDACTED]	[REDACTED]	[REDACTED]
102	Truck Utility Medium (HS) [REDACTED] 2.5 TDi [REDACTED]	[REDACTED]	[REDACTED]

4.1 Chassis Manufacturer

Land Rover  
Solihull, England.

4.2 Contract No.

[REDACTED]

**RELATED AND ASSOCIATED PUBLICATIONS**

**Related Publications**

5 The AESP Octad for the subject equipment, consists of the publications shown below. All references are prefixed with the first eight digits of this publication.

Category/Sub-category			Information Level			
			1 User/ Operator	2 Unit Maintenance	3 Field Maintenance	4 Base Maintenance
1	0	Purpose and Planning Information	101	101	101	101
	1	Equipment Support Policy Directives	111	111	111	111
	2	Cancellation Instructions	*	*	*	*
2	0	Operating Information	201	201	201	201
	1	Aide-Memoire	211	211	*	*
	2	Training Aids	*	*	*	*
3		Technical Description	302	*	*	*
4	1	Installation Instructions	411	411	411	411
	2	Preparation for Special Environments	421	421	421	421
5	1	Failure Diagnosis	*	512	512	512
	2	Maintenance Instructions	*	522	523	524
	3	Inspection Standards	*	532	533	533
	4	Calibration Procedures	*	*	524	524
6		Maintenance Schedules	601	601	601	601
7	1	Illustrated Parts Catalogues	*	711	711	711
	2	Commercial Parts Lists	*	721	721	721
	3	Complete Equipment Schedule, Production	*	*	*	*
	4	Complete Equipment Schedule, Service Edition (Simple Equipment)	741	741	741	741
	5	Complete Equipment Schedule, Service Edition (Complex Equipment)	*	*	*	*
8	1	Modification Instructions	811	811	811	811
	2	General Instructions, Special Technical Instructions and Servicing Instructions	821	821	821	821
	3	Service Engineered Modification Instructions (RAF only)	*	*	*	*

\* Category/sub-category not published

**Associated Publications**

- 6 The following associated publications should be read in conjunction with this category:

<u>Reference</u>	<u>Title</u>
[REDACTED]	[REDACTED]
AP 3260 Book 1	Mechanical Transport Maintenance Regulations for the Royal Air Force
AP 4545 Volume 2	Mechanical Transport - General Orders and Modifications (RAF only)
JSP 800 Vol 5	Road Transport Regulations

**WARNINGS AND CAUTIONS**

**WARNINGS**

7 There are no WARNINGS used in this category.

**CAUTIONS**

8 There are no CAUTIONS used in this category.

**ABBREVIATIONS AND SYMBOLS****ABBREVIATIONS**

9 The following abbreviations are used in this category:

<b>Abbreviation</b>	<b>Definition</b>
AESP	Army Equipment Support Publication
Amdt	Amendment
Cat	Category
Chap	Chapter
CVS	Combat Vehicle Support
DINs	Defence Instructions and Notices
EFR	Equipment Failure Reporting
ES	Equipment Supply
FFR	Fitted For Radio
HS	High Specification
LAG	Local Awards Group
LEUMS	Land Equipment Unit Maintenance Standards
MOD	Ministry of Defence
No.	Number
OSVP	Operational Support Vehicles Programme
Para	Paragraph
POC	Points of Contact
RAF	Royal Air Force
SOPs	Standard Operating Procedures
Tdi	Turbocharged Direct Injection
TUL	Truck Utility Light
TUM	Truck Utility Medium
UK	United Kingdom









**SYMBOLS**

10 The following symbol is used in this category:

Symbol	Definition
%	Percent

11 The following chart symbols are used in this category:

Chart Symbols	Definition
	This symbol represents a process within the diagnosis path.
	This symbol represents a decision or alternate point in the diagnosis path.
	This symbol represents a start or terminal point in the diagnosis path.
	This symbol represents an off page path; a reference to the appropriate Fig for the follow on information is provided where this symbol is used.
	Dashed symbols contain reference information only
	Dashed paths are for reference information only.

**GENERAL**

12 This AESP Octad is written to give the technician a logical process to fault isolation. By performing checks and inspections in a fixed sequence, faults that may affect other systems can be identified, allowing the technician to quickly isolate the root cause of a malfunction.

13 After performing any repair as per Category 522 of this AESP Octad, always verify the repair by operating the vehicle. If there were numerous faults listed during the fault reporting process, it may be necessary to follow the Diagnostic Starting Point table more than once to identify and repair all faults.

**NOTE**

The operator should carry out a full inspection/ service as per Table 6, Category 601 of this AESP Octad, prior to the start of any fault isolation. All fluid levels should be checked, vehicle batteries checked for condition and charge, and the vehicle thoroughly checked for broken, worn or battle damaged components.

14 Technicians should start the fault diagnosis with the Diagnostic Starting Point table, Table 1, and follow the checks and inspections shown.

15 As with all failure diagnosis, familiarity with the vehicle combined with good engineering practice will enhance the information within this category. It is not possible to totally define all possible failures, however by following the diagnosis information; a competent technician should be able to isolate a failure satisfactorily.

**Flowchart symbols**

16 Some Chapters are written in flowchart format using the symbols provided in Fig 1, to provide a simplified guide to likely component failures. Some sub-systems of the vehicle are not fully covered within this category; however, where this is the case reference is made to associated publications.

**Symbol numbering**

17 Symbols are numbered to provide a logical diagnosis method. For example, where a decision point is reached and the options identify one simple and one more complex choice, the simple choice is generally numbered as the next step. This method is used to reduce the likelihood of unnecessary strip down of major items. As a general rule, follow the actions by symbol numbers.

**Flowchart cross references**

18 Where cross references are made within the flowcharts, any reference to a "Cat" represents a reference to a Category within the AESP 2320-D-419 Octad. References to other equipment publications contain the complete AESP designation.

**CHAPTER 1**

**2.5 LITRE 300TDI DIRECT INJECTED DIESEL ENGINE**

**CONTENTS**

Para

- 1 Introduction
- 2 General

**INTRODUCTION**

1 This chapter gives the fault diagnosis for the 2.5 litre 300Tdi Direct injected diesel engine systems as fitted to Truck Utility Light (TUL) High Specification (HS), and Truck Utility Medium (TUM) HS and (TUM) Battlefield Ambulance HS vehicles.

**General**

2 This chapter has been sub-chaptered to allow for the various types of vehicle electrical systems as detailed below;

Chapter 1-1 2.5 litre 300 Tdi direct injected diesel engine

Chapter 1-2 XXXXXXXXXX

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CHAPTER 1-1

2.5 LITRE 300 TDI DIRECT INJECTED DIESEL ENGINE

CONTENTS

Para

- 1 Introduction
- 2 Fault charts

Chart

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**INTRODUCTION**

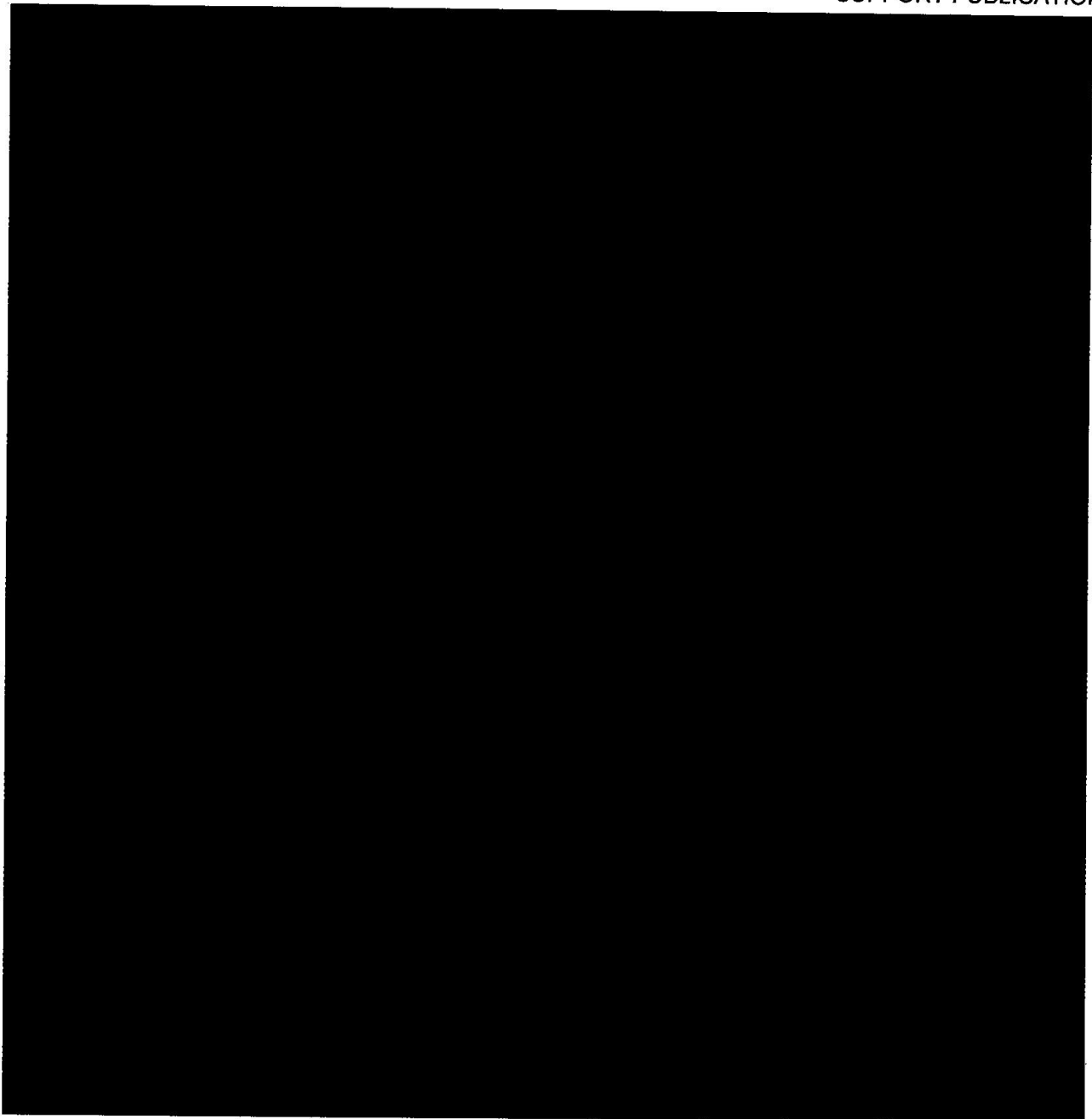
1 This chapter details the Fault charts for Truck Utility Light (TUL) High Specification (HS), Truck Utility Medium (TUM) HS and (TUM) Battlefield Ambulance HS vehicles with 2.5 Litre 300 Turbocharged direct injection (Tdi) diesel engines.

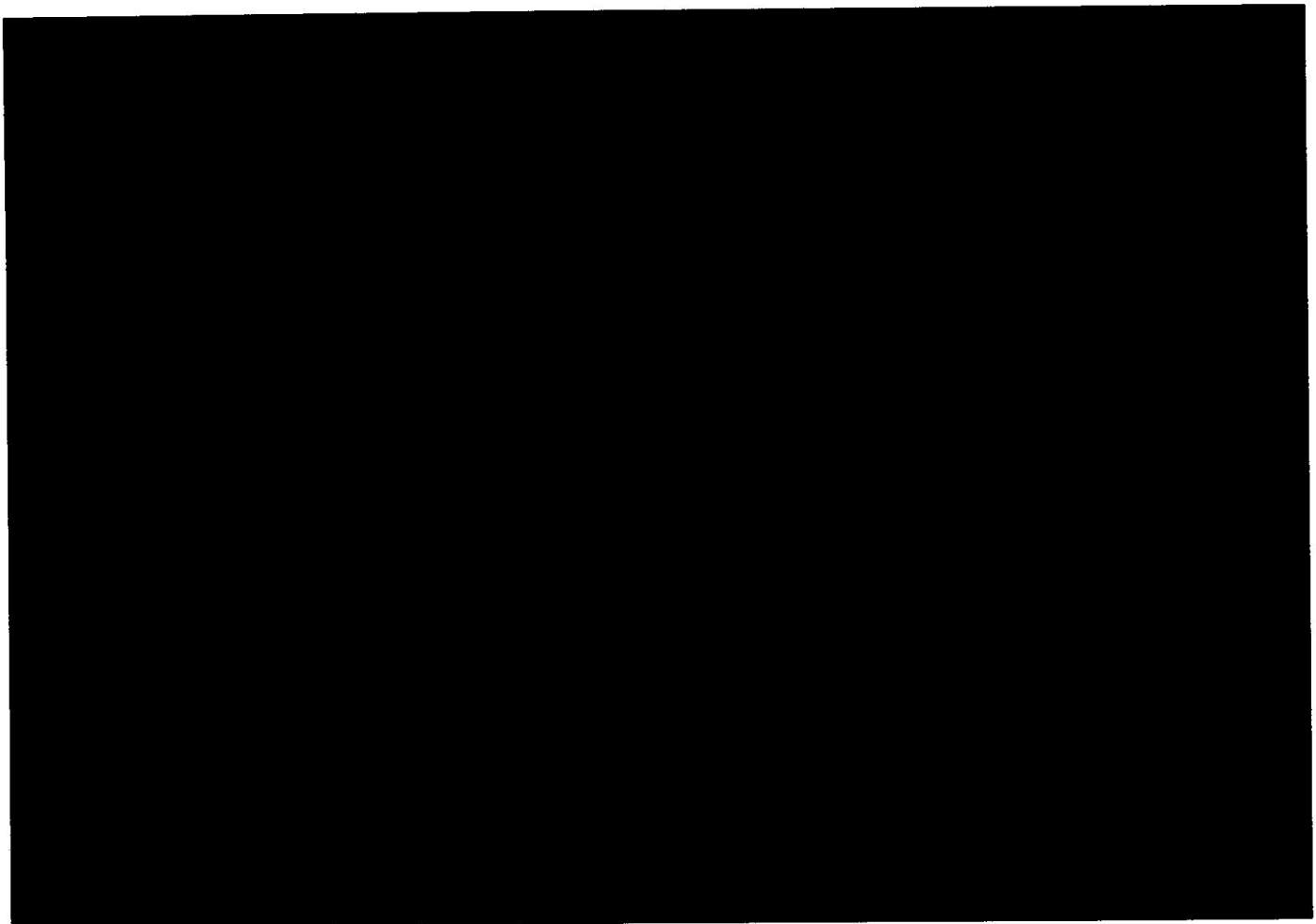
**FAULT CHARTS**

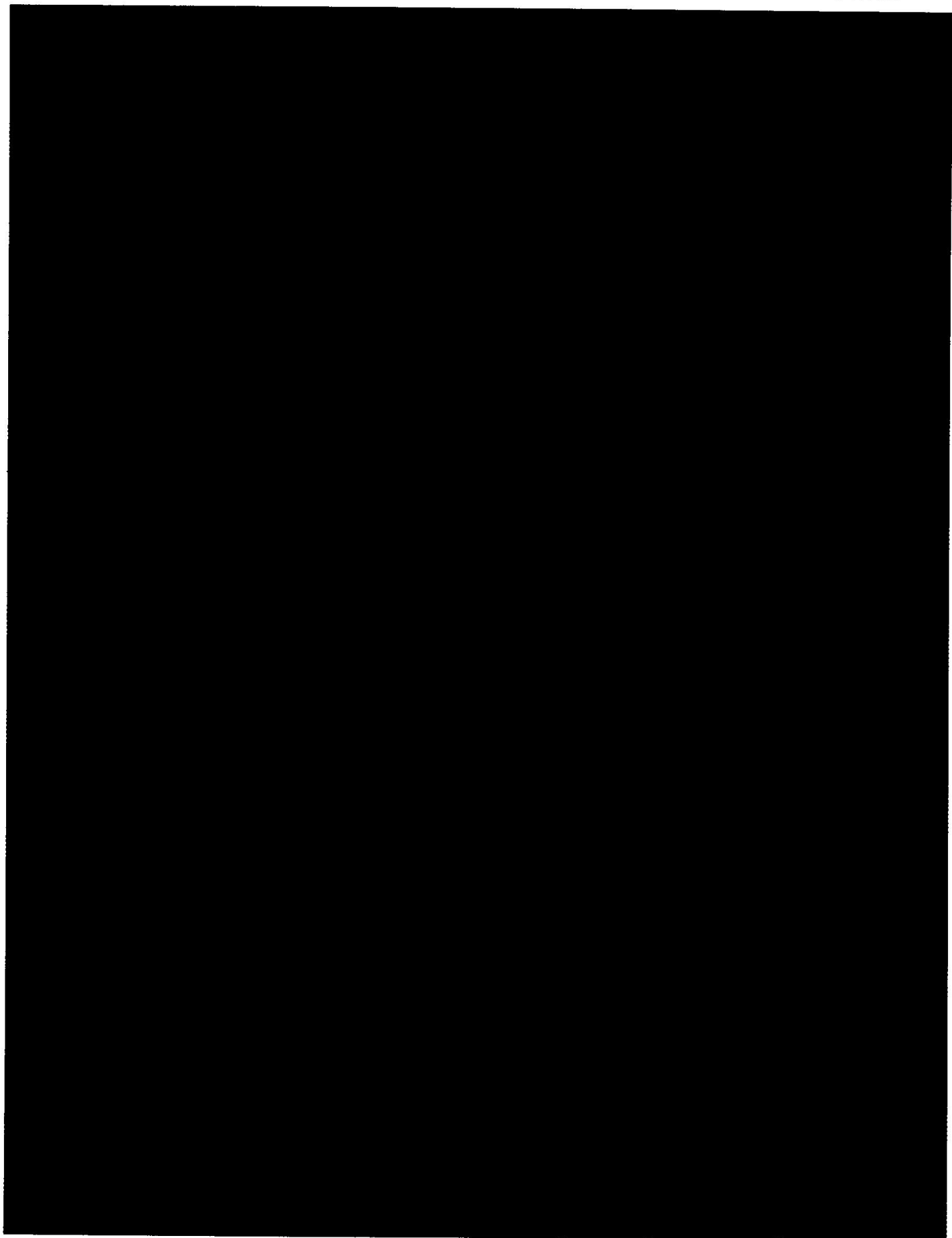
2 The failure diagnosis charts in this Chapter will enable a Qualified Technician (QT) to trace faults on identified systems.

3 This Category is written to give the QT a logical process to fault isolation. By performing checks and inspections in a fixed sequence, faults that may affect other systems can be identified, allowing the QT to quickly isolate the root cause of a malfunction.

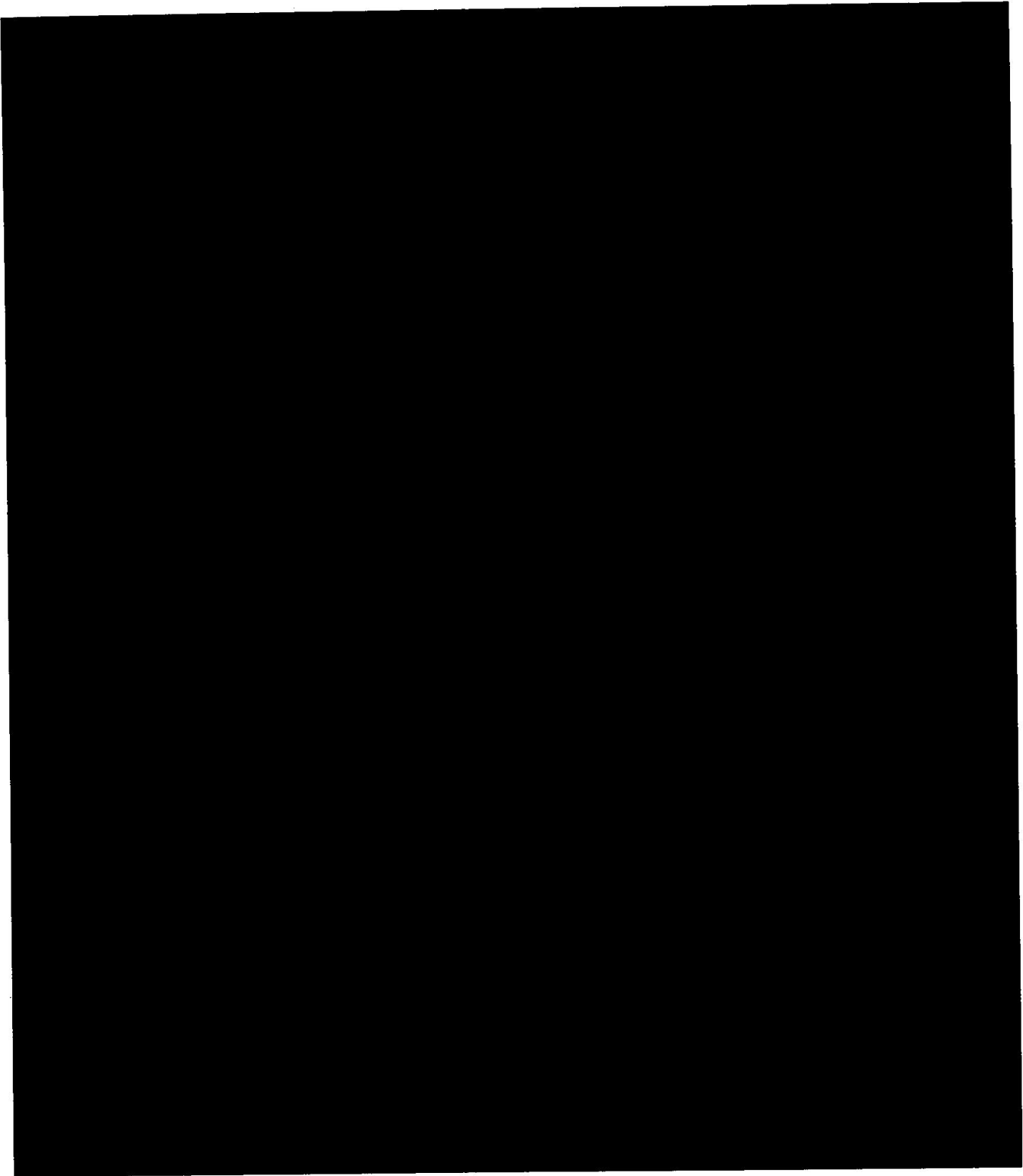
4 After performing any repair as per Category 522 of this AESP Octad, always verify the repair by operating the vehicle. If there were numerous faults listed during the fault reporting process, it may be necessary to follow the Diagnostic Starting Point Table more than once to identify and repair faults.

