LYNX HMA Mk 8 SRU

AIRCREW MANUAL

BOOK 1 - FLIGHT SYSTEMS, HANDLING & EMERGENCIES

Prepared by Handling Squadron

NOTES TO USERS

1. This Manual is complementary to the Lynx HMA Mk 8 SRU Release to Service (RTS) document and the associated Flight Reference Cards (FRC) (AP 101C-1308-14A & B). Performance data for the Lynx HMA Mk 8 SRU is contained in the Operating Data Manual (ODM) (AP 101C-1308-16). It should be read in conjunction with AP 101C-1308-15D, Book 2, CENTRAL TACTICAL SYSTEM (CTS).

2. The manual is divided by marker cards as follows:

Preliminary Matter
Part 1. Description and Management of Systems
Part 2. Limitations (Refer to RTS)
Part 3. Handling
Part 4. Emergencies and Malfunctions
Part 5. Illustrations

3. Each Part is divided into Chapters as listed on its marker card. Each sheet is identified by a Part, Chapter and Page reference at the foot of the page. Thus, a page bearing the reference: 1 - 4 Page 5 is page 5, of Part 1 Chapter 4.

4. The limitations are removed from Book 1, Part 2 at AL 2. The Lynx HMA Mk 8 RTS should be consulted to ascertain the latest release information. The contents of other parts of the Manual are mainly advisory but instructions containing the words 'is to' and 'are to' are also mandatory.

5. The Manual and its associated FRCs aim to provide the best operating instructions and advice currently available for normal and abnormal procedures. Nothing in these publications removes the requirement to comply with MAA regulatory requirements. The application of sound airmanship and judgement applies at all times and is paramount. Any deviation from the prescribed procedures and drills will need to be fully justifiable and users are strongly advised to record this justification to aid any subsequent inquiry or investigation.

6. Amendment Lists will be issued as necessary and each amendment list instruction sheet will state the main purpose of the amendment and include a list of modifications covered by the amendment. New or amended matter of importance will be indicated by change bars, positioned in the outside margin alongside the amended text. The number of the amendment list by which a sheet was issued appears at the bottom of the right-hand page and any amendment marks on either side of the sheet refer to that amendment. However, when a new Chapter is issued with an amendment list, or an existing Chapter is completely revised, this fact is noted within the heading of the Chapter and the symbols do not appear.

7. The following conventions are observed throughout this Manual:

a. The actual markings on controls or indicators are shown in the text by CAPITAL letters.

b. Unless otherwise stated, all airspeed, heights and temperatures are indicated values.

c. Information is published using the following:

WARNINGS Imply the possibility of death or injury.
CAUTIONS Imply the possibility of damage to the aircraft or its equipment.
NOTES are inserted to clarify the reason for a procedure or to give information which, while not essential to the understanding of the subject, is useful to the reader.

8. Modification numbers are only referred to in the Manual when it is necessary to differentiate between pre- and post-mod states. For ease of reference, a list of the modifications mentioned in the text is included in the preliminary pages of the book, with a cross reference to the location in the text of the modification details.

IMPORTANT	
Comments and suggestions regarding this Manual should be forwarded to the User Authenticator, using MoD Form 765X for onward transmission to the Lynx PT and Officer Commanding, Handling Squadron, Boscombe Down, Salisbury, Wilts, SP4 0JE	
The User Authenticator for this manual is: NFSF (RW) RNAS Yeovilton Somerset BA22 8HT	The Publications Authority for this manual is: The Officer Commanding Handling Squadron Boscombe Down Salisbury Wilts SP4 0JE

I

MOD Form 765X
(Revised Apr 14)

AIRCREW PUBLICATIONS AMENDMENT REQUEST

References	MAP-01 Chapter 8.2

Originating Unit
Title/Address

Reference

Date

Air Publication / Document*
Publication / Document No. | To Amdt / Issue / Revision Date*

Title

Section / Chapter / Page / Paragraph

Part 1 - Requested Amendment and Suggested Revision
(Use continuation sheet(s) if necessary and firmly attach all diagrams etc.)

Originator's Signature	Rank and Name	Tel No.	Appointment	Date

Part 2 - User Authenticator's Comments | Serial No. / /

☐ Other publications affected have been reported at:

User Authenticator's Signature	Rank and Name	Tel No.	Appointment	Date

Send to Project Team:

Copy to:
OC Handling Squadron
Boscombe Down
Salisbury
Wiltshire
SP4 OJE
FaxNo: 01980 662037
x400: ACAS-HANSQN-OC
e-mail: ACAS-HANSQN-OC@hansqn.mod.uk

plus Copy to Release to Service Authority (RTSA)

Part 3 Project Team Action
(Please include any report/letter references)

☐ Other Mks affected and relevant UA notified
When complete, send to Publication Organisation

Signature	Rank/ Grade & Name	Tel No.	Appointment	Date

Part 4 – Publication Organisation/Handling Squadron*

☐ Requested Amendment incorporated

☐ Requested Amendment rejected (see below)

Incorporation Details:

Copy to be sent to Originator

Incorporated by Publication Organisation*	Name	Tel No.	Date
Handling Sqn P0's Signature*	Rank / Grade & Name	Tel No.	Date

* Delete as appropriate

Instructions for Use

1. MOD Form 765X has been introduced to maintain a full audit trail of changes to aircrew publications and documents to ensure that both the User Authenticator and Handling Sqn are involved at the earliest opportunity after the form has been raised.

2. MOD Form 765X is to be raised by the Individual who observed a deficiency, omission or inaccuracy in the Aircrew Manual, Flight Reference Cards, Operating Data Manual, Mission Operating Procedure cards, Flight Test Schedule or Aircrew Landaway Flight Servicing Schedule. Apart from typographic errors, a separate MOD F765X is to be raised for each deficiency, omission or inaccuracy being reported.

3. When an individual raises a MOD Form 765X (by completing the header detail and Part 1) he is to send the form to the User Authenticator, (RAF: STANEVAL; Army: A Avn Stds, HQAAC; RN: Naval Flying Standards Flight, RNAS Culdrose or RNAS Yeovilton as appropriate)

4. On receipt the User Authenticator is to complete Part 2, enter a serial number consisting of a 3-letter MOB designator, a 3-digit number (starting with 001 from1Jan each year) and 2 digits for the year (eg BZN/016/05), comment as appropriate and pass the form to the Project Team (PT), with a copy to Handling Sqn and a copy to the appropriate Release to Service Authority (RTSA). An electronic version of the Form is available on the Defence Intranet and the Form can be submitted electronically by the UA in the first instance but must be followed up by a signed hard copy.

5. The User Authenticator is to keep a register of all MOD Form 765X arisings.

6. The PT is to complete Part 3 of the MOD Form 765X and forward it to Handling Sqn or the Publication Organisation (copy to Handling Sqn), as appropriate, for action.

7. When the change proposed in the F765X is deemed by the UA or PT to be of an urgent flight safety or operational nature, the PT can authorize HS by e-mail to proceed with the appropriate amendment action in advance of the completion and signature of Part 3 of the F765X. When issue of an ANA closes a F765X, the Publication Organisation is to raise a Tech Pubs task to ensure that the change is incorporated at the next routine amendment.

AMENDMENT RECORD SHEET

ALNo	Amended By	Date	ALNo	Amended By	Date
	[redacted]				

Intentionally Blank

AIL RECORD

AILNo	Date of Issue	Location Part/Chap	Signature		Cancelled By	Signature	Date
			[redacted]			[redacted]	

ANA RECORD

ANANo	DTG	Location Part/Chap	Signature		Cancelled By	Signature	Date

LIST OF EFFECTIVE PAGES

This list shows all the pages which should be present after incorporating Amendment List 5 in this manual.

Page	Issued by
Prelims	
Title page	AL 5
Form 765X	AL 5
AL Record	Initial
AIL Record	Initial
Prelims 1	AL 5
Prelims 3	AL 2
Prelims 5	AL 1
Prelims 7	AL 1
Prelims 9	AL 1
Prelims 11	AL 2
Prelims 13	AL 2
Prelims 15	AL 3
Part 1	
Marker card	AL 4
Part 1 Chap 1	
1-1 page 1	Initial
1-1 page 3	Initial
1-1 page 5	Initial
1-1 page 7	Initial
1-1 page 9	Initial
1-1 page 11	Initial
1-1 page 13	Initial
1-1 page 15	Initial
1-1 page 17	Initial
1-1 page 19	Initial
1-1 page 21	Initial
Part 1 Chap 2	
1-2 page 1	AL 3
1-2 page 3	AL 3
Part 1 Chap 3	
1-3 page 1	Initial
1-3 page 3	Initial
1-3 page 5	Initial
1-3 page 7	AL 5
1-3 page 9	AL 4
1-3 page 11	AL 4
Part 1 Chap 4	
1-4 page 1	Initial
1-4 page 3	Initial
1-4 page 5	Initial
1-4 page 7	Initial
1-4 page 9	Initial
1-4 page 11	Initial
1-4 page 13	Initial
1-4 page 15	AL 2
1-4 page 17	Initial
1-4 page 19	Initial
1-4 page 21	Initial
Part 1 Chap 5	
1-5 page 1	Initial
1-5 page 3	Initial
1-5 page 5	Initial
1-5 page 7	Initial
1-5 page 9	Initial
1-5 page 11	Initial
1-5 page 13	Initial
1-5 page 15	Initial
1-5 page 17	Initial
1-5 page 19	Initial
1-5 page 21	Initial
1-5 page 23	Initial
Part 1 Chap 6	
1-6 page 1	AL 2
1-6 page 3	Initial
1-6 page 5	Initial
1-6 page 7	Initial
1-6 page 9	Initial
1-6 page 11	Initial
Part 1 Chap 7	
1-7 page 1	AL 2
1-7 page 3	Initial
1-7 page 5	Initial
1-7 page 7	Initial
1-7 page 9	Initial
1-7 page 11	Initial
1-7 page 13	Initial
1-7 page 15	Initial
Part 1 Chap 8	
1-8 page 1	AL 3
1-8 page 3	AL 3
1-8 page 5	AL 3
1-8 page 7	AL 3
1-8 page 9	AL 3
Part 1 Chap 9	
1-9 page 1	AL 5
1-9 page 3	AL 2
1-9 page 5	AL 2
1-9 page 7	AL 3
1-9 page 9	AL 3
1-9 page 11	AL 3
1-9 page 13	AL 2
1-9 page 15	AL 3
1-9 page 17	AL 3
1-9 page 19	AL 3
1-9 page 21	AL 5
1-9 page 23	AL 5
1-9 page 25	AL 5
1-9 page 27	AL 5
Part 1 Chap 10	
1-10 page 1	AL 4
1-10 page 3	AL 2
1-10 page 5	AL 2
1-10 page 7	AL 4
1-10 page 9	AL 3
1-10 page 11	AL 4
1-10 page 13	AL 3
1-10 page 15	AL 3
1-10 page 17	AL 3
1-10 page 19	AL 3
1-10 page 21	AL 3
1-10 page 23	AL 2
Part 1 Chap 11	
1-11 page 1	AL 4
1-11 page 3	AL 4
1-11 page 5	AL 4
1-11 page 7	AL 4
1-11 page 9	AL 4
1-11 page 11	AL 4
1-11 page 13	AL 4
1-11 page 15	AL 4
1-11 page 17	AL 4
1-11 page 19	AL 4
Part 2	
Marker card	Initial
Part 2 Chap 1	
2-1 page 1	AL 2
Part 2 Chap 2	
2-2 page 1	AL 2
Part 2 Chap 3	
2-3 page 1	AL 2
Part 2 Chap 4	
2-4 page 1	AL 2
Part 2 Chap 5	
2-5 page 1	AL 2
Part 3	
Marker card	Initial
Part 3 Chap 1	
3-1 page 1	AL 3
3-1 page 3	AL 1
3-1 page 5	AL 2
Part 3 Chap 2	
3-2 page 1	AL 2
3-2 page 3	AL 2
3-2 page 5	AL 2
Part 3 Chap 3	
3-3 page 1	Initial
Part 4	
Marker card	Initial
Part 4 Chap 1	
4-1 page 1	AL 2
4-1 page 3	AL 2
4-1 page 5	AL 2
4-1 page 7	AL 2
4-1 page 9	AL 2
4-1 page 11	AL 2
4-1 page 13	AL 2
Part 5	
Marker card	Initial
Part 5 Chap 1	
5-1 page 1	AL 2
5-1 page 3	AL 2
5-1 page 5	AL 2
5-1 page 7	Initial
5-1 page 9	Initial
5-1 page 11	Initial

LIST OF ASSOCIATED PUBLICATIONS

Aircraft Servicing Manuals	AP 101C-1308 Series
Flight Reference Cards	AP 101C-1308-14A & 14B
Operating Data Manual	AP 101C-1308-16

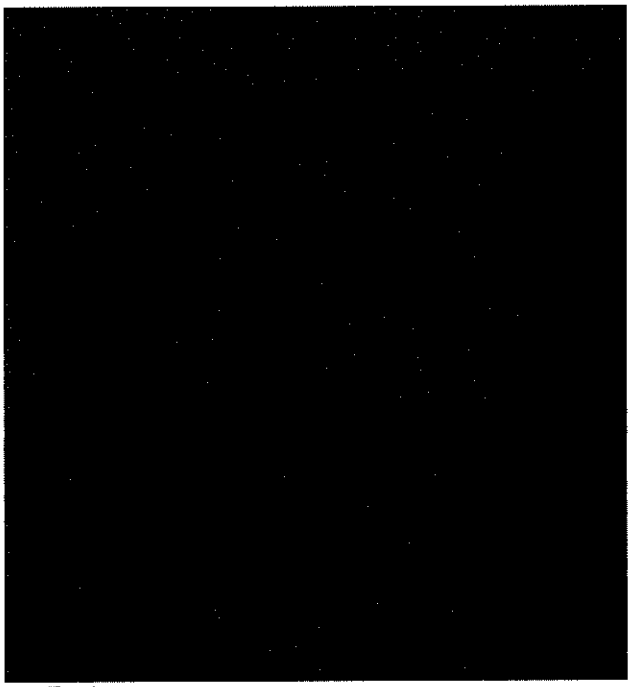
LYNX HMA MK 8

INTRODUCTION

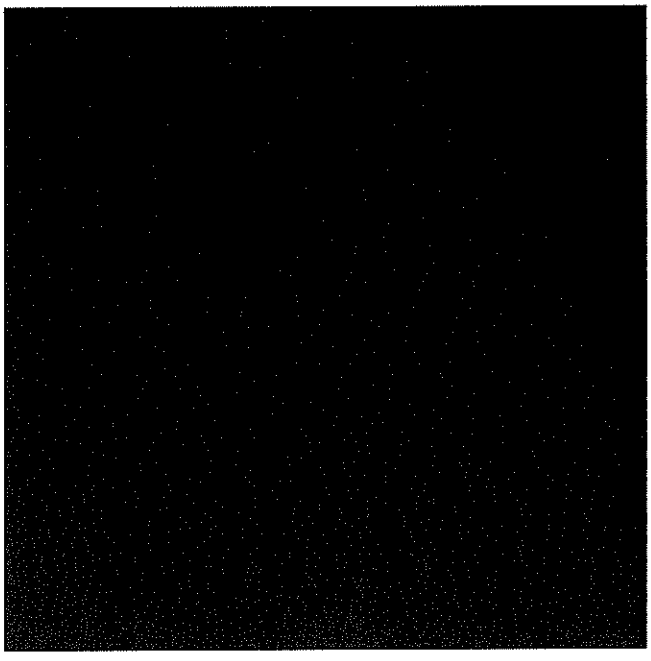
General

1. The Lynx HMA Mk 8 is an anti-surface and anti-submarine search and strike helicopter. Secondary roles include search and rescue, vertical replenishment and troop carrying. The aircraft is powered by two Rolls Royce Gem Mk 204/205 series turbo-shaft engines driving a 4-bladed main rotor and a 4-bladed tail rotor. Fig 1, Fig 2 and Fig 3 show the general arrangement of the aircraft, Fig 4 and Fig 5 show the principal dimensions, and Fig 6 shows heavy and light stores.

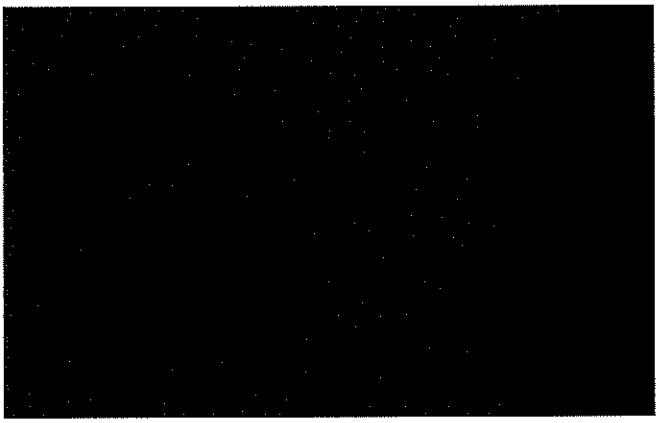
Airframe



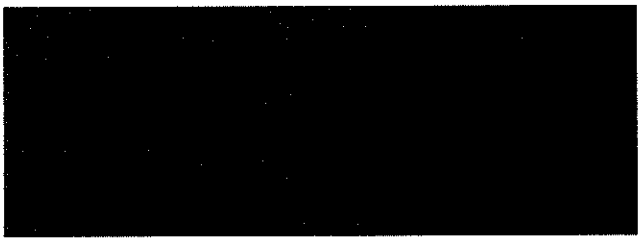
Engines



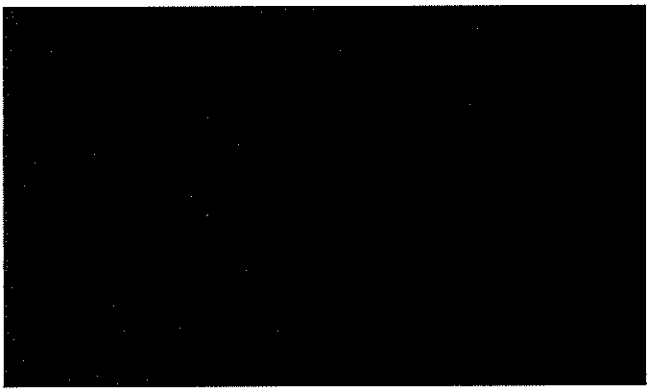
Fuel System



Landing Gear

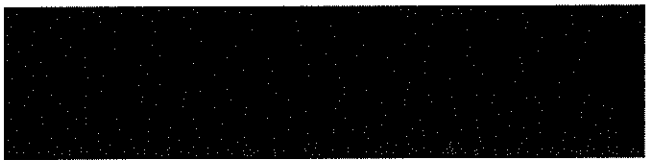


Flying Controls



Rotor Systems

Flight Control System



Instruments

Radio and Radar

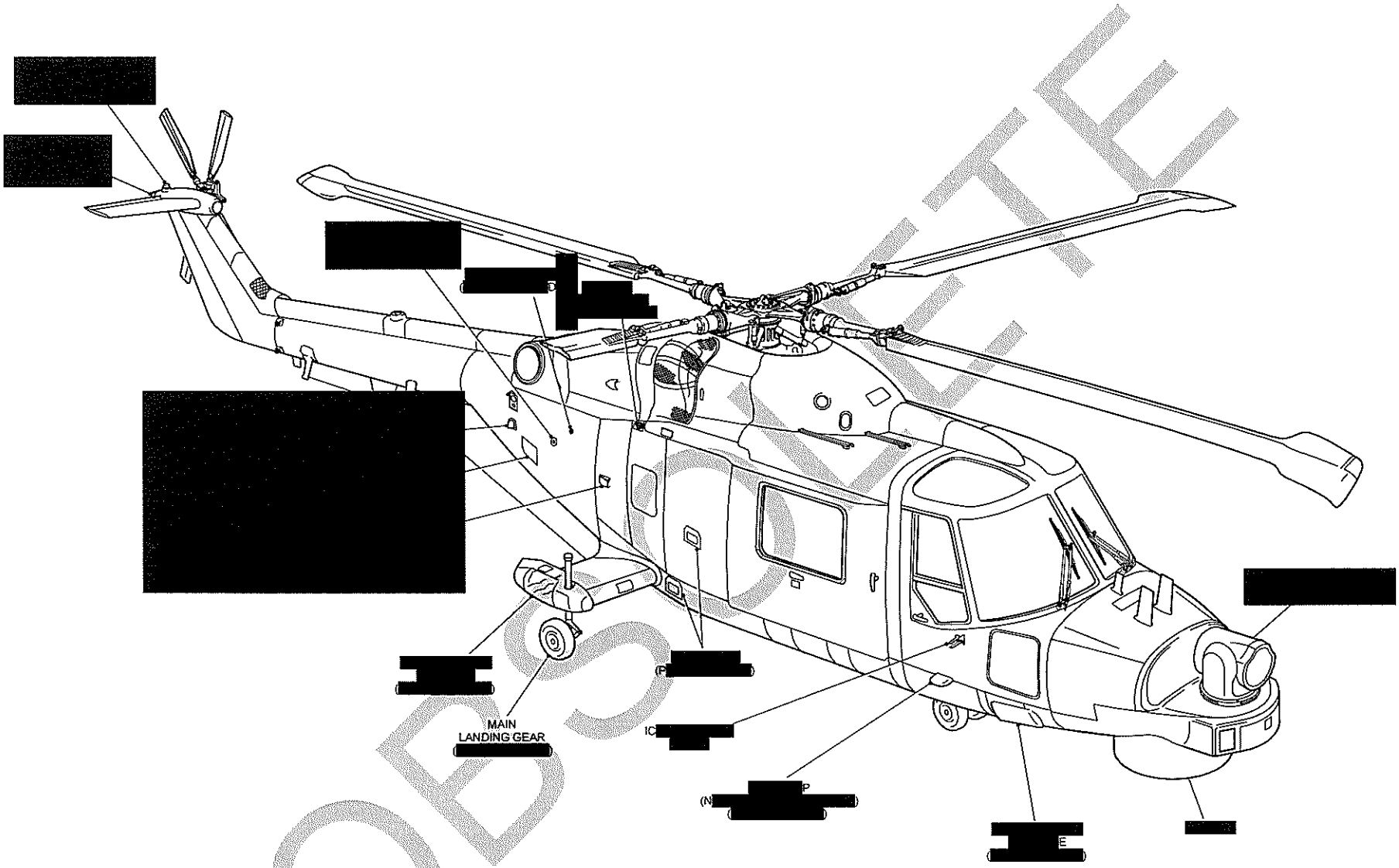
[redacted]