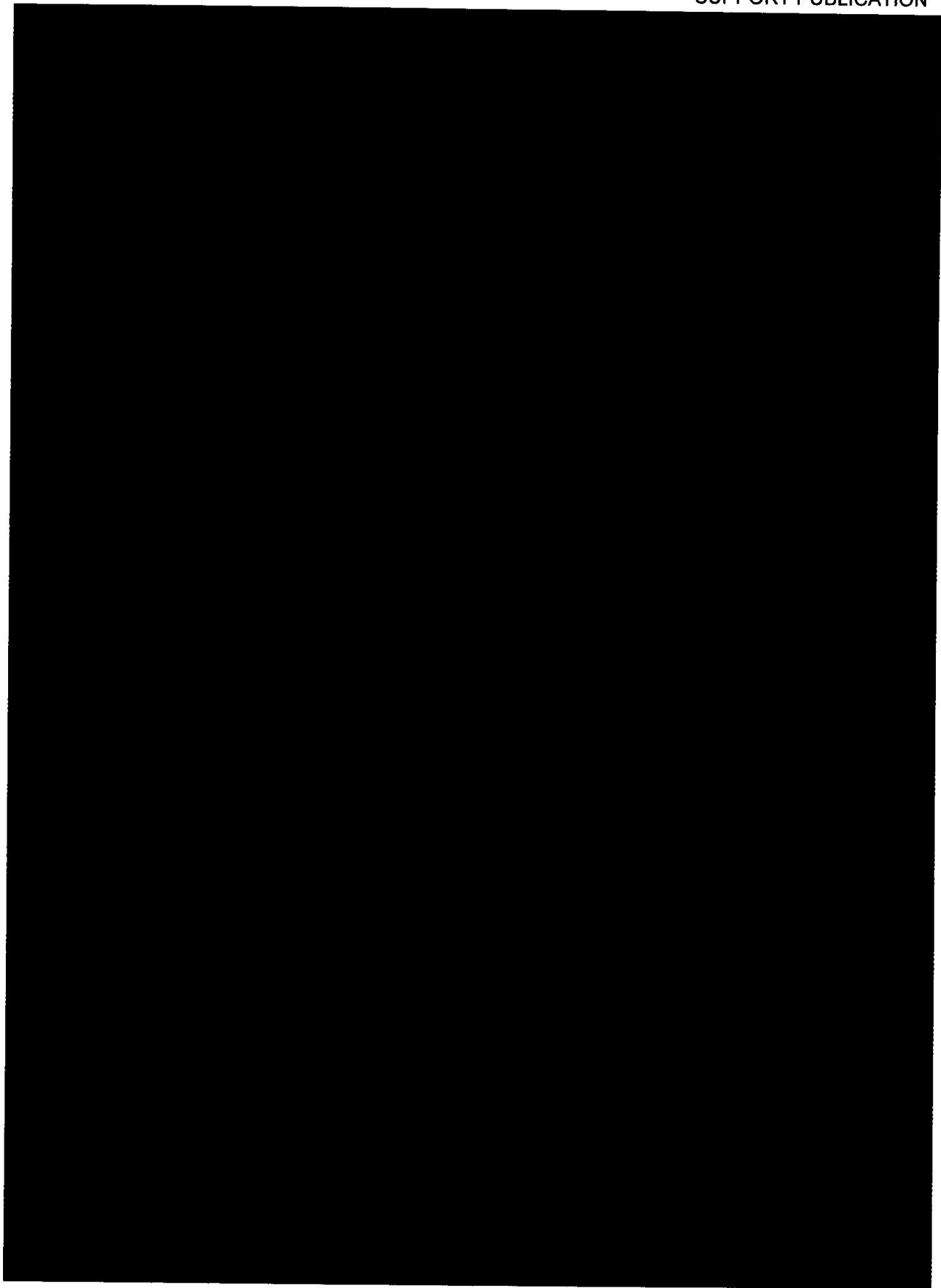


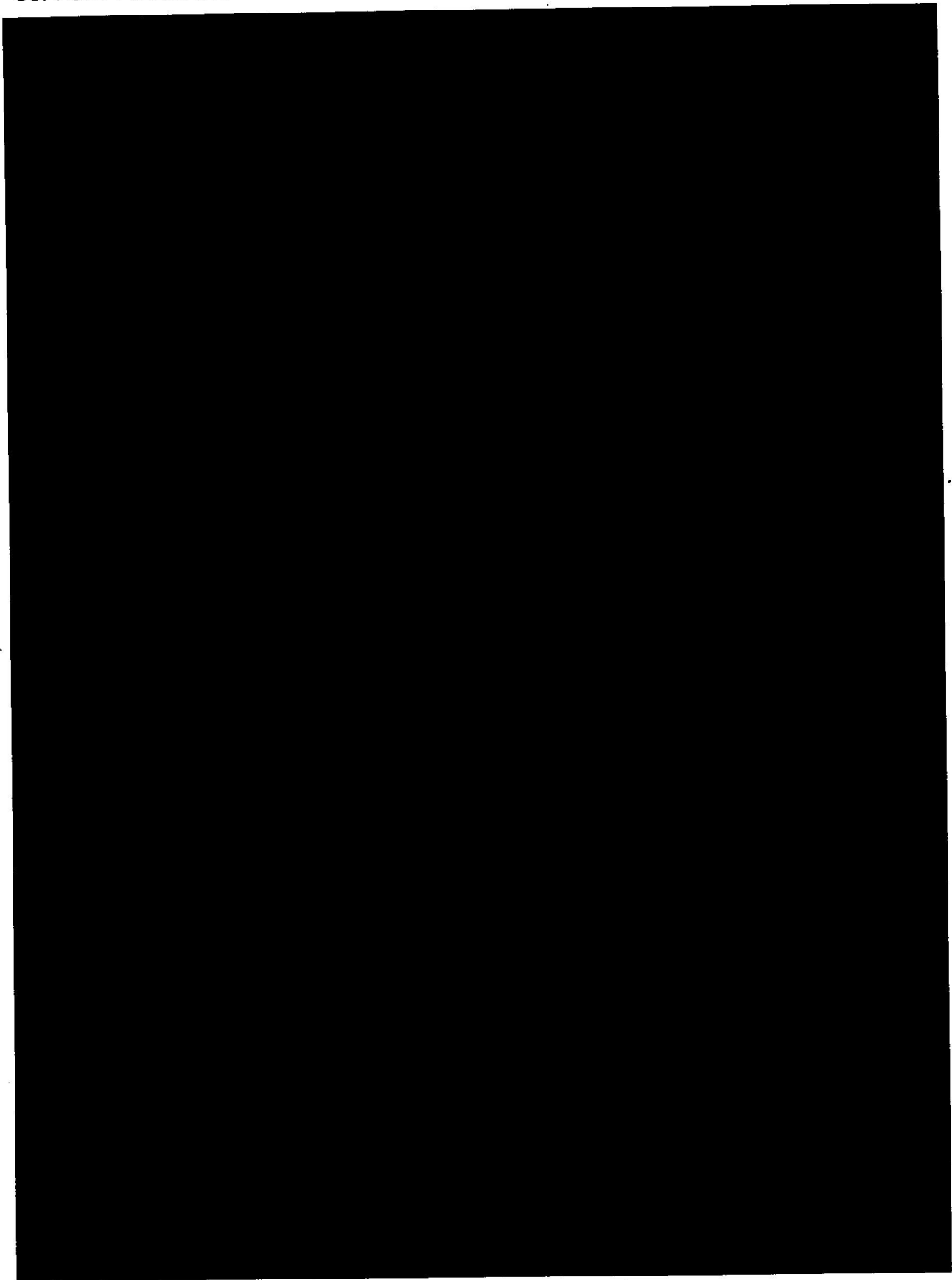


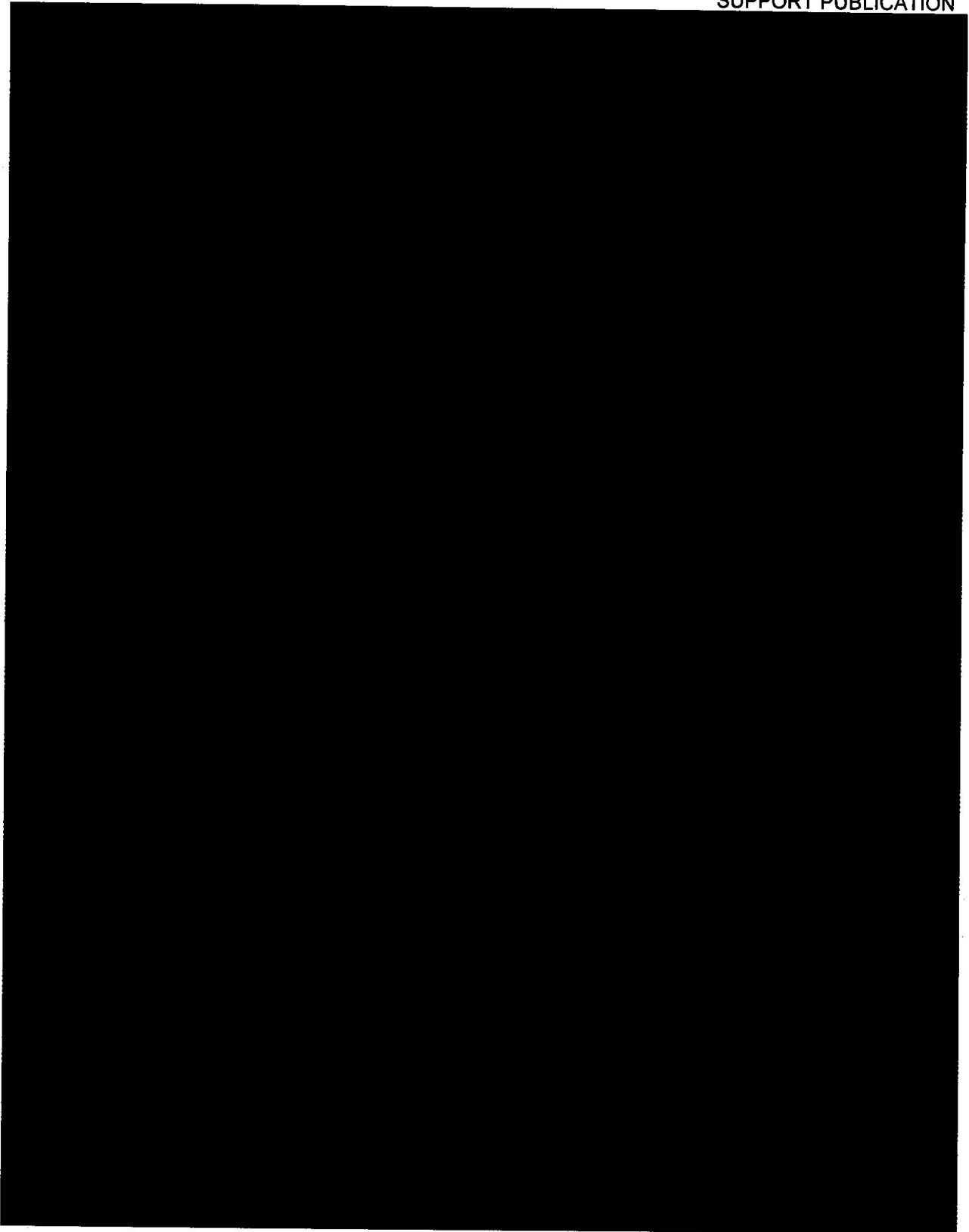


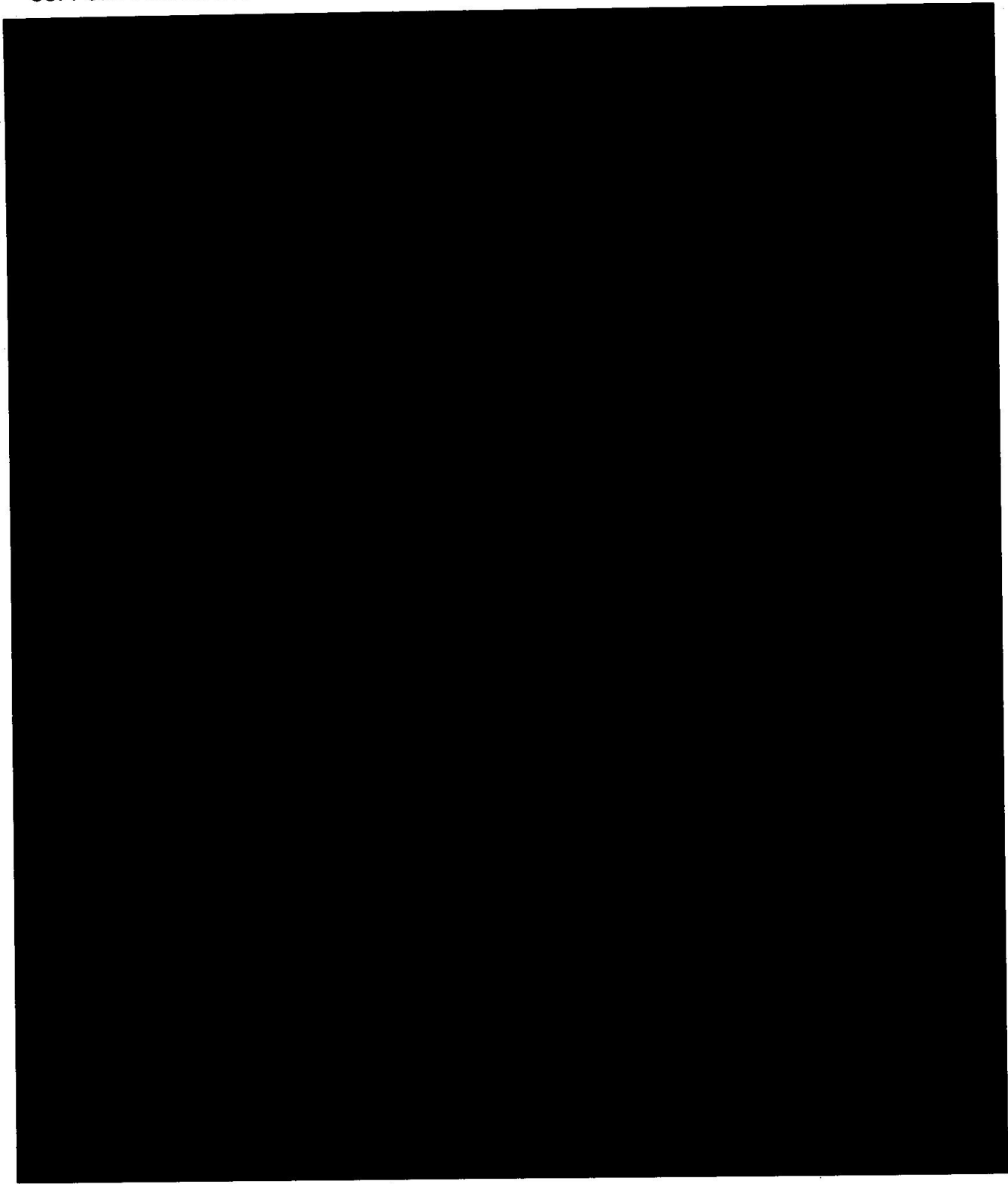


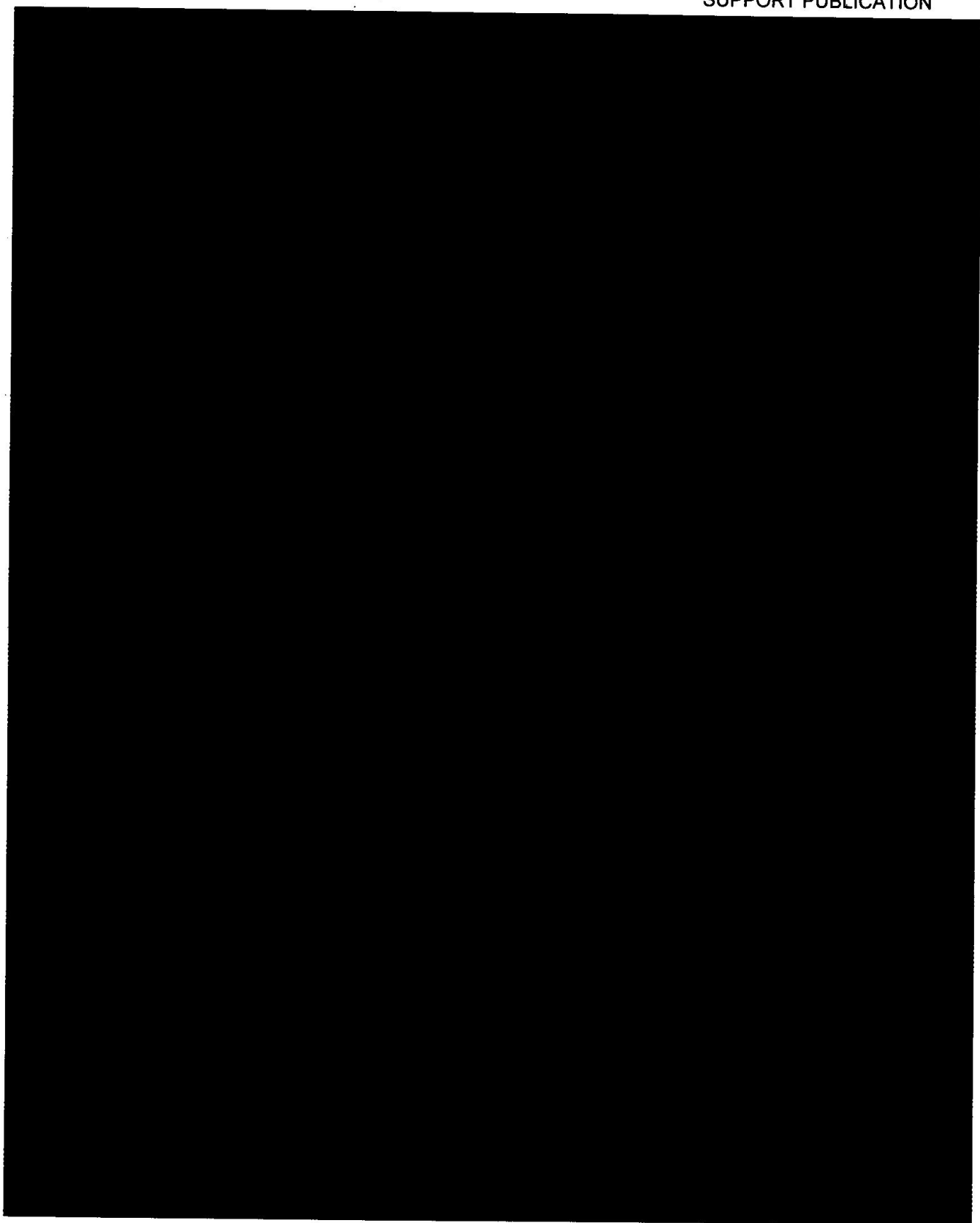


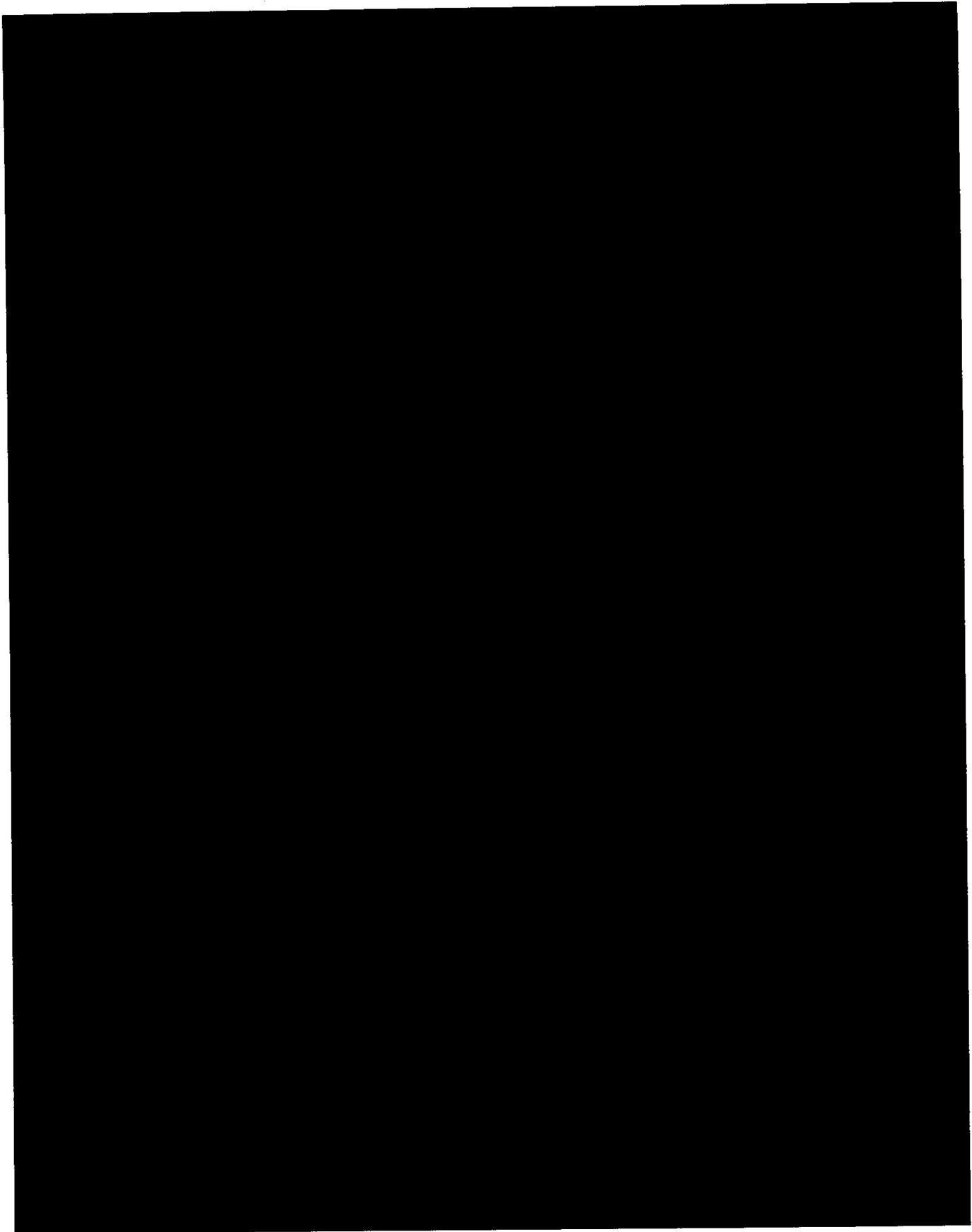


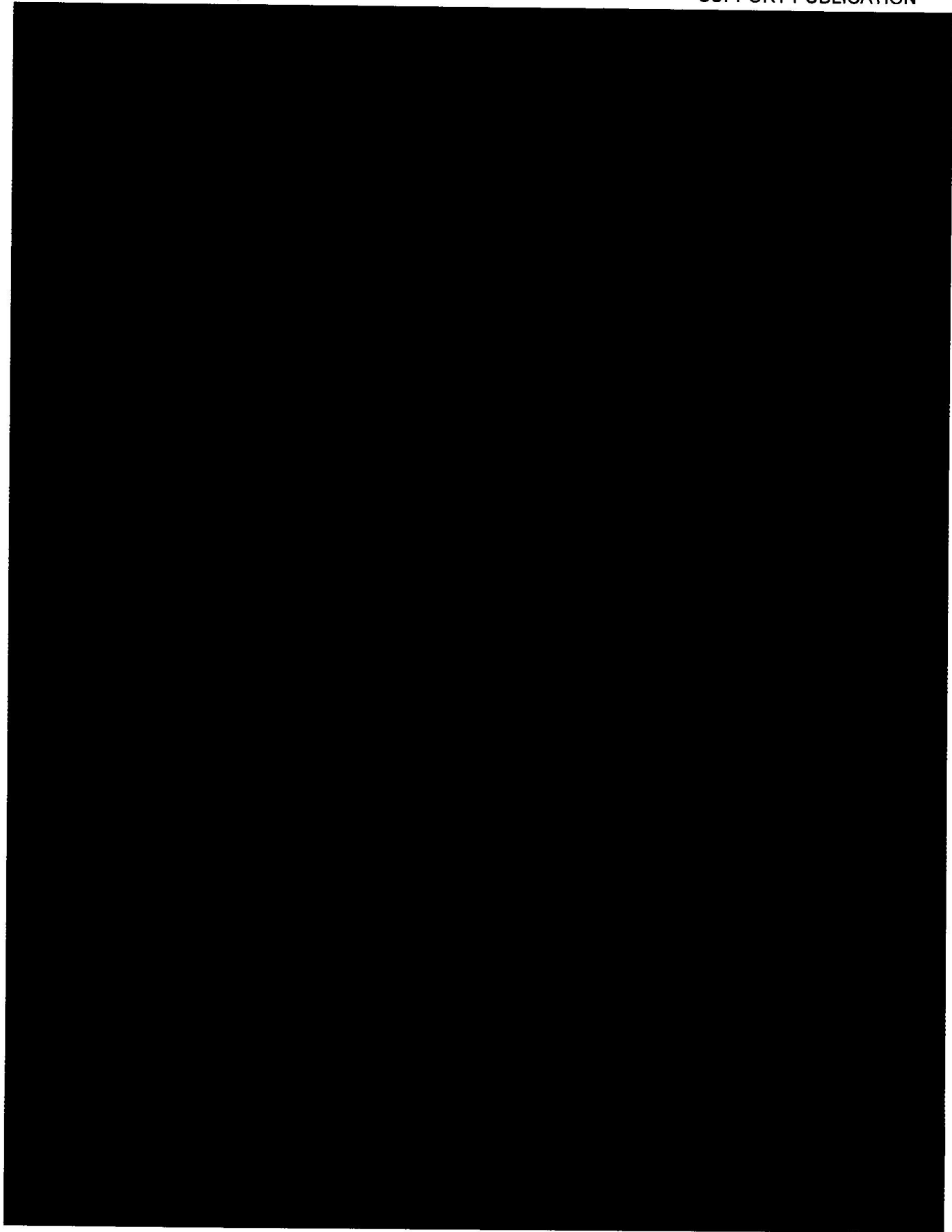




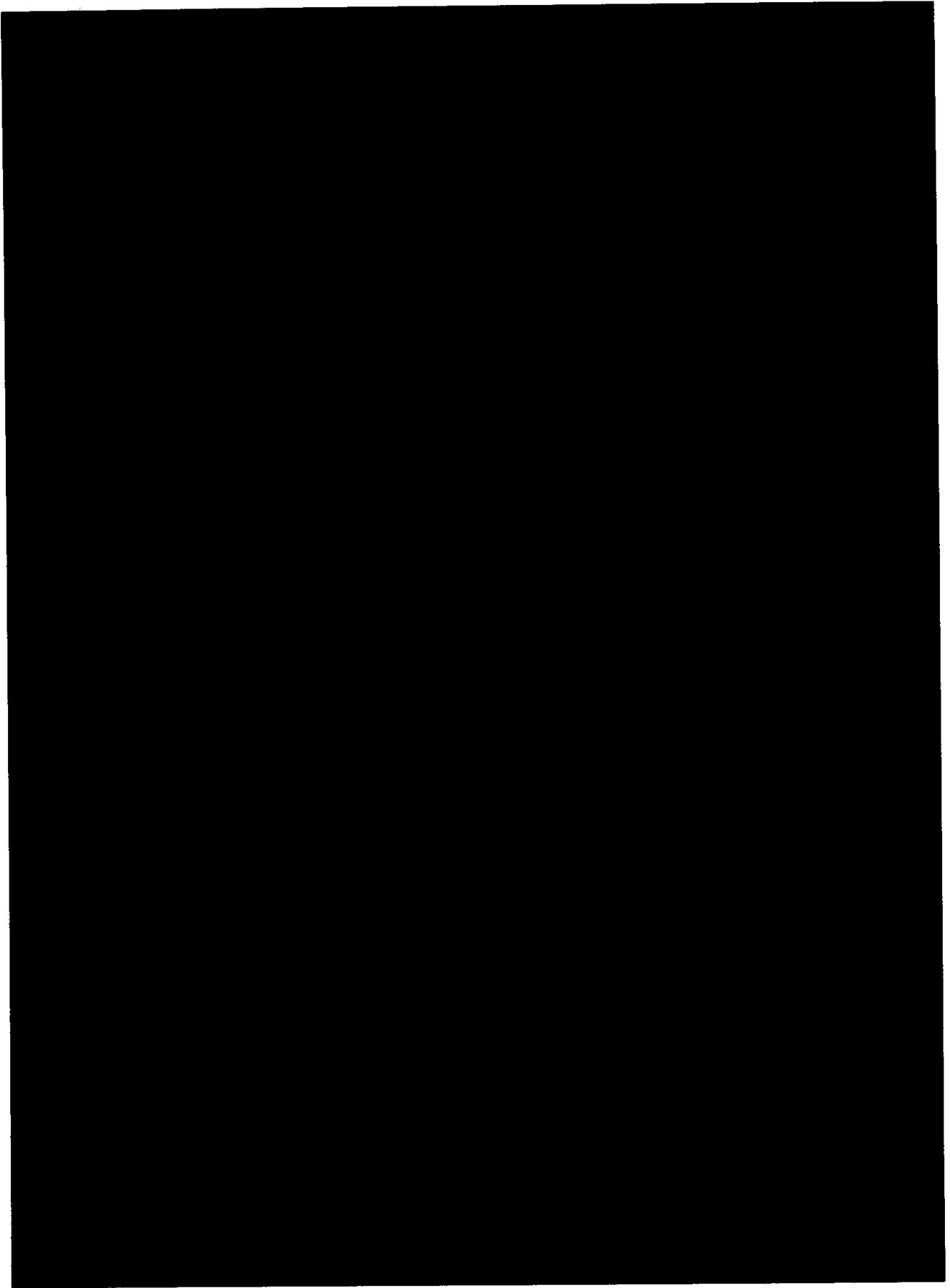


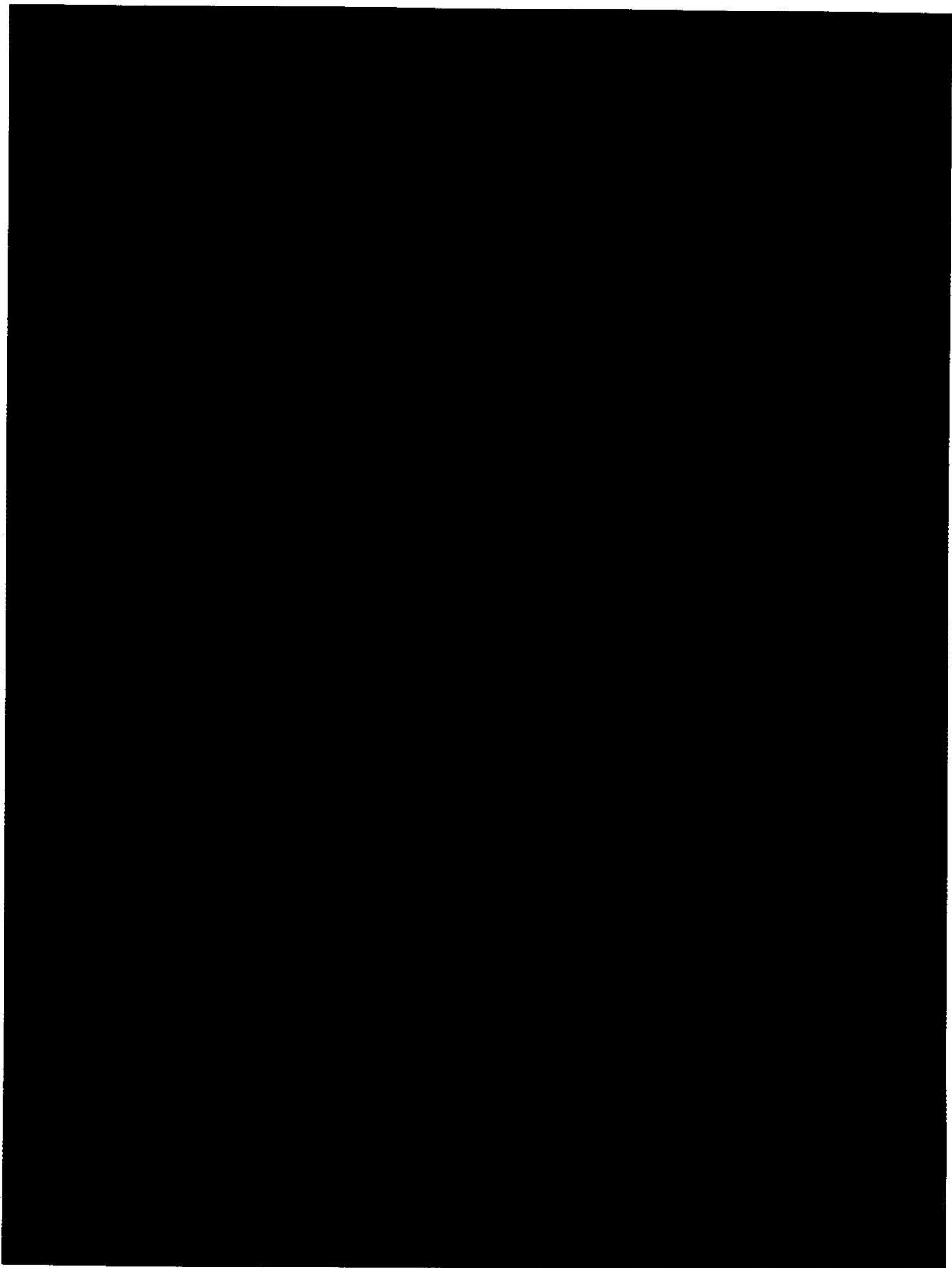


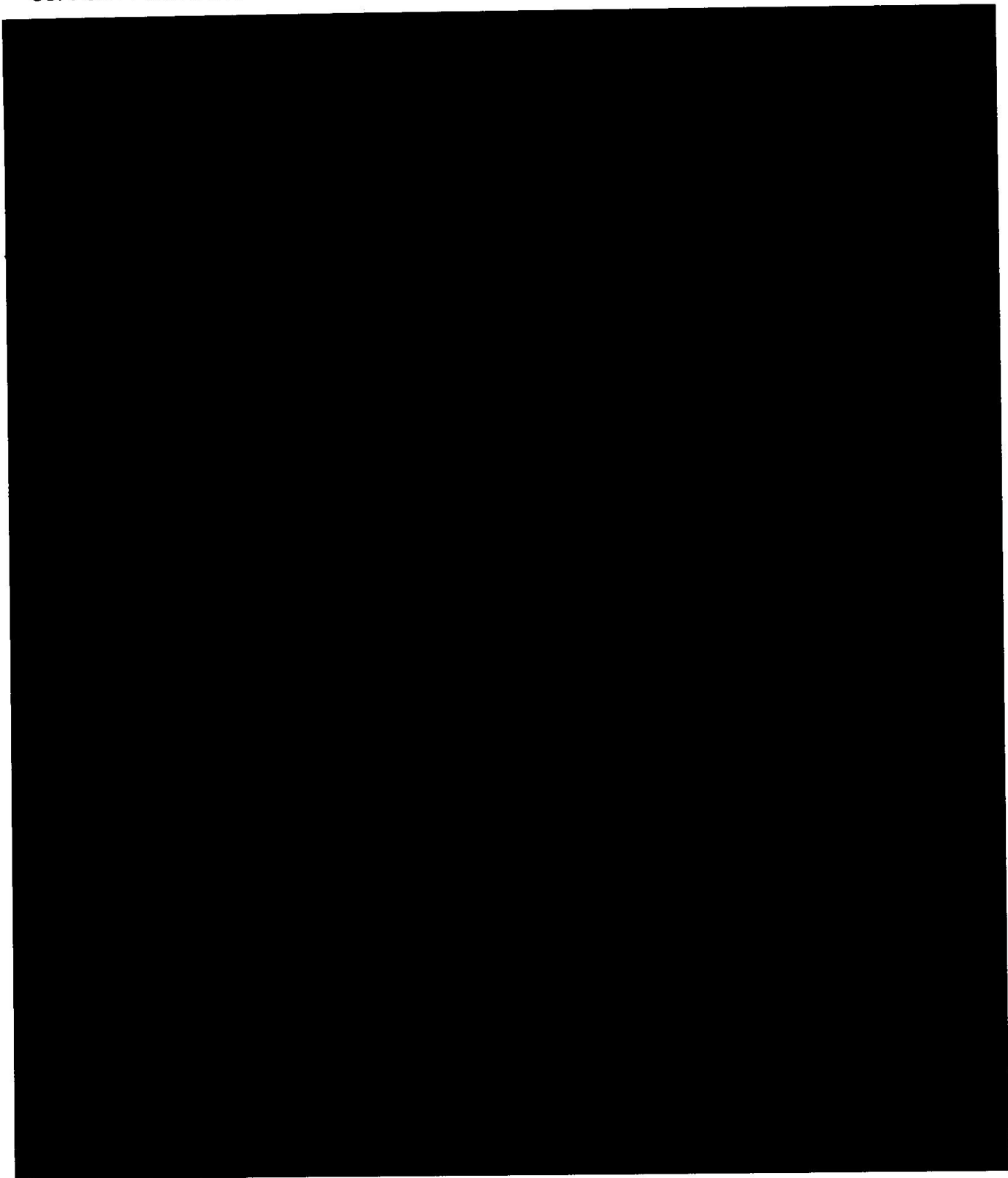


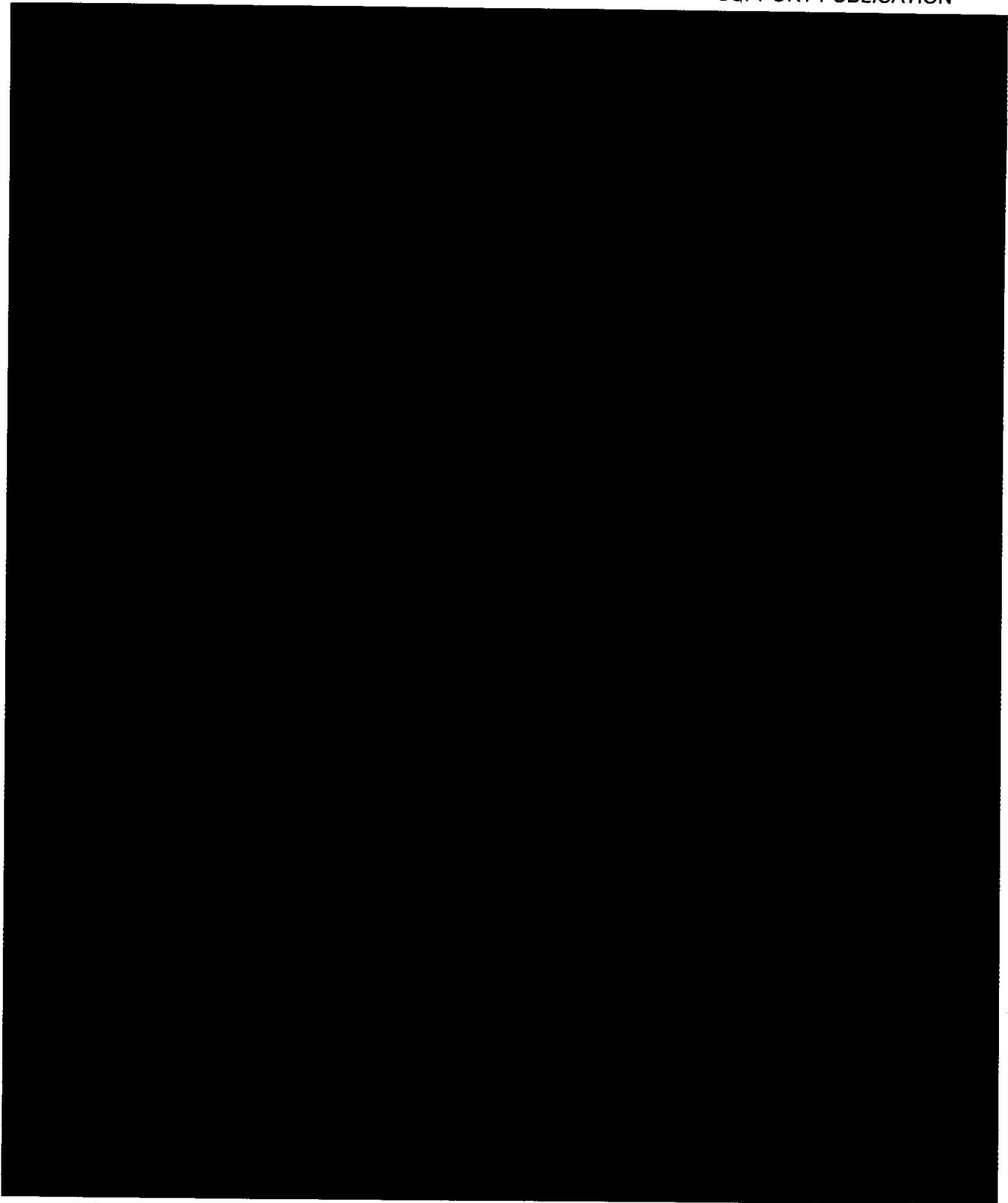


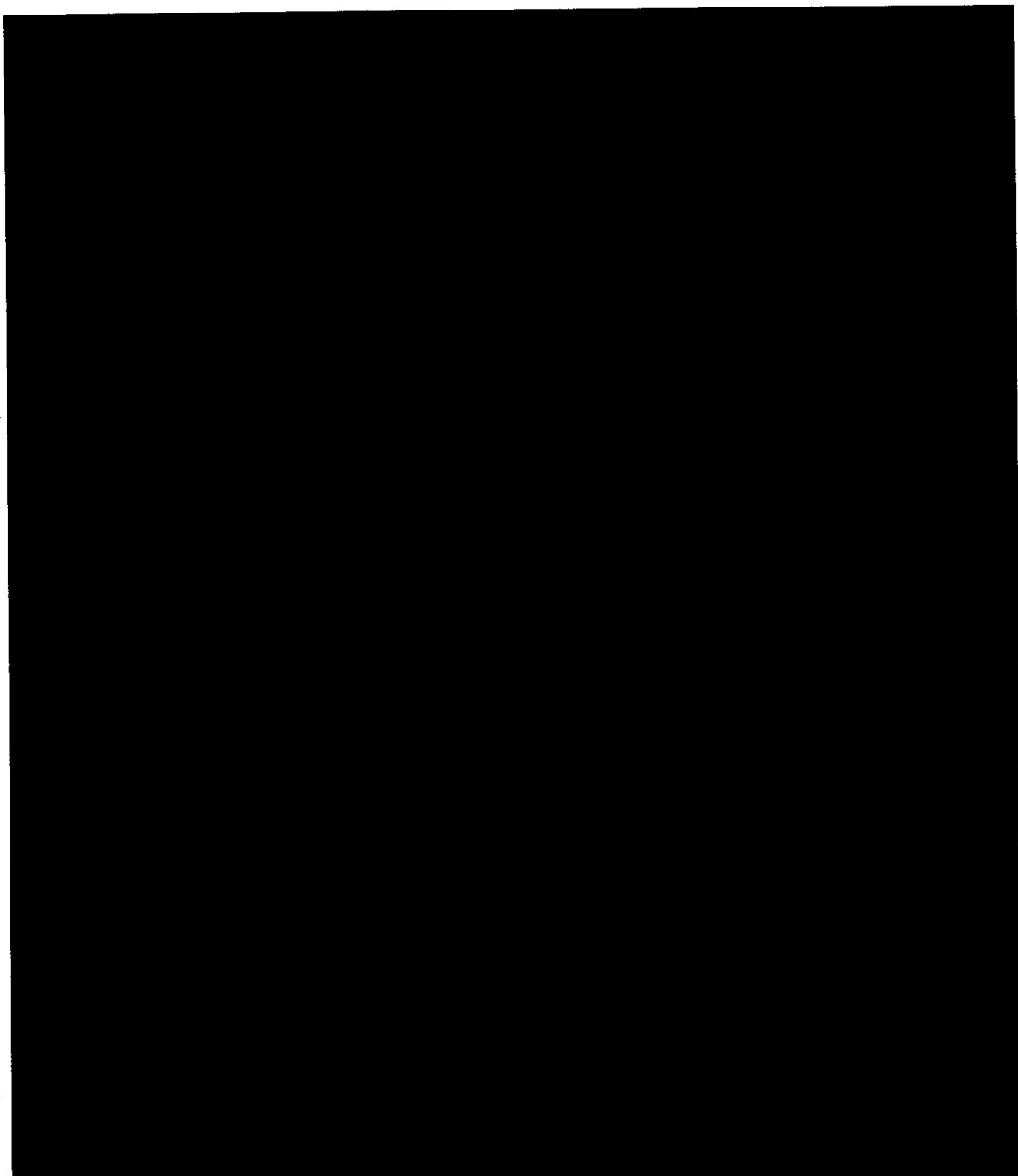


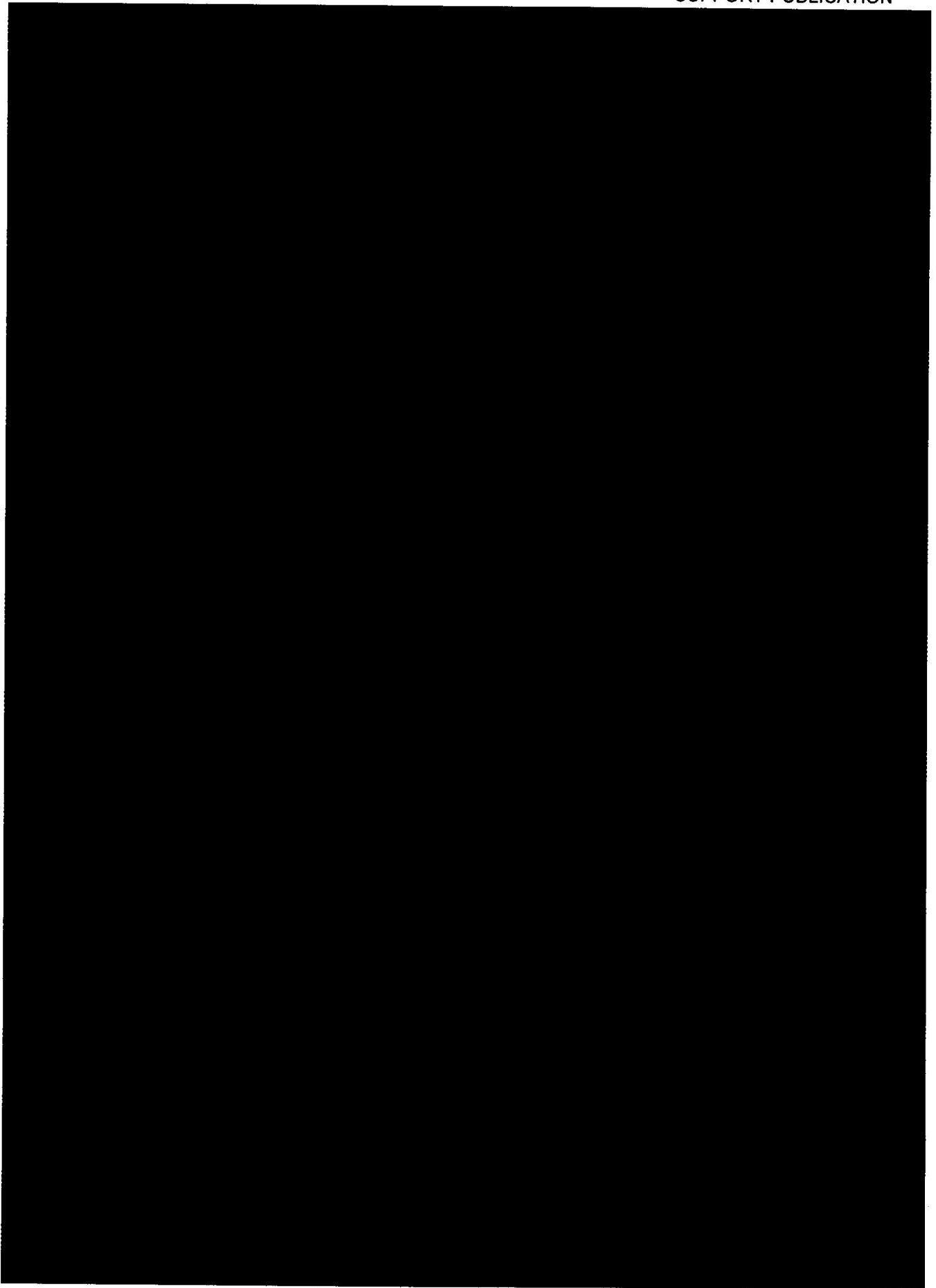


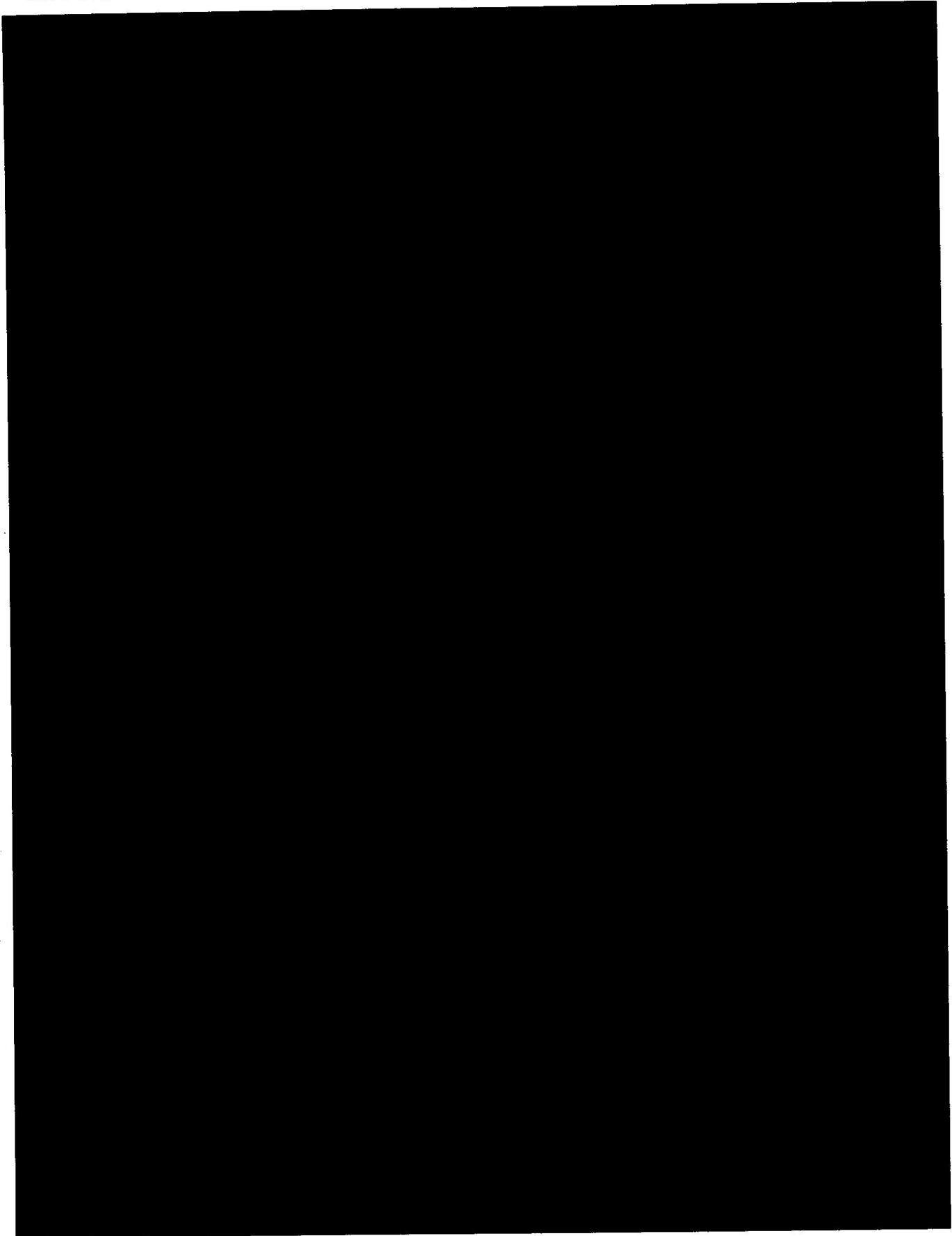


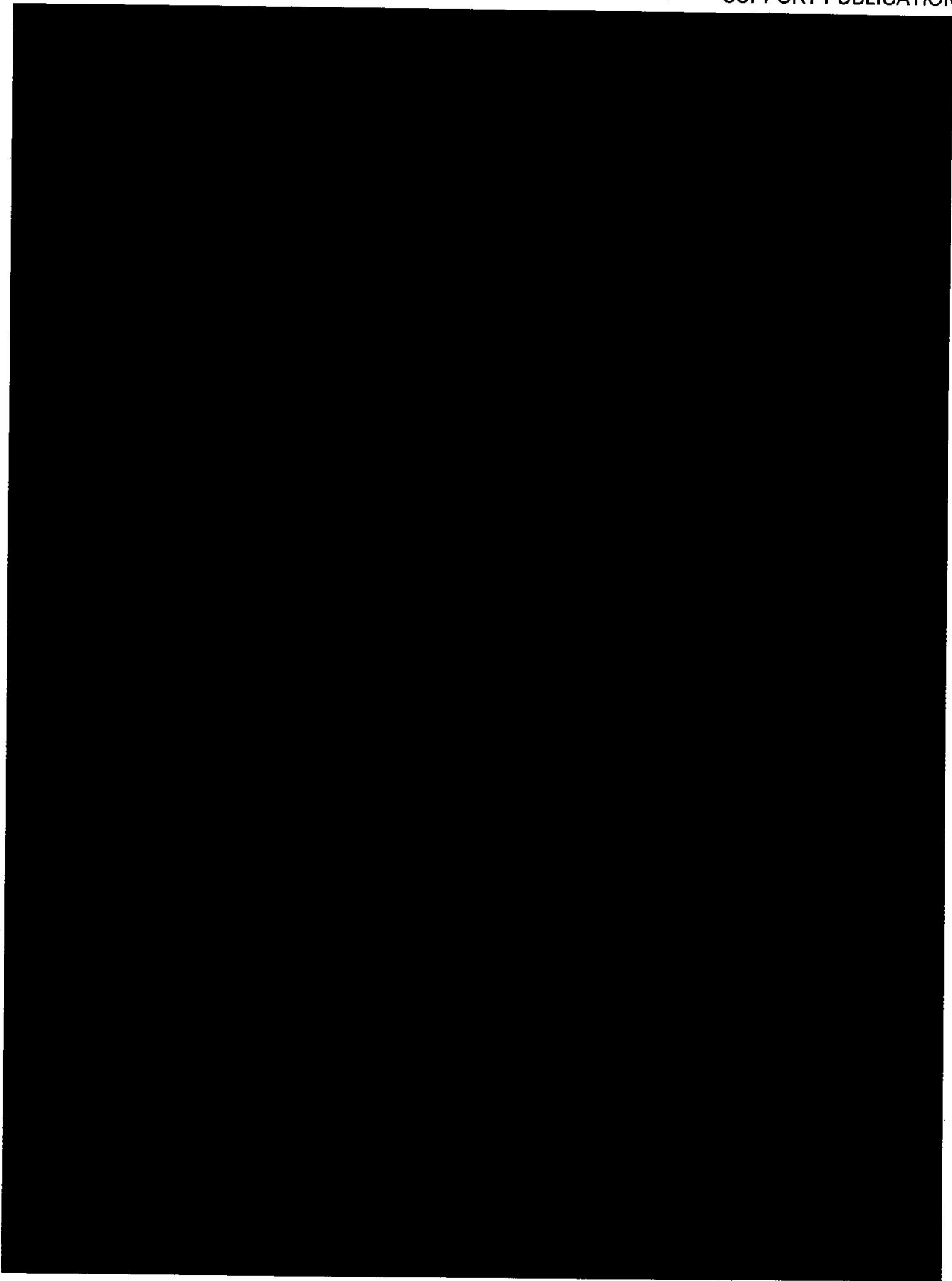




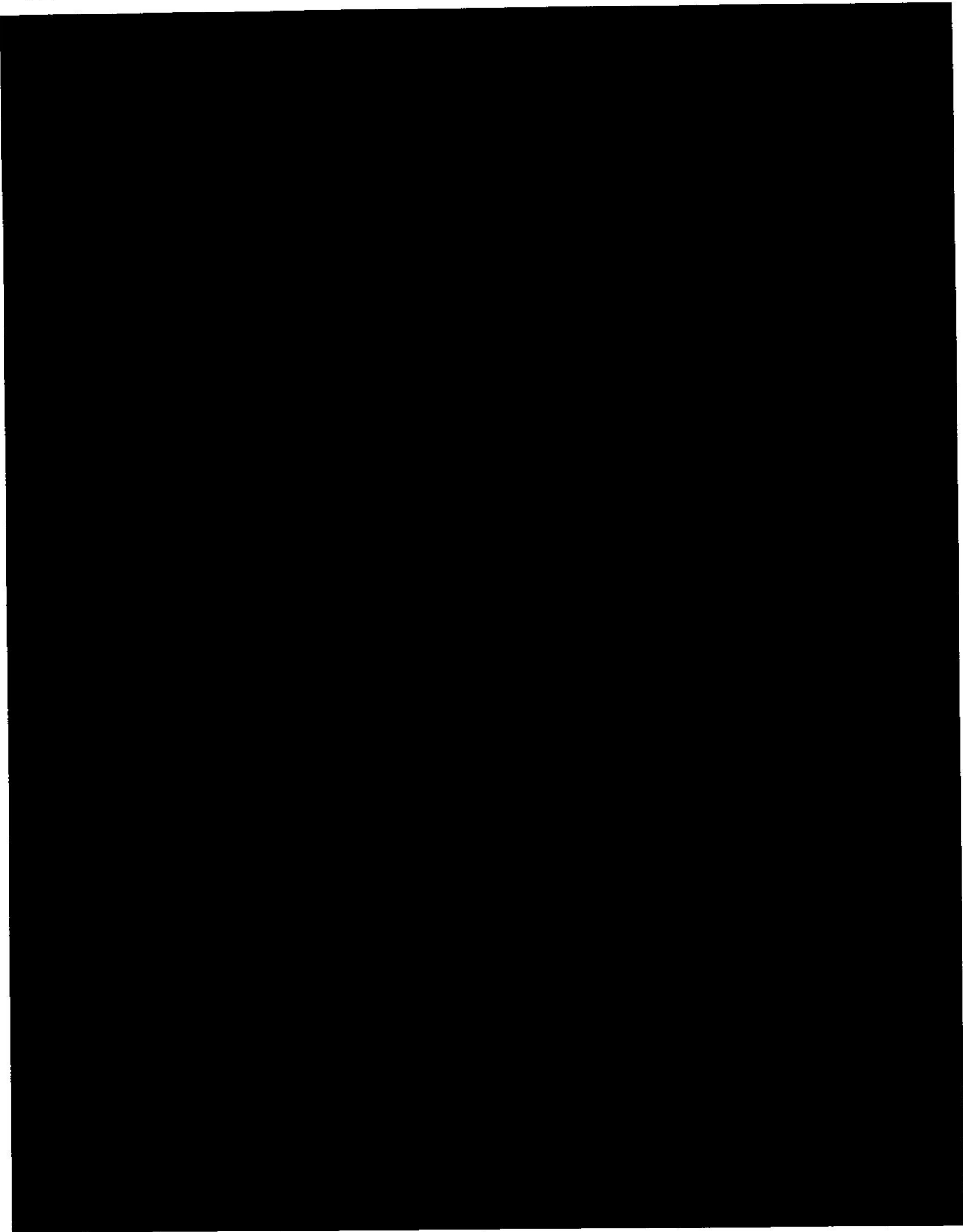


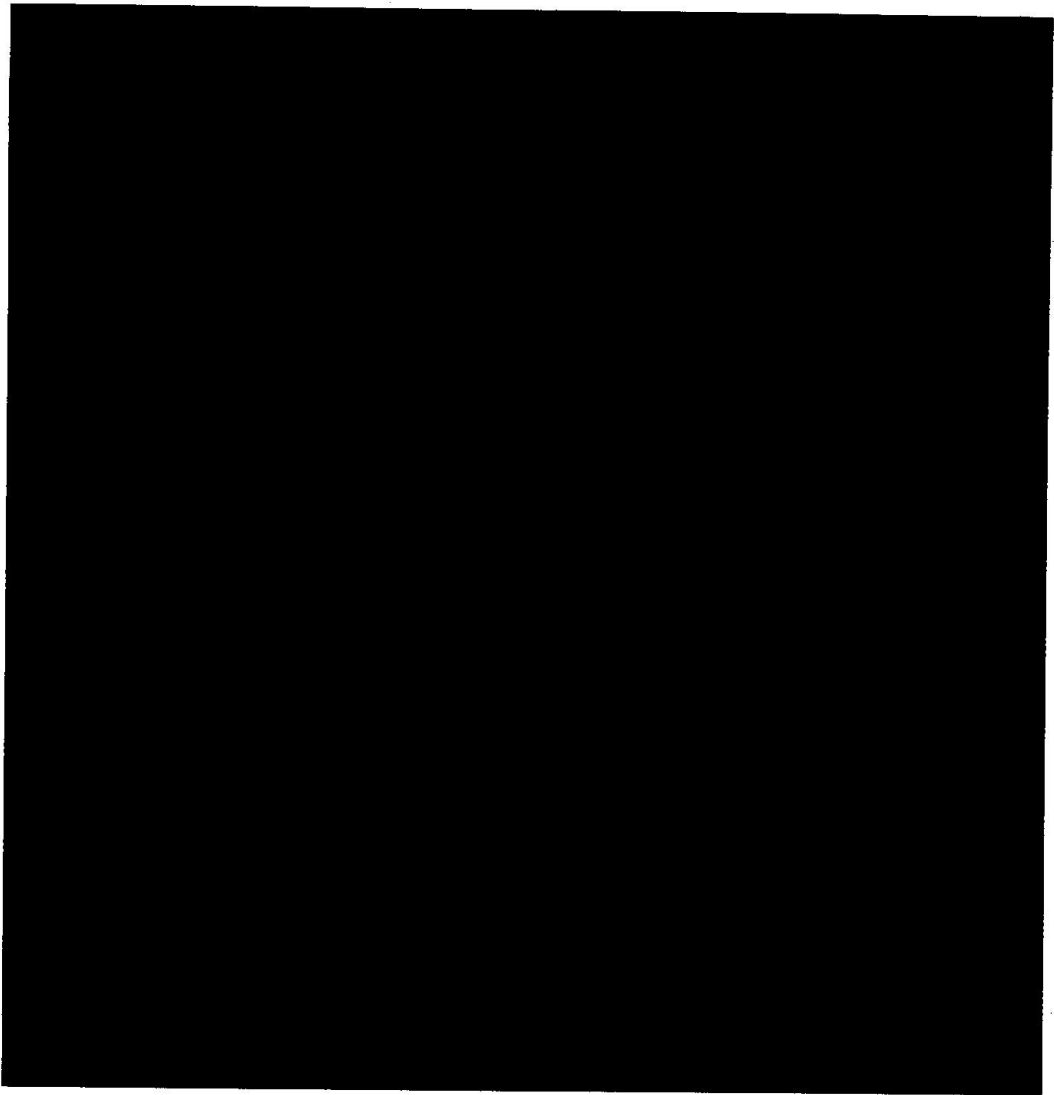


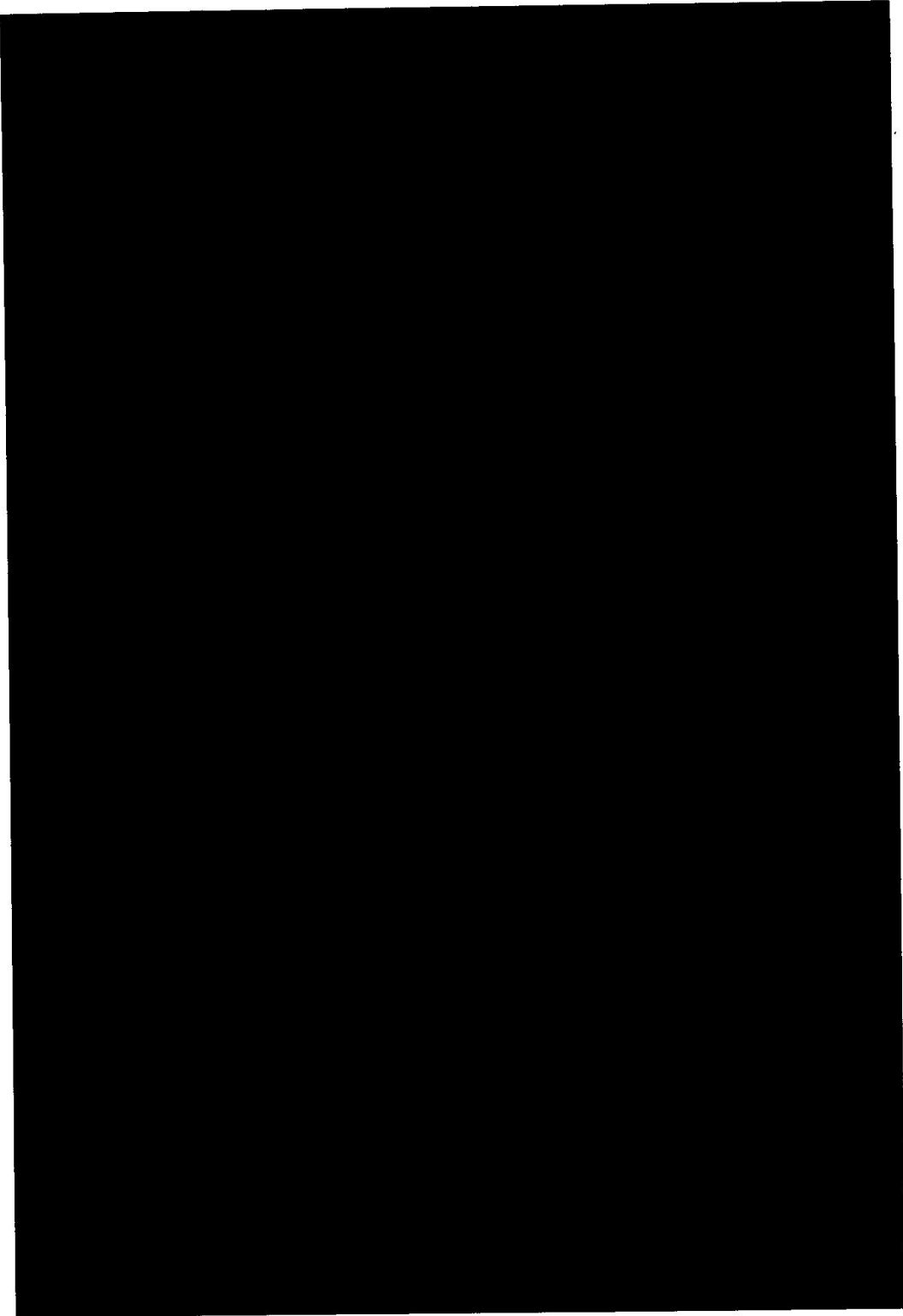












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CHAPTER 1-2

WINTERISED/WATERPROOFED

CONTENTS

Para

- 1 Introduction
- 2 [REDACTED]