Navigation

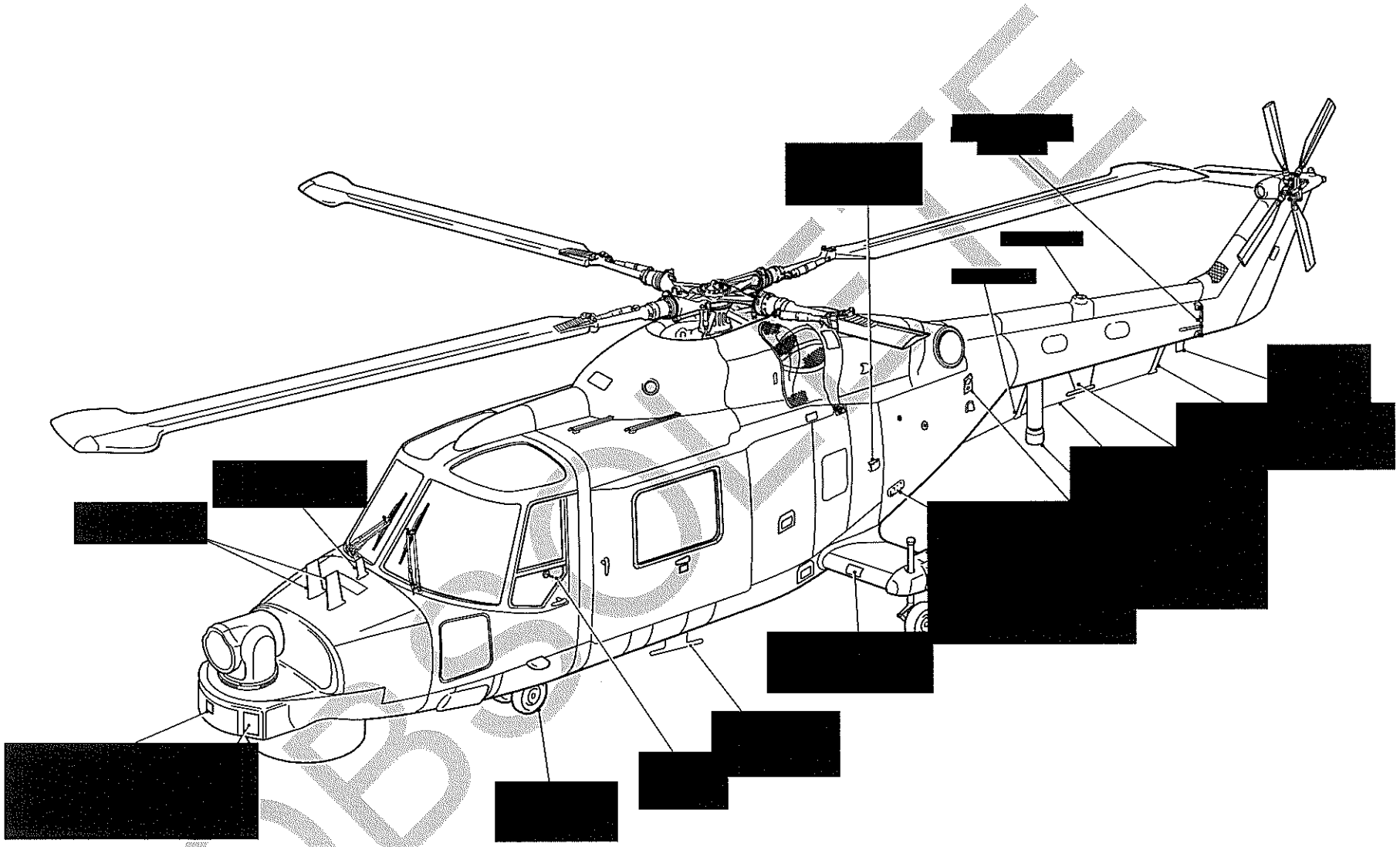
[redacted]

Electrical Supplies

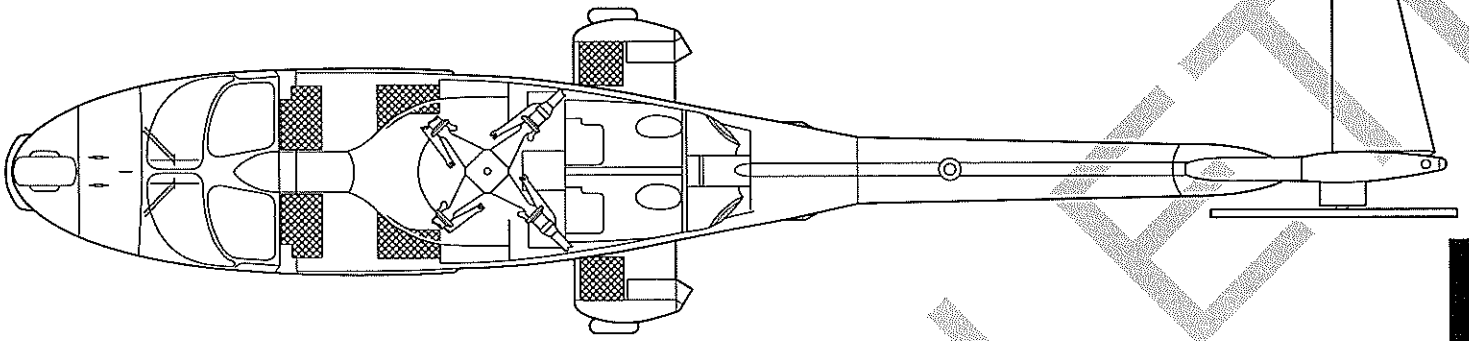
[redacted]



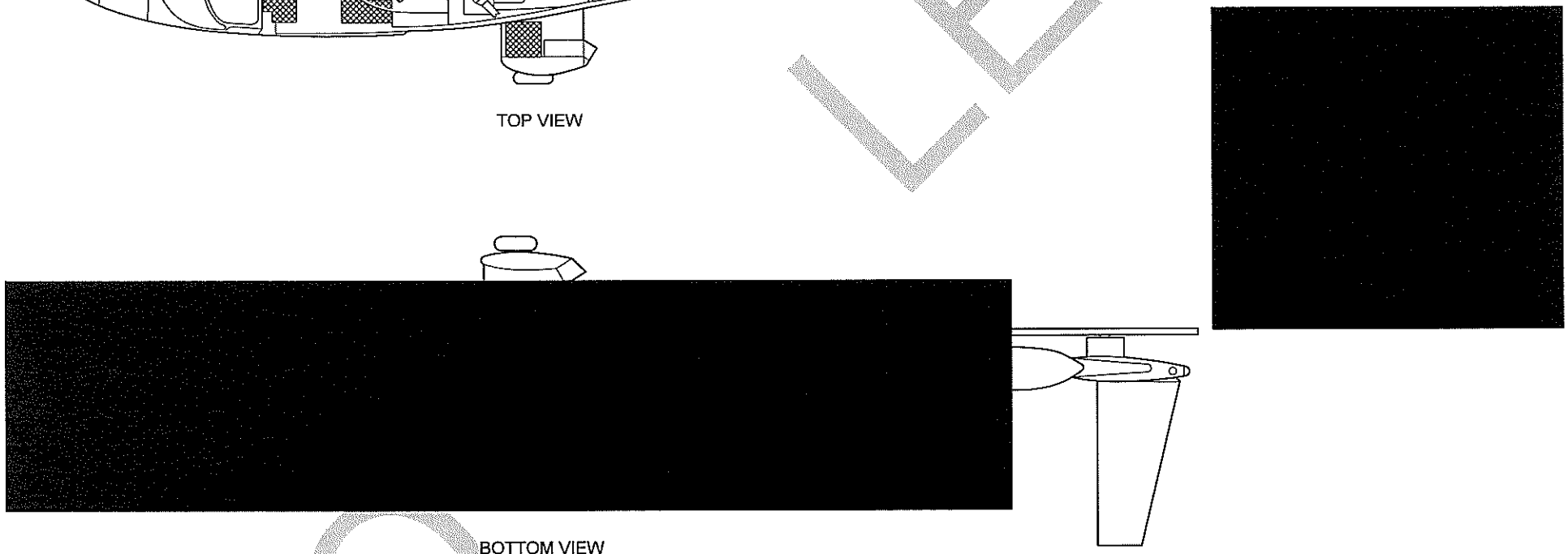
Prelims Fig 1 General Arrangement (1)



Prelims Fig 2 General Arrangement (2)

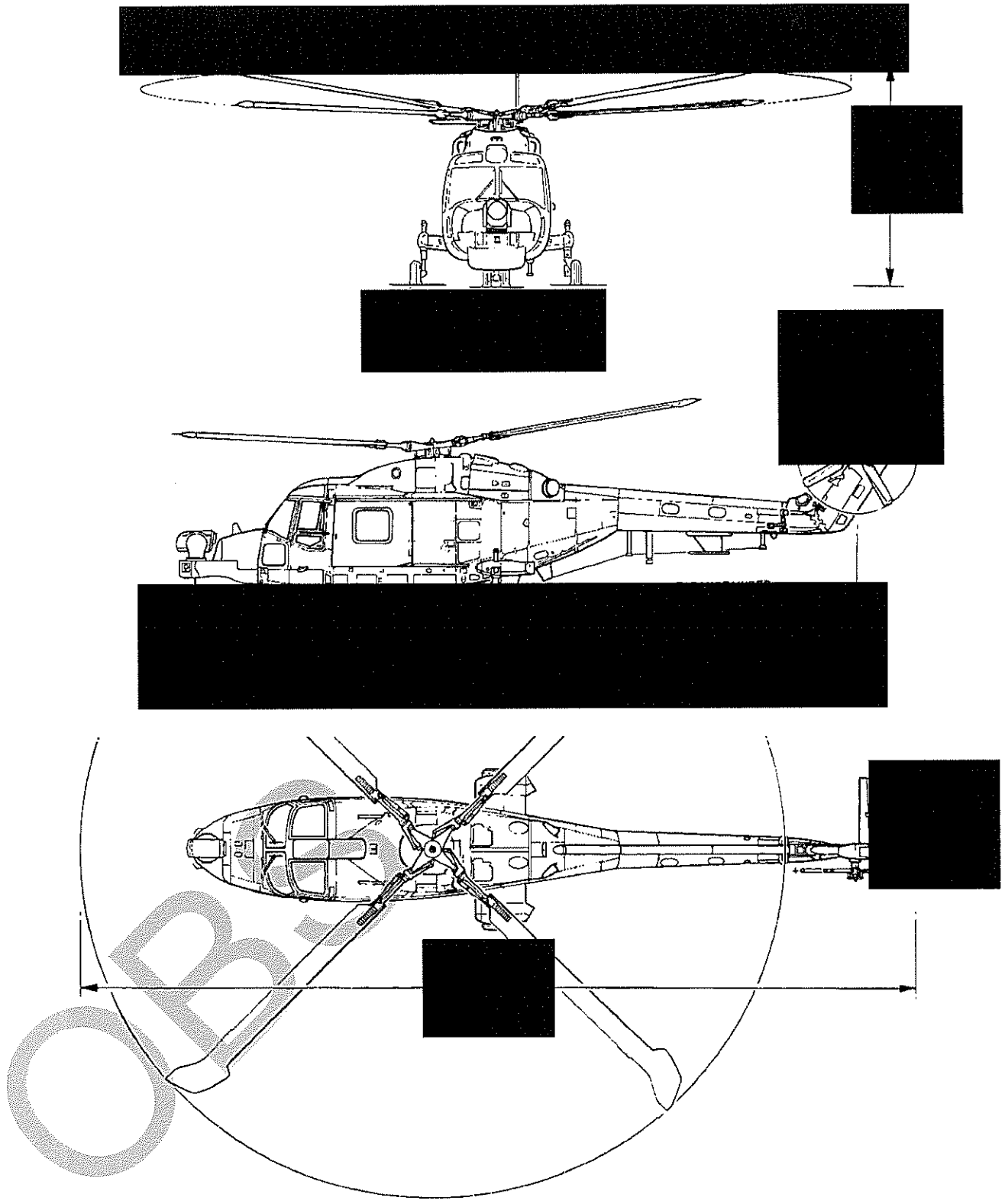


TOP VIEW

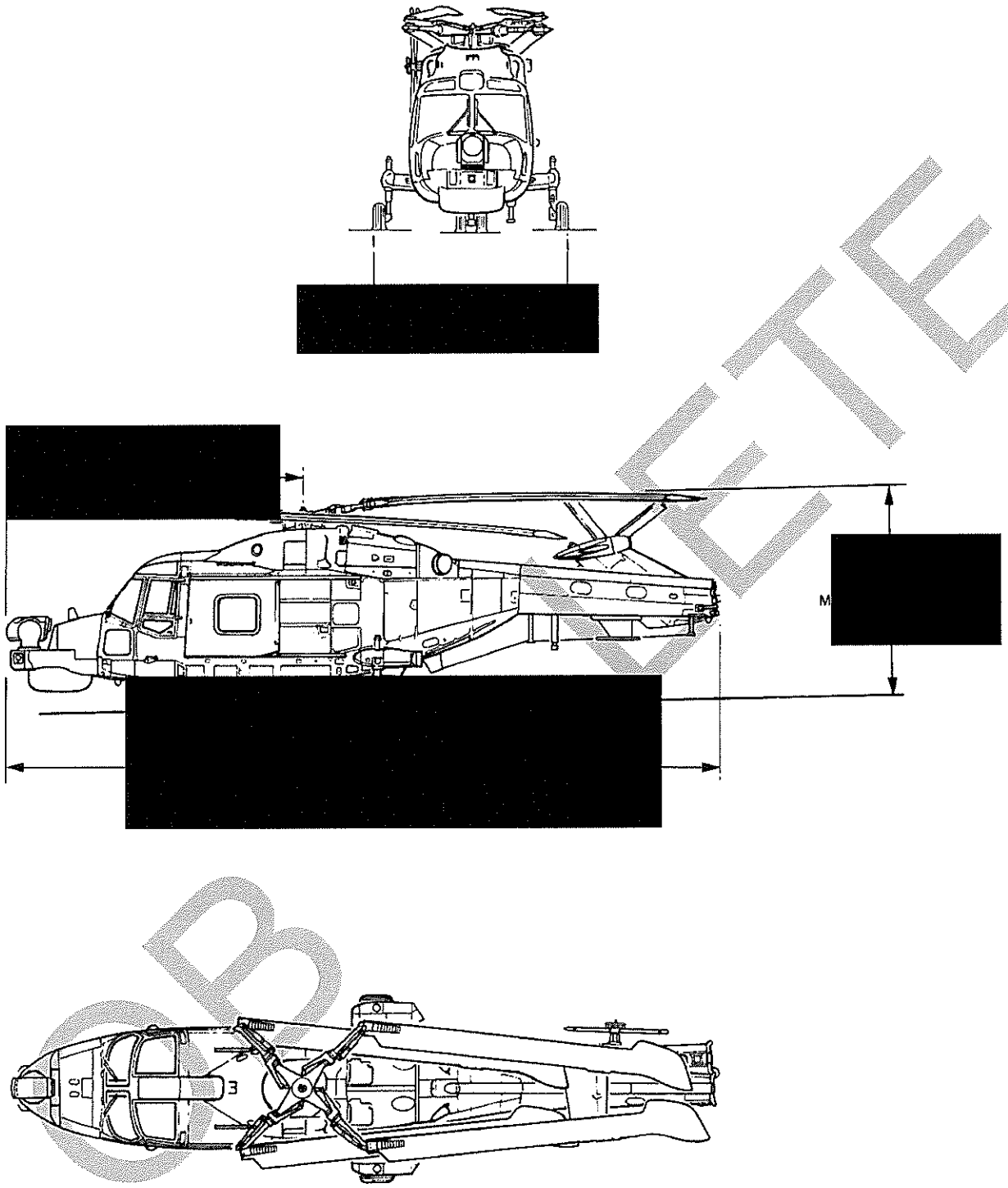


BOTTOM VIEW

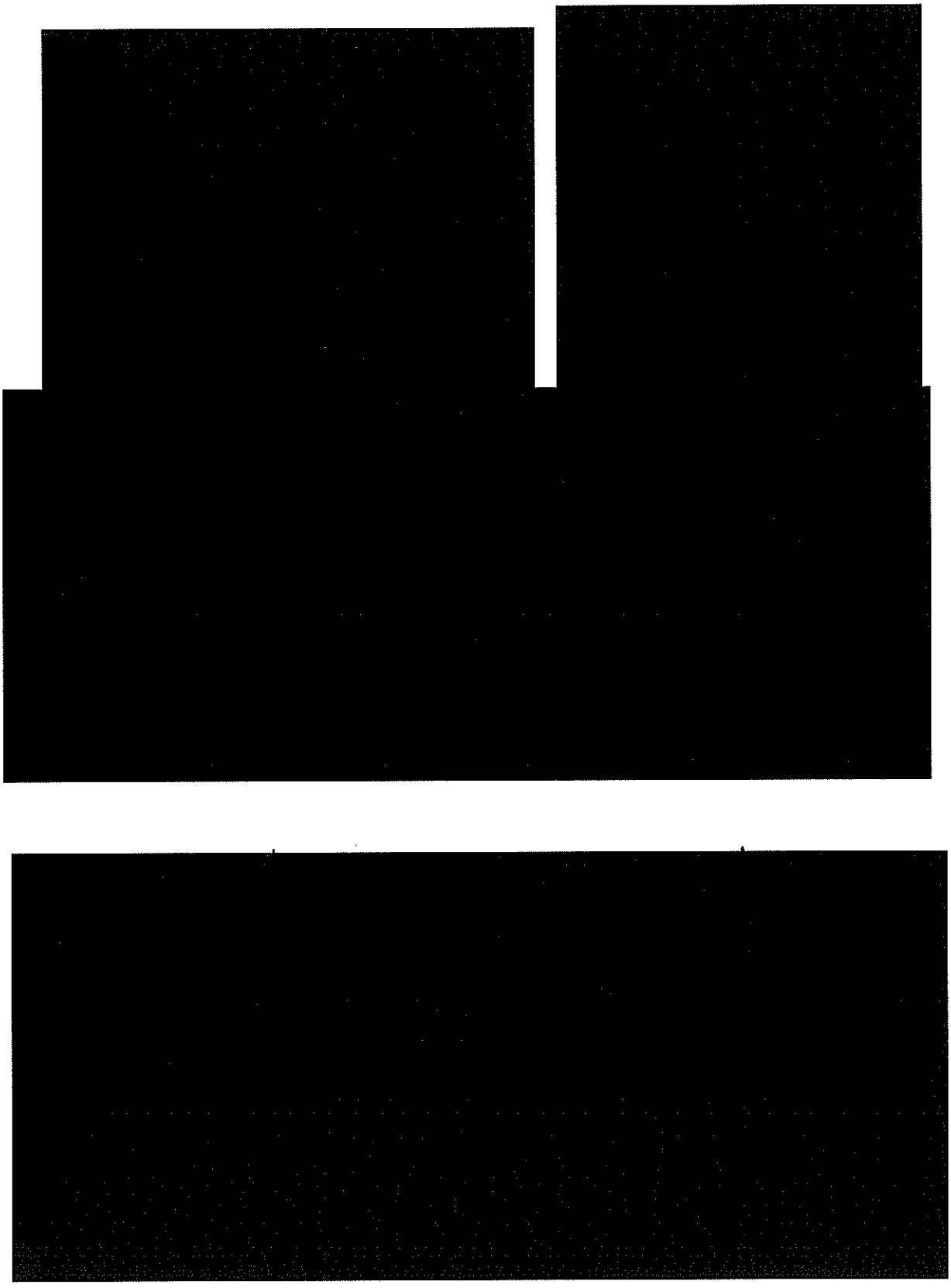
Prelims Fig 3 General Arrangement (3)



Prelims Fig 4 Principal Dimensions (1)



Prelims Fig 5 Principal Dimensions (2)



Prelims Fig 6 Heavy and Light Stores

LEADING PARTICULARS

LEADING PARTICULARS

NAME	LYNX HMA Mk 8	
TYPE	Two-engined helicopter with main and tail rotors	
CREW	Pilot and Observer	
DUTIES	**Primary Role:**	Anti-Surface Vessel Anti-Submarine Search and Strike
	Secondary Roles:	Search and Rescue Vertical Replenishment Casualty Evacuation

MAIN DIMENSIONS

(Refer to Principal Dimension diagrams, Fig 4 and 5)

POWER UNIT

Rolls-Royce Gem Engines (x 2)

Type [redacted]

Engine Oil System

Oil type

Oil tank capacity

Usable oil quantity

FUEL SYSTEM

Approved fuels

Alternative fuels

Fuel Tank Capacities

The fuel tank capacities are as follows:

Tank	*Litres*	*Kilograms*	*Gallons*
Normal System No 1 collector No 2 collector No 1 main No 2 main Forward	[redacted]	[redacted]	[redacted]
Total, gravity refuelled			
Total, pressure refuelled			
Overload System Overload			
Total, all tanks gravity refuelled			
Note 1: Fuel Specific Gravity (SG) is 0.8 Note 2: Approximately 10 litres of fuel i		ngauge	d in the aircraft basic mass

ROTOR TRANSMISSION

Gearbox Oil Type

Main rotor damper fluid

Sleeve spindle fluid

Gearbox Oil Capacities

Main

Intermediate

Tail

LANDING GEAR

Type

Tyre pressures

Shock absorber capacities (three)

Shock absorber fluid

Wheel locks and nosewheel castoring

HYDRAULIC SYSTEM

Fluid reservoir (two) capacity

Approved fluid

ELECTRICAL INSTALLATION

DC starter/generators (two)

Alternators (two)

Battery

RADIO, RADAR AND NAVIGATION FACILITIES

Radio

Radar

Navigation

ARMAMENT

ABBREVIATIONS USED IN TEXT

AC	Aircraft
ACP	Auxiliary Control Panel
ACU	Acceleration Control Unit
ADS	Air Data System
ADU	Air Data Unit
AFCS	Automatic Flight Control System
AGL	Above Ground Level
AI	Attitude Indicator
ALU	Antenna Logic Unit
AMSL	Above Mean Sea Level
ARI	Airborne Radio Installation
ASE	Automatic Stabilisation Equipment
ASI	Airspeed Indicator
ASL	Above Sea Level
AUM	All-Up Mass
BIT	Built-In Test
BOS	Buoyant Orange Smoke
CAC	Computer Acceleration Control
CBLS	Carrier Bomb Light Stores
CCP	Communication Control Panel
CCS	Communications Control System
CDNU	Control, Display and Navigation Unit
CG	Centre of Gravity
CPU	Control and Protection Unit
CSCIU	Clear Signal Conversion Interface Unit
CTS	Central Tactical System
CWP	Central Warning Panel
DCU	Display Control Unit
DTD	Data Transfer Device
ECL	Engine Condition Lever
EED	Electro-Explosive Device
EIRA	Emergency Intercom and Radio Amplifier
EMRU	Electromagnetic Release Unit
ESM	Electronic Support Measures
ESSB	Emergency Services Safety Break
EVT	Exercise Variant Torpedo
FCS	Flight Control System
FCU	Fuel flow Control Unit
FIAM	Flight In-Air Material
FRC	Flight Reference Card
HEU	Headset Electronics Unit
HF	High Frequency
HIRTA	High Intensity Radio Transmitting Area
HP	High Pressure
HTA	Helicopter Type Allowance
Hz	Hertz
KVA	Kilo-Volt Amps
Kw	Kilowatts
IAS	Indicated Airspeed
ISA	International Standard Atmosphere
LP	Low Pressure
LRU	Line Replacement Unit
MASS	Master Armament Safety Switch
MGB	Main Rotor Gearbox
MI	Magnetic Indicator
MoD	Ministry of Defence
MPOG	Minimum Pitch on Ground
MSS	Marine Sound Signal
NATO	North Atlantic Treaty Organisation
Nf	Free Power Turbine Speed
N_H	High Pressure Compressor Shaft Speed
N_L	Low Pressure Compressor Shaft Speed
N_R	Main Rotor Speed
NRV	Non Return Valve
OAT	Outside Air Temperature
ODM	Operating Data Manual