Chart

Page

1	[REDACTED].....	2
2	[REDACTED].....	3
3	[REDACTED].....	4

**INTRODUCTION**

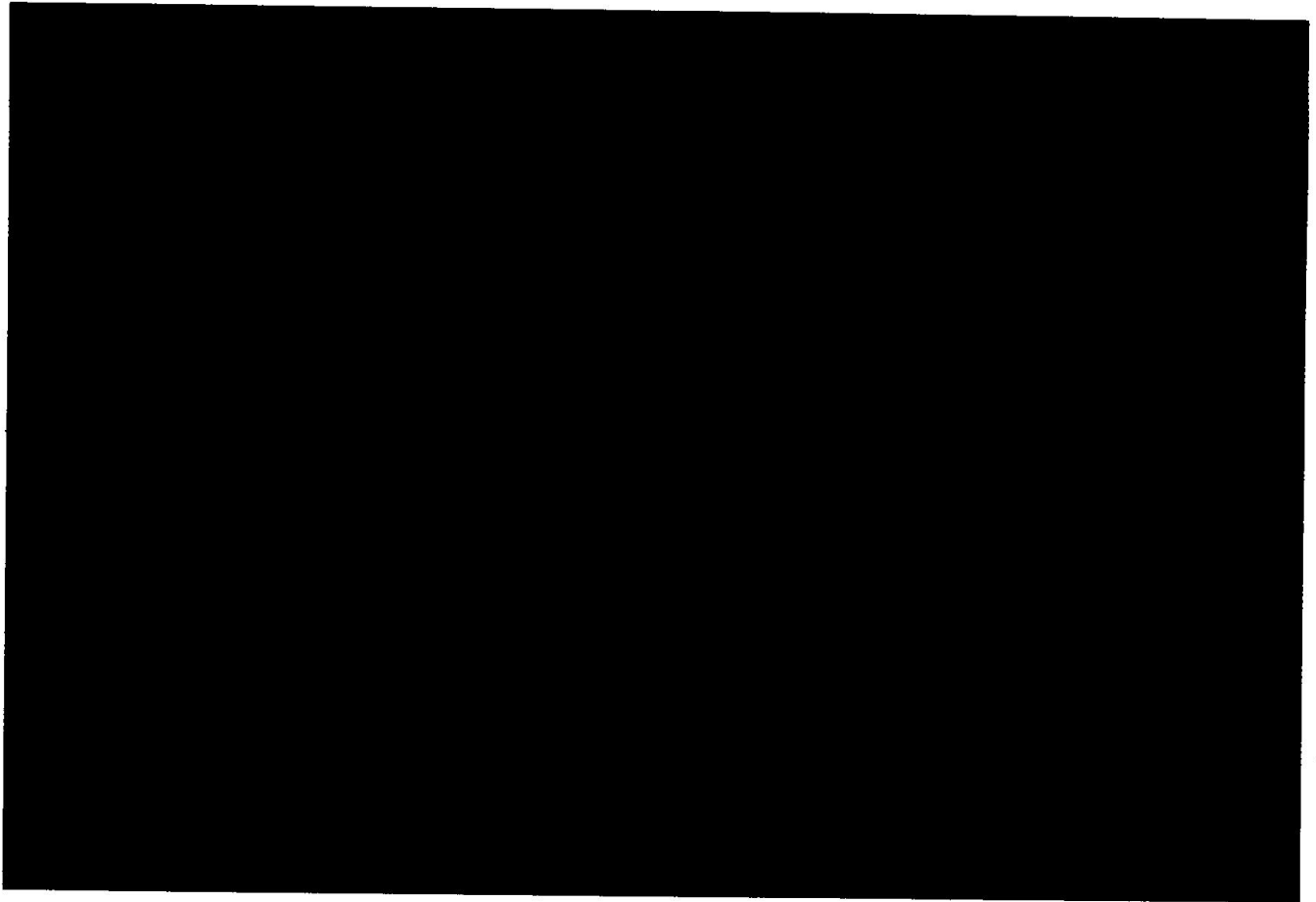
1 This chapter details the fault charts for the engine fitted to Truck Utility Light (TUL) High Specification (HS) and Truck Utility Medium (TUM) HS winterised/waterproofed vehicles with 2.5 Litre 300 Turbocharged direct injection (Tdi) diesel engines.

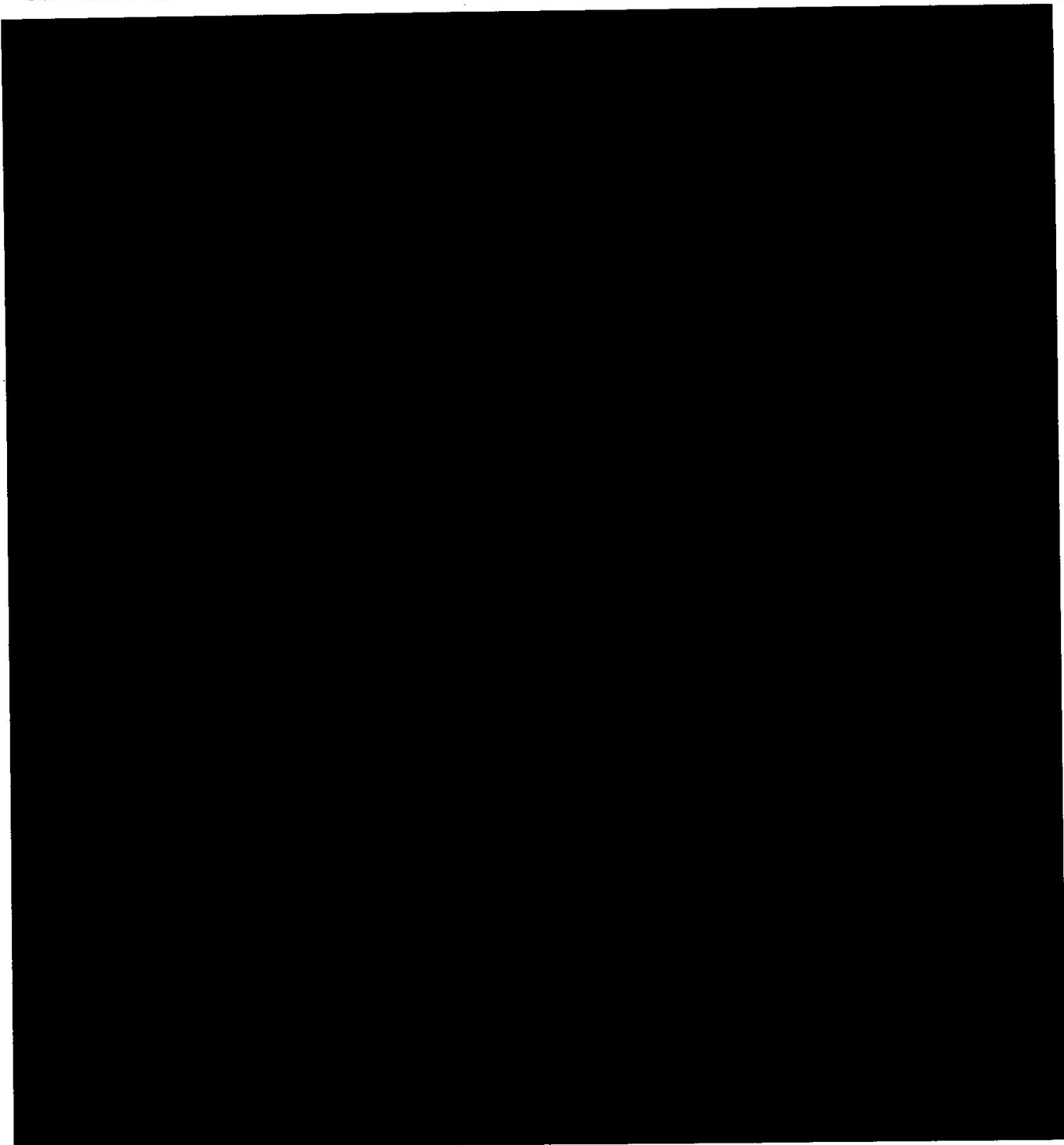
**FAULT CHARTS**

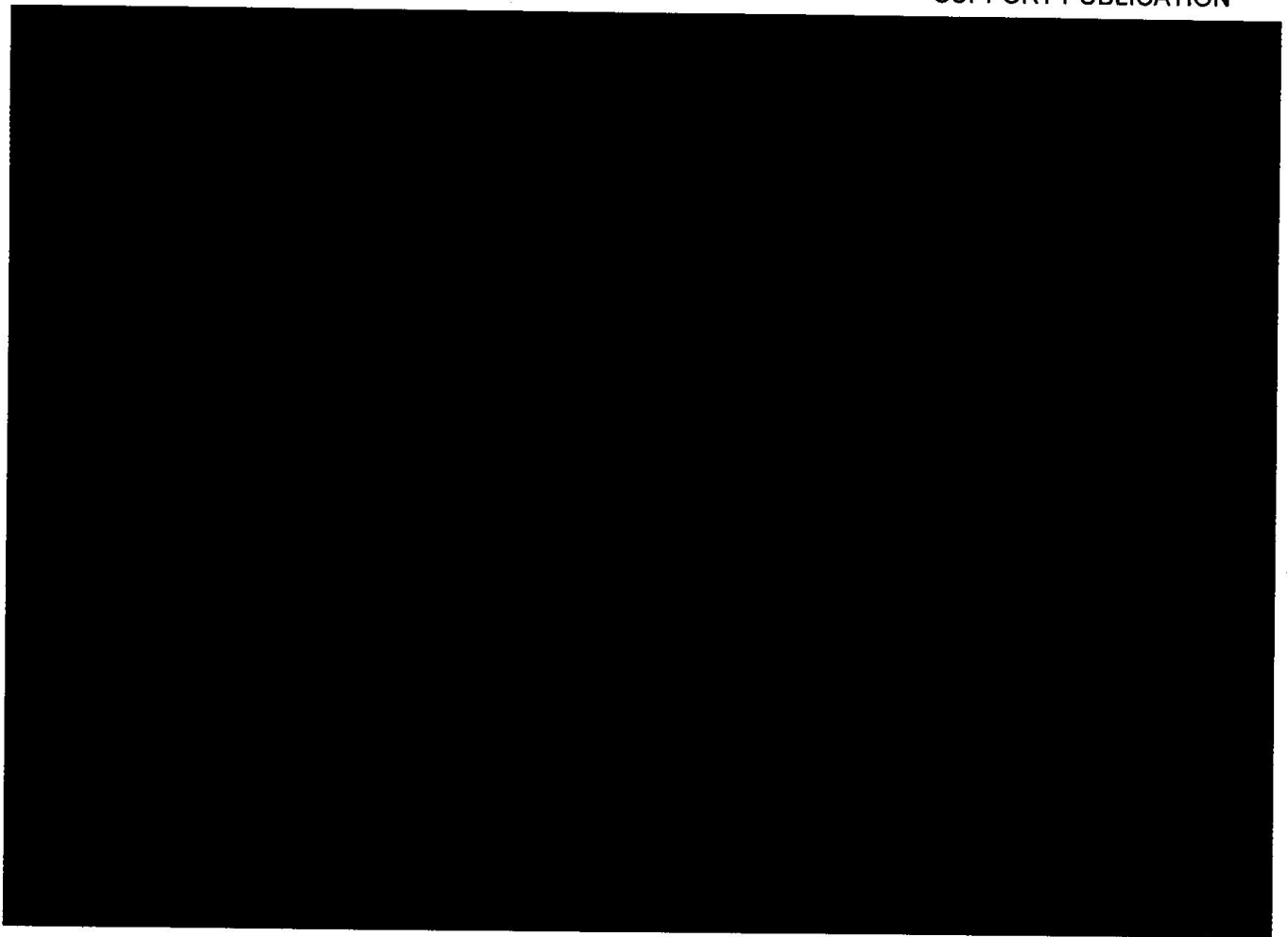
2 The failure diagnosis charts in this Chapter will enable a Qualified Technician (QT) to trace faults on identified systems after the vehicle has been [REDACTED].

3 This Category is written to give the QT a logical process to fault isolation. By performing checks and inspections in a fixed sequence, faults that may affect other systems can be identified, allowing the QT to quickly isolate the root cause of a malfunction.

4 After performing any repair as per Category 522 of this AESP Octad, always verify the repair by operating the vehicle. If there were numerous faults listed during the fault reporting process, it may be necessary to follow the Diagnostic Starting Point Table more than once to identify and repair faults.









CHAPTER 2

CLUTCH

CONTENTS

Para

- 1 Introduction
- 2 Fault charts

Chart

Page

1	Grinding noise when changing gears.....	2
2	Clutch slip.....	3
3	Clutch judder or fierce engagement.....	4
4	Clutch noise.....	5
5	Unable to change gear.....	6
6	Spongy clutch pedal operation.....	7

INTRODUCTION

1 This chapter details the fault charts for the clutch fitted to Truck Utility Light (TUL) High Specification (HS), Truck Utility Medium (TUM) HS, and (TUM) Battlefield Ambulance HS vehicles with 2.5 Litre 300 Turbocharged direct injection (Tdi) diesel engines and 5 speed manual gearbox.

FAULT CHARTS

2 The failure diagnosis charts in this Chapter will enable a Qualified Technician (QT) to trace faults on identified systems.

3 This Category is written to give the QT a logical process to fault isolation. By performing checks and inspections in a fixed sequence, faults that may affect other systems can be identified, allowing the QT to quickly isolate the root cause of a malfunction.

4 After performing any repair as per Category 522 of this AESP Octad, always verify the repair by operating the vehicle. If there were numerous faults listed during the fault reporting process, it may be necessary to follow the Diagnostic Starting Point Table more than once to identify and repair faults.