P2 Air Pressure, Low Pressure Compressor (4th Stage)

P3 Air Pressure, High Pressure Compressor (4th Stage)

PC Control Air Pressure (reduced P3 pressure)

PCU Protective Control Unit

[redacted]

PSI Pounds per Square Inch

[redacted]

QRF Quick Release Fitting

QRM Quick Release Mechanism

RAF Royal Air Force

RCU Remote Control Unit

RF Radio Frequency

ROAWS Rotor Overspeed Audio Warning System

ROU Rotor Overspeed Unit

SACRU Semi-Automatic Cargo Release Unit

SCCS Secure communications Control System

SCMU Signal Conversion and Matrix Unit

SG Specific Gravity

SGMS Simulator Guided Missile System

SMS Stores Management System

SMU Stores Management Unit

SSCIU Secure Signal Conversion and Interface Unit

SSL Speed Select Lever

SUS Signals Underwater Sound

T6 Power Turbine Inlet Temperature

TAS True AirSpeed

TCRIT Critical Time

Tq Torque

TR Tail Rotor

TRCF Tail Rotor Control Failure

TRDF Tail Rotor Drive Failure

TRT Tail Rotor Thrust

TSD-G Tactical Situation Display Graphic

TVT Training Variant Torpedo

TVTH Training Variant Torpedo Heavyweight

TVTL Training Variant Torpedo Lightweight

TWRS Torpedo Weapons Response Simulator

UHF Ultra High Frequency

VDC Volts Direct Current

VHF Very High Frequency

V_{MAX} Maximum Permitted Speed

MODIFICATION NUMBERS REFERRED TO IN THE TEXT

Mod No.	*Effect of Embodiment*	*Location in the text*		
		Part	*Chap*	*Para*
[redacted]				

PART 1

DESCRIPTION AND MANAGEMENT OF SYSTEMS

List of Chapters

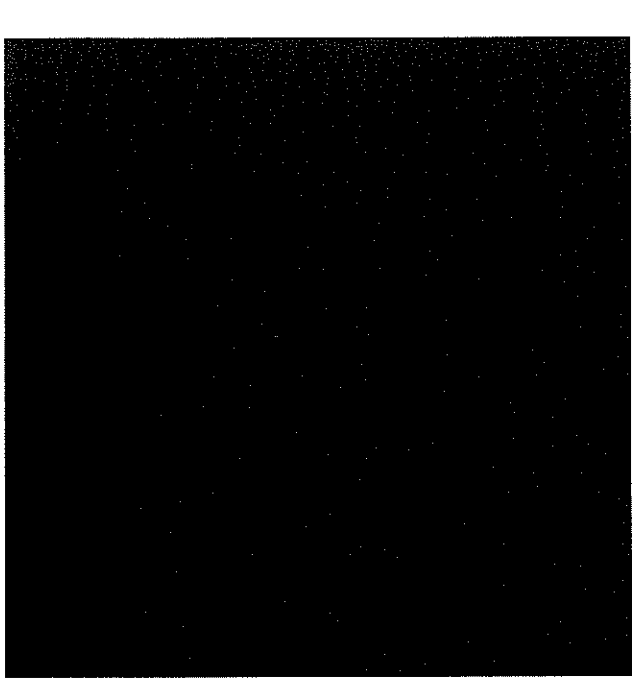
PART 1

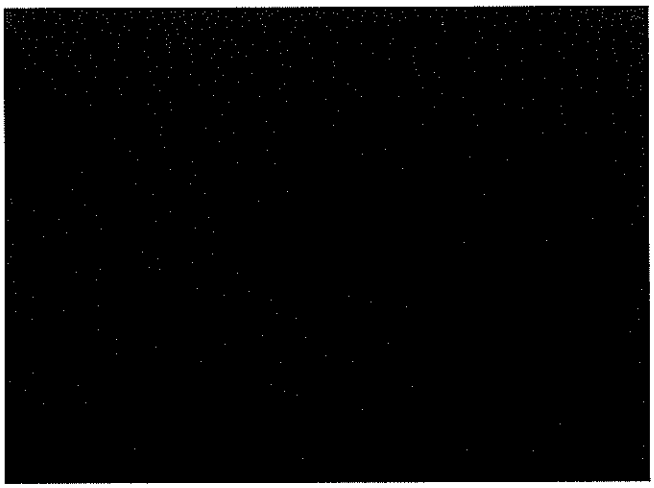
CHAPTER 1 - ELECTRICAL SYSTEMS

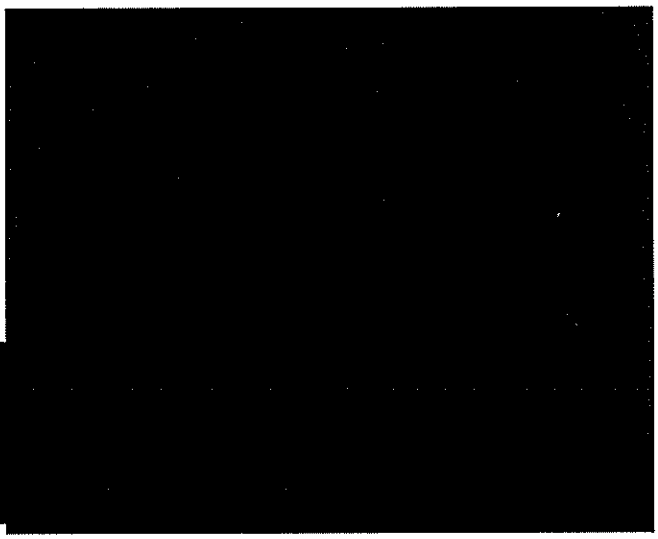
Contents

GENERAL

Introduction





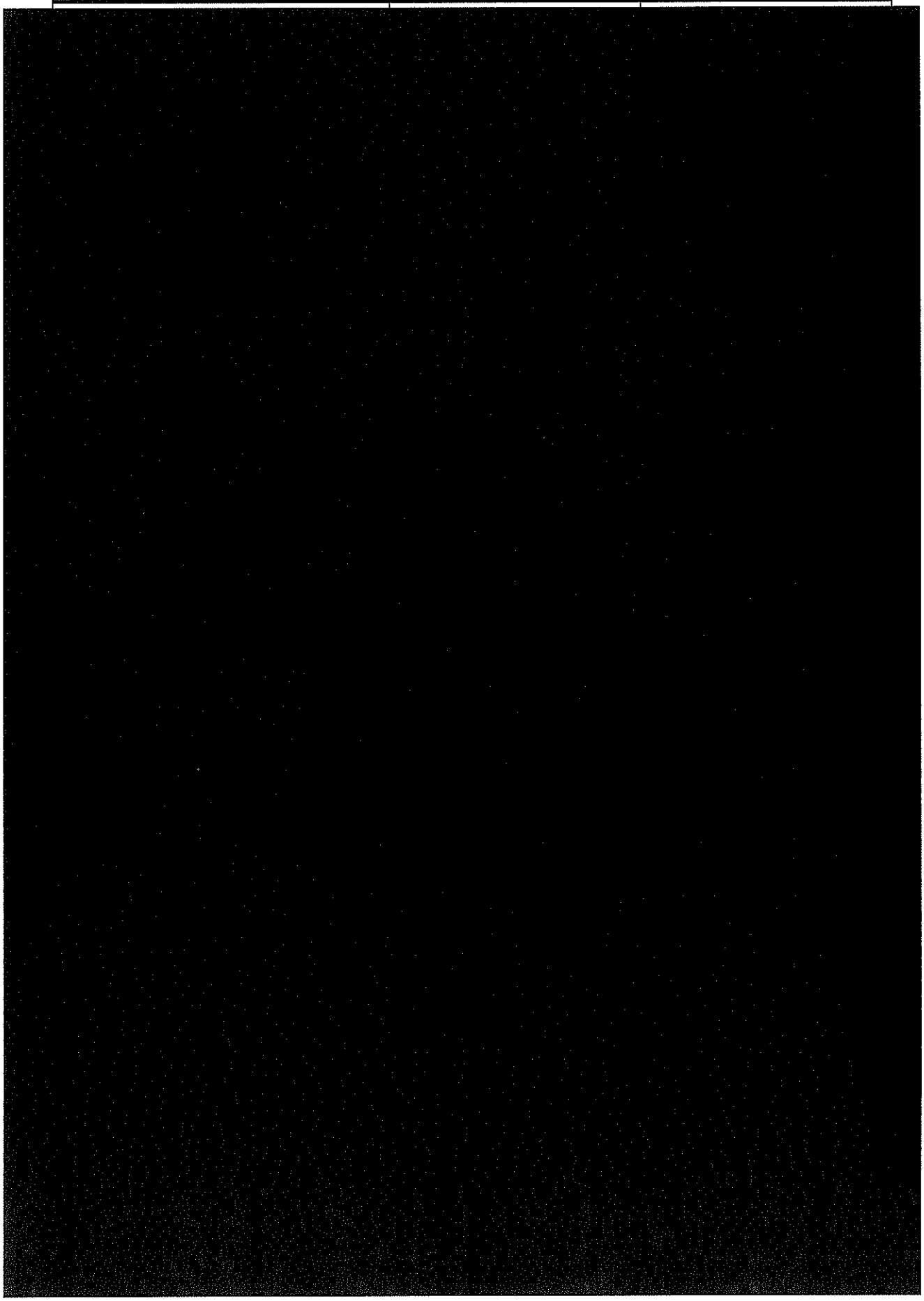


DC SYSTEM

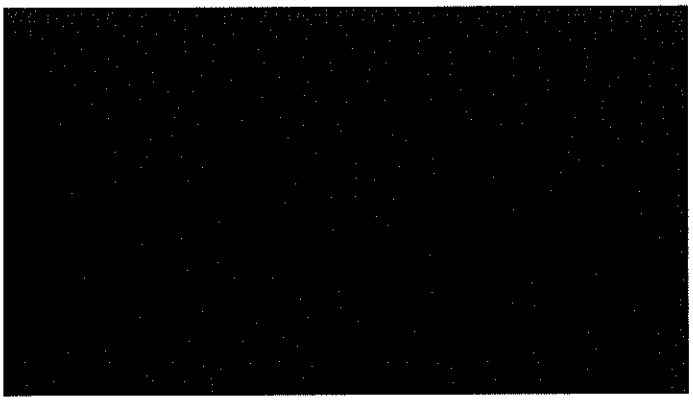
General

1 - 1 Fig 1 Electrical Systems Control Panel

Table 1 - DC System Controls and Indicators

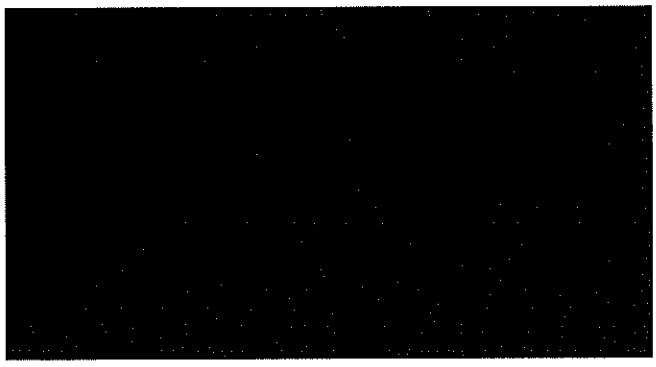


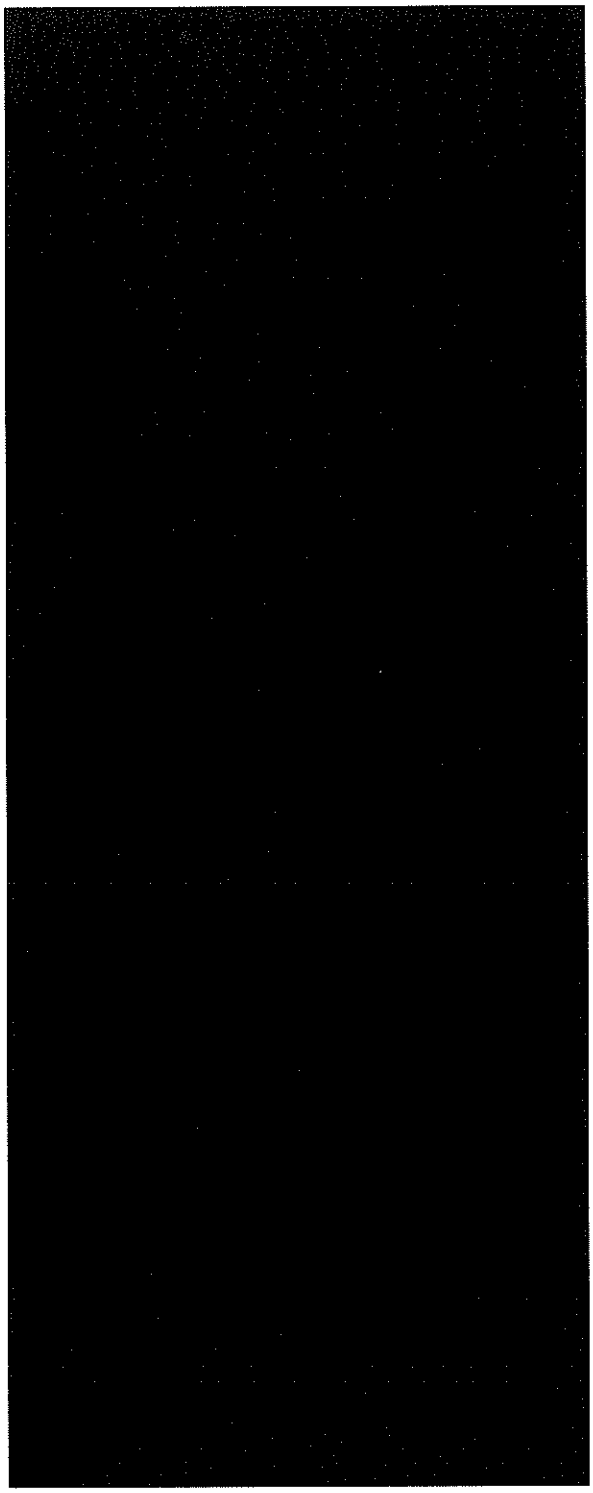
Battery Control

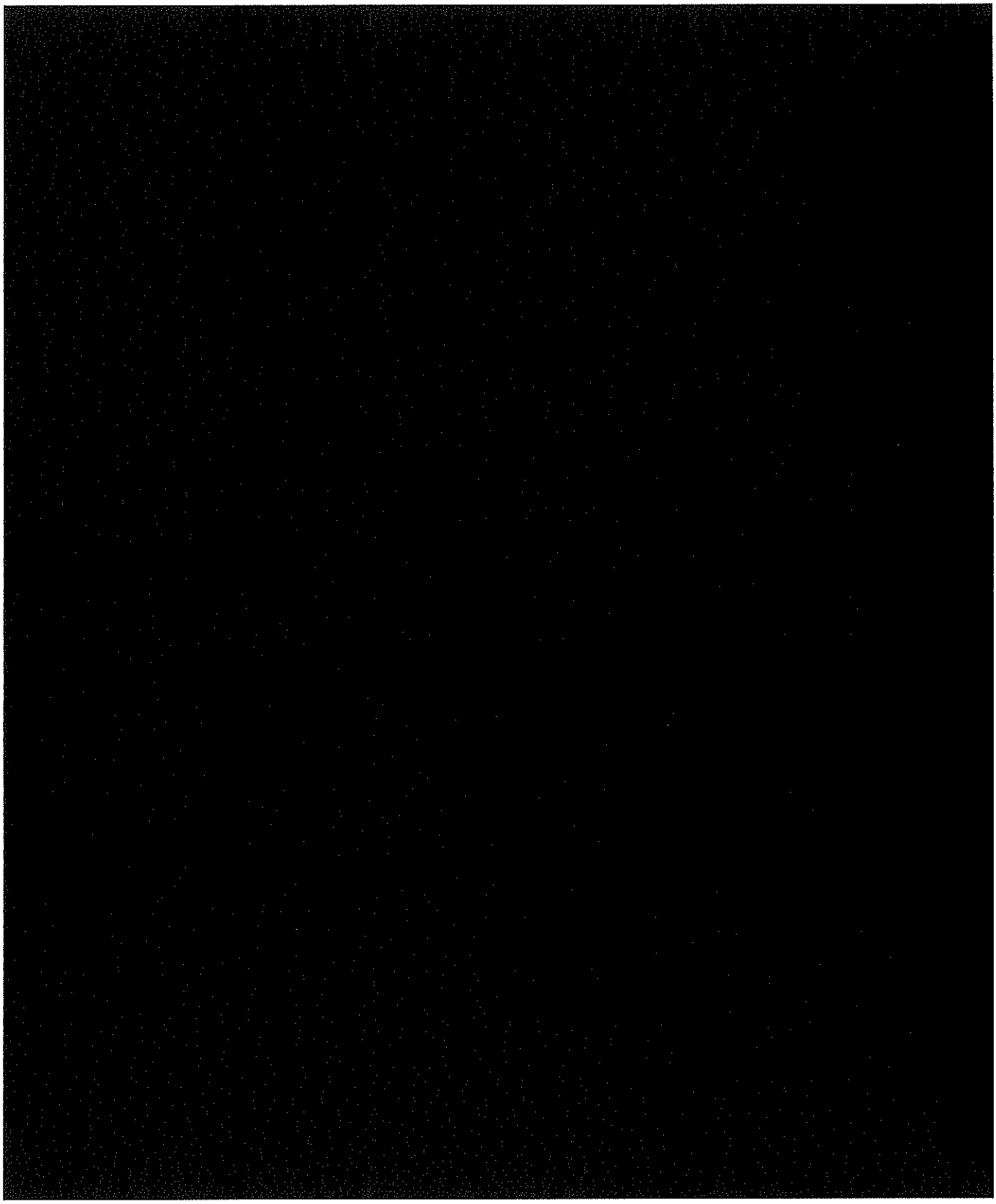


Ground DC Supply

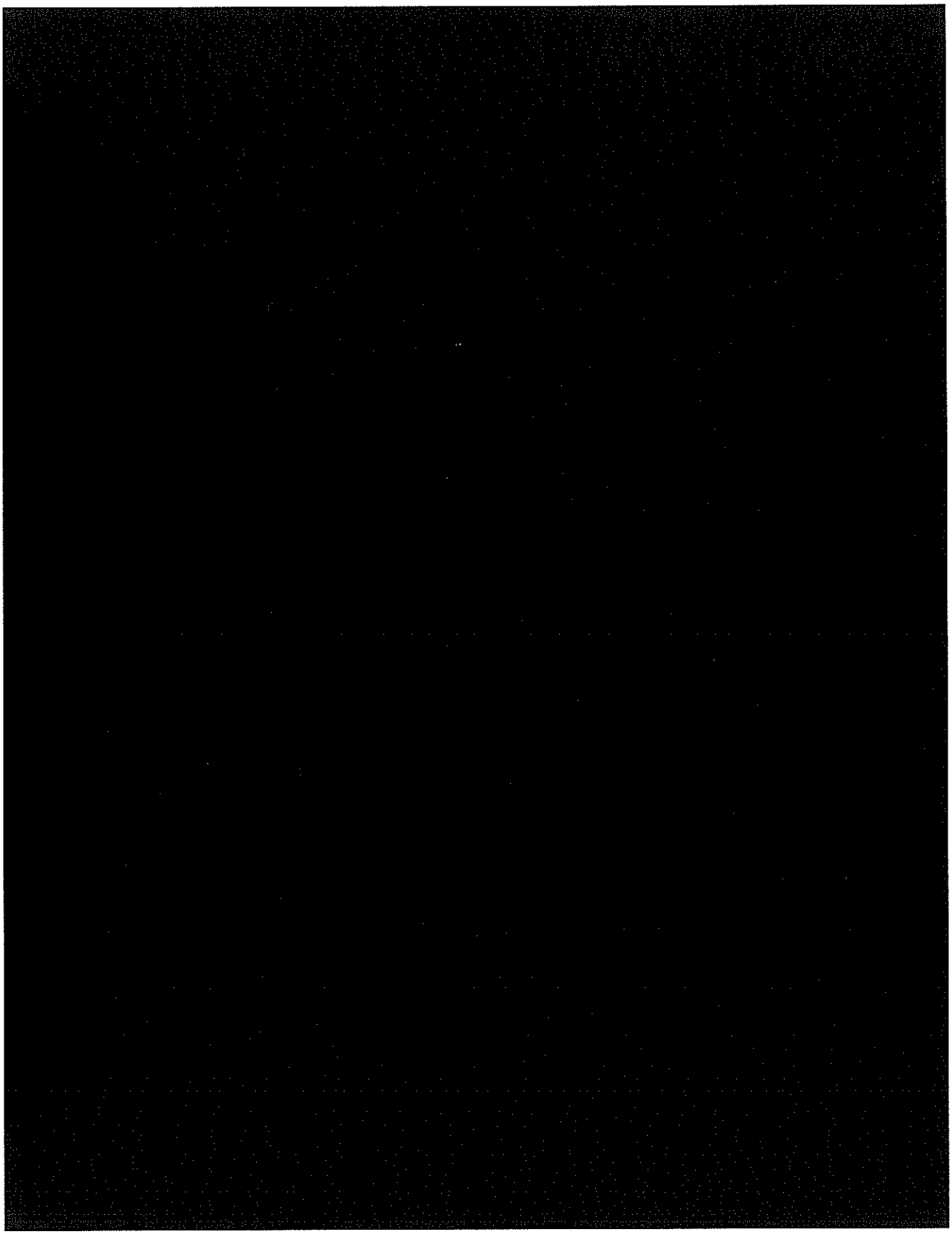
DC Distribution



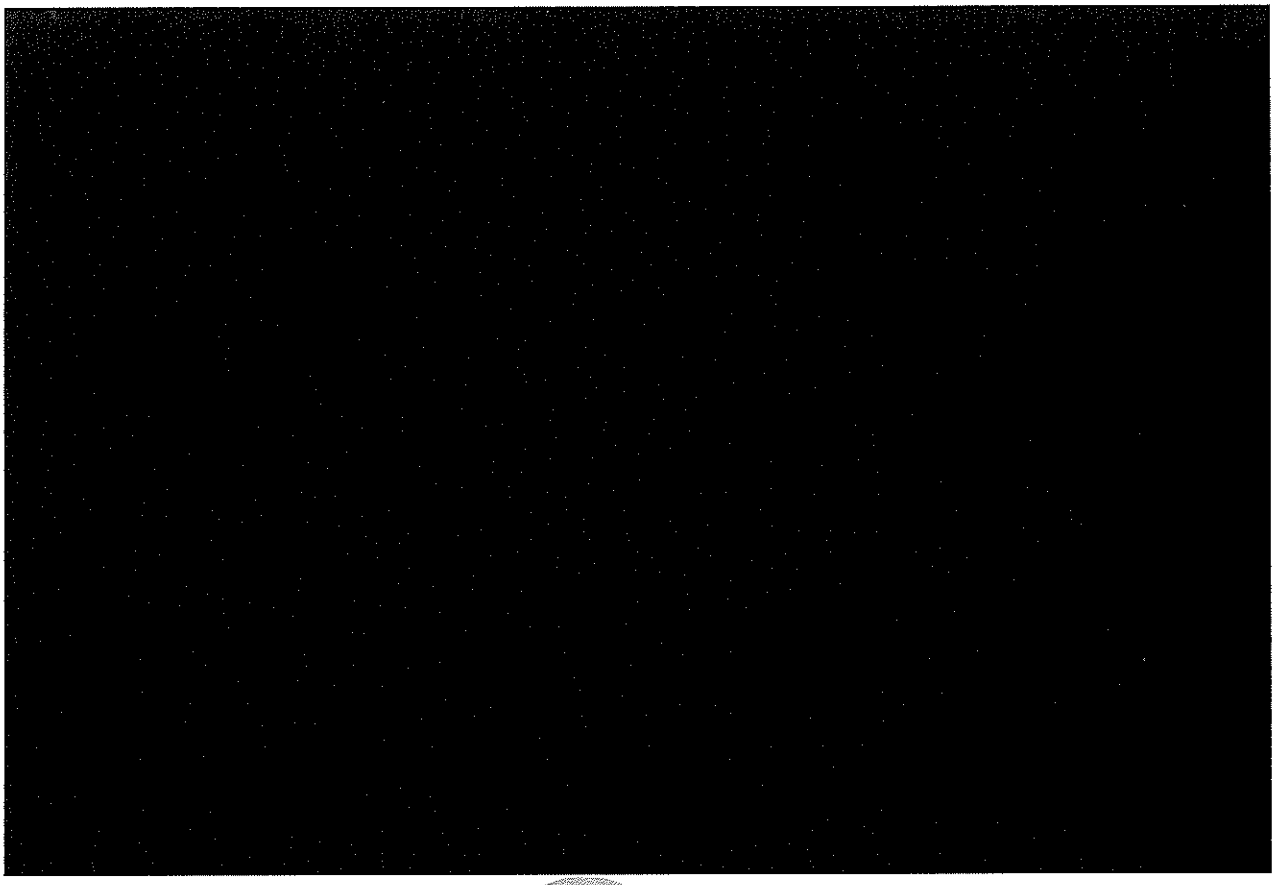




1 - 1 Fig 2 DC Generator Supplies and Indicators



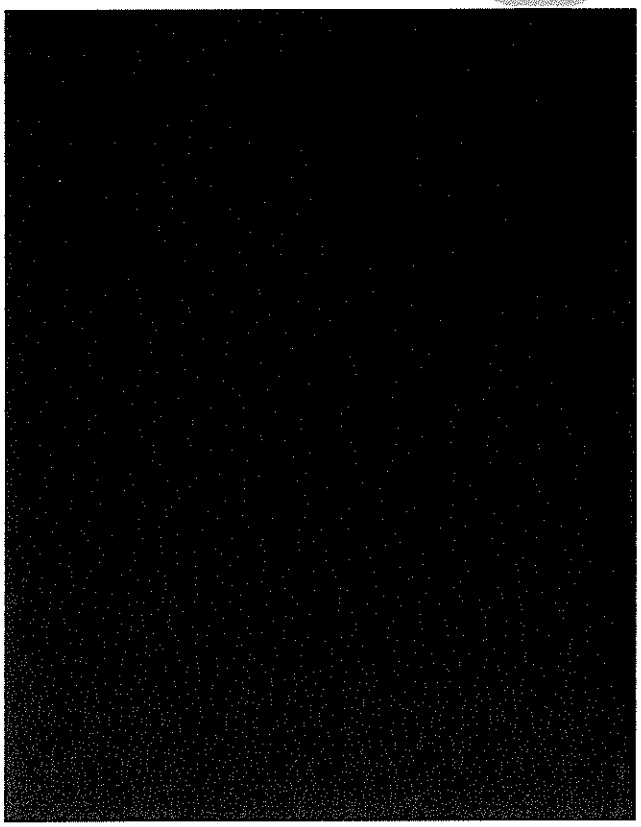
1 - 1 Fig 3 Ground 28V DC and Battery 28V DC Supplies

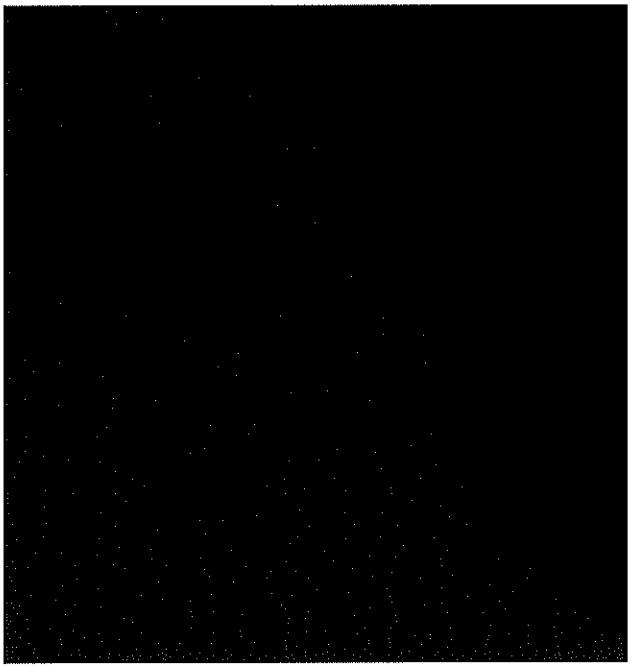


1 -1 Fig 4 DC Distribution Simplified

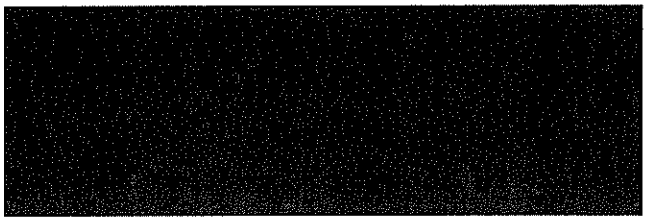
AC SYSTEM

General





Alternator Control



[redacted]

Automatic Load Shedding

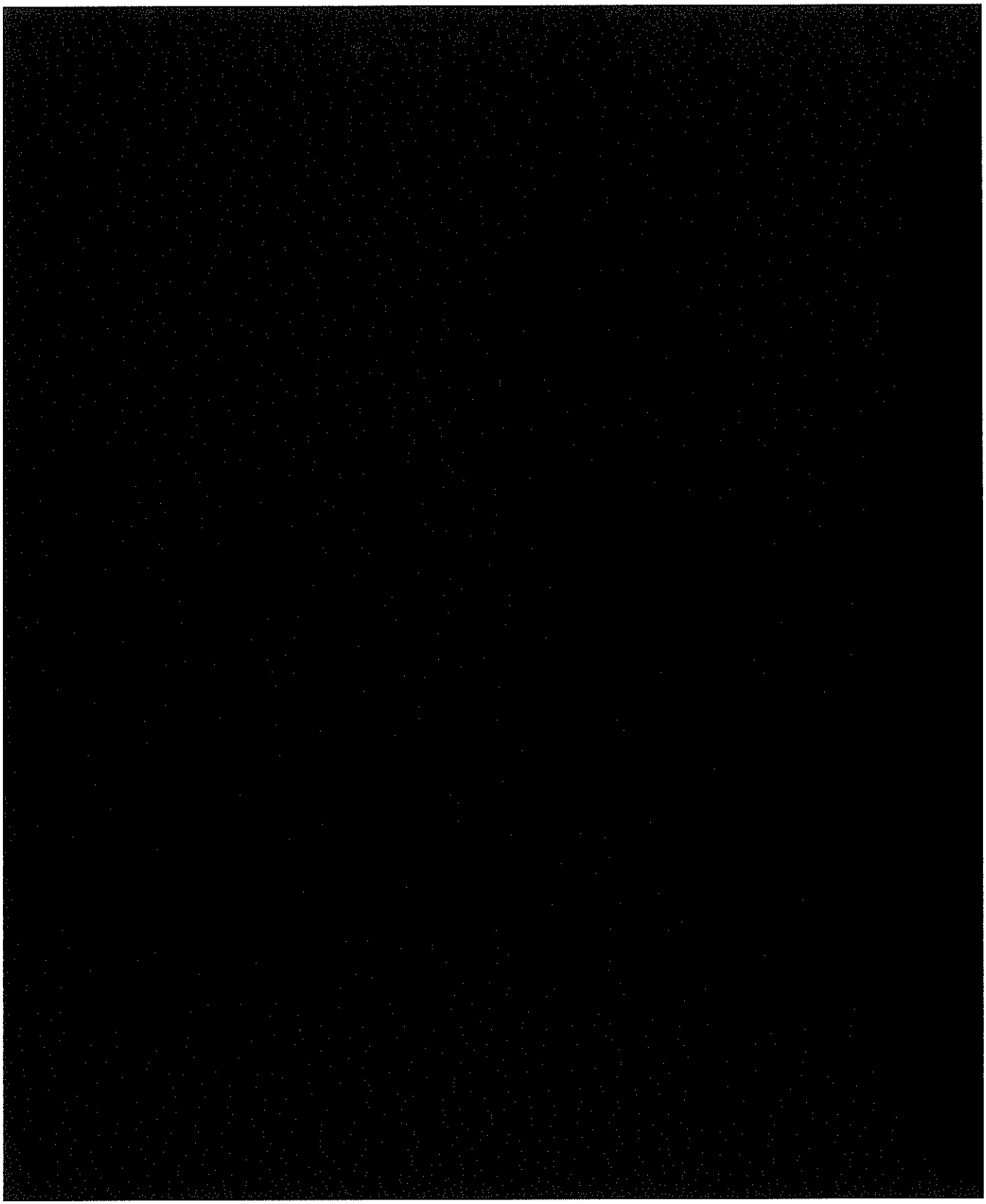
[redacted]

AC Systems Operation

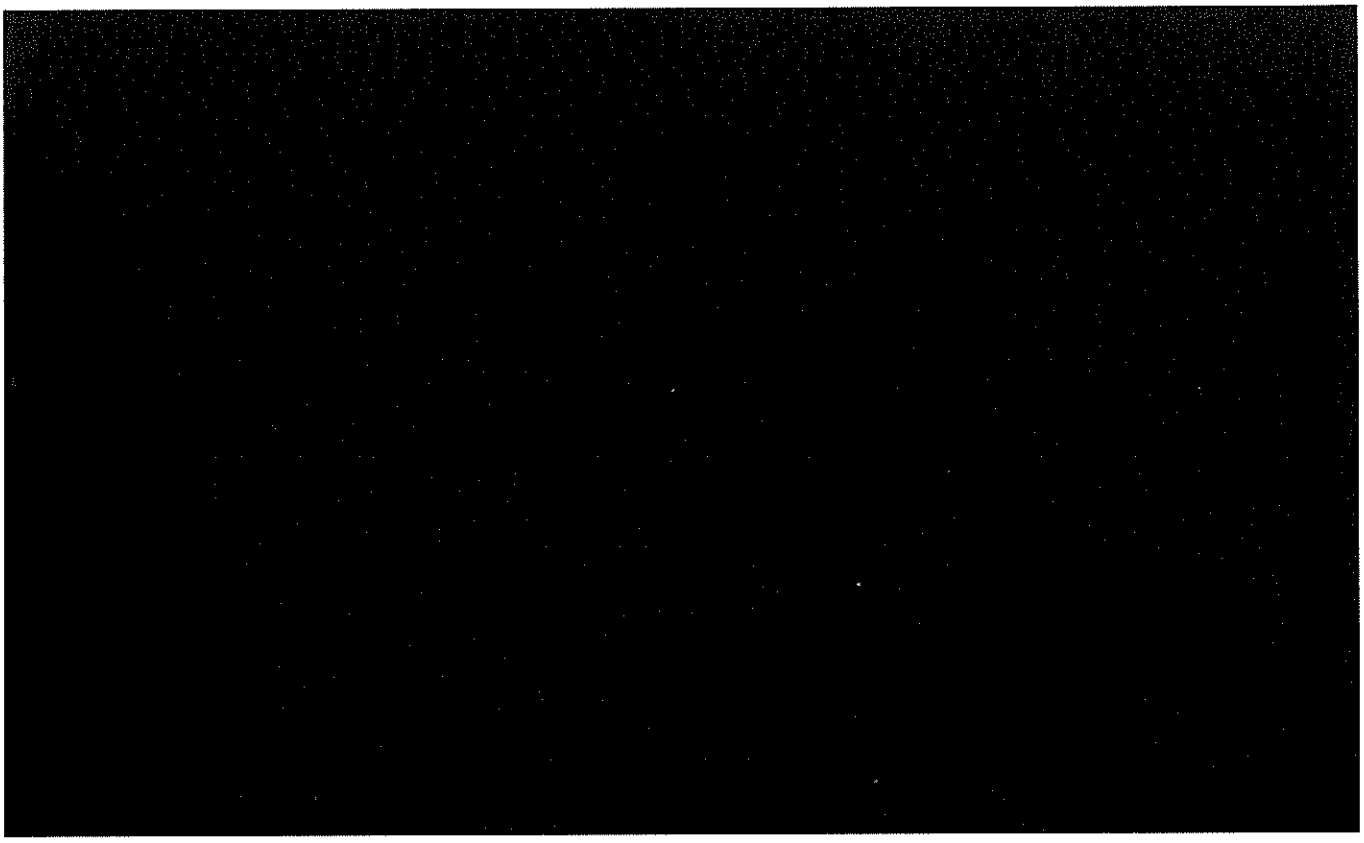
[redacted]

Table 2 - AC System Controls and Indicators

[redacted]



1 - 1 Fig 5 Alternator Supplies and Indicators



1 - 1 Fig 6 Load Shedding Circuit

Ground AC Supply

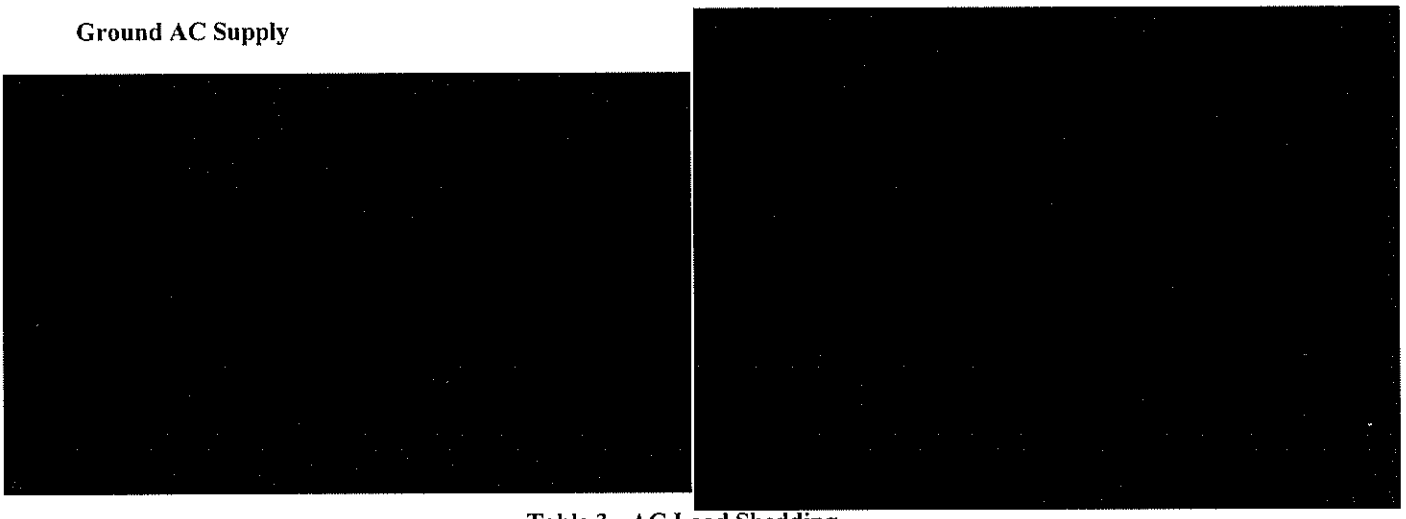
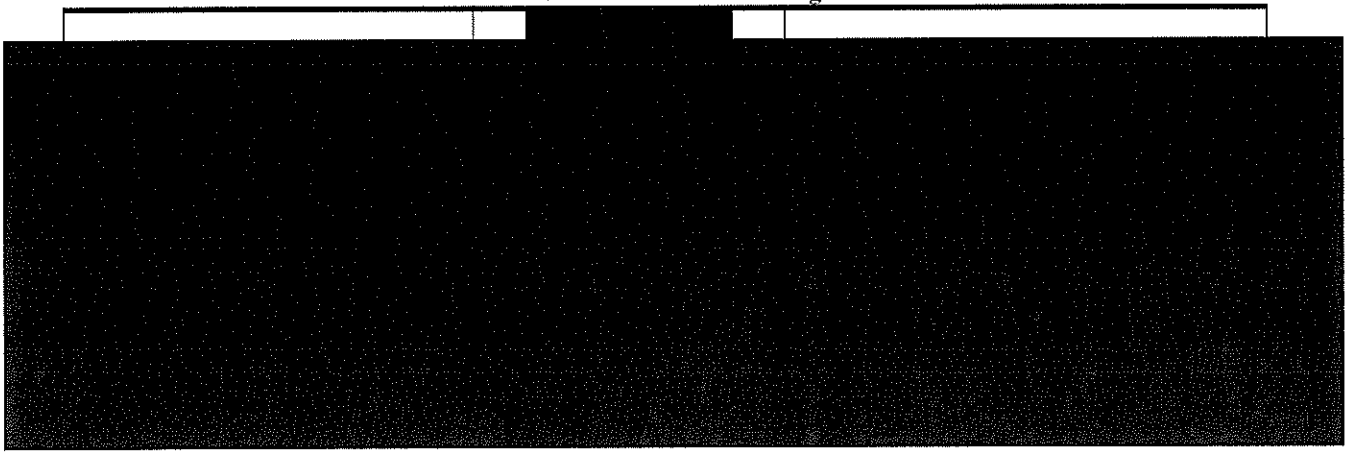
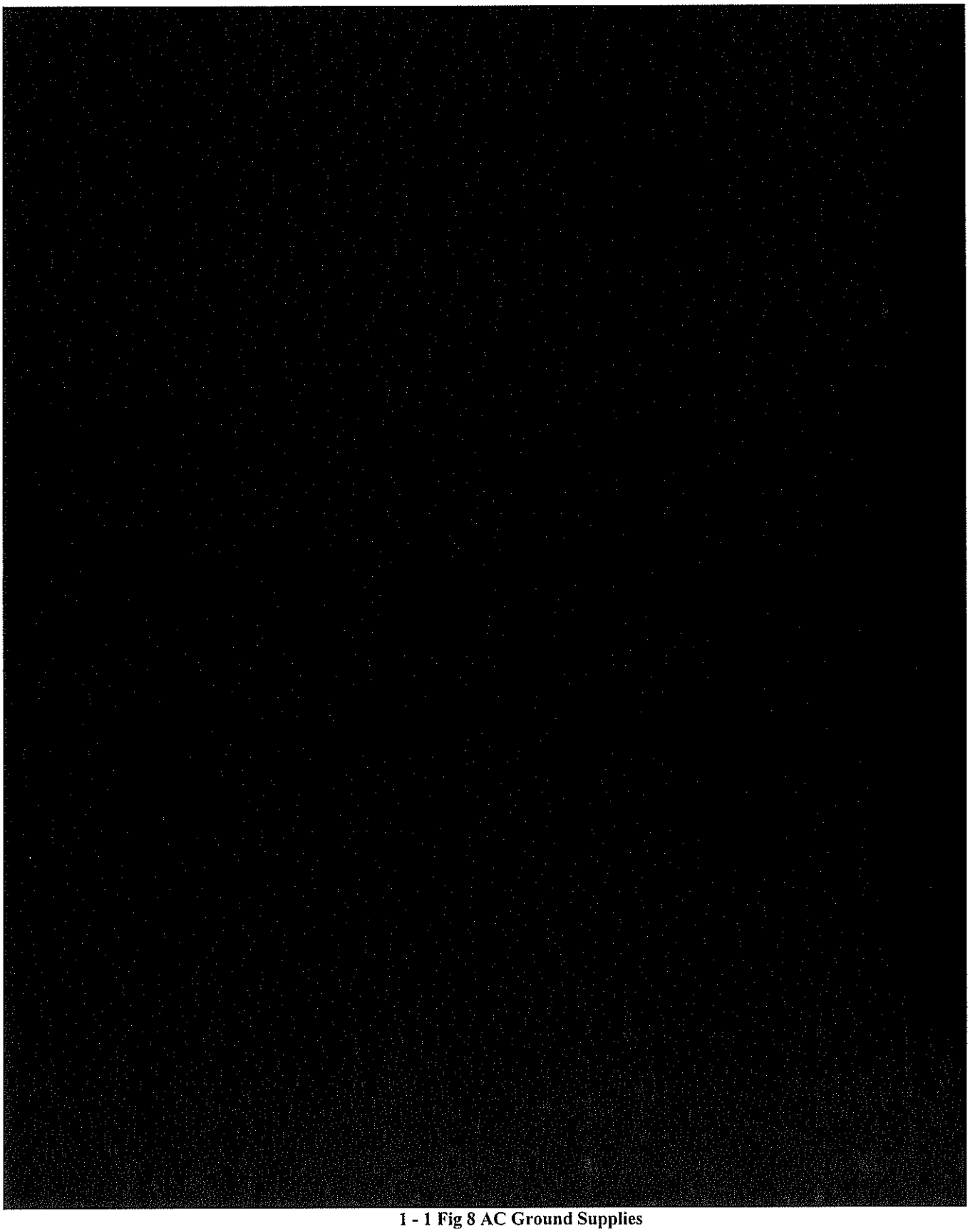