CHART 1 GRINDING NOISE WHEN CHANGING GEARS

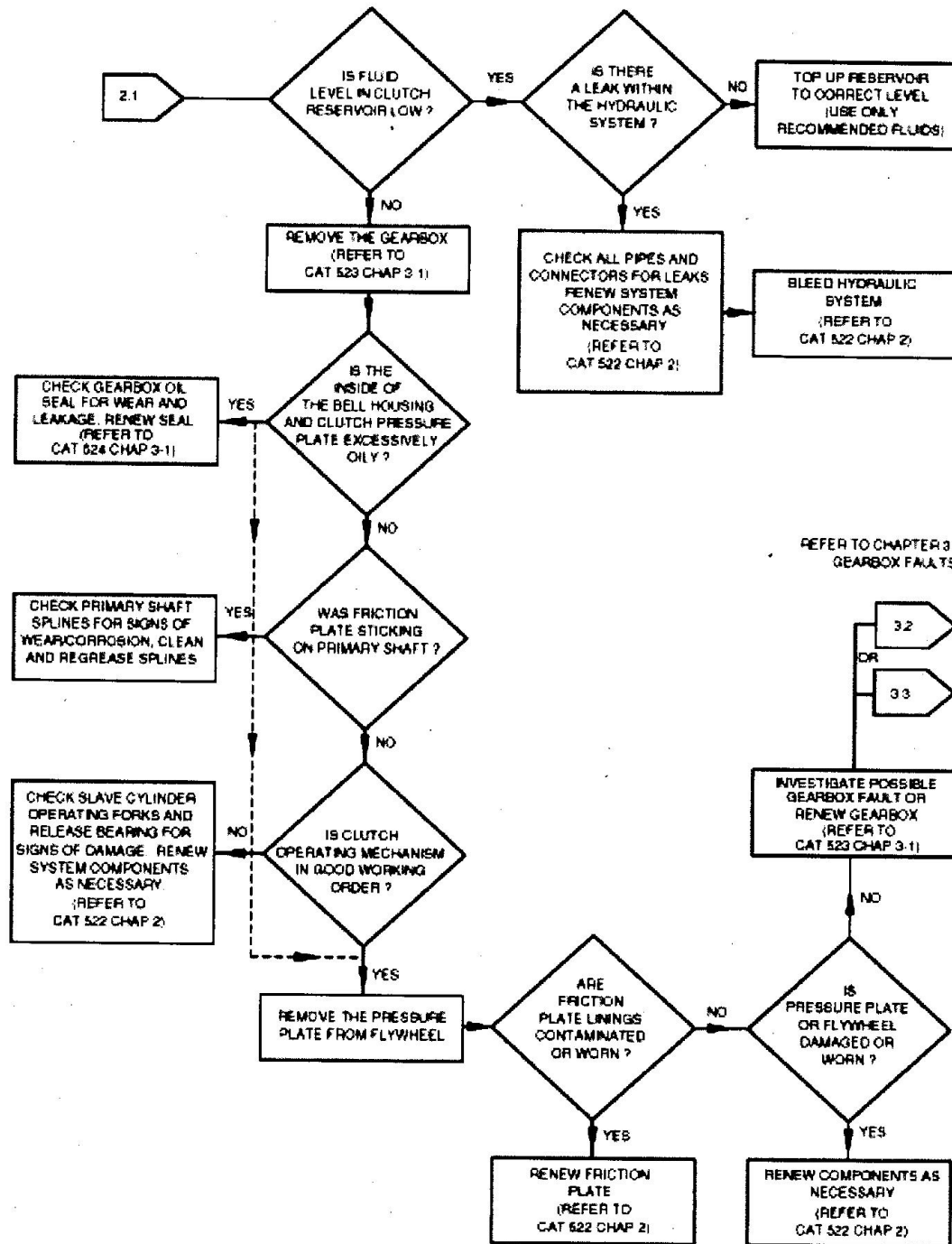


CHART 2 CLUTCH SLIP

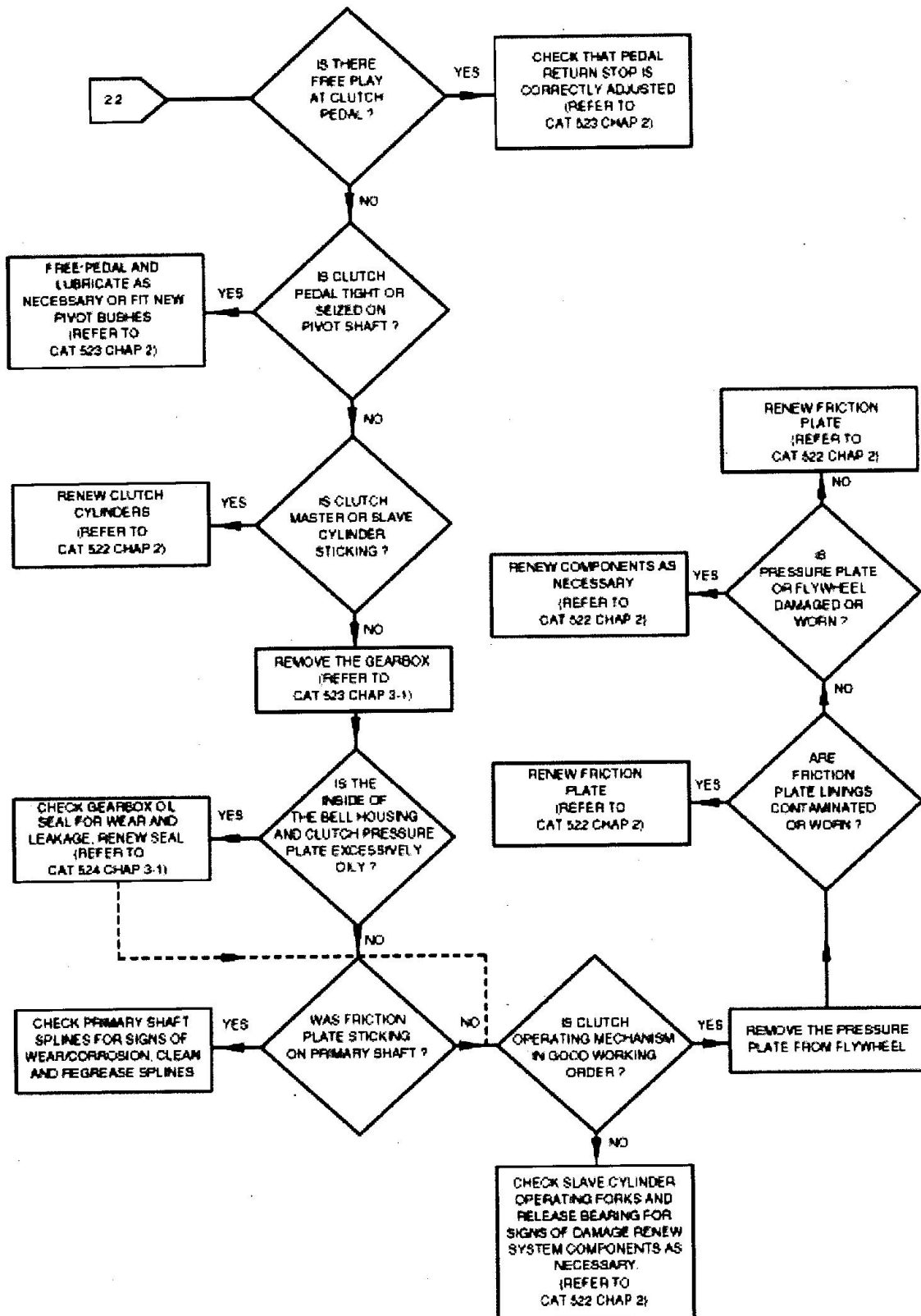


CHART 3 CLUTCH JUDDER OR FIERCE ENGAGEMENT

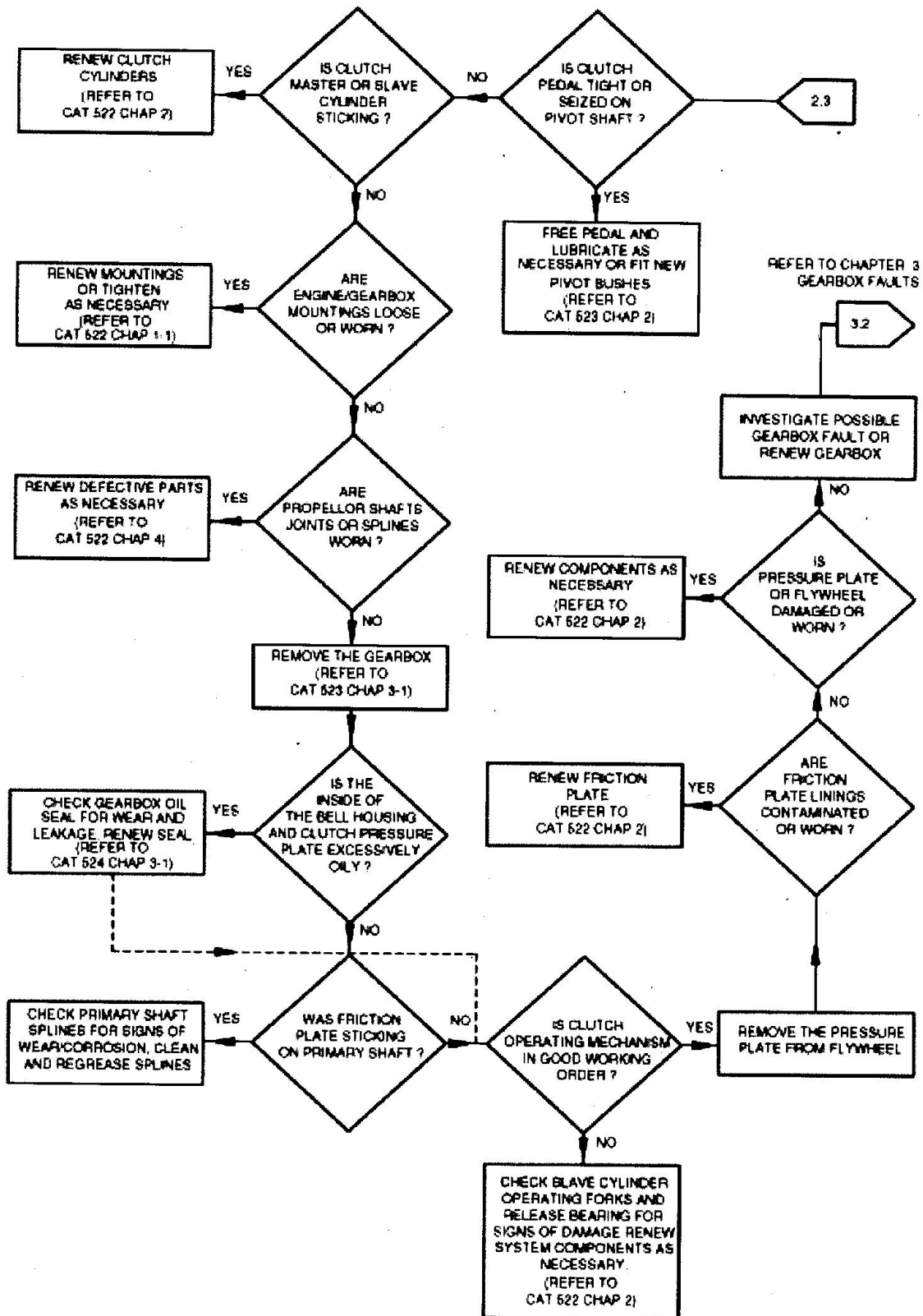


CHART 4 CLUTCH NOISE

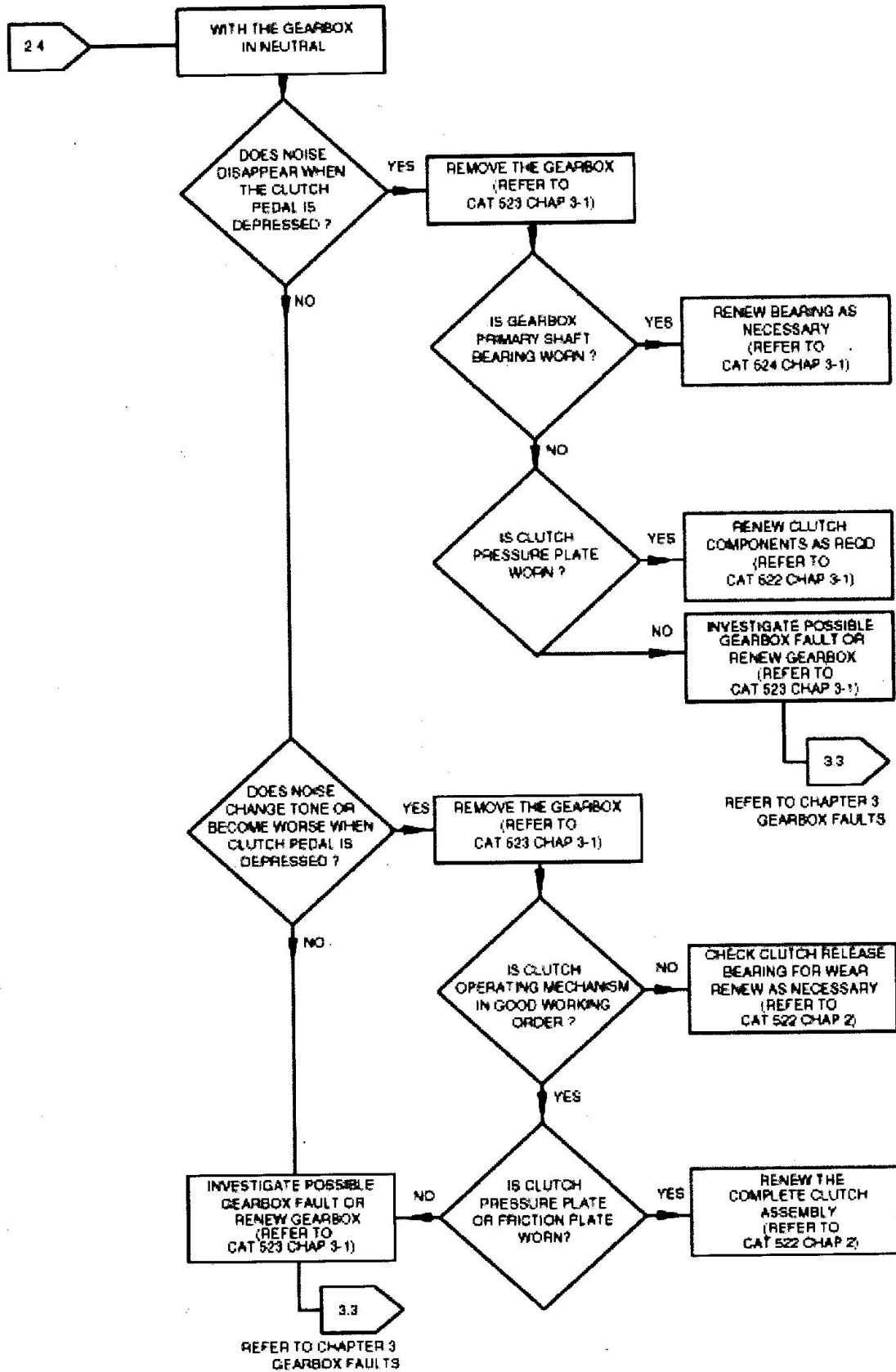


CHART 5 UNABLE TO CHANGE GEAR

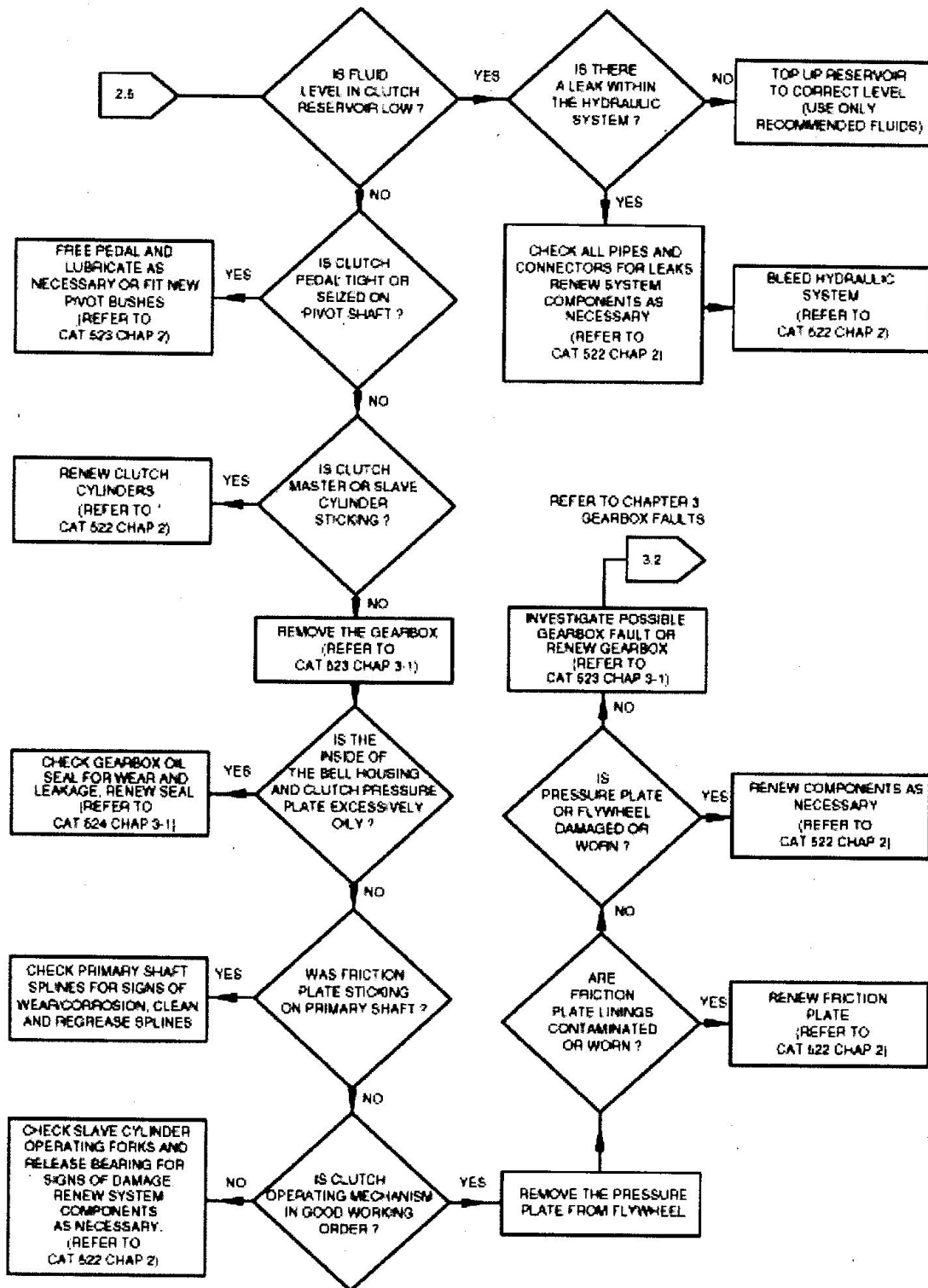
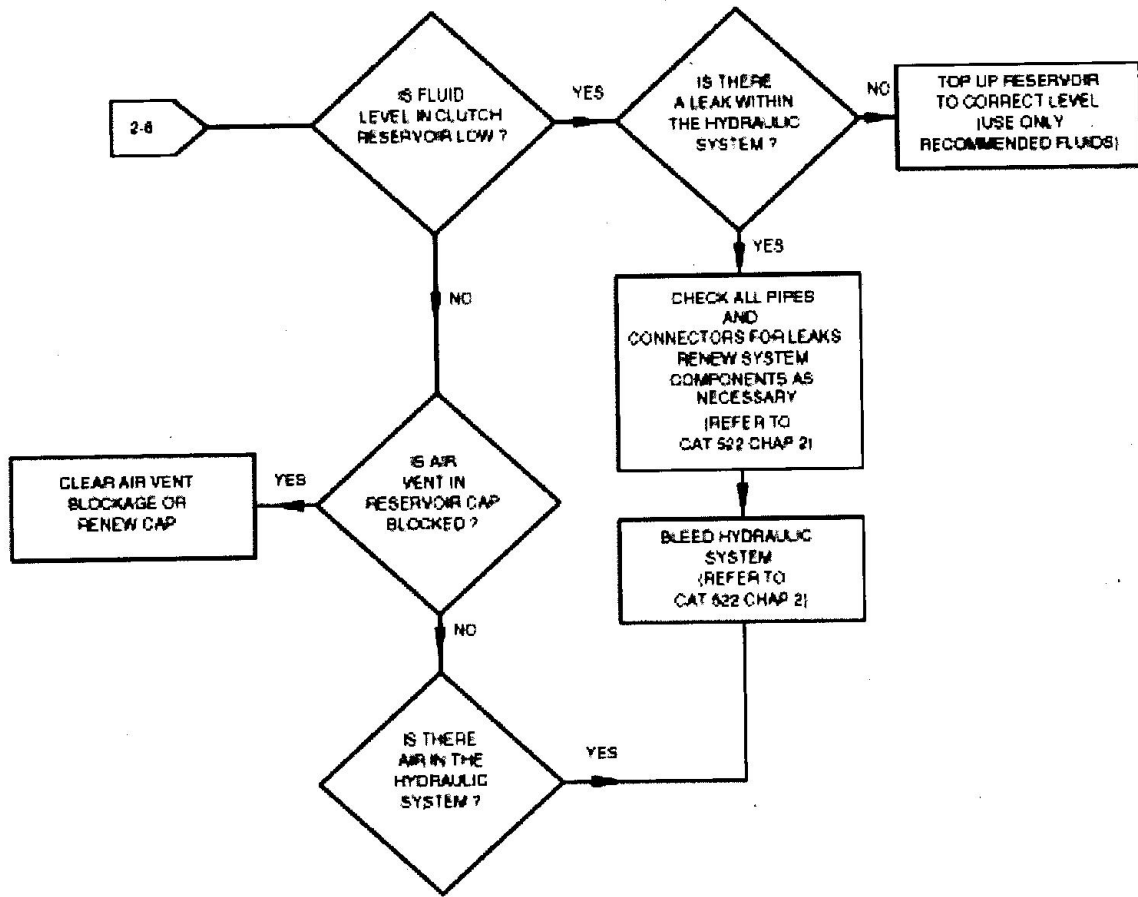


CHART 6 SPONGY CLUTCH PEDAL OPERATION



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**CHAPTER 3**

**FIVE SPEED MANUAL GEARBOX**

**CONTENTS**

Para

- 1 Introduction
- 2 Fault charts

Chart

Page

1	Gear jumps out of engagement.....	2
2	Difficult gear engagement .....	3
3	Noisy gear engagement .....	4
4	Excessive play in transmission (or knock) .....	5
5	Gearbox internal fault .....	6
6	Gearbox oil leaks.....	7

**INTRODUCTION**

1 This chapter details the fault charts for Truck Utility Light (TUL) High Specification (HS), Truck Utility Medium (TUM) HS, and (TUM) Battlefield Ambulance HS vehicles fitted with the five speed manual gearbox and 2.5 Litre 300 Turbocharged direct injection (Tdi) diesel engines.

**FAULT CHARTS**

2 The failure diagnosis charts in this Chapter will enable a Qualified Technician (QT) to trace faults on identified systems

3 This Category is written to give the QT a logical process to fault isolation. By performing checks and inspections in a fixed sequence, faults that may affect other systems can be identified, allowing the QT to quickly isolate the root cause of a malfunction.

4 After performing any repair as per Category 522 of this AESP Octad, always verify the repair by operating the vehicle. If there were numerous faults listed during the fault reporting process, it may be necessary to follow the Diagnostic Starting Point Table more than once to identify and repair.

CHART 1 GEAR JUMPS OUT OF ENGAGEMENT

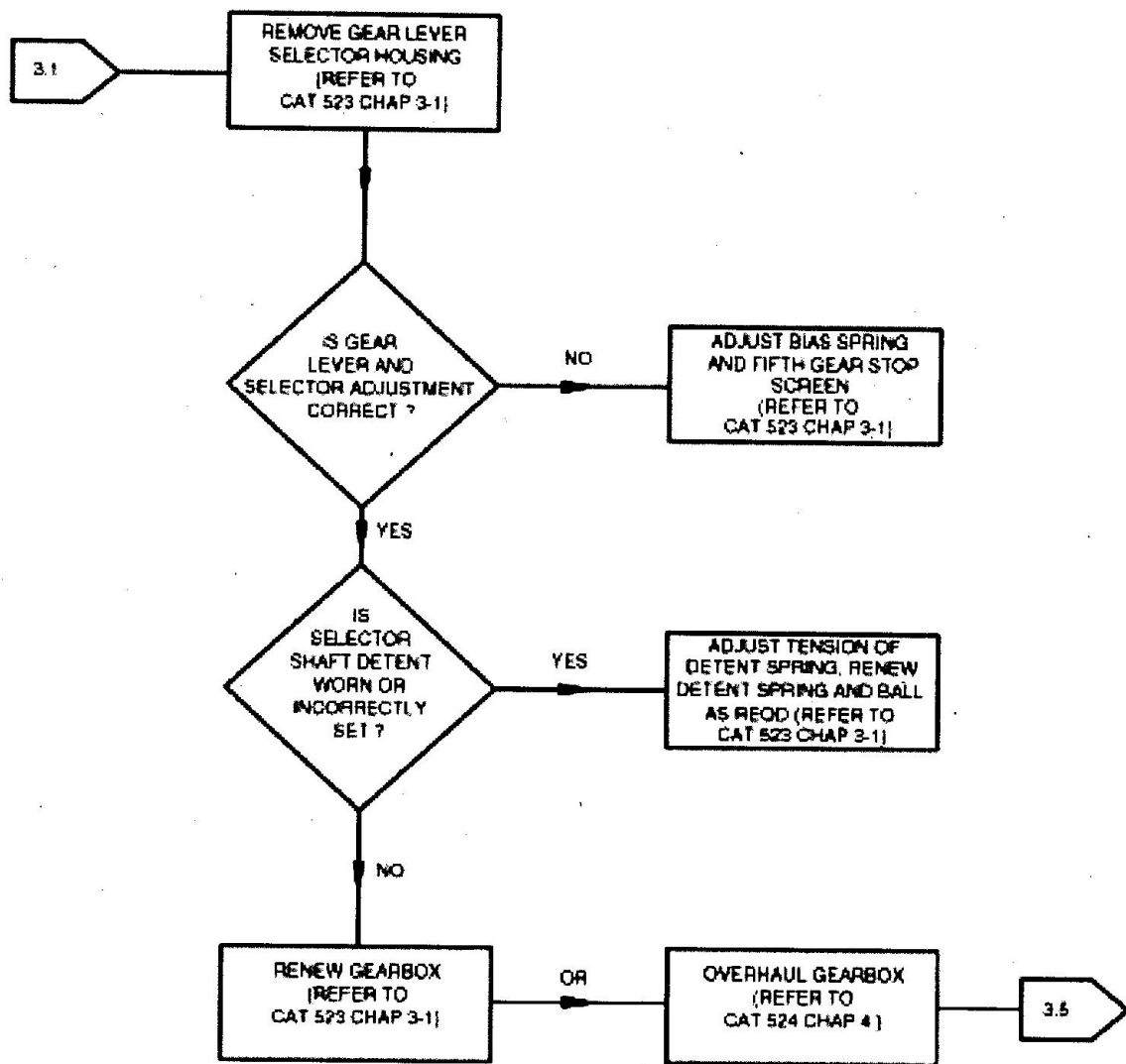


CHART 2 DIFFICULT GEAR ENGAGEMENT

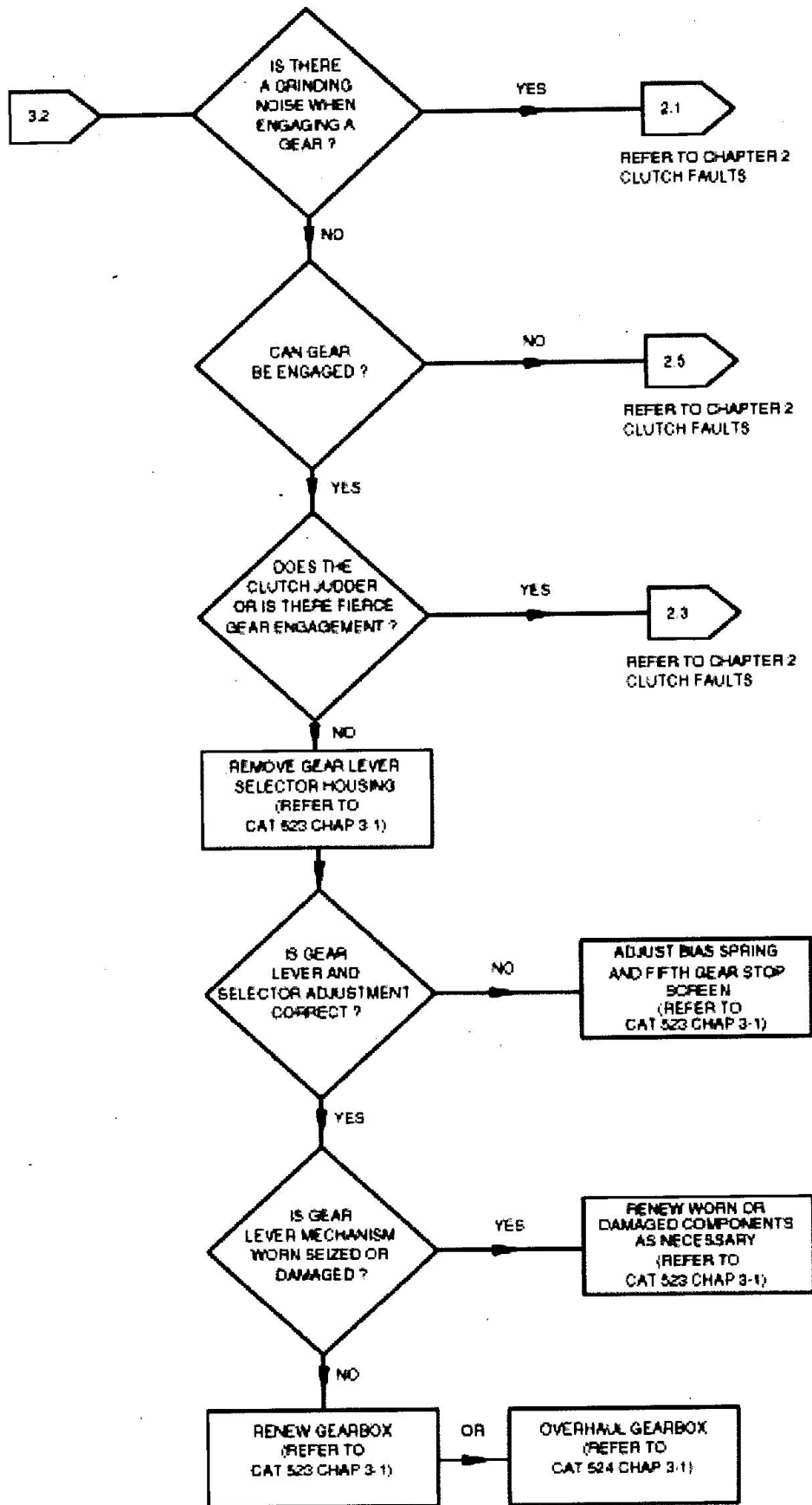


CHART 3 NOISY GEAR ENGAGEMENT

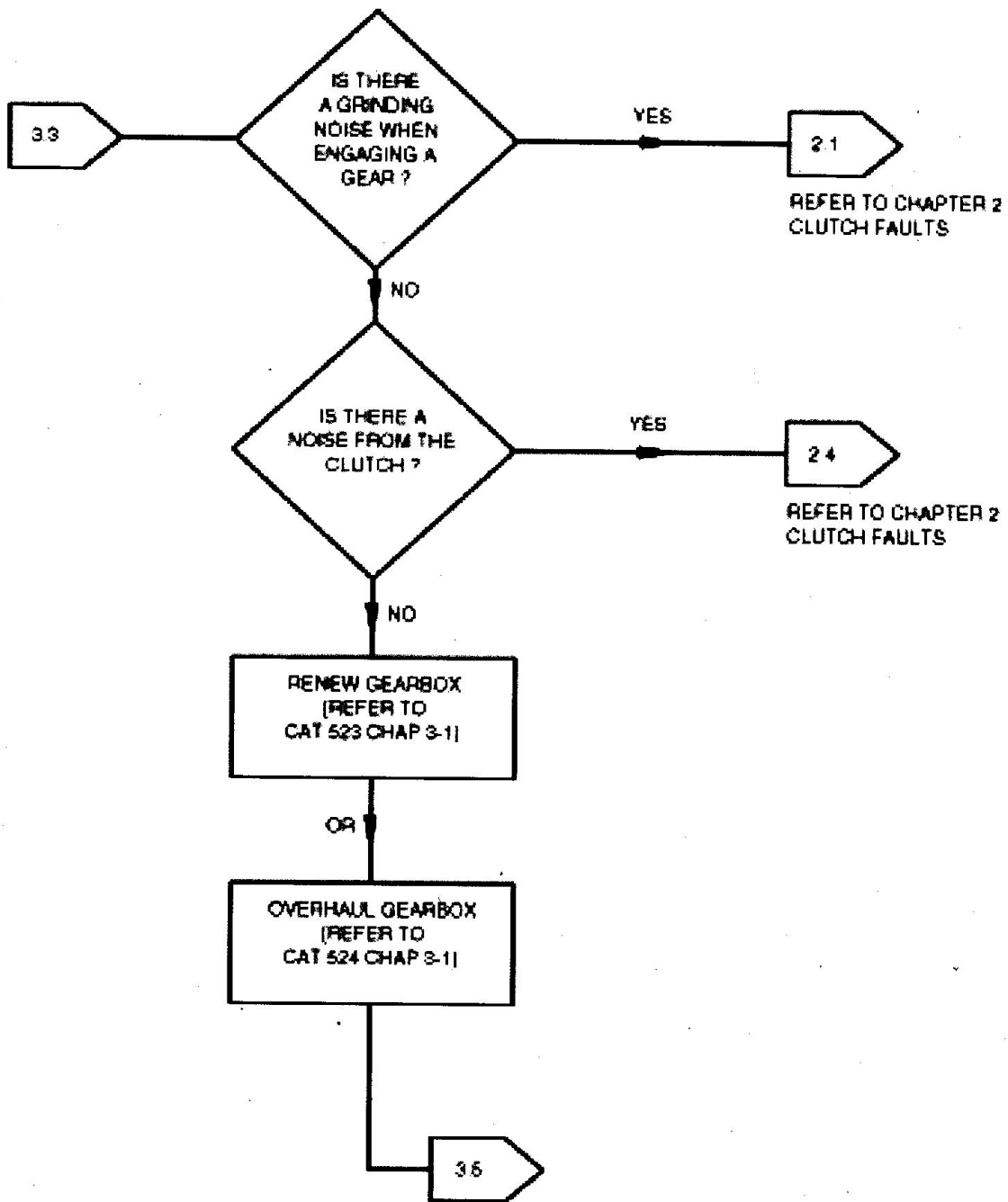


CHART 4 EXCESSIVE PLAY IN TRANSMISSION (OR KNOCK)

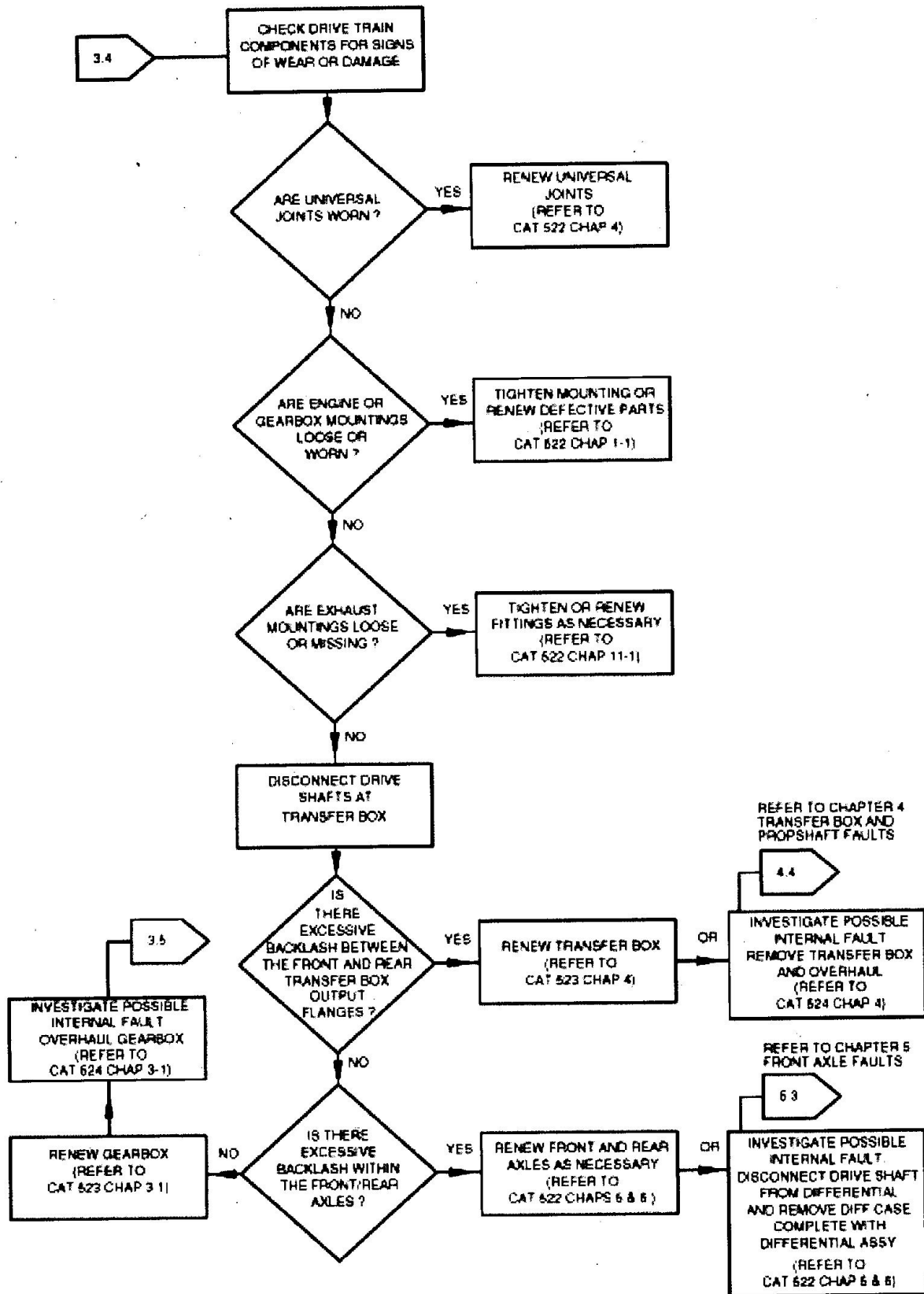


CHART 5 GEARBOX INTERNAL FAULT

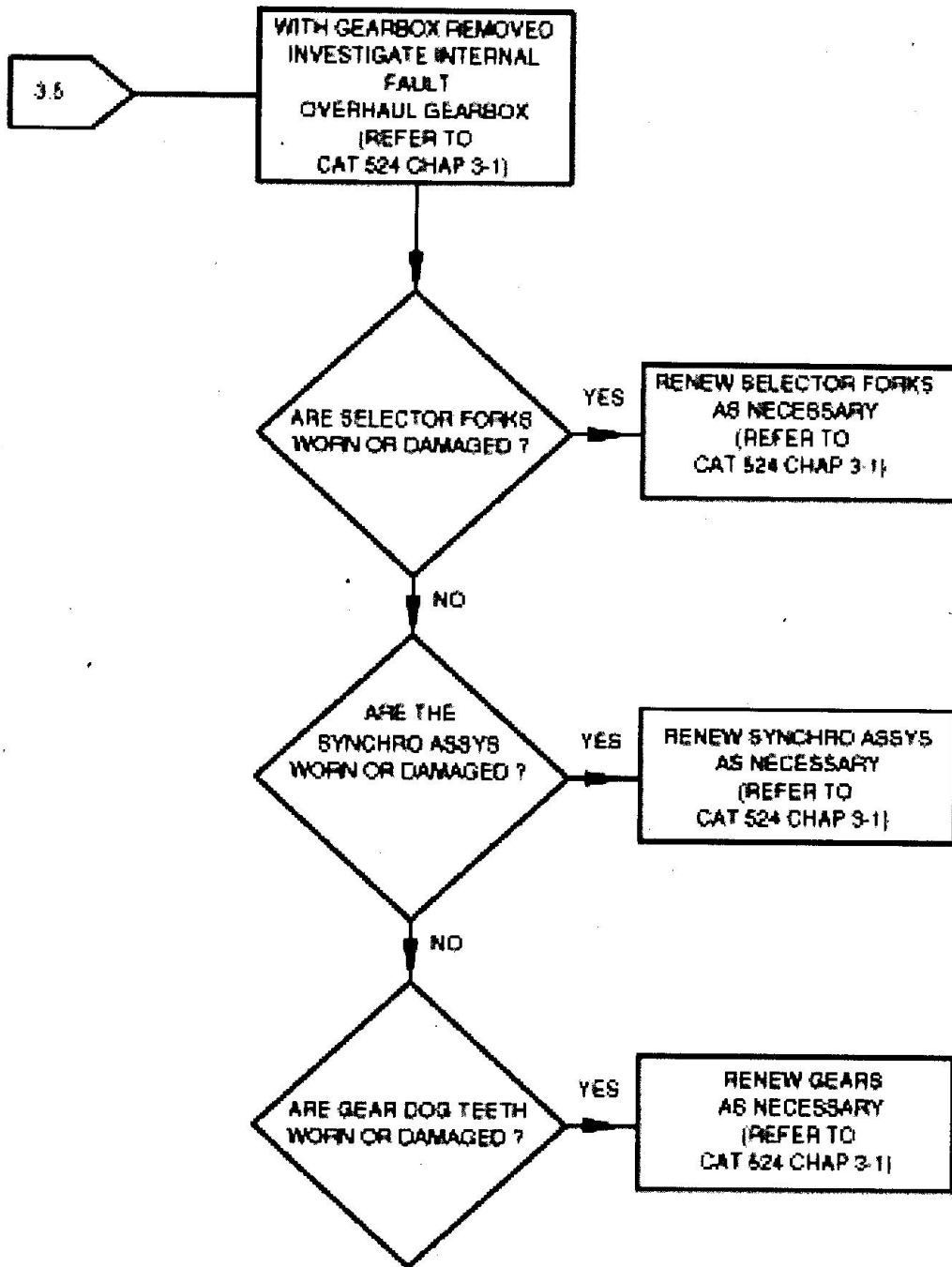
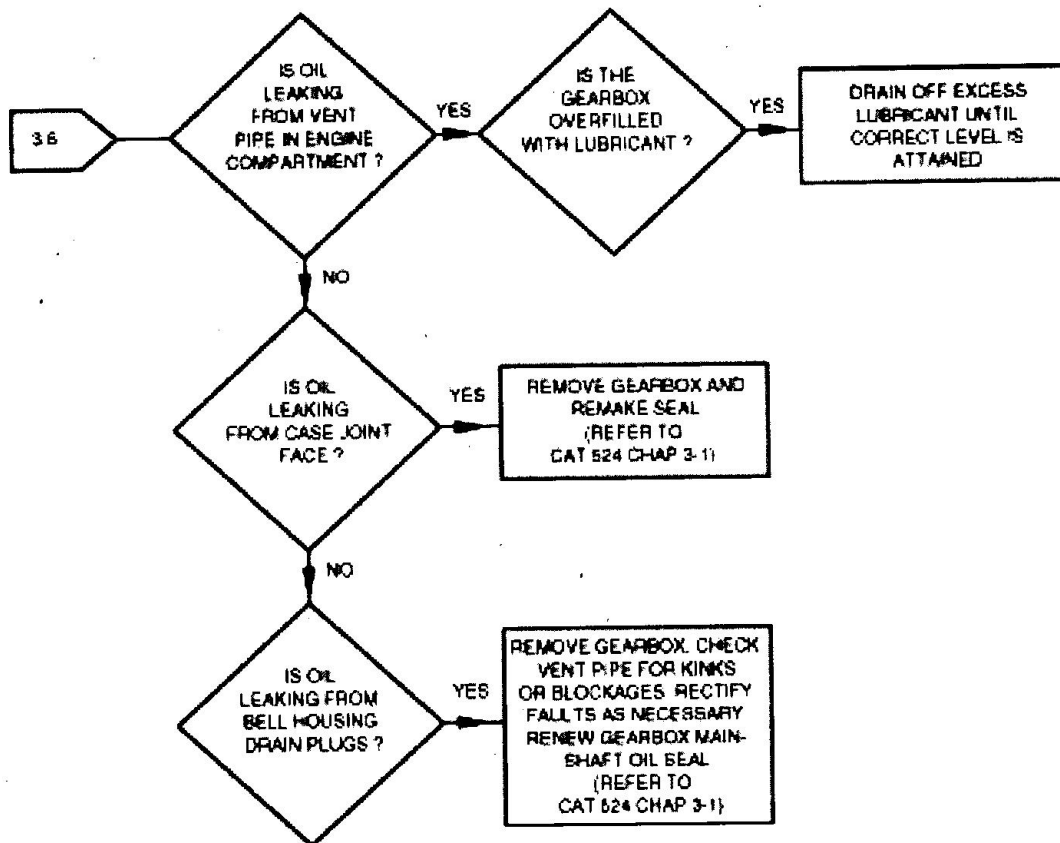


CHART 6 GEARBOX OIL LEAKS



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CHAPTER 4

LT230T TRANSFER BOX AND PROPELLER SHAFTS

CONTENTS

Para

- 1 Introduction
- 2 Fault charts

Chart

Page

1	Gear jumps out of engagement.....	2
2	Excessive play in transmission (or knock) .....	3
3	Transfer box noise.....	4
4	Transfer box internal faults.....	5
5	Transfer box oil leaks .....	6

INTRODUCTION

1 This chapter details the fault charts for Truck Utility Light (TUL) High Specification (HS), Truck Utility Medium (TUM) High Specification (HS), and (TUM) Ambulance HS vehicles fitted with the LT230T transfer gearbox and propeller shafts.

FAULT CHARTS

2 The failure diagnosis charts in this Chapter will enable a Qualified Technician (QT) to trace faults on identified systems.

3 This Category is written to give the QT a logical process to fault isolation. By performing checks and inspections in a fixed sequence, faults that may affect other systems can be identified, allowing the QT to quickly isolate the root cause of a malfunction.

4 After performing any repair as per Category 522 of this AESP Octad, always verify the repair by operating the vehicle. If there were numerous faults listed during the fault reporting process, it may be necessary to follow the Diagnostic Starting Point Table more than once to identify and repair faults.

CHART 1 GEAR JUMPS OUT OF ENGAGEMENT

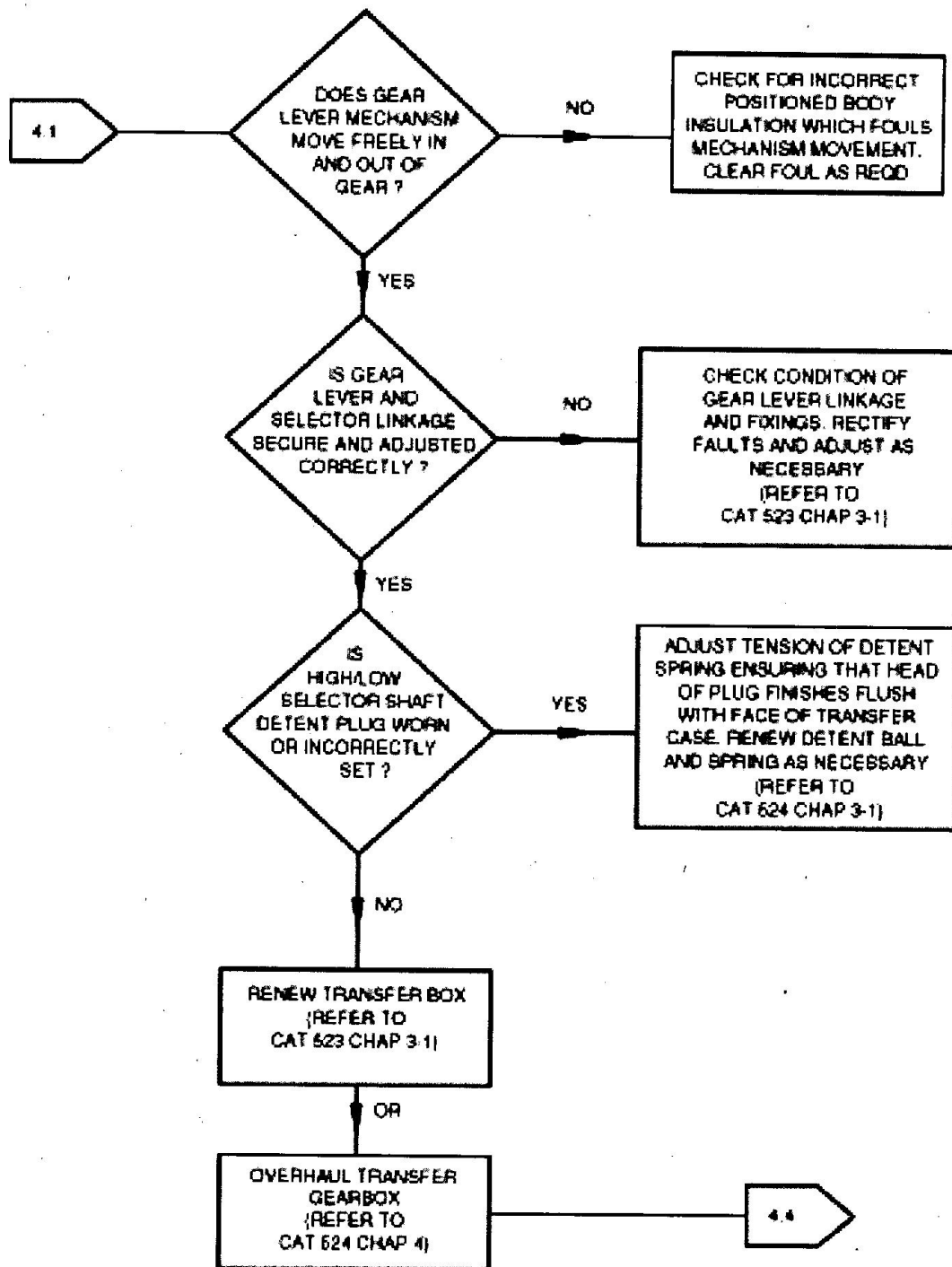


CHART 2 EXCESSIVE PLAY IN TRANSMISSION (OR KNOCK)

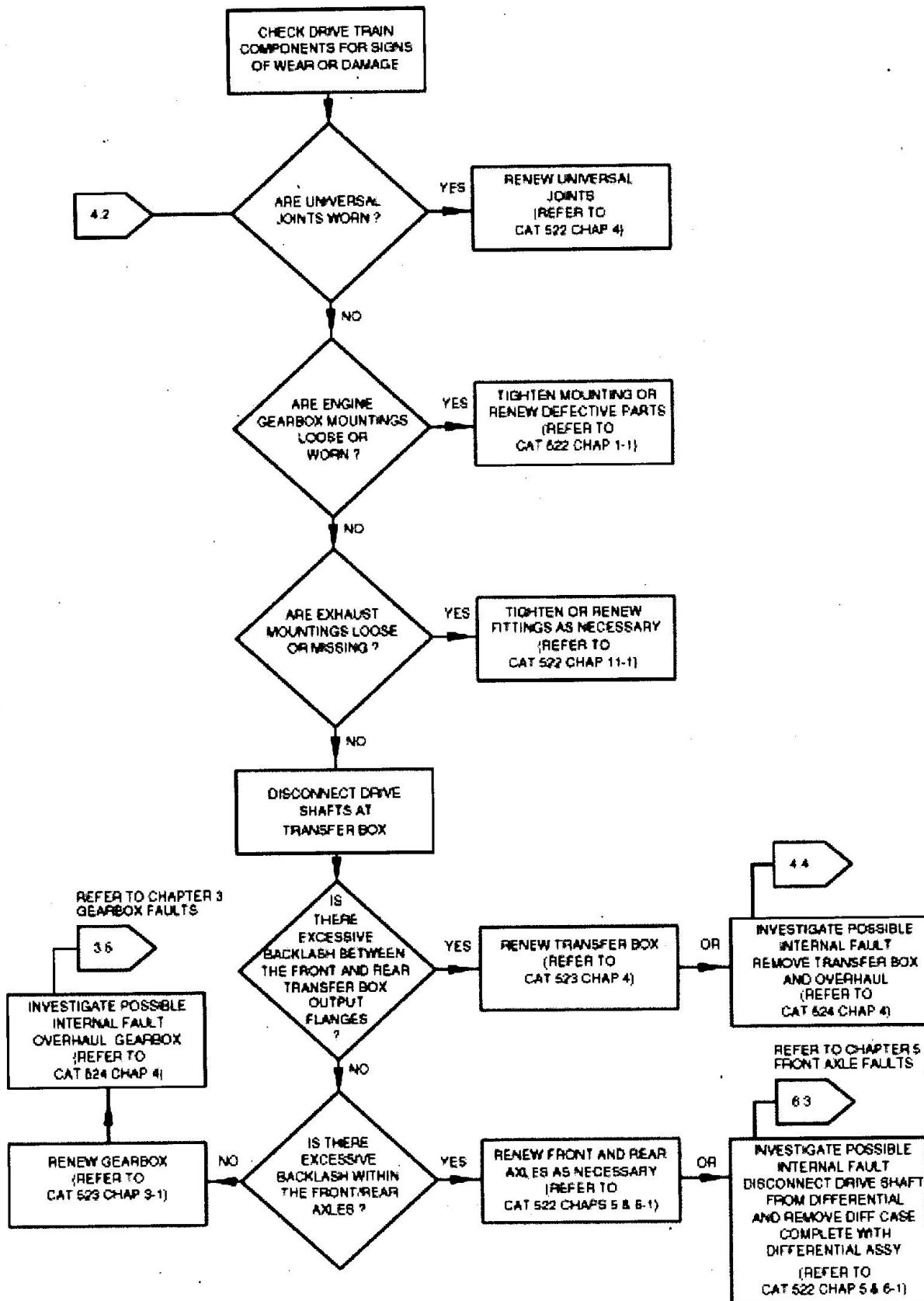


CHART 3 TRANSFER BOX NOISE

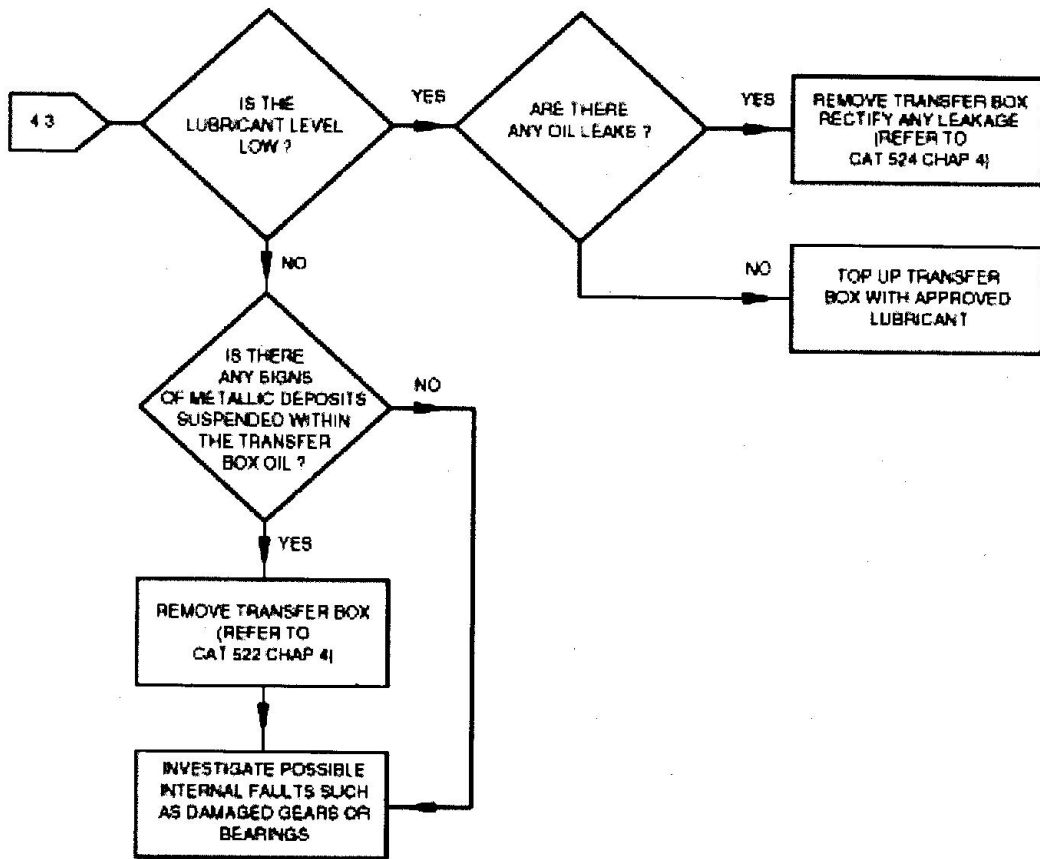


CHART 4 TRANSFER BOX INTERNAL FAULTS

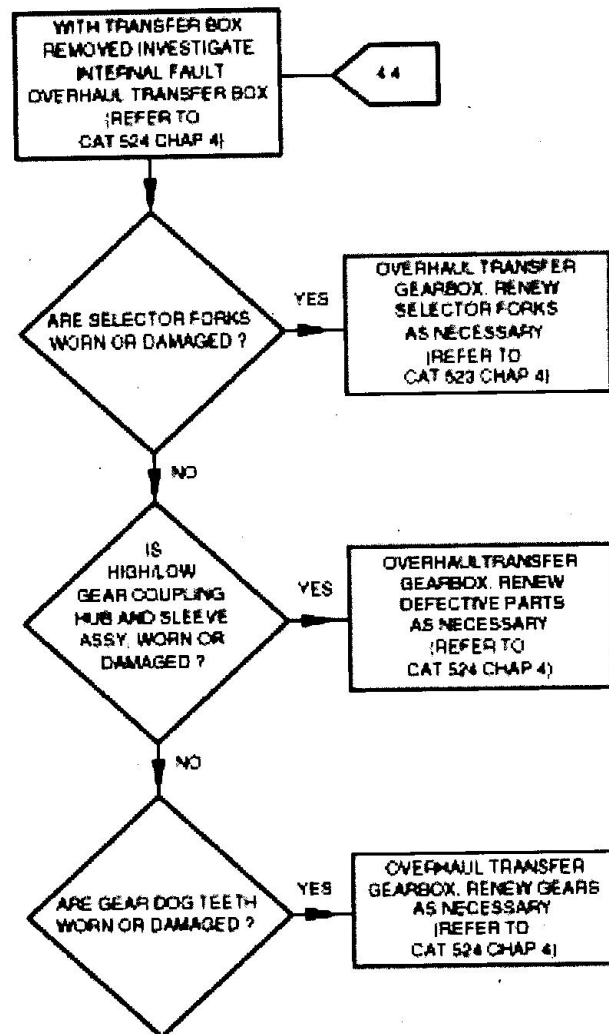
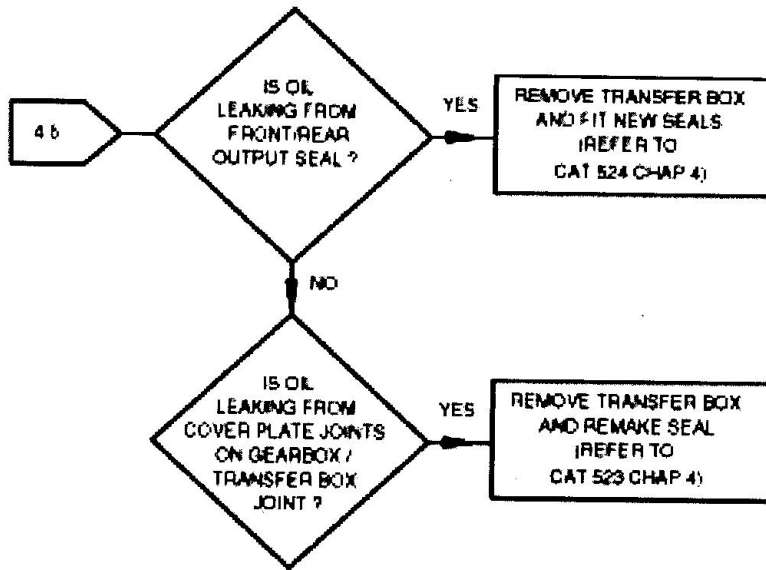


CHART 5 TRANSFER BOX OIL LEAKS



**CHAPTER 5**

**FRONT AXLE**

**CONTENTS**

Para

- 1 Introduction
- 2 Fault charts

Chart

Page

1	Noisy differential.....	2
2	Excessive play in transmission (or knock) .....	3
3	Differential internal fault.....	4
4	Noisy wheel bearings .....	5
5	Knocking through steering when cornering.....	6

**INTRODUCTION**

1 This chapter details the fault charts for Truck Utility Light (TUL) High Specification (HS), Truck Utility Medium (TUM) HS, and (TUM) Battlefield Ambulance HS vehicles fitted with the Rover front axles.

**FAULT CHARTS**

2 The failure diagnosis charts in this Chapter will enable a Qualified Technician (QT) to trace faults on identified systems.

3 This Category is written to give the QT a logical process to fault isolation. By performing checks and inspections in a fixed sequence, faults that may affect other systems can be identified, allowing the QT to quickly isolate the root cause of a malfunction.

4 After performing any repair as per Category 522 of this AESP Octad, always verify the repair by operating the vehicle. If there were numerous faults listed during the fault reporting process, it may be necessary to follow the Diagnostic Starting Point Table more than once to identify and repair faults.

CHART 1 NOISY DIFFERENTIAL

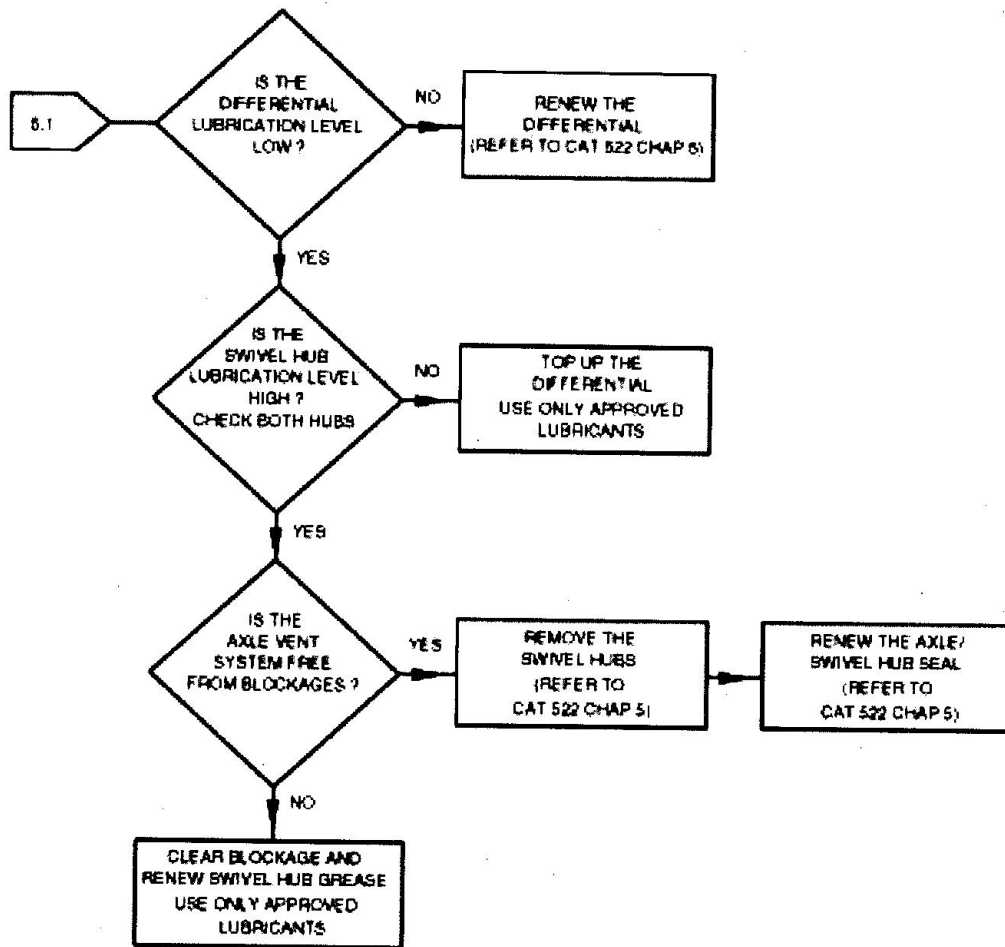




CHART 2 EXCESSIVE PLAY IN TRANSMISSION (OR KNOCK)

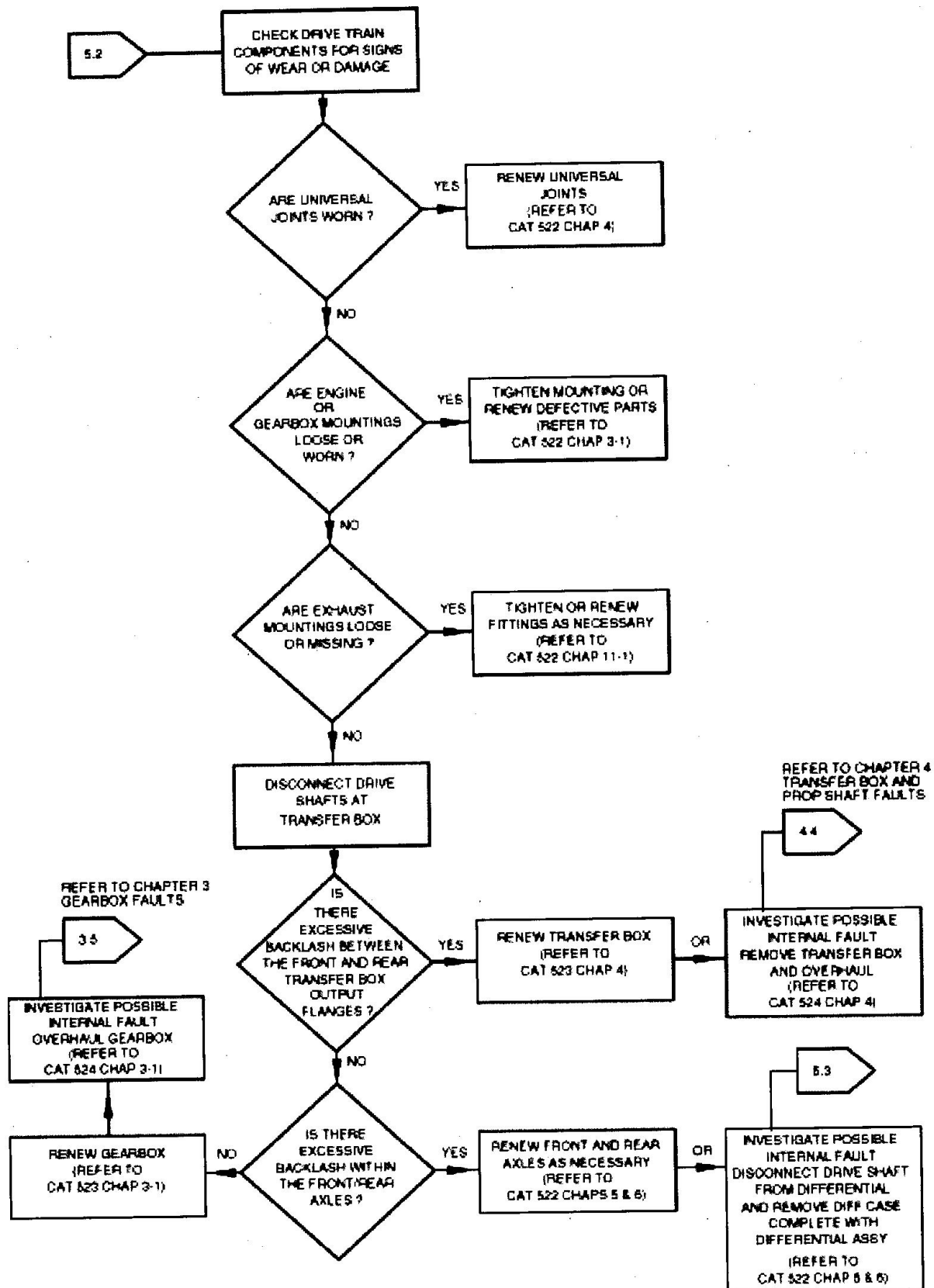


CHART 3 DIFFERENTIAL INTERNAL FAULT

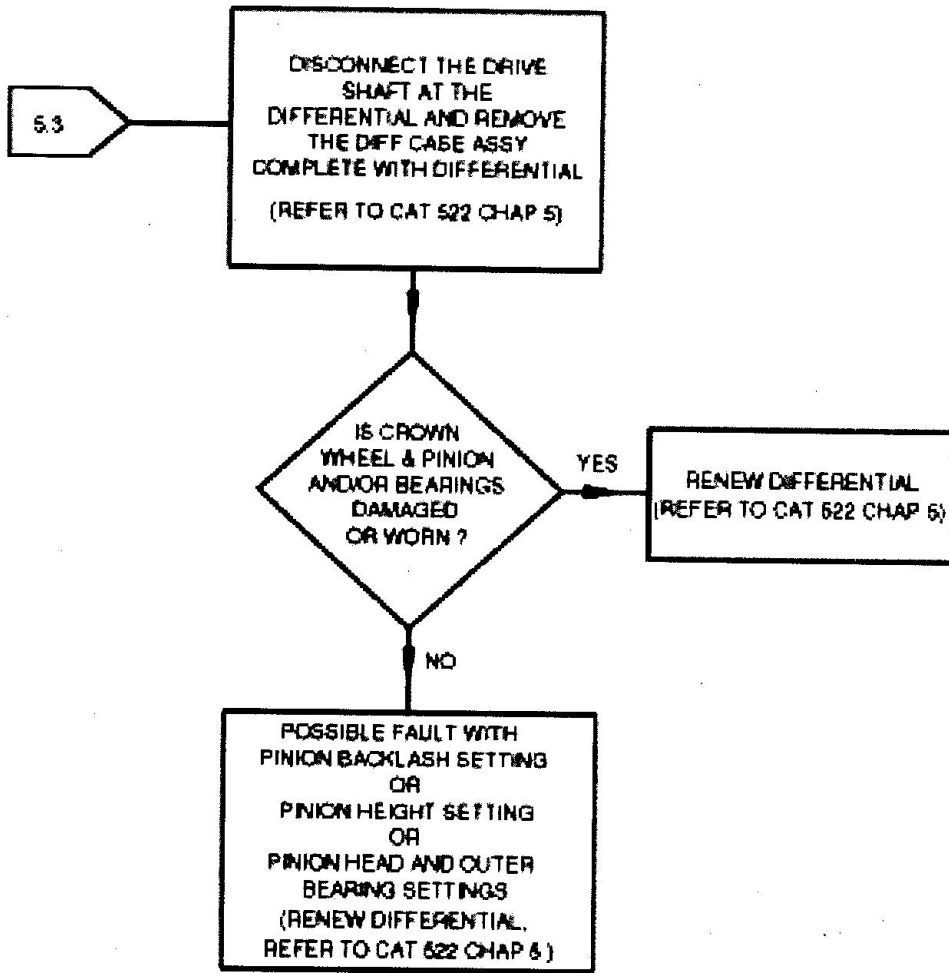


CHART 4 NOISY WHEEL BEARINGS

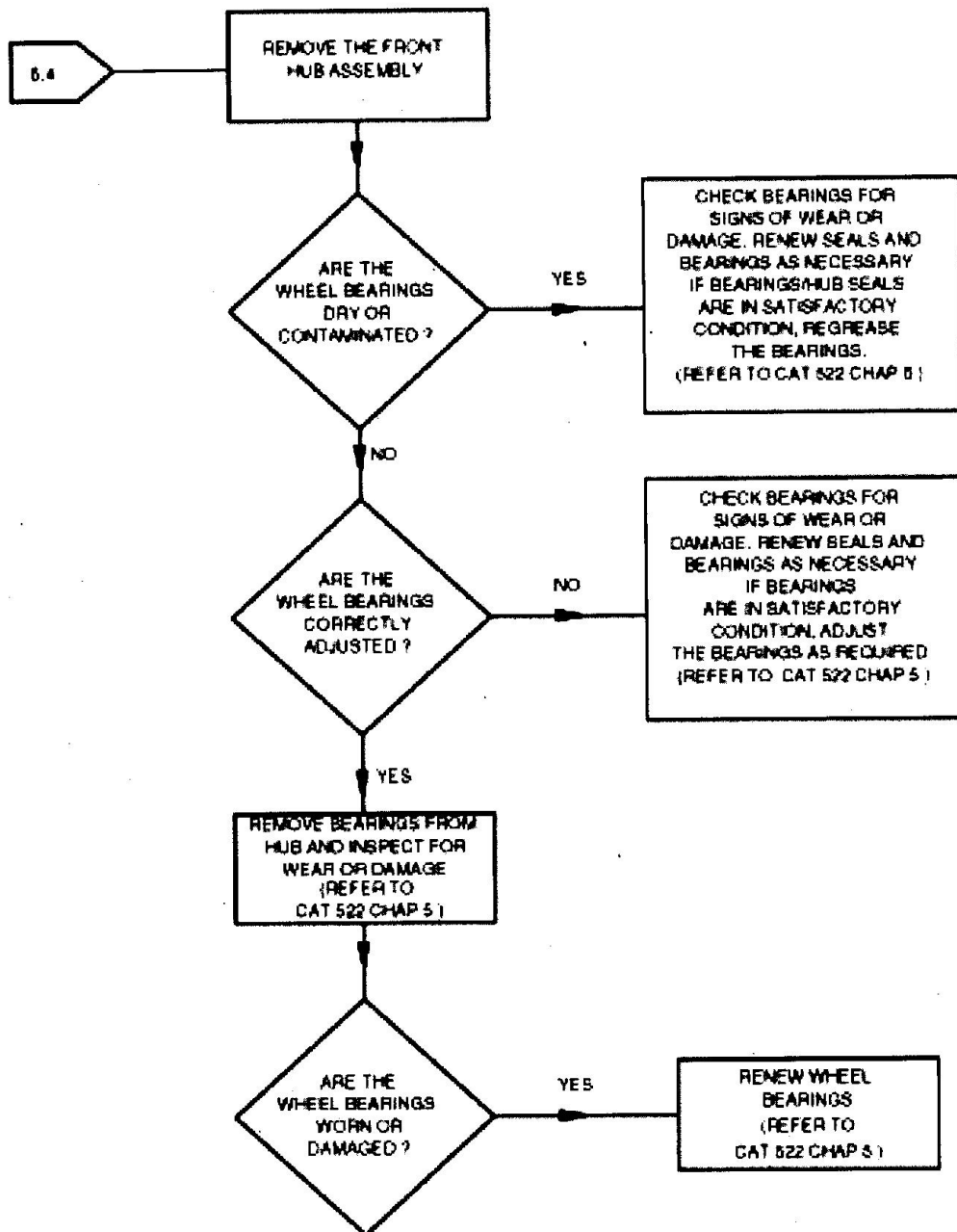
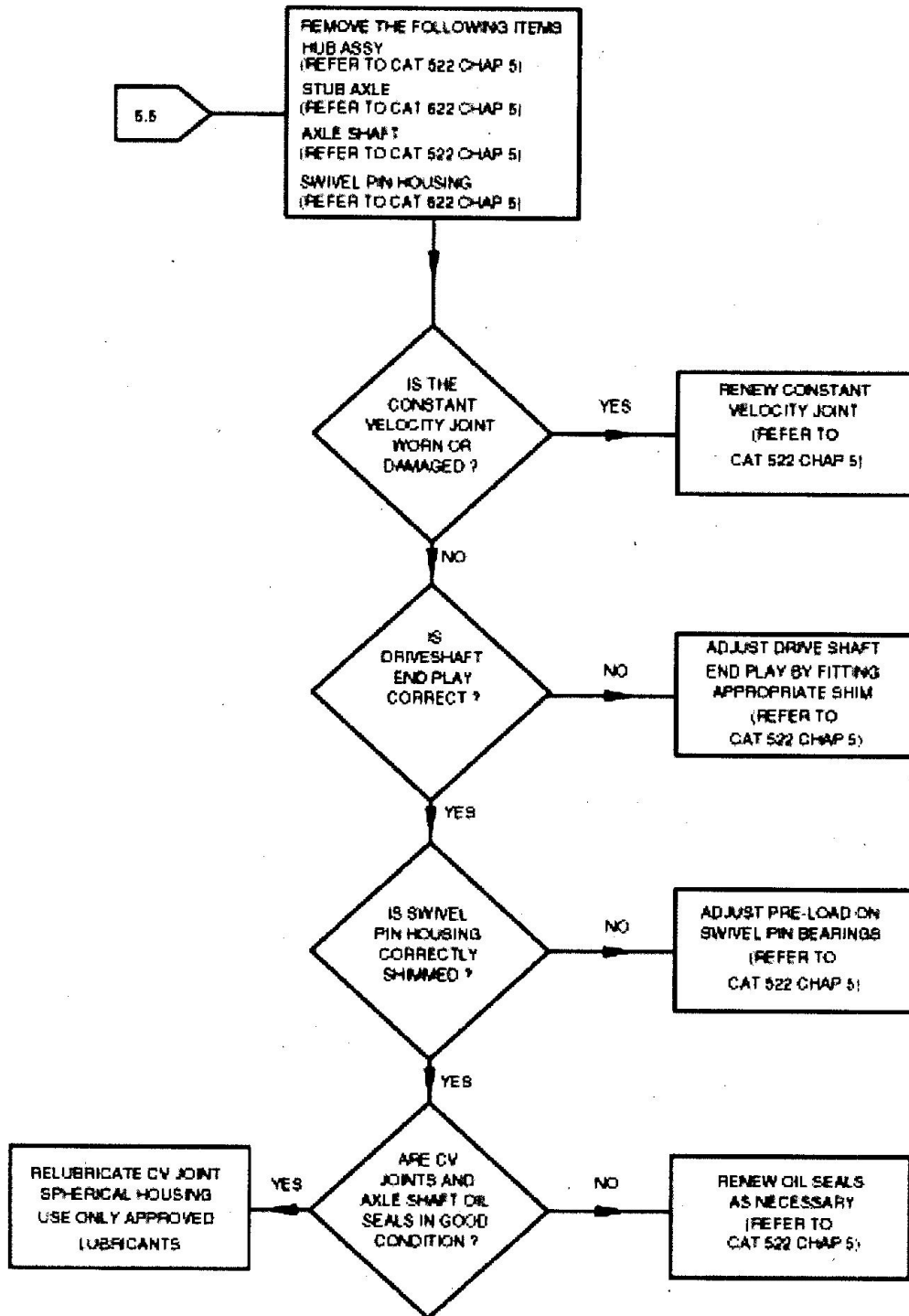