Table 3 - AC Load Shedding



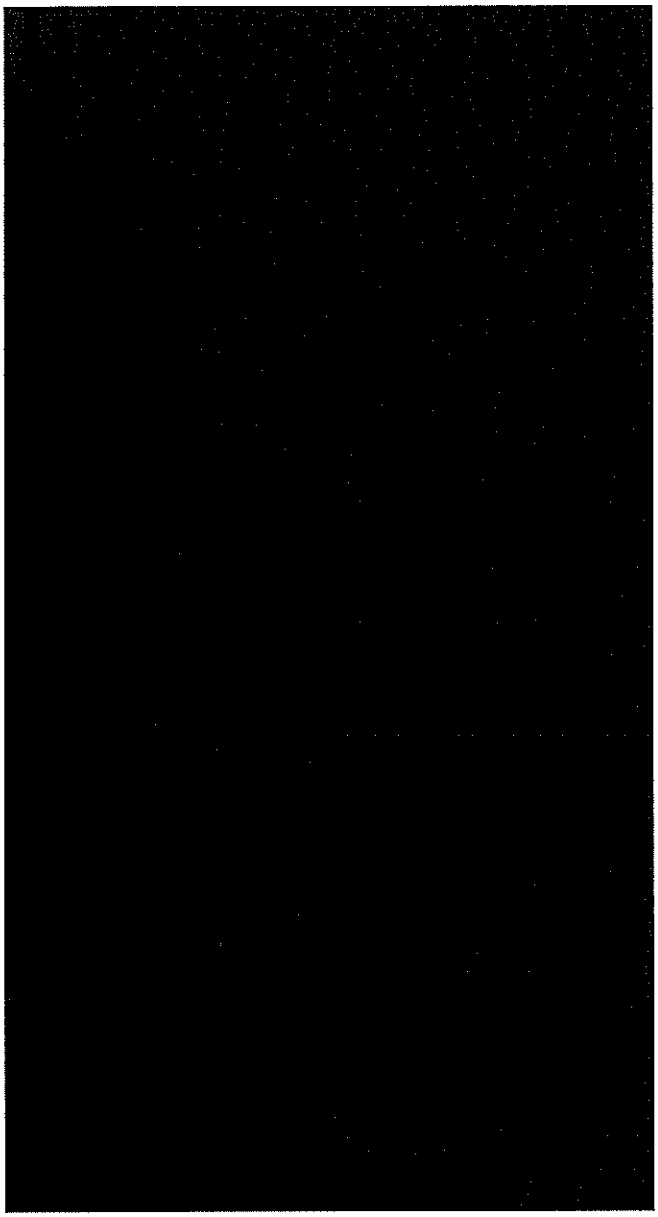
AC Distribution



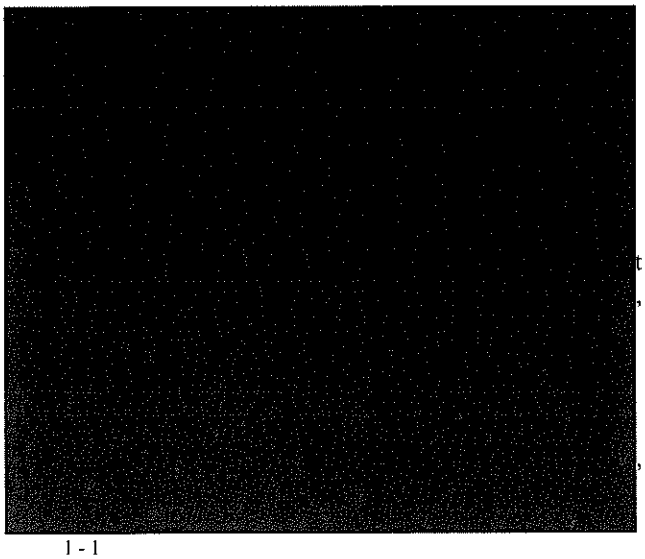
1 - 1 Fig 8 AC Ground Supplies

NORMAL USE

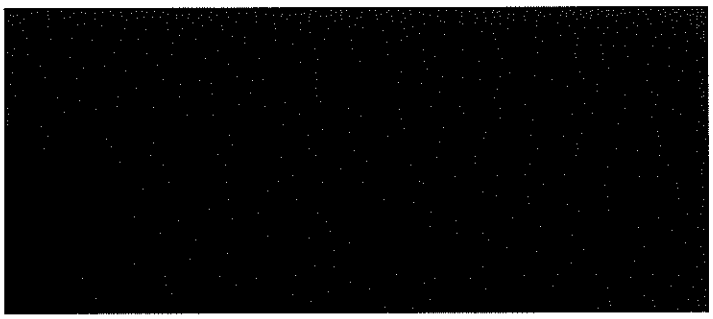
DC System



AC System



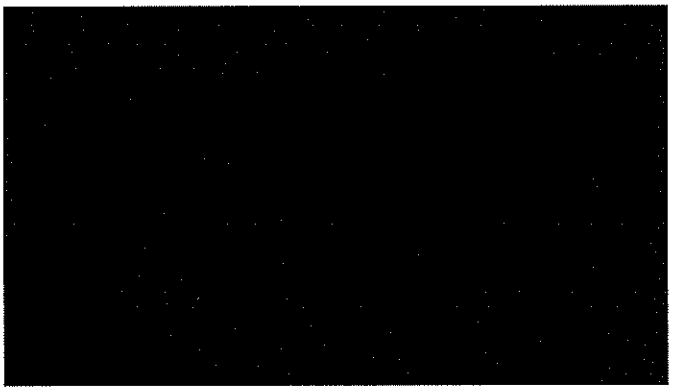
Single Generator Failure



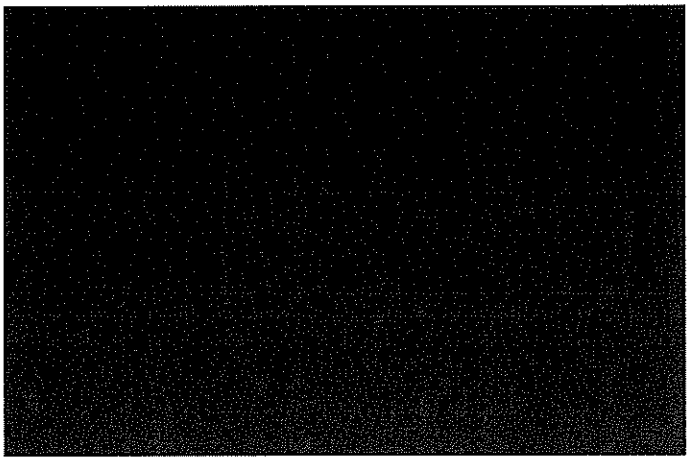
Double Generator Failure

White.

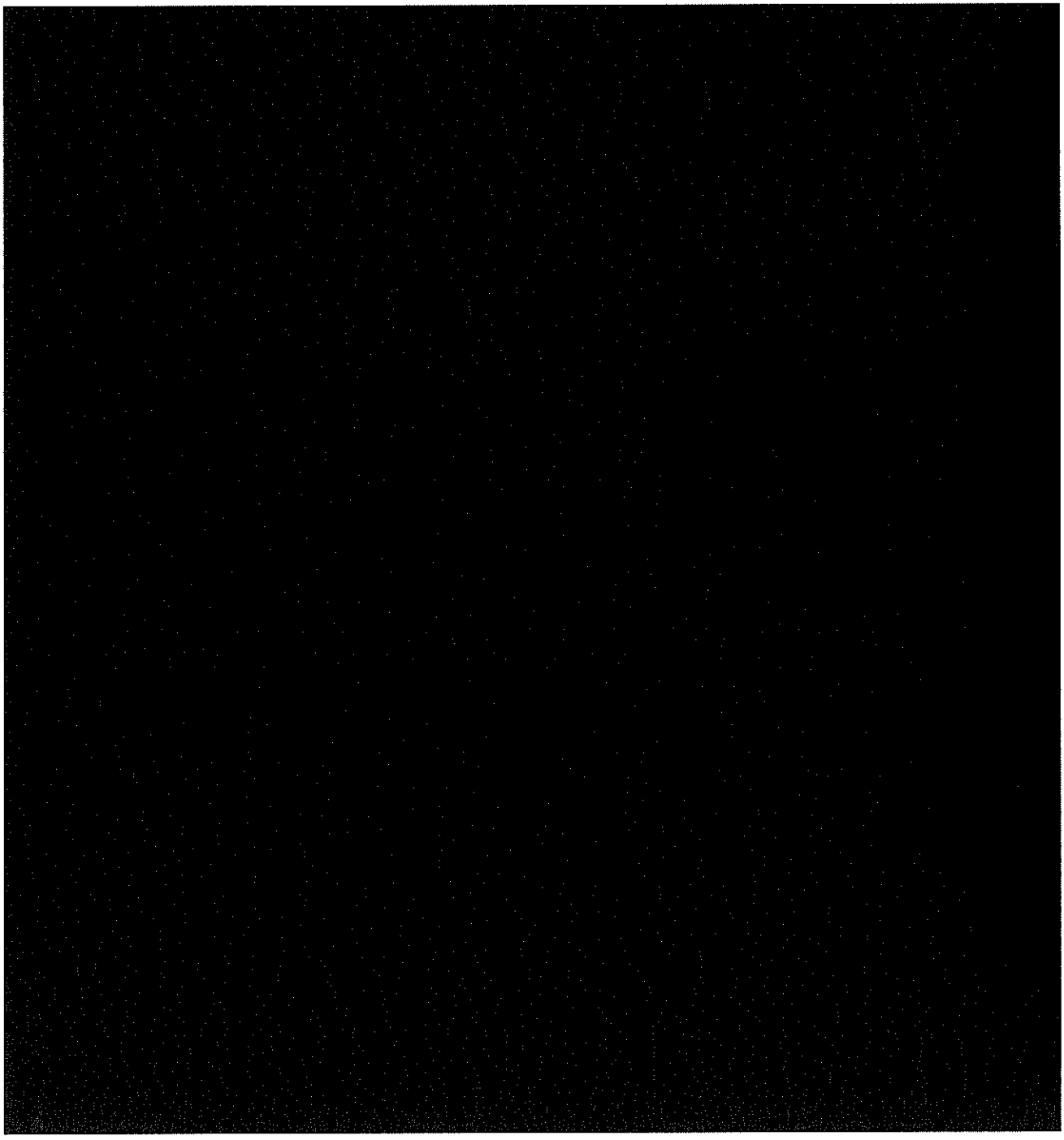
Single Alternator Failure



Double Alternator Failure



Battery Contactor Failure



1 - 1 Fig 9 AC DC Supplies and Distribution Panels Location

Table 4 - Circuit Breakers Supplied from DC/AC Busbars

Service	*Circuit Breaker Panel/Number*			
[redacted]				
AC Supply, Control and Indications				
[redacted]				

Table 4 - continued

[redacted]

WARNING SYSTEMS - CHAPTER 2

[redacted]

FUEL SYSTEMS - CHAPTER 3

[redacted]

Left Fuel System

[redacted]

Right Fuel System

[redacted]

ENGINE SYSTEMS - CHAPTER 4

[redacted]

(Continued)

Table 4 - continued

Service	*Circuit Breaker Panel/Number*			
	DC ESS BUS	*AC GS BUS*	*AC1*	*AC2*
ENGINE SYSTEMS - CHAPTER 4 - continued				
[redacted]				
No 2 Engine				
[redacted]				
ROTORS, TRANSMISSION AND FLYING CONTROLS - CHAPTER 5				
[redacted]				

(Continued)

Table 4 - continued

Service	*Circuit Breaker Panel/Number*			
	DC ESS BUS	*AC GS BUS*	*AC1*	*AC2*
ROTORS TRANSMISSION AND FLYING CONTROLS - CHAPTER 5 - continued				
[redacted]				
Cyclic Stick Trim Control				
[redacted]				
FLIGHT CONTROL SYSTEM - CHAPTER 6				
[redacted]				
HYDRAULIC SYSTEMS - CHAPTER 7				
[redacted]				

(Continued)

1 - 1

Table 4 - continued

Service	*Circuit Breaker Panel/Number*			
	DC ESS BUS	*AC GS BUS*	*AC1*	*AC2*
HYDRAULIC SYSTEMS - CHAPTER 7 - continued				
[redacted]				
FLIGHT INSTRUMENTS - CHAPTER 8				
[redacted]				
MISCELLANEOUS ROLE EQUIPMENT - CHAPTER 9				
[redacted]				
GENERAL AND EMERGENCY EQUIPMENT - CHAPTER 10				
Lighting				
[redacted]				
Landing Gear				
[redacted]				

(Continued)

Table 4 - continued

Service	*Circuit Breaker Panel/Number*			
	DC ESS BUS	*AC GS BUS*	*AC1*	*AC2*
GENERAL AND EMERGENCY EQUIPMENT - CHAPTER 10 - continued				
[redacted]				
Windscreen				
[redacted]				
Cockpit Heating				
[redacted]				
Cabin Heating				
[redacted]				
Flotation Gear				
[redacted]				
Aft Equipment Bay				
[redacted]				

(Continued)

Table 4 - continued

Service	*Circuit Breaker Panel/Number*			
	DC ESS BUS	*AC GS BUS*	*AC1*	*AC2*
The following circuit breakers refer to chapters in book 2 (Topic 15 D) but are detailed here to give an overall view of the electrical distribution system				
BOOK 2 (TOPIC 15D)				
CENTRAL TACTICAL SYSTEM - CHAPTER 1				
[redacted]				
COMMUNICATIONS SUB-SYSTEM - CHAPTER 5				
[redacted]				

(Continued)

Table 4 - continued

Service	*Circuit Breaker Panel/Number*			
	DC ESS BUS	*AC GS BUS*	*AC1*	*AC2*
COMMUNICATIONS SUB-SYSTEM - CHAPTER 5 - continued				
[redacted]				
NAVIGATION SUB-SYSTEM - CHAPTER 8				
[redacted]				
WEAPONS SUB-SYSTEM - CHAPTER 9				
[redacted]				
Armament Busbar 'A' Feeder Circuits				
[redacted]				
Armament Busbar 'B' Feeder Circuits				
[redacted]				
PID				
[redacted]				

Intentionally Blank

PART 1

CHAPTER 2 - CENTRAL WARNING SYSTEM

Contents

GENERAL

General

[redacted]

Central Warning Panel

[redacted]

Dimming Facilities

[redacted]

Attention-Getter Lights and Audio Warning

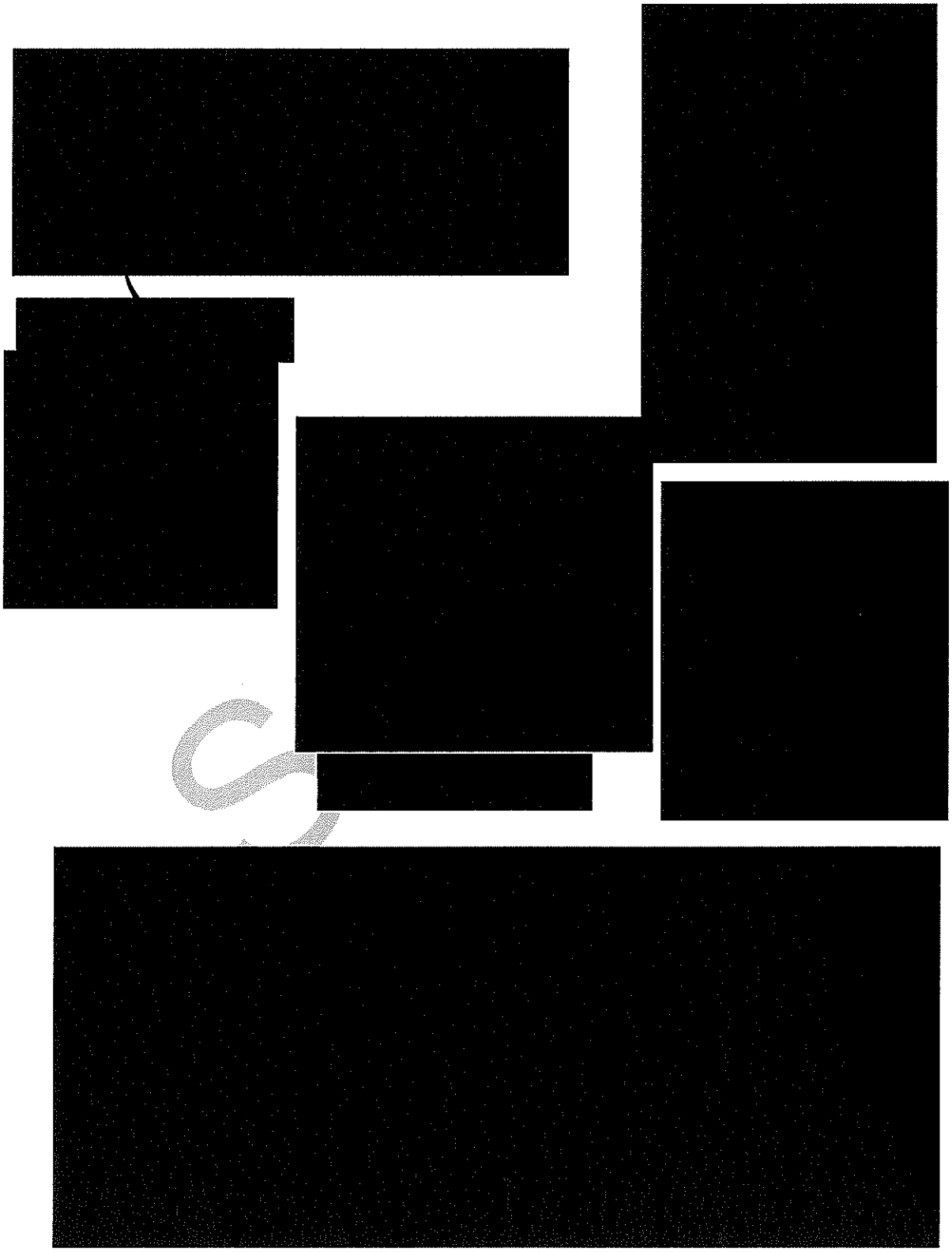
[redacted]

System Test

[redacted]

Table 1 - Central Warning Panel

Indication	*Caption*	*Failure/System State*
Red Section:		
Amber Section:		
	F	
Green Section:		



1 - 2 Fig 1 Central Warning System (Post Mod 5576)

Intentionally Blank

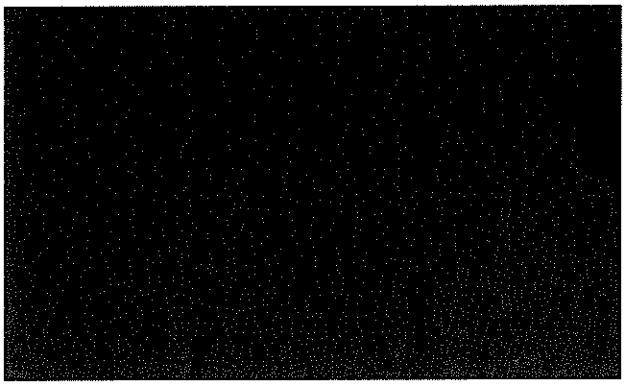
PART 1

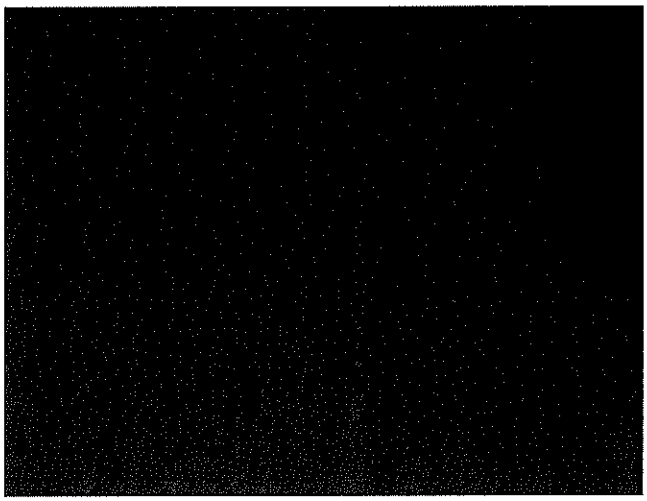
CHAPTER 3 - FUEL SYSTEM

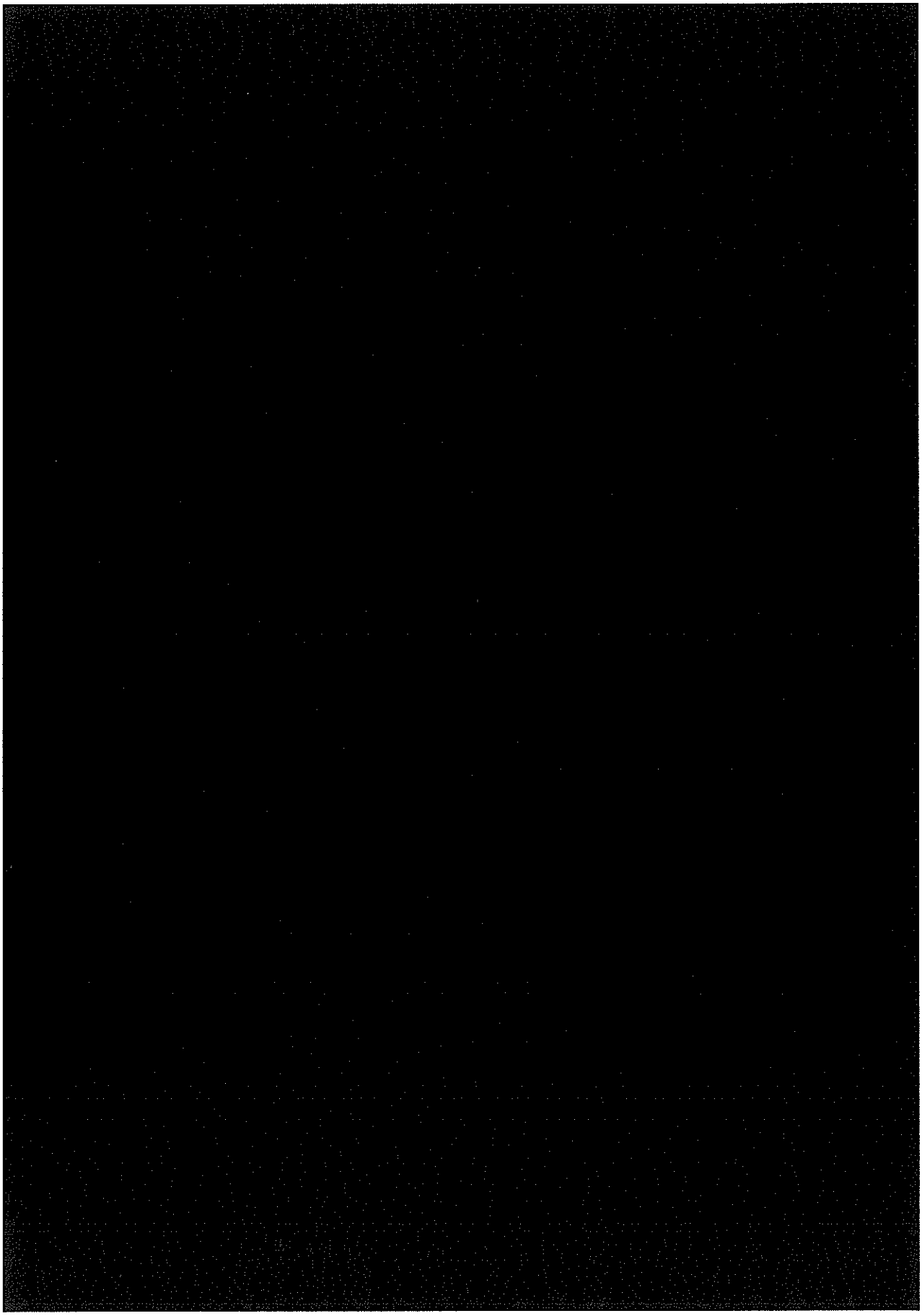
Contents

GENERAL

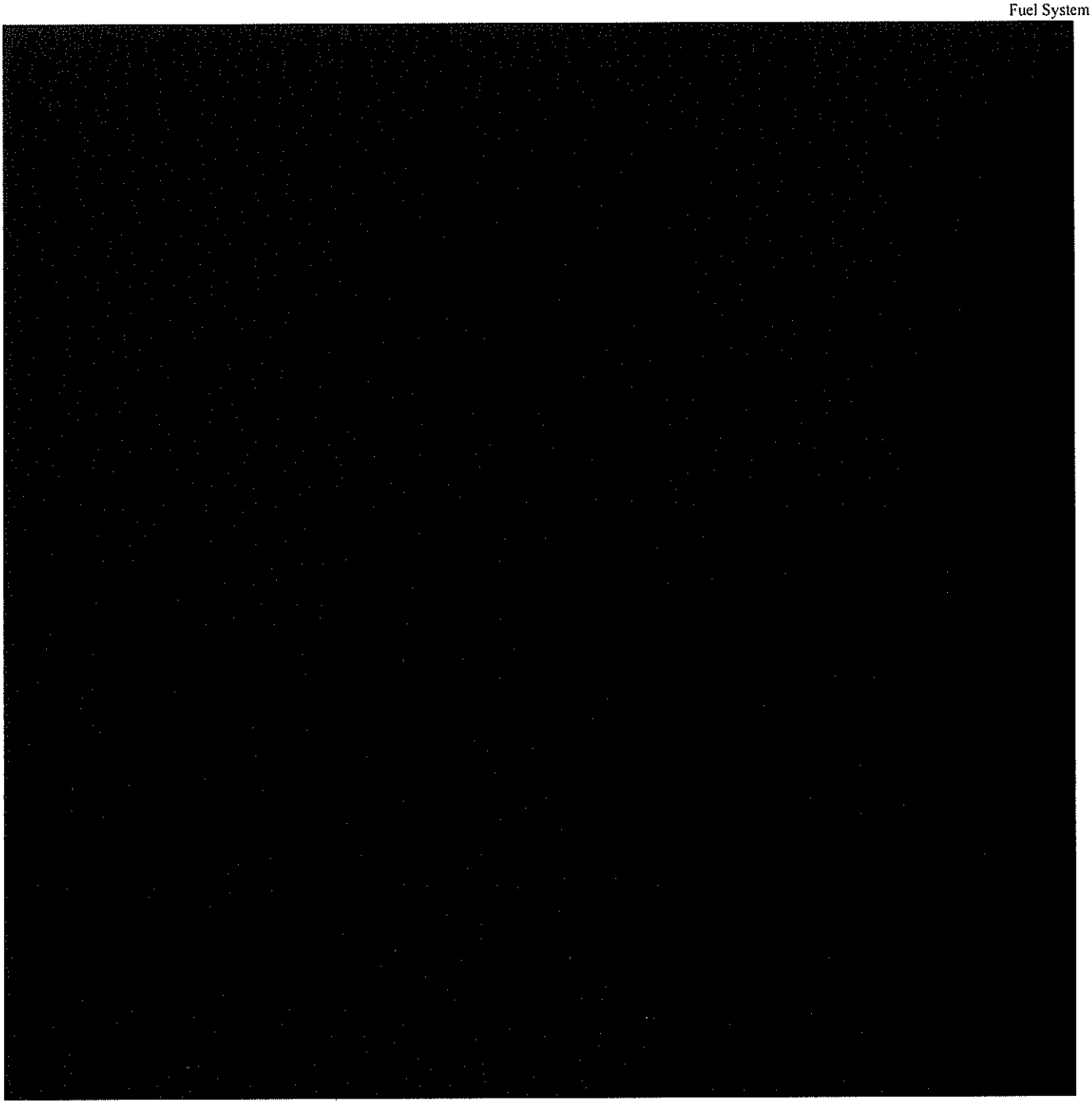
Introduction



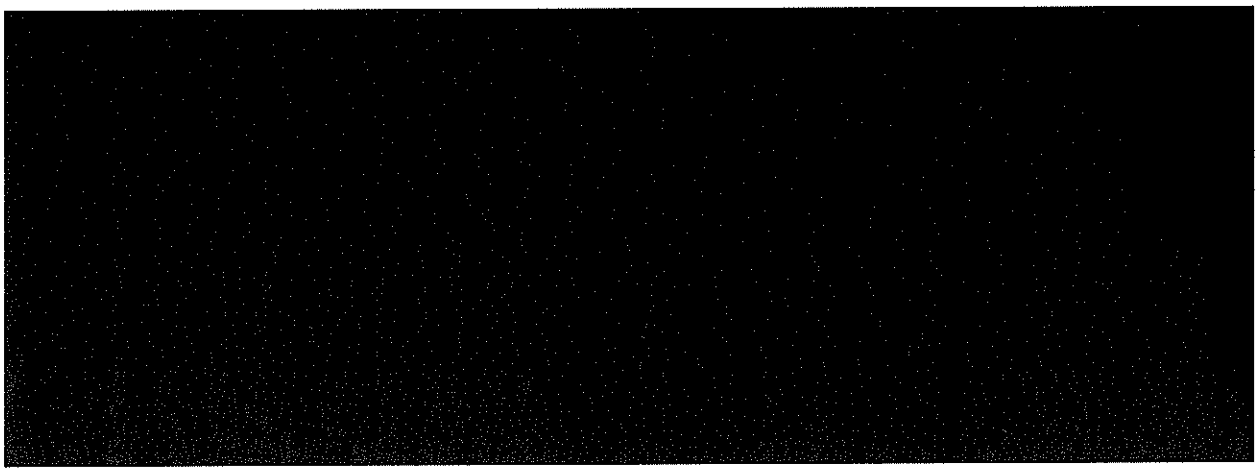


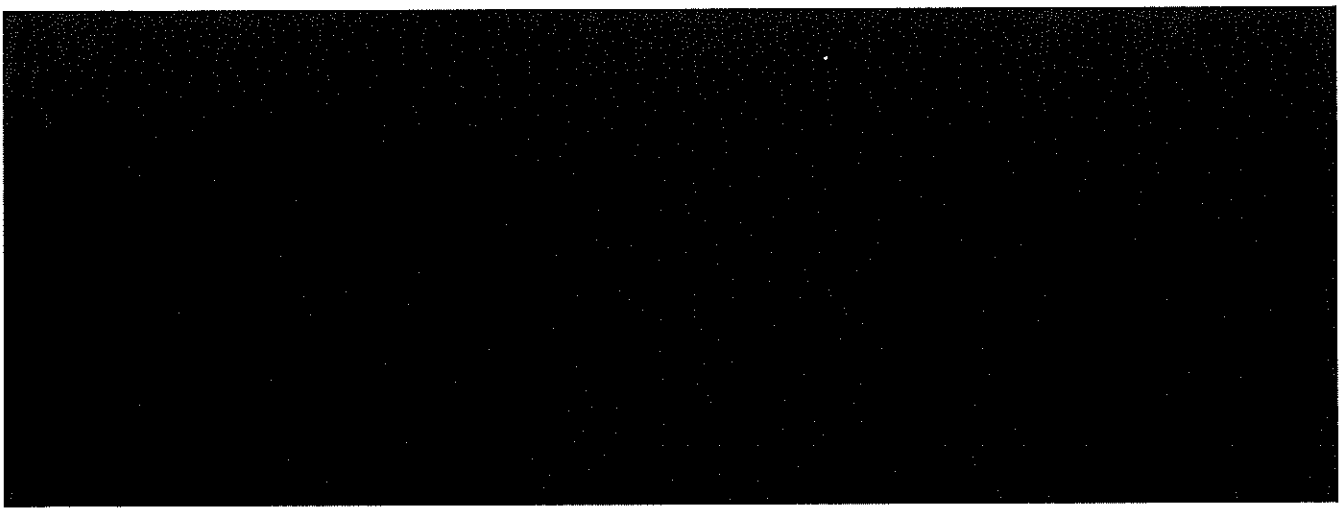


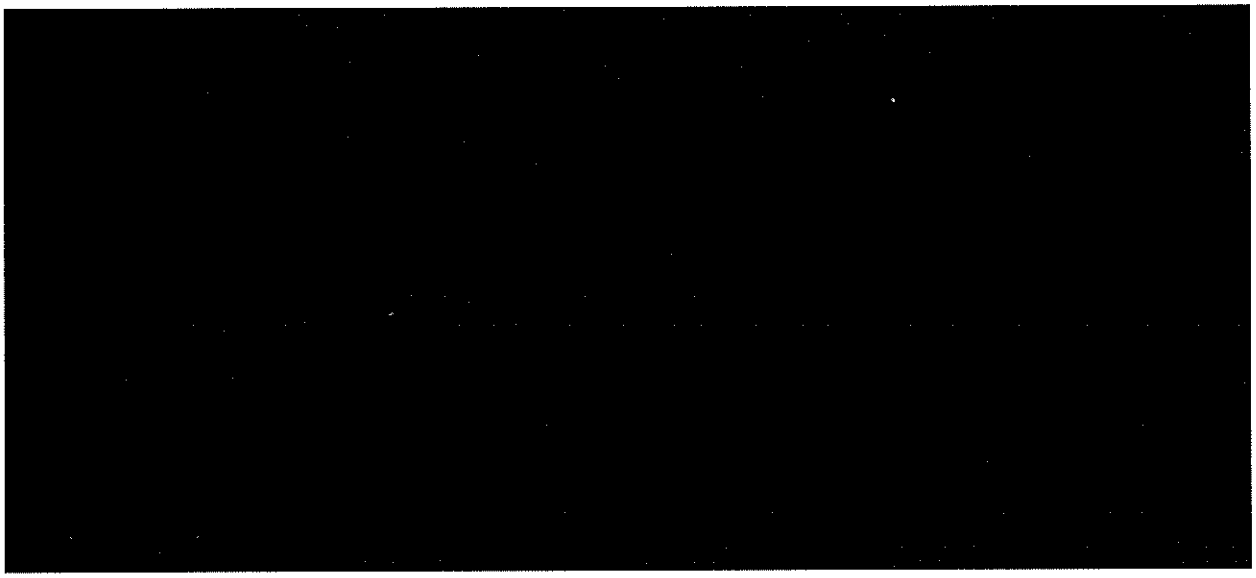
1 - 3 Fig 1 Normal Fuel System, Simplified



1 - 3 Fig 2 Fuel Panel





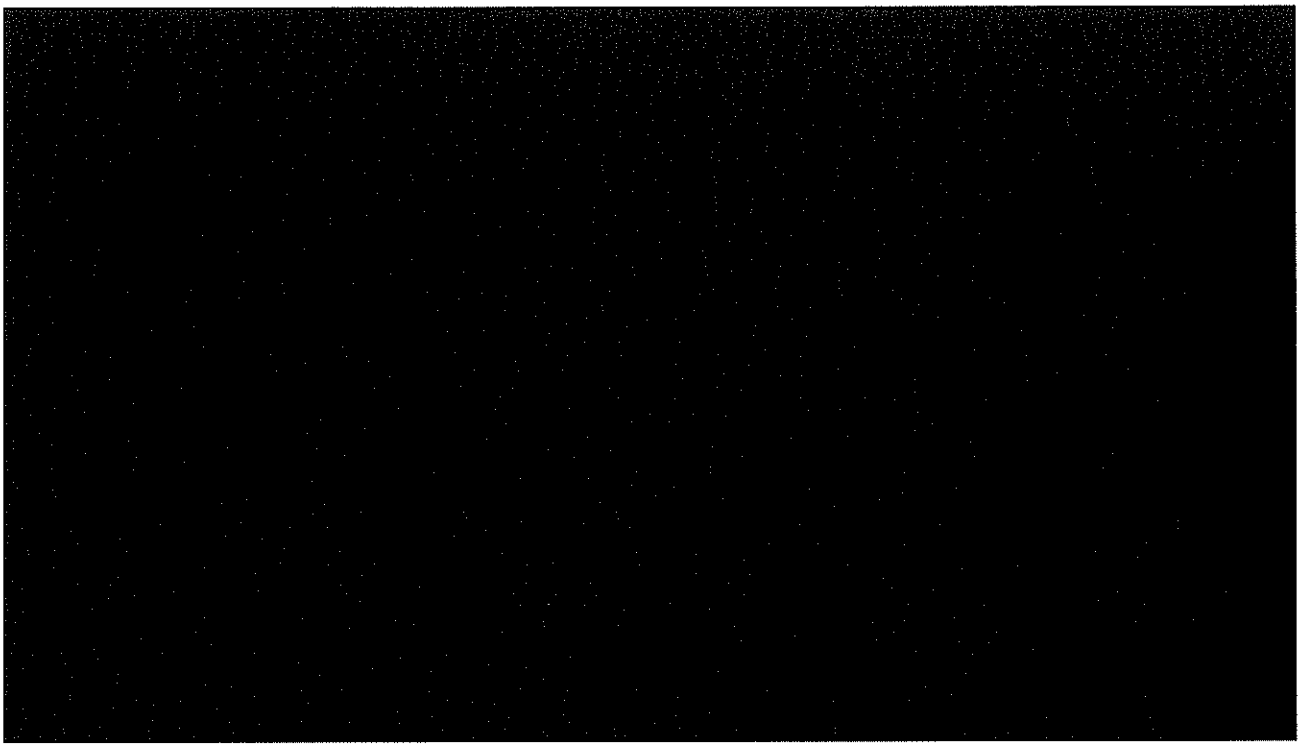


LWF18131S-01

1 - 3 Fig 3 Normal Fuel System Contents Indicator and Low-Level Warning

Table 1 - Fuel Tank Capacities

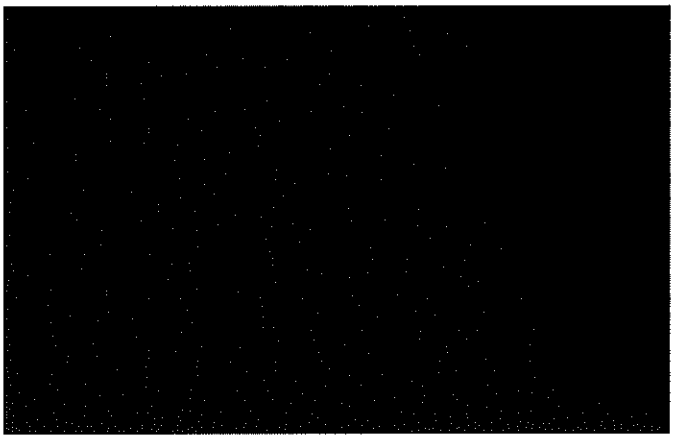
	Tank	*Litres*	*kg (0.815 SG)*	*Gallons*
Normal System				
	No 1 collector			
	No 2 collector			
	No 1 main			
	No 2 main			
	Forward			
	Total (gravity)			
	Total (pressure)			
Overload System				
	Overload			
	Total (all tanks gravity refuelled)			