CHART 5 KNOCKING THROUGH STEERING WHEN CORNERING



**CHAPTER 6**

**REAR AXLE**

**CONTENTS**

Para

- 1 Introduction
- 2 Fault charts

Chart

Page

1	Noisy differential.....	2
2	Excessive play in transmission .....	3
3	Noisy wheel bearings .....	4
4	Differential internal fault.....	5

**INTRODUCTION**

1 This chapter details the fault charts for Truck Utility Light (TUL) High Specification (HS), Truck Utility Medium (TUM) HS and (TUM) Battlefield Ambulance HS vehicles fitted with both types of rear axle.

**FAULT CHARTS**

2 The failure diagnosis charts in this Chapter will enable a Qualified Technician (QT) to trace faults on identified systems.

3 This Category is written to give the QT a logical process to fault isolation. By performing checks and inspections in a fixed sequence, faults that may affect other systems can be identified, allowing the QT to quickly isolate the root cause of a malfunction.

4 After performing any repair as per Category 522 of this AESP Octad, always verify the repair by operating the vehicle. If there were numerous faults listed during the fault reporting process, it may be necessary to follow the Diagnostic Starting Point Table more than once to identify and repair faults.

CHART 1 NOISY DIFFERENTIAL

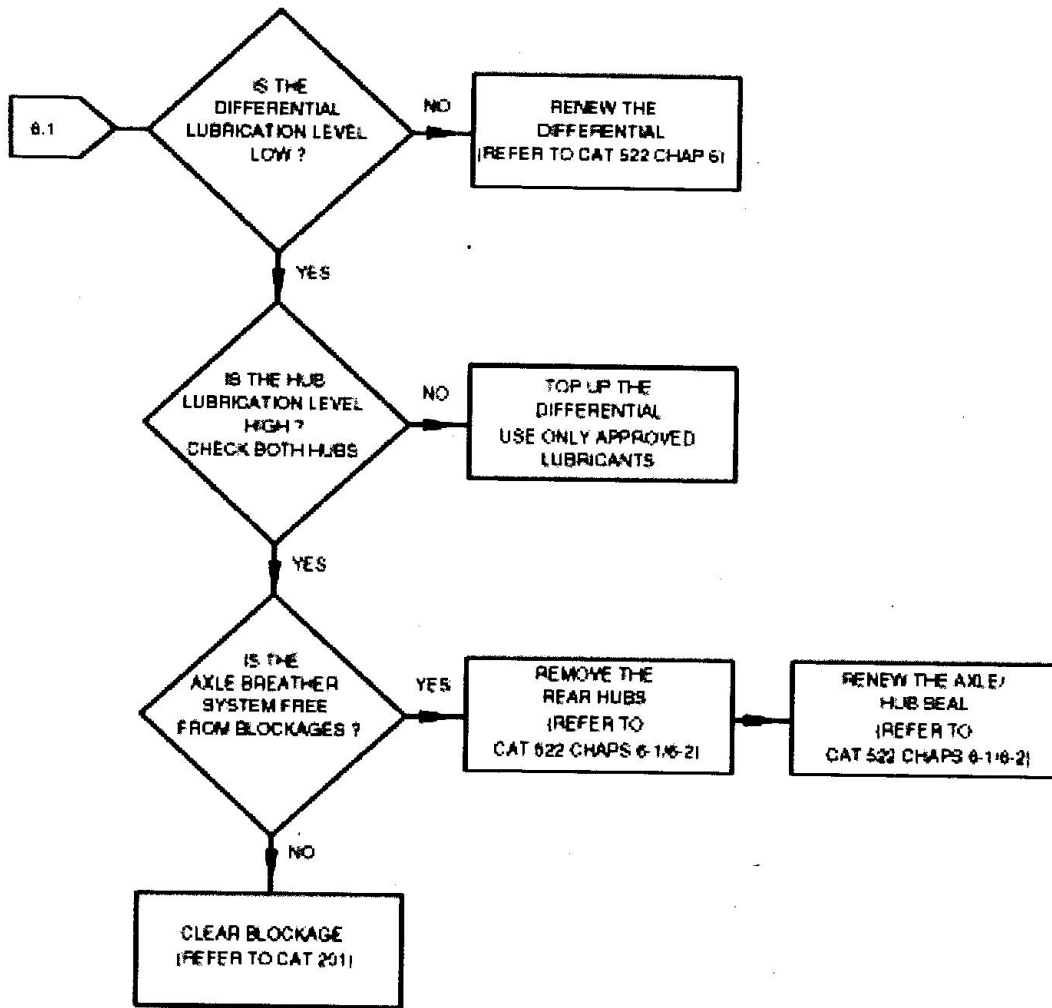


CHART 2 EXCESSIVE PLAY IN TRANSMISSION

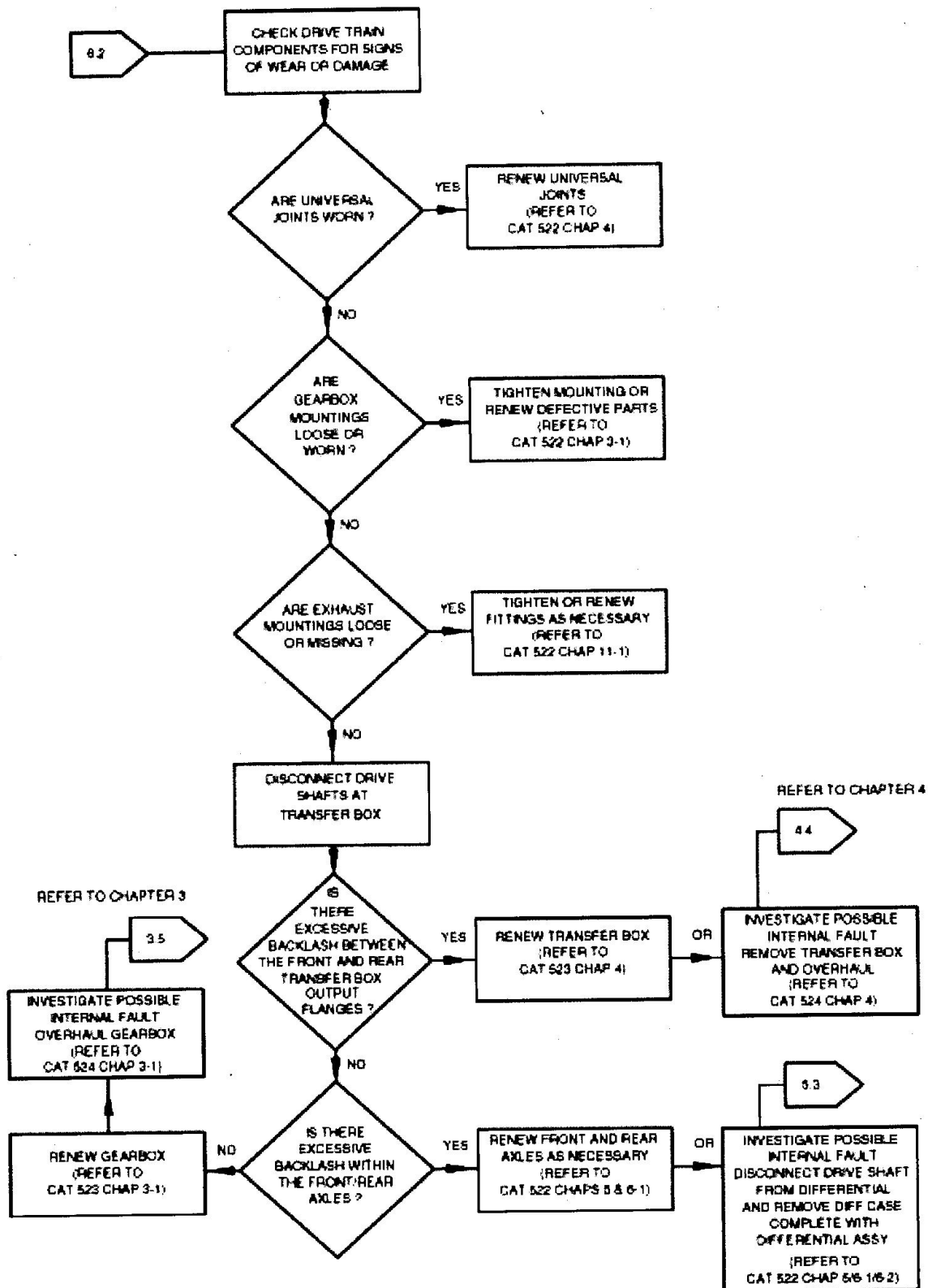


CHART 3 NOISY WHEEL BEARINGS

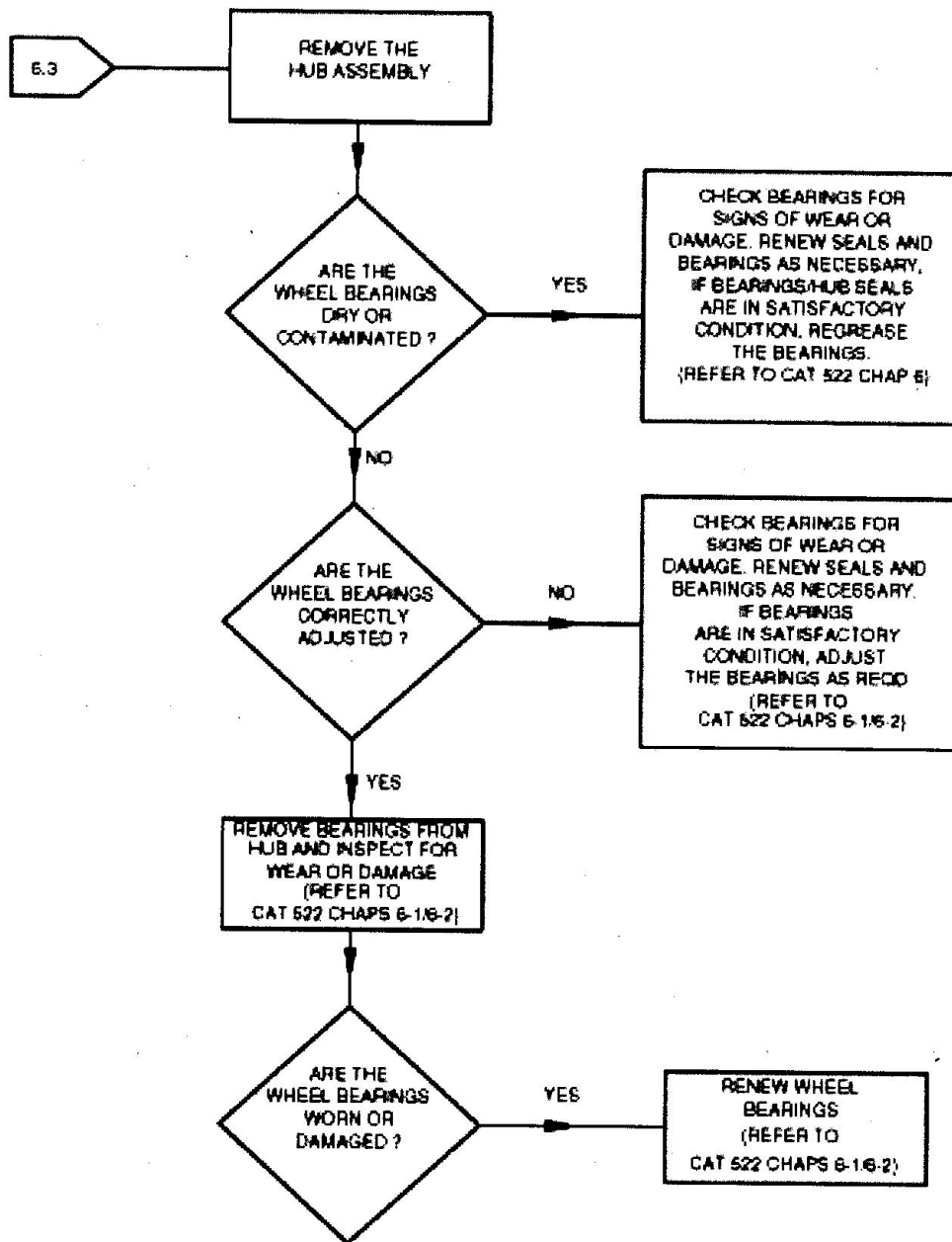
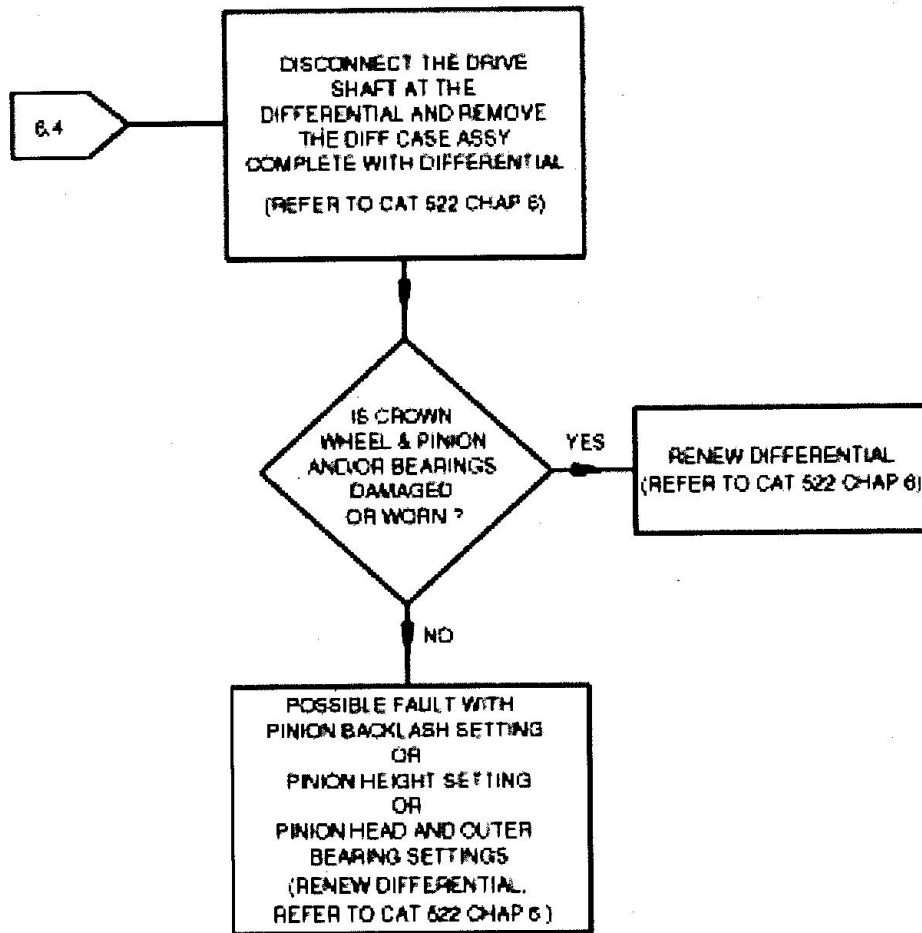




CHART 4 DIFFERENTIAL INTERNAL FAULT



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CHAPTER 7

POWER ASSISTED STEERING SYSTEM

CONTENTS

Para

- 1 Introduction
- 2 [REDACTED]

Chart

Page

1	[REDACTED] .....	2
2	[REDACTED] .....	3
3	[REDACTED] .....	4
4	[REDACTED] .....	5
5	[REDACTED] .....	6

**INTRODUCTION**

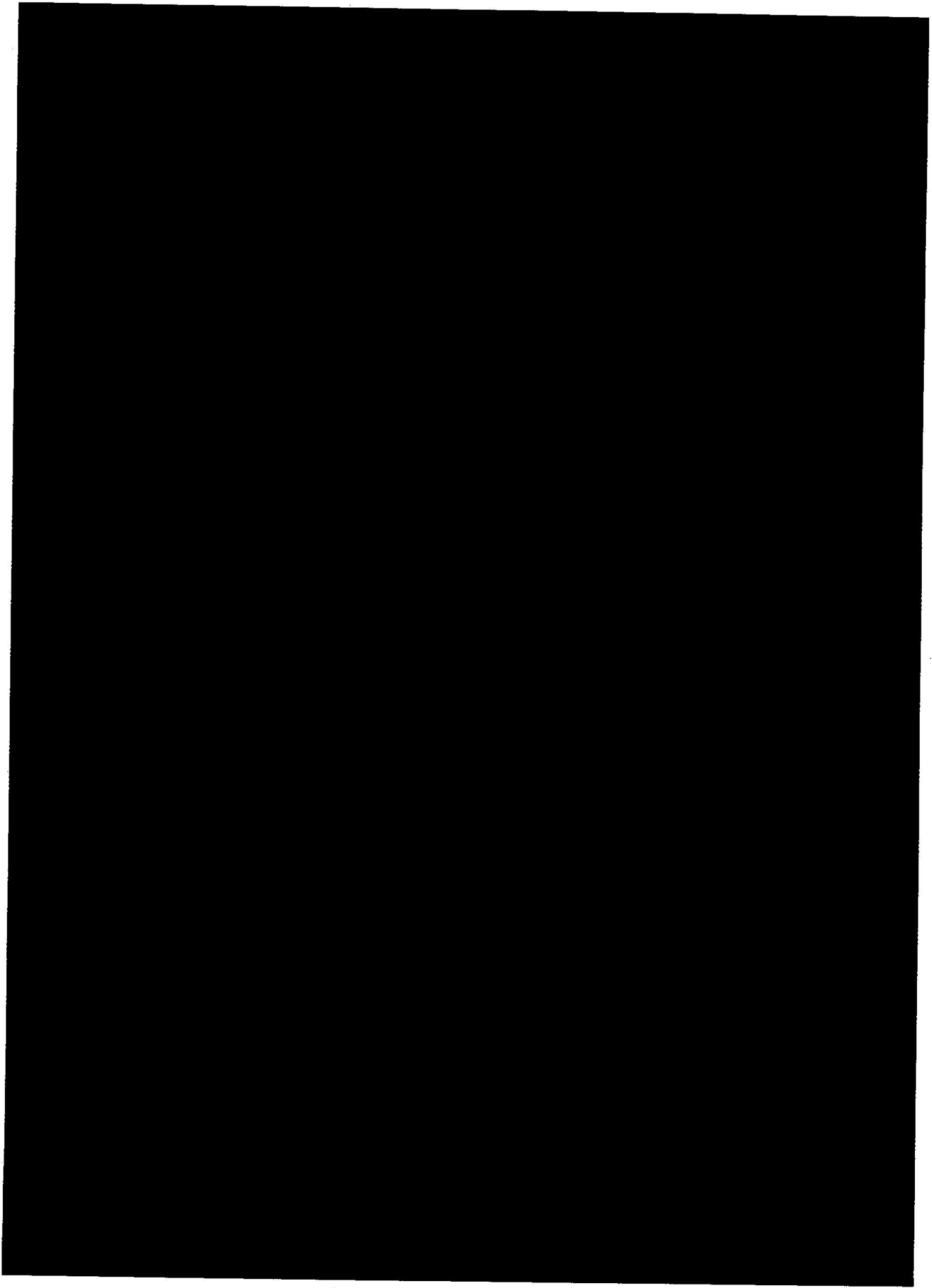
1 This chapter details the fault charts for Truck Utility Light (TUL) High Specification (HS), Truck Utility Medium (TUM) HS and (TUM) Battlefield Ambulance HS vehicles fitted with the power assisted steering system.

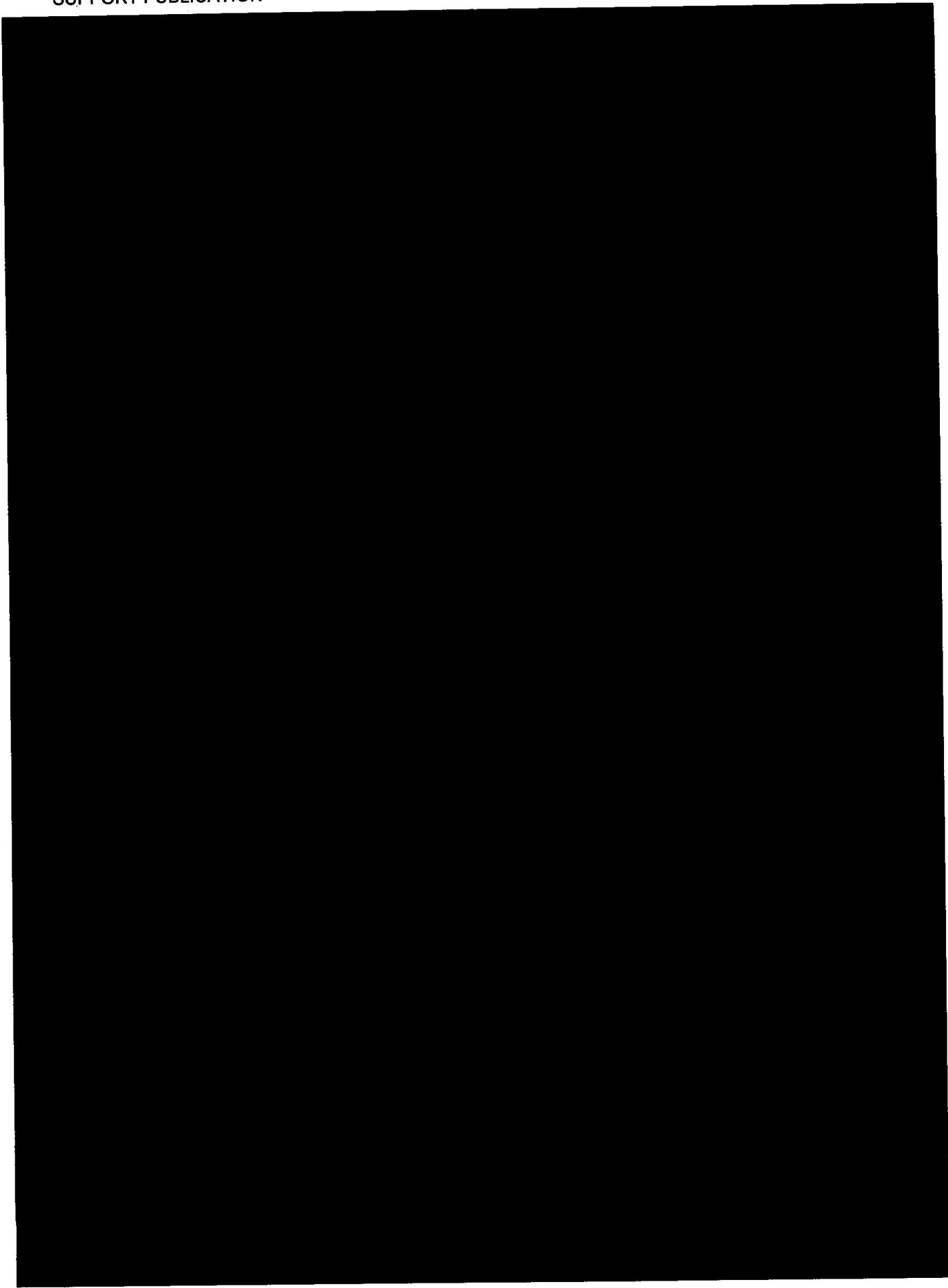
**FAULT CHARTS**

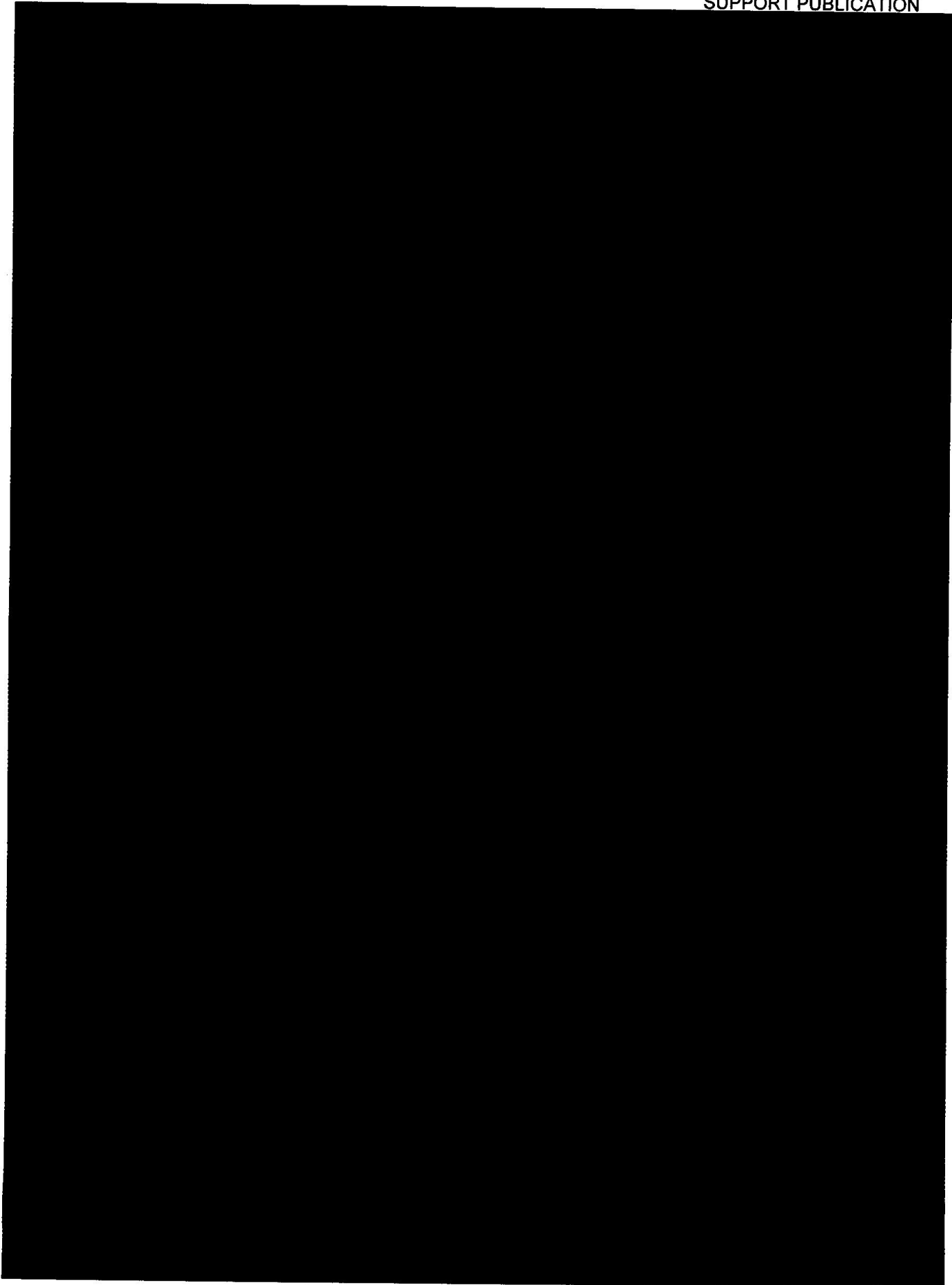
2 The failure diagnosis charts in this Chapter will enable a Qualified Technician (QT) to trace faults on identified systems.