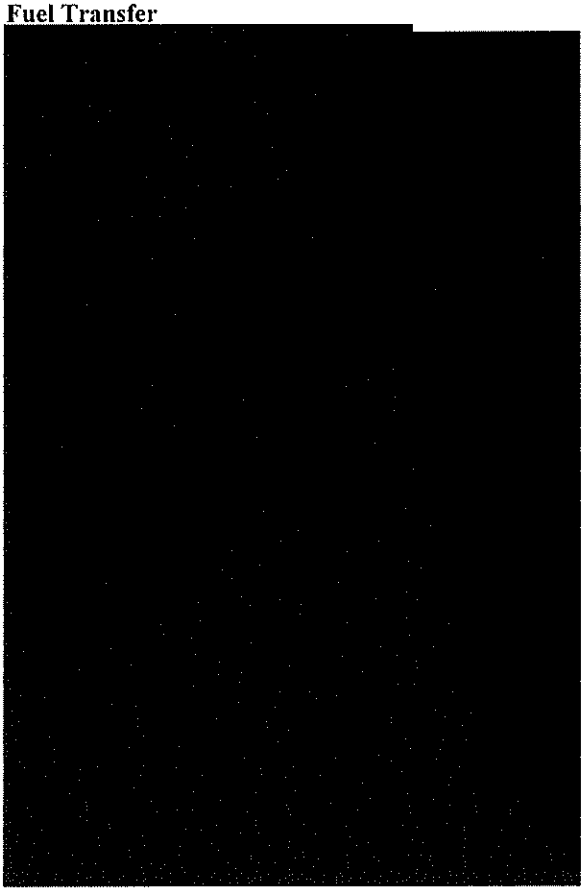


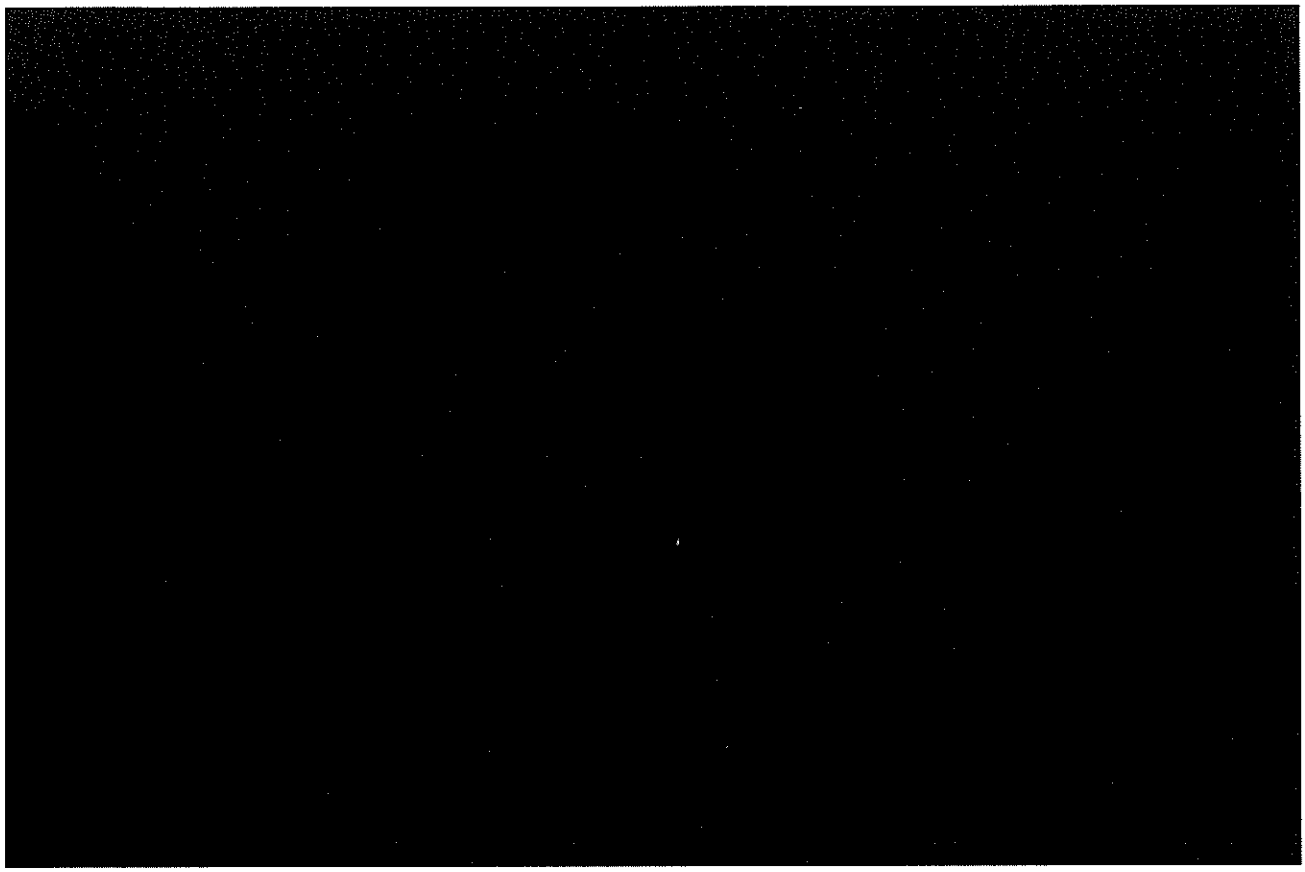
1 - 3 Fig 4 Forward Tank Fuel Transfer

Controls and Indicators

Fuel Management Panel

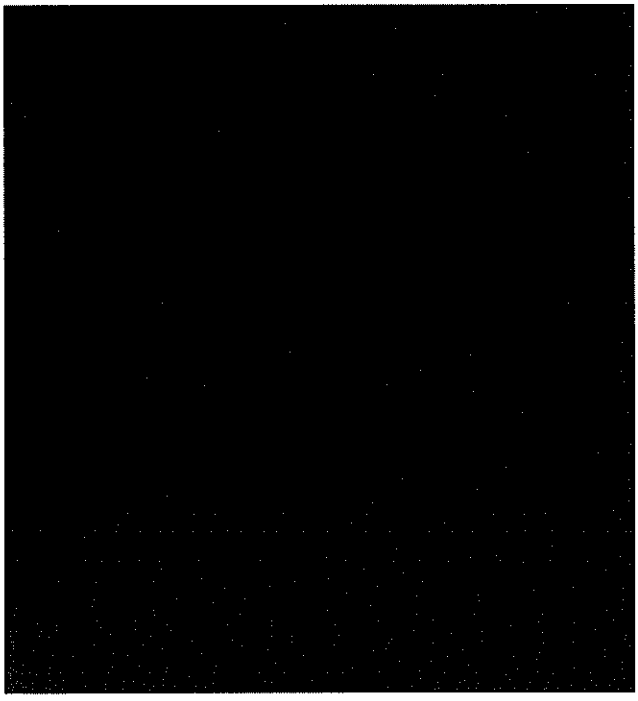




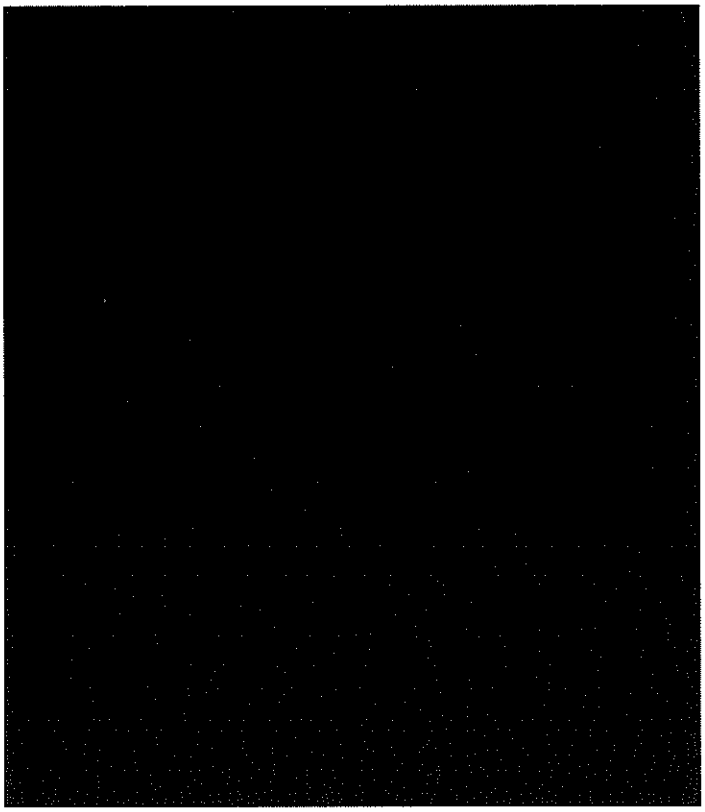


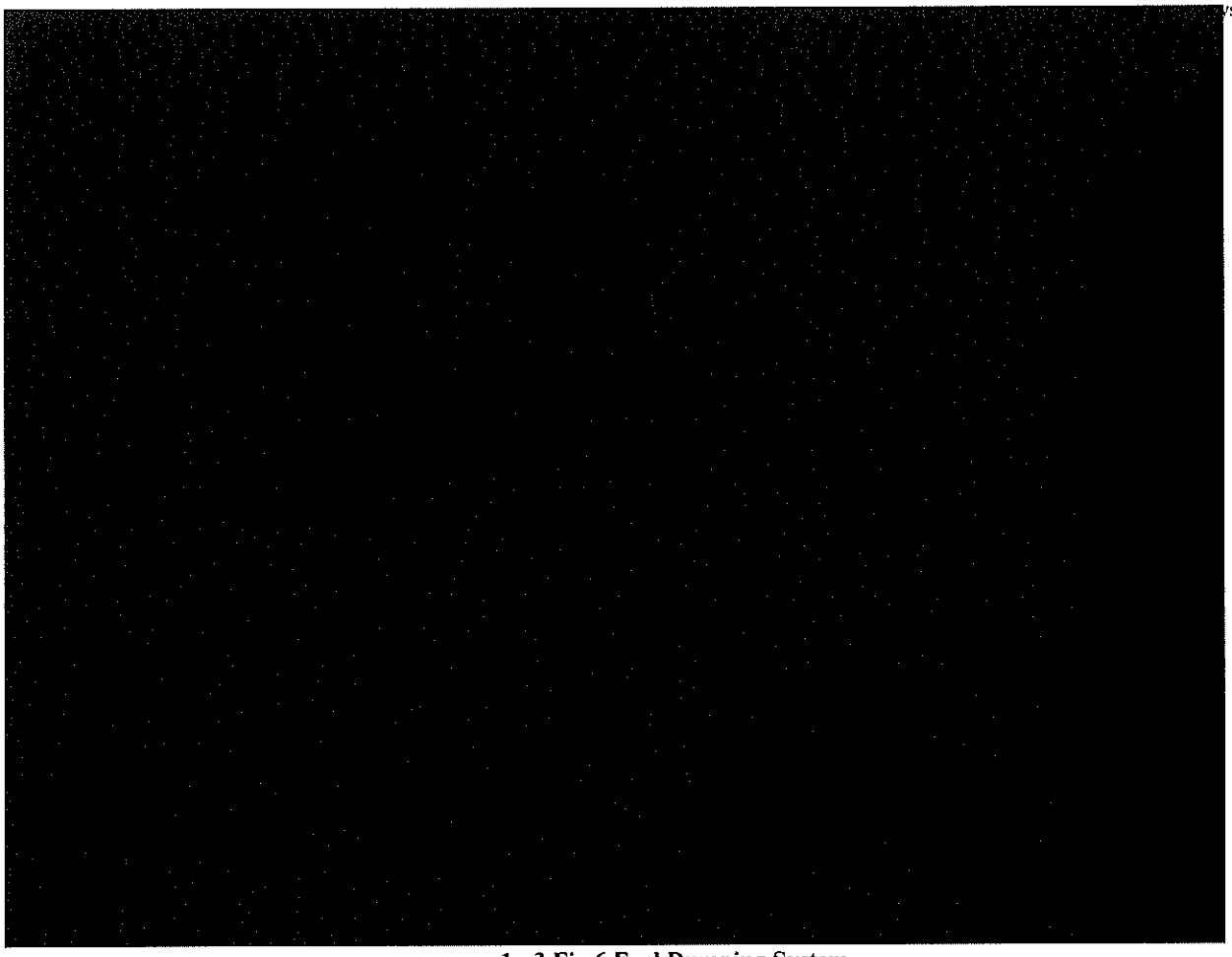
1 - 3 Fig 5 Overload Fuel Transfer

Normal System Contents and Low-level Warning



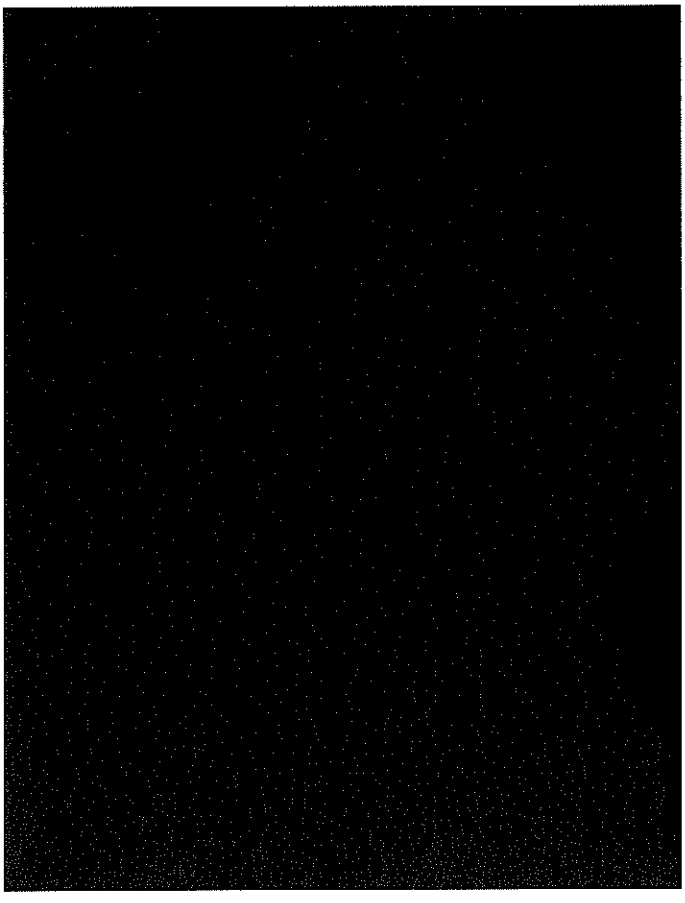
Engine Fuel Supply

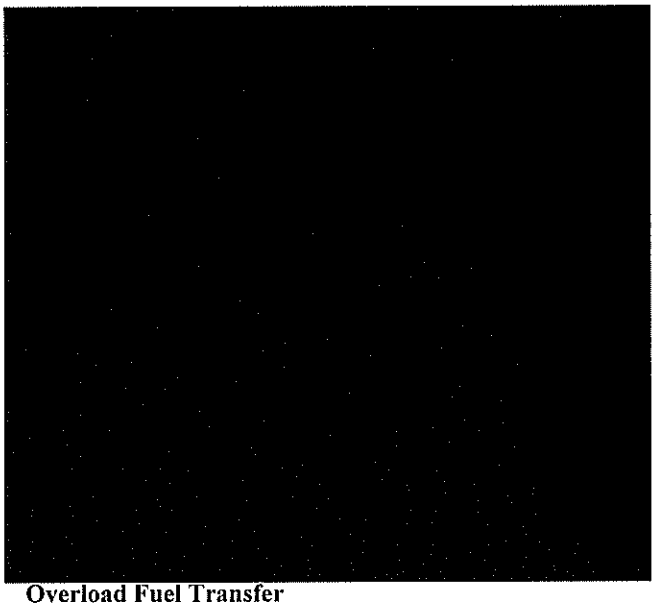




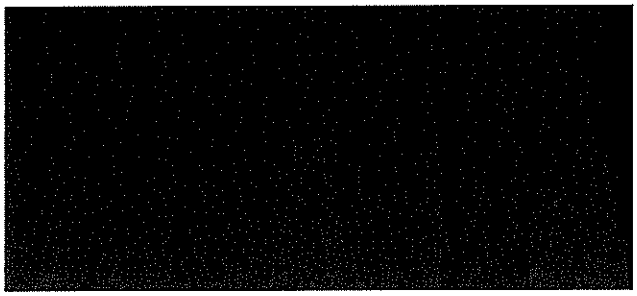
1 - 3 Fig 6 Fuel Dumping System

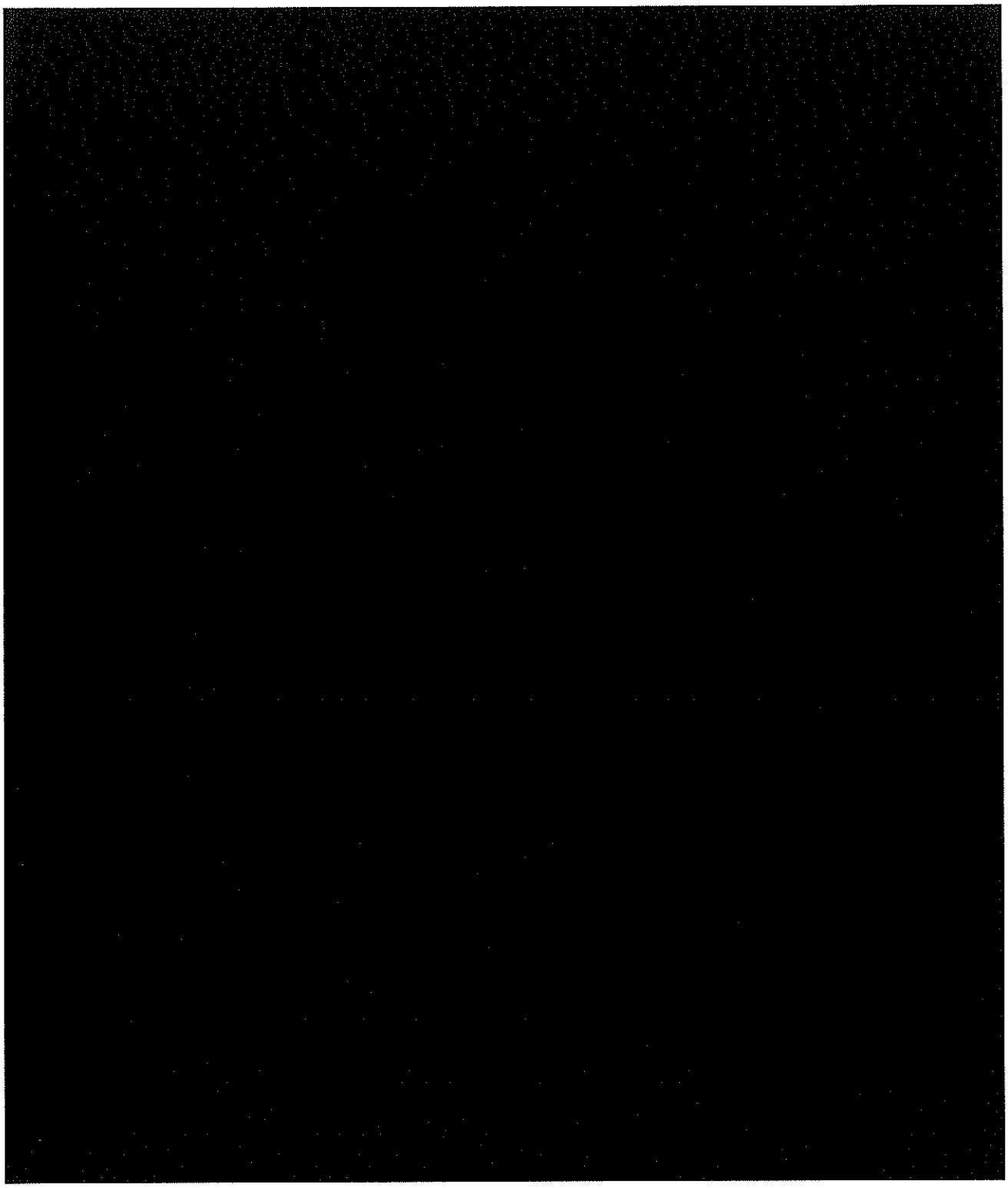
Inter-tank Fuel Transfer





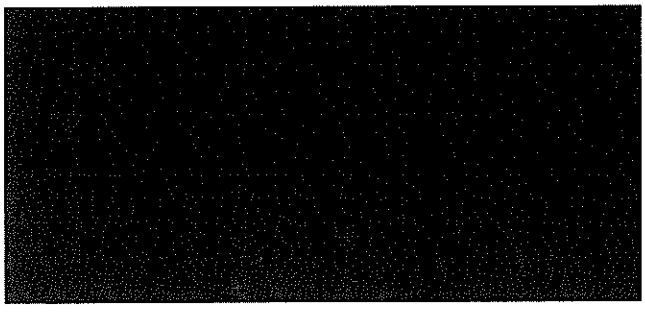
Overload Fuel Transfer

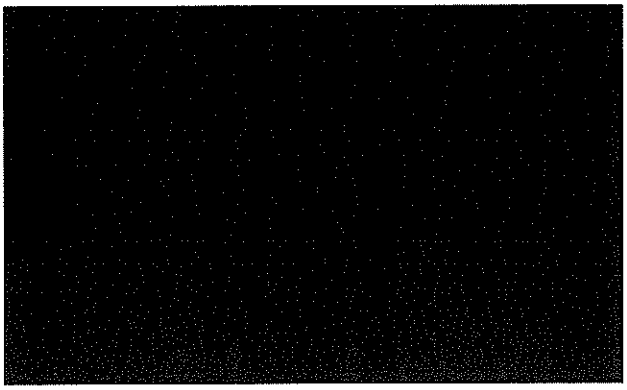


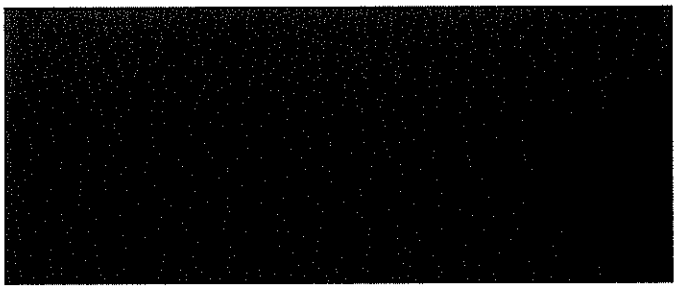


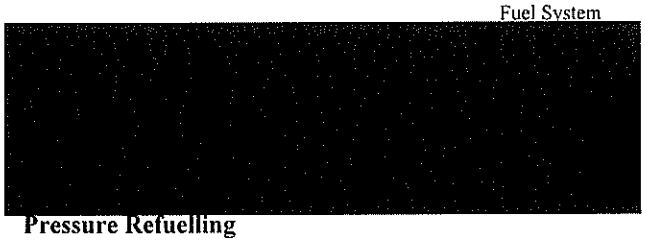
1 - 3 Fig 8 Pressure Refuelling

Fuel Dumping System



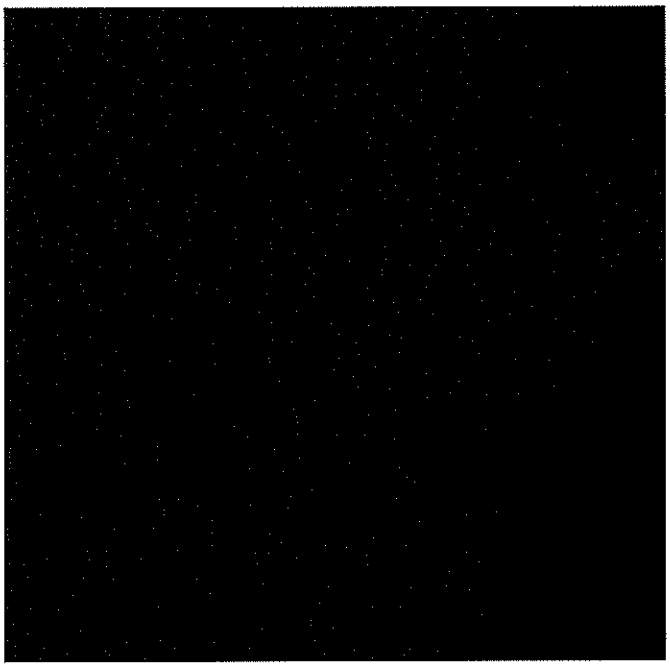


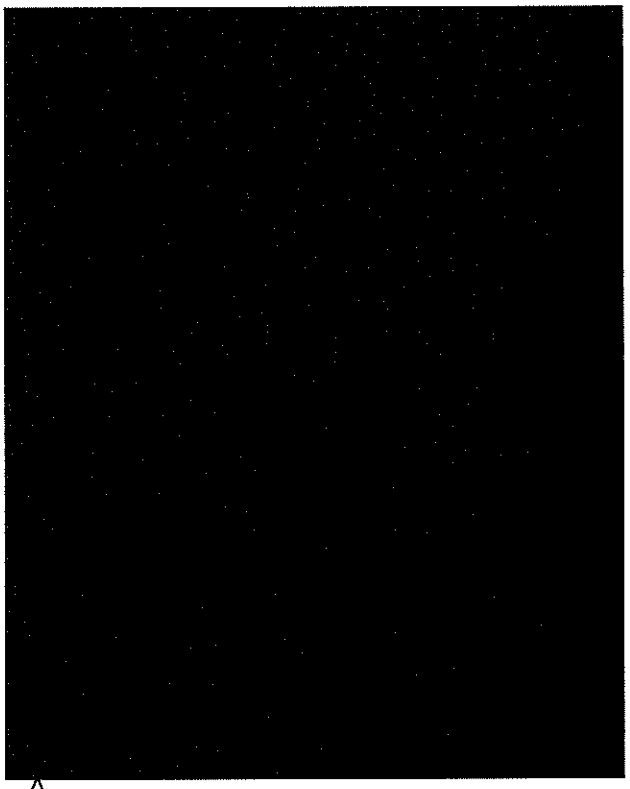


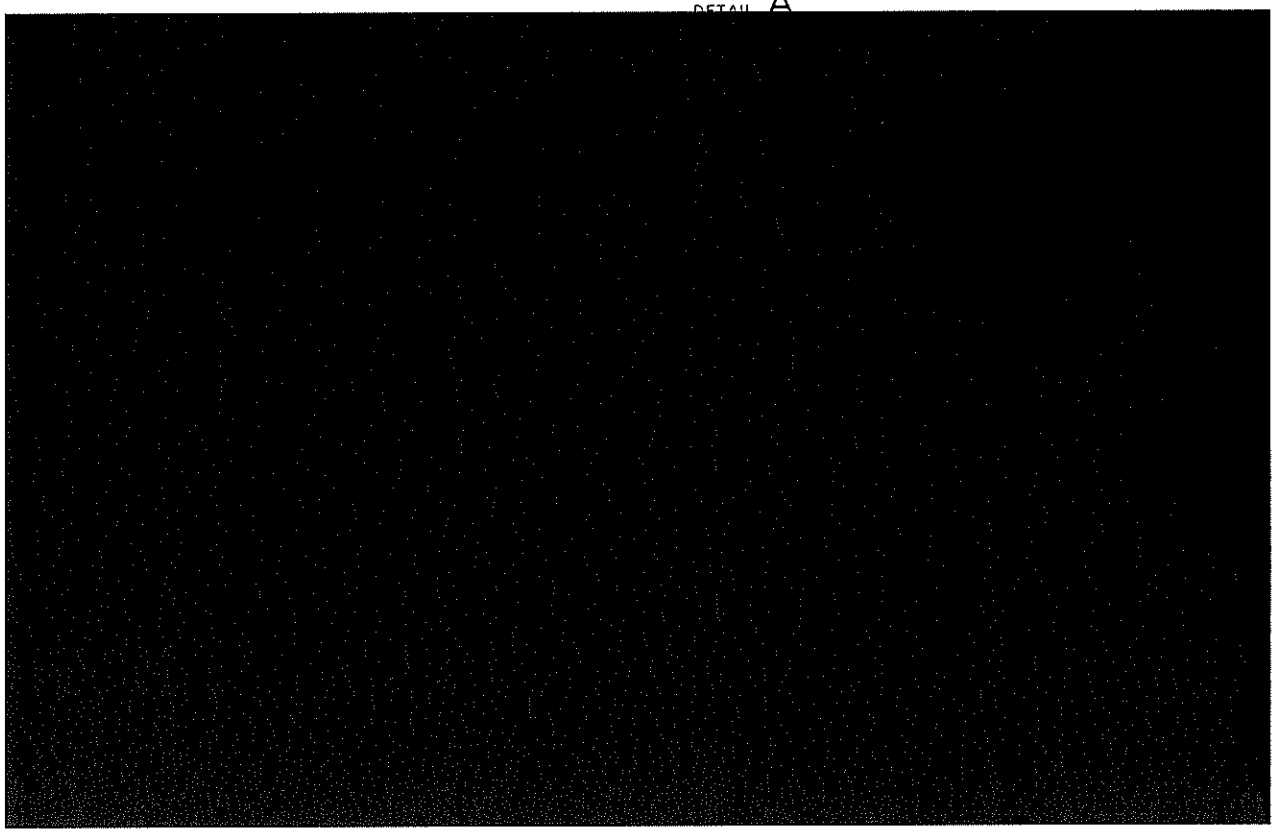