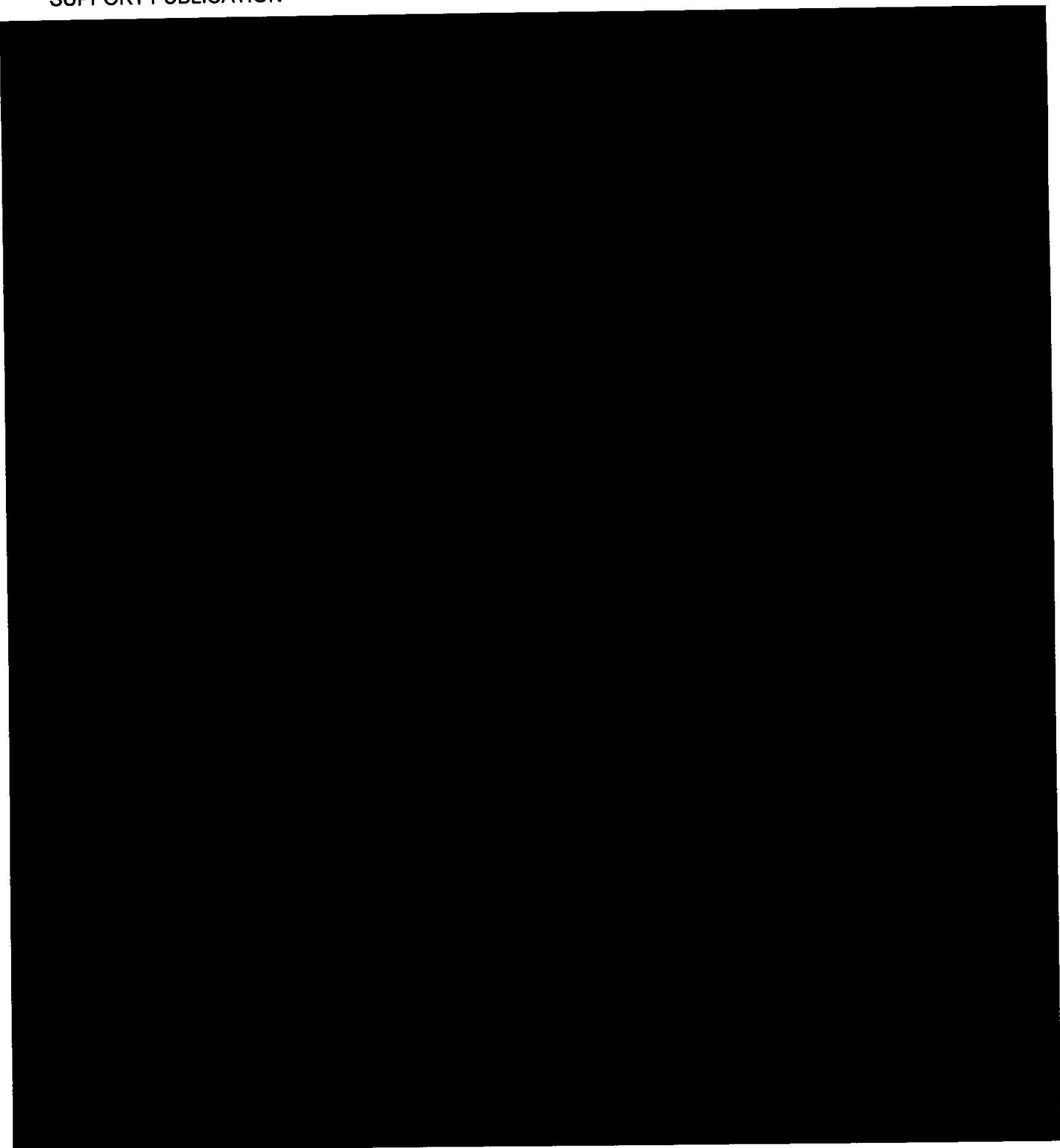
3 This Category is written to give the QT a logical process to fault isolation. By performing checks and inspections in a fixed sequence, faults that may affect other systems can be identified, allowing the QT to quickly isolate the root cause of a malfunction.

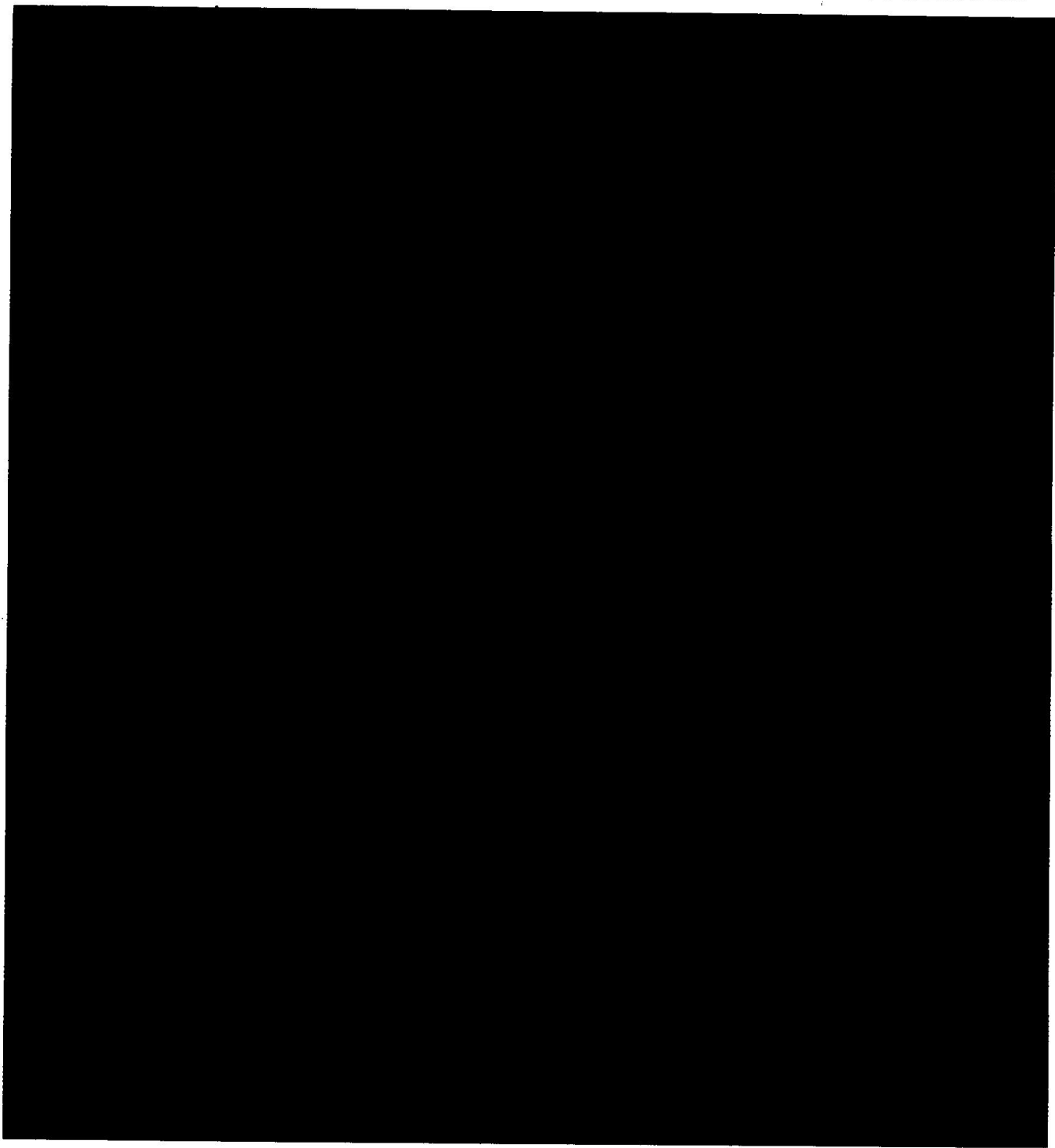
4 After performing any repair as per Category 522 of this AESP Octad, always verify the repair by operating the vehicle. If there were numerous faults listed during the fault reporting process, it may be necessary to follow the Diagnostic Starting Point Table more than once to identify and repair fault.













**CHAPTER 8**

**SUSPENSION**

**CONTENTS**

Para

- 1 Introduction
- 2 [REDACTED]

Chart

1	[REDACTED] .....	2
2	[REDACTED] .....	3
3	[REDACTED] .....	4

**INTRODUCTION**

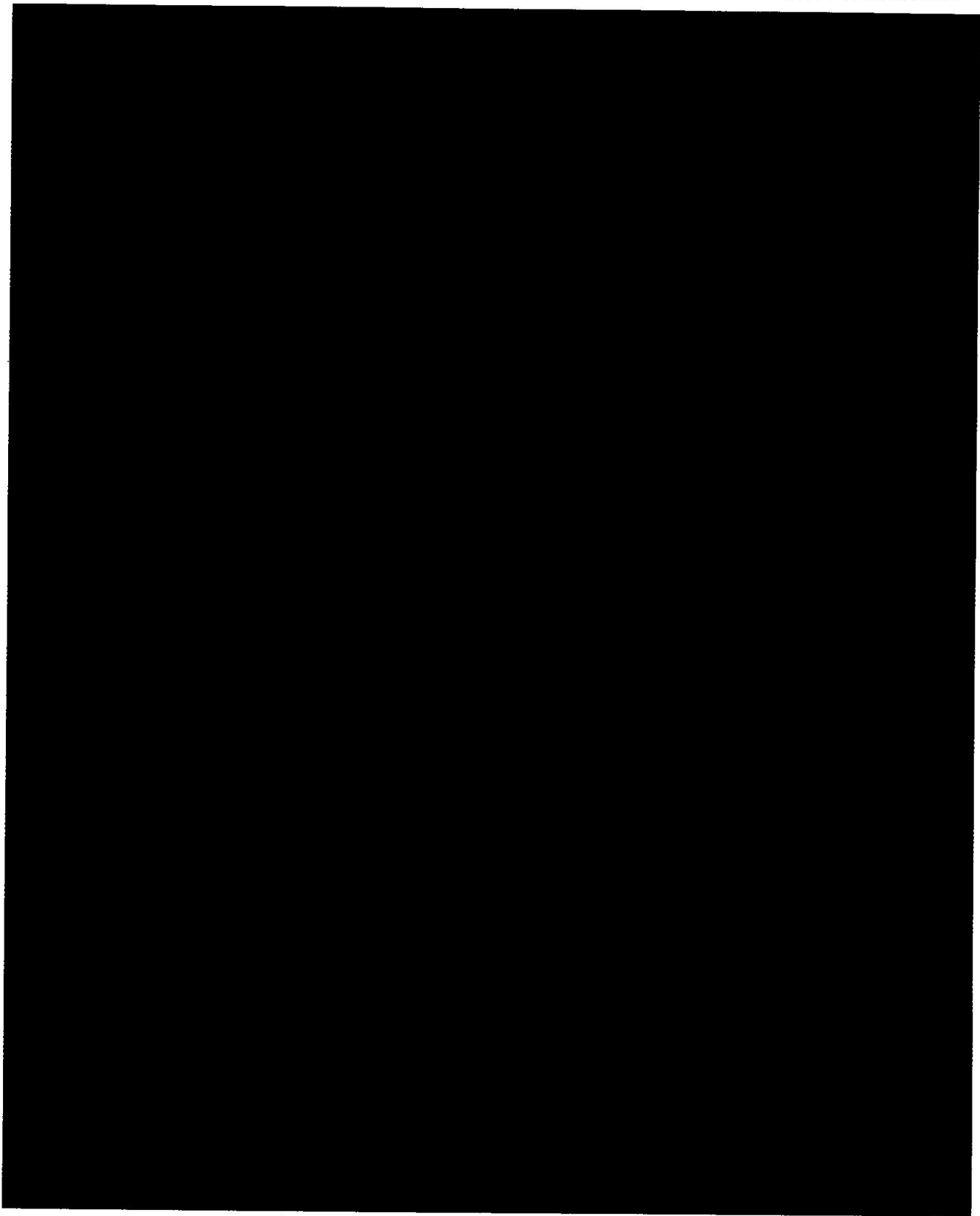
1 This chapter details the suspension fault charts for Truck Utility Light (TUL) High Specification (HS), Truck Utility Medium (TUM) HS and (TUM) Battlefield Ambulance HS vehicles.

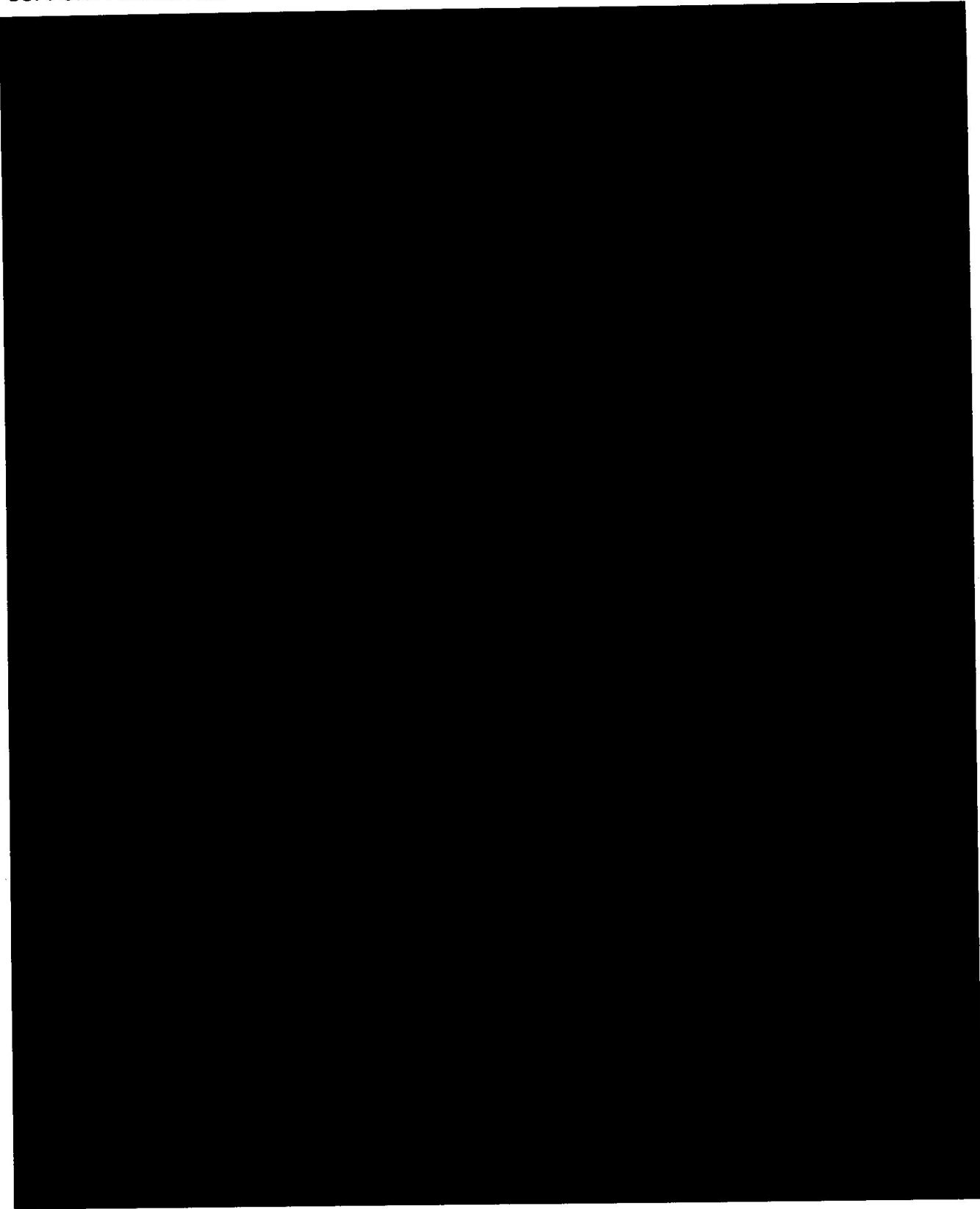
**FAULT CHARTS**

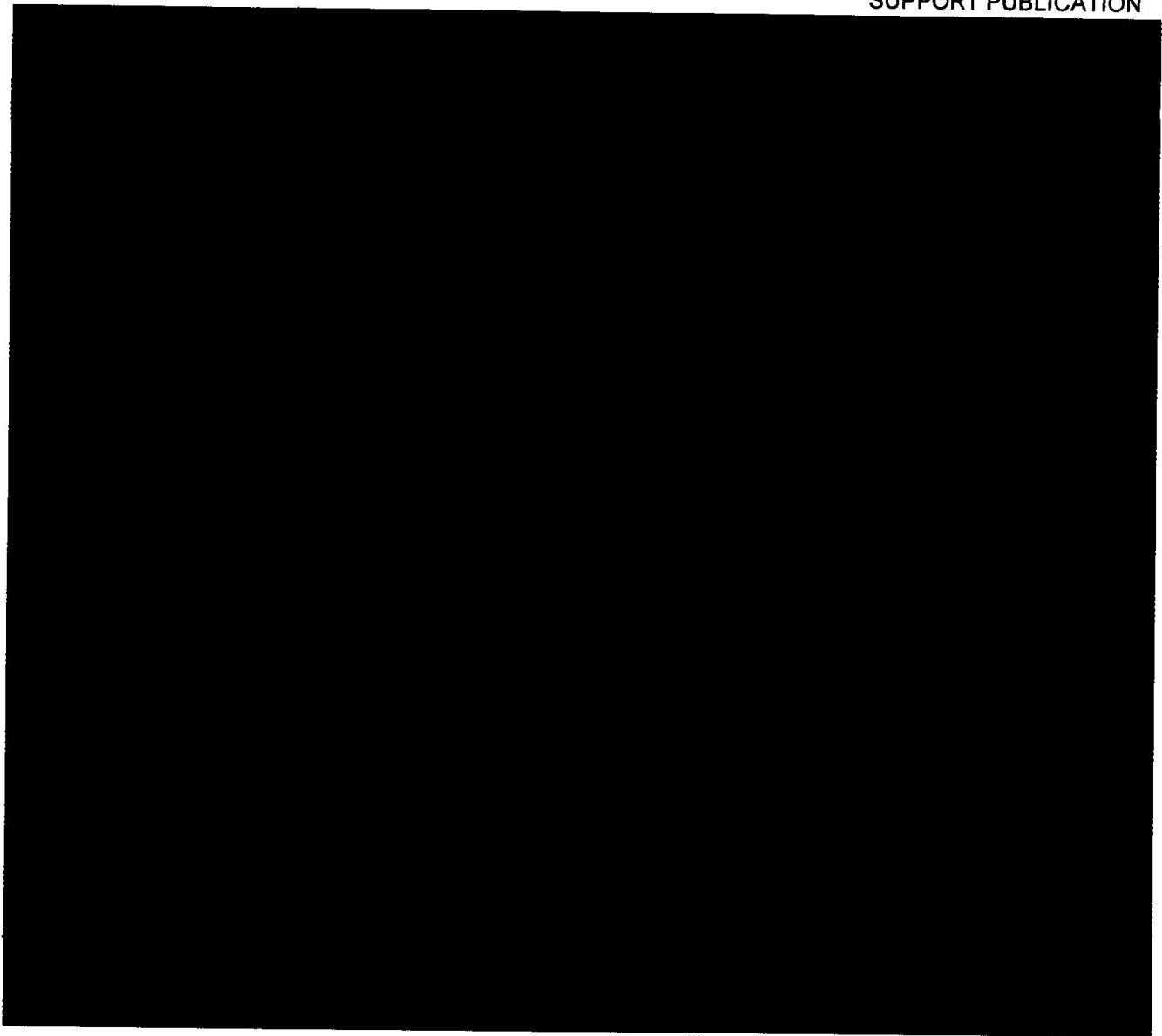
2 The failure diagnosis charts in this Chapter will enable a Qualified Technician (QT) to trace faults on identified systems.

3 This Category is written to give the QT a logical process to fault isolation. By performing checks and inspections in a fixed sequence, faults that may affect other systems can be identified, allowing the QT to quickly isolate the root cause of a malfunction.

4 After performing any repair as per Category 522 of this AESP Octad, always verify the repair by operating the vehicle. If there were numerous faults listed during the fault reporting process, it may be necessary to follow the Diagnostic Starting Point Table more than once to identify and repair fault.







CHAPTER 9

WHEELS AND TYRES

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- 1 Introduction
- 2 [REDACTED]

Chart

Page

- |   |                  |   |
|---|------------------|---|
| 1 | [REDACTED] ..... | 2 |
| 2 | [REDACTED] ..... | 3 |

**INTRODUCTION**

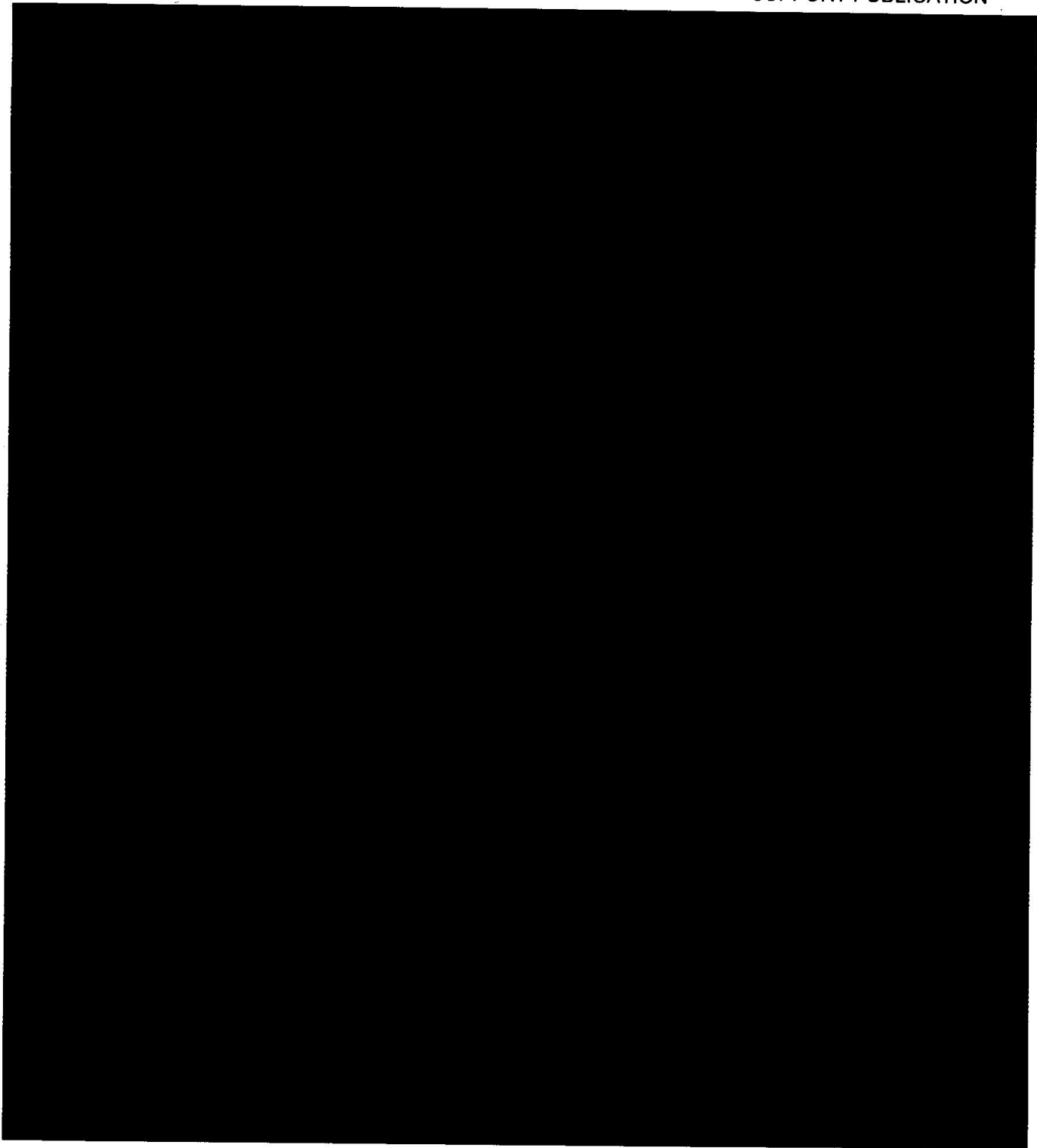
1 This chapter details the fault charts for Truck Utility Light (TUL) High Specification (HS), Truck Utility Medium (TUM) HS, and Battlefield Ambulance (HS) vehicles wheels and tyres. [REDACTED]

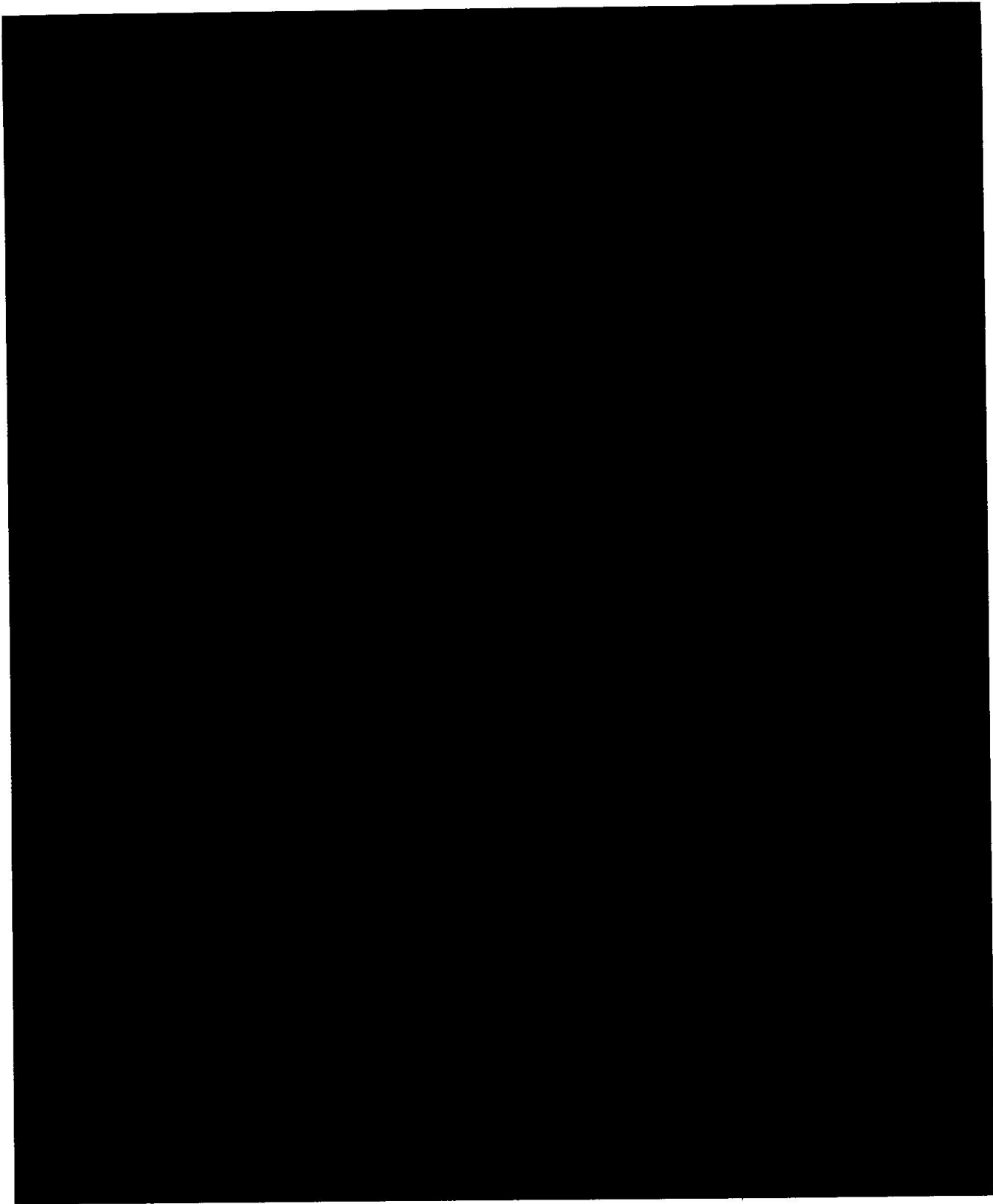
**FAULT CHARTS**

2 The failure diagnosis charts in this Chapter will enable a Qualified Technician (QT) to trace faults on identified systems.

3 This Category is written to give the QT a logical process to fault isolation. By performing checks and inspections in a fixed sequence, faults that may affect other systems can be identified, allowing the QT to quickly isolate the root cause of a malfunction.

4 After performing any repair as per Category 522 of this AESP Octad, always verify the repair by operating the vehicle. If there were numerous faults listed during the fault reporting process, it may be necessary to follow the Diagnostic Starting Point Table more than once to identify and repair fault.





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