Pressure Refuelling

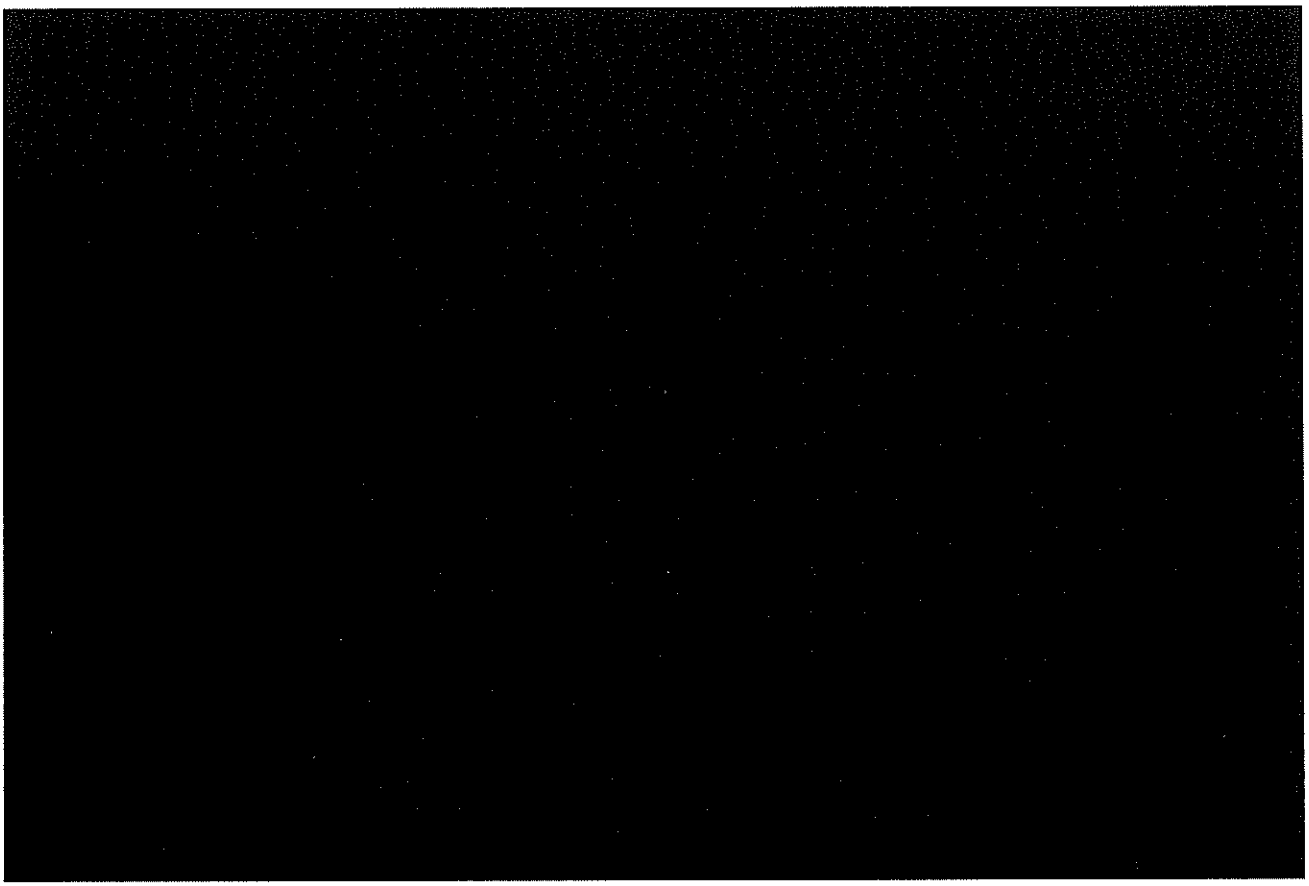
Refuelling/Defuelling, General





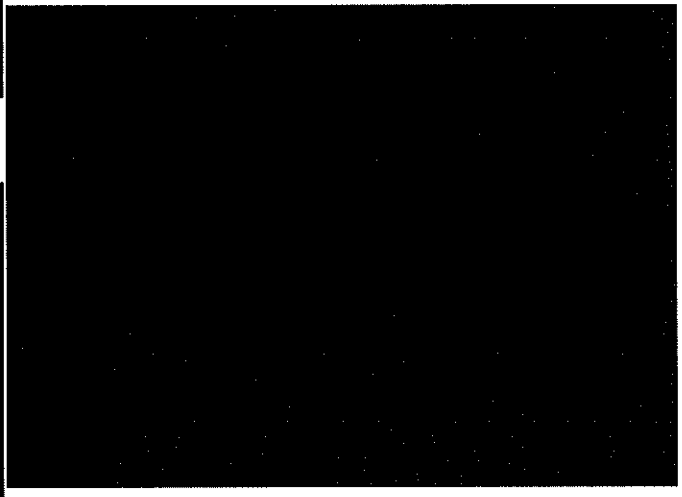


1 - 3 Fig 9 Suction Defuelling

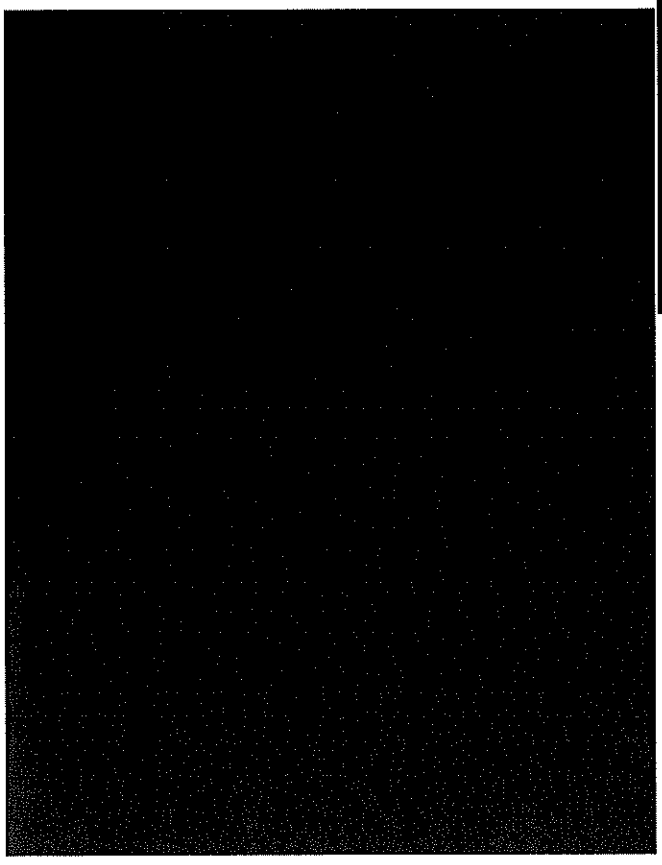


1 - 3 Fig 10 Tanks Venting System

Venting System

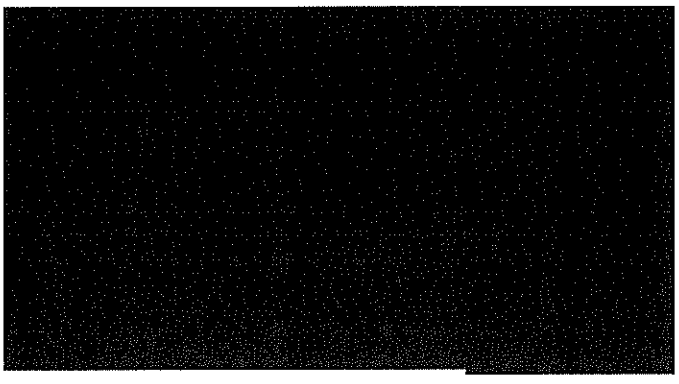


Suction Defuelling

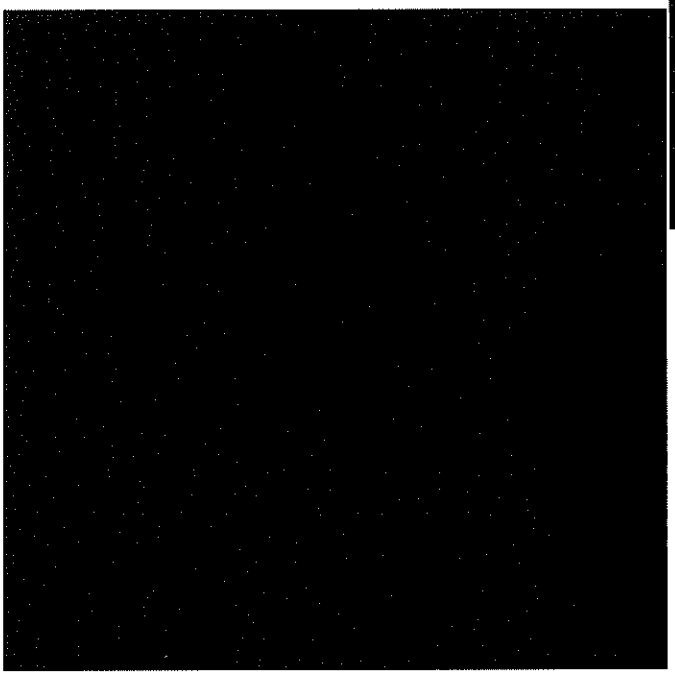


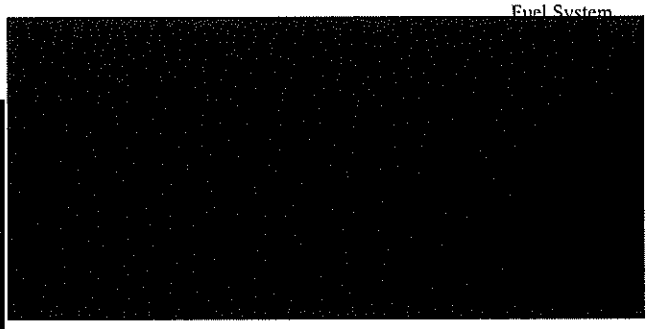
NORMAL USE

Fuel System Management



Fuel Dumping

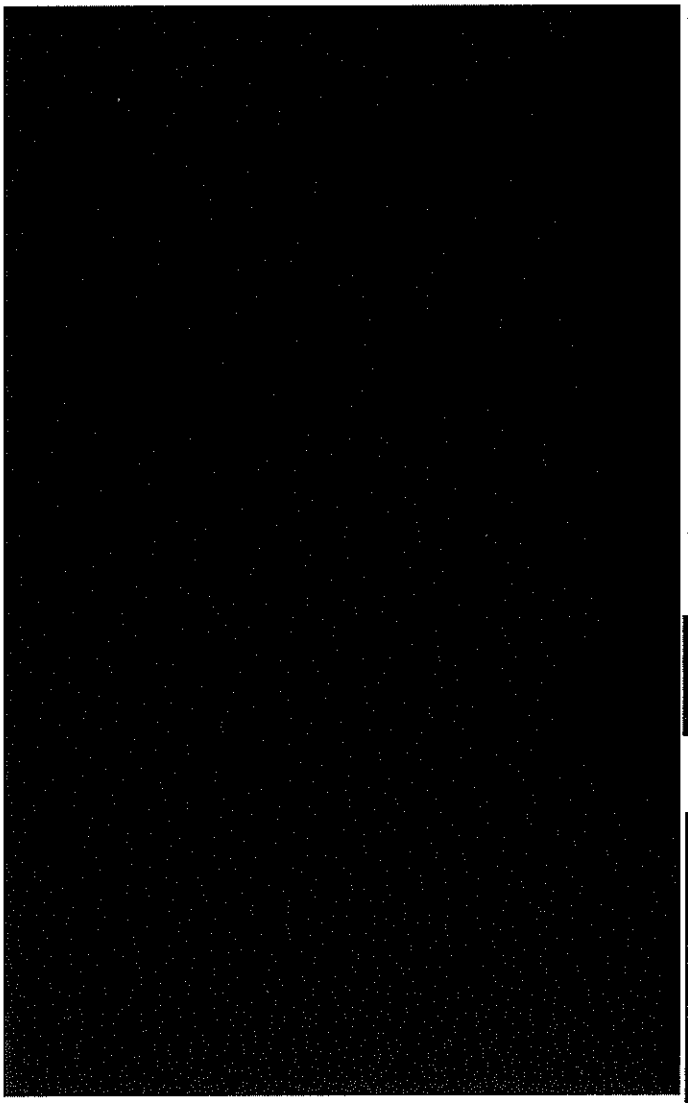




MALFUNCTIONING

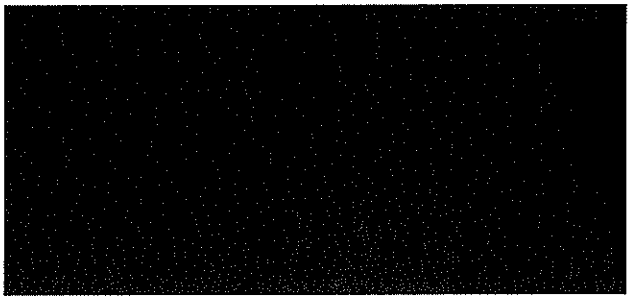
Transfer Pump Management

Pressure Refuelling/Defuelling



Double Transfer Pump Failure

Fuel Low Pressure Warning



Intentionally Blank

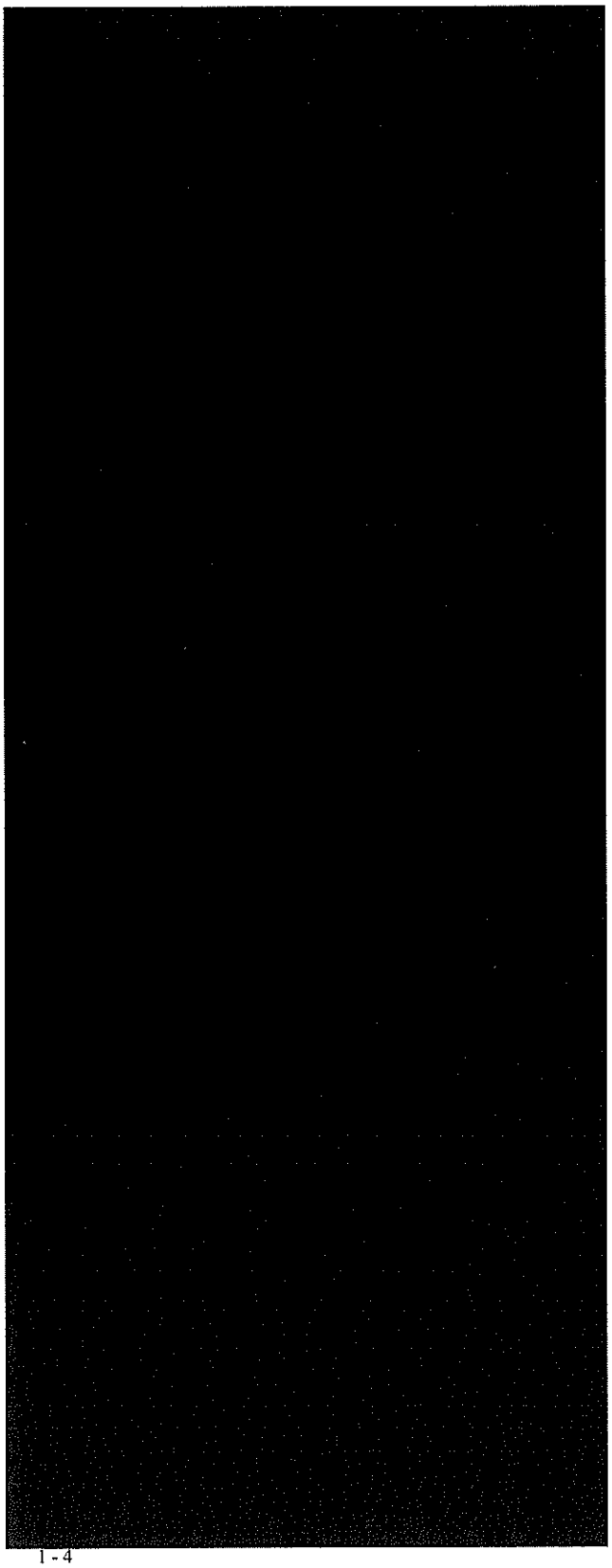
PART 1

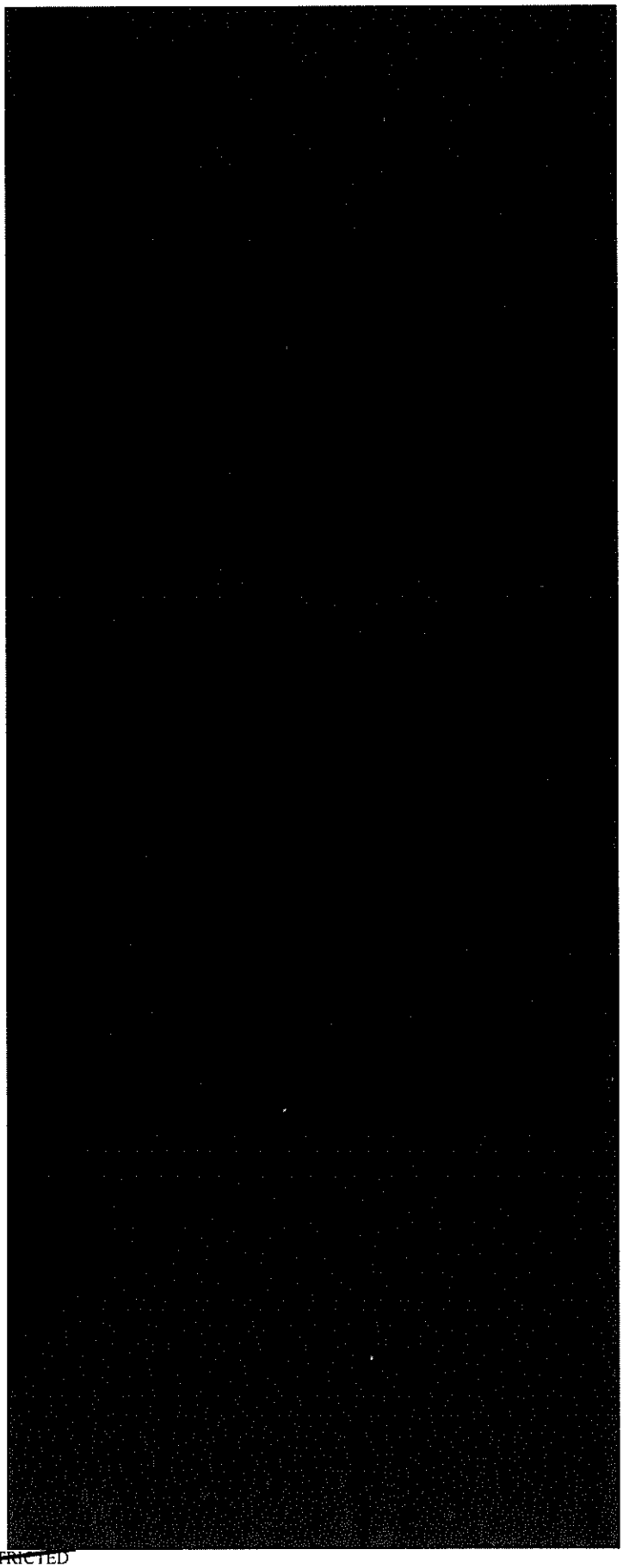
CHAPTER 4 - ENGINE SYSTEMS

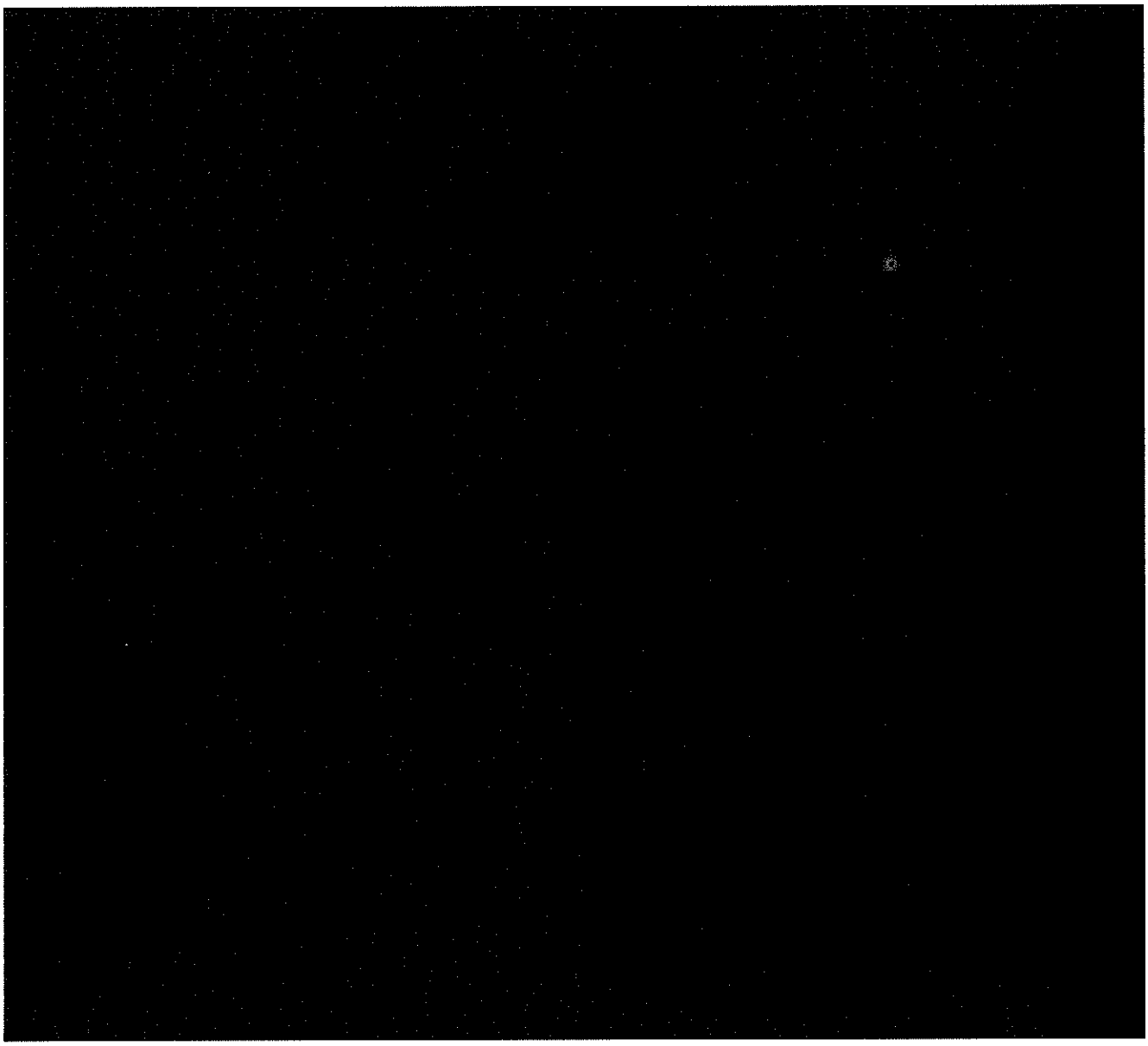
Contents

GENERAL

General







LWF18132A-01

1 - 4 Fig 1 Gem Mk 204/205 Engine

FUEL CONTROL SYSTEM

General

[redacted]

ch engine,
Unit (FCU)
is a single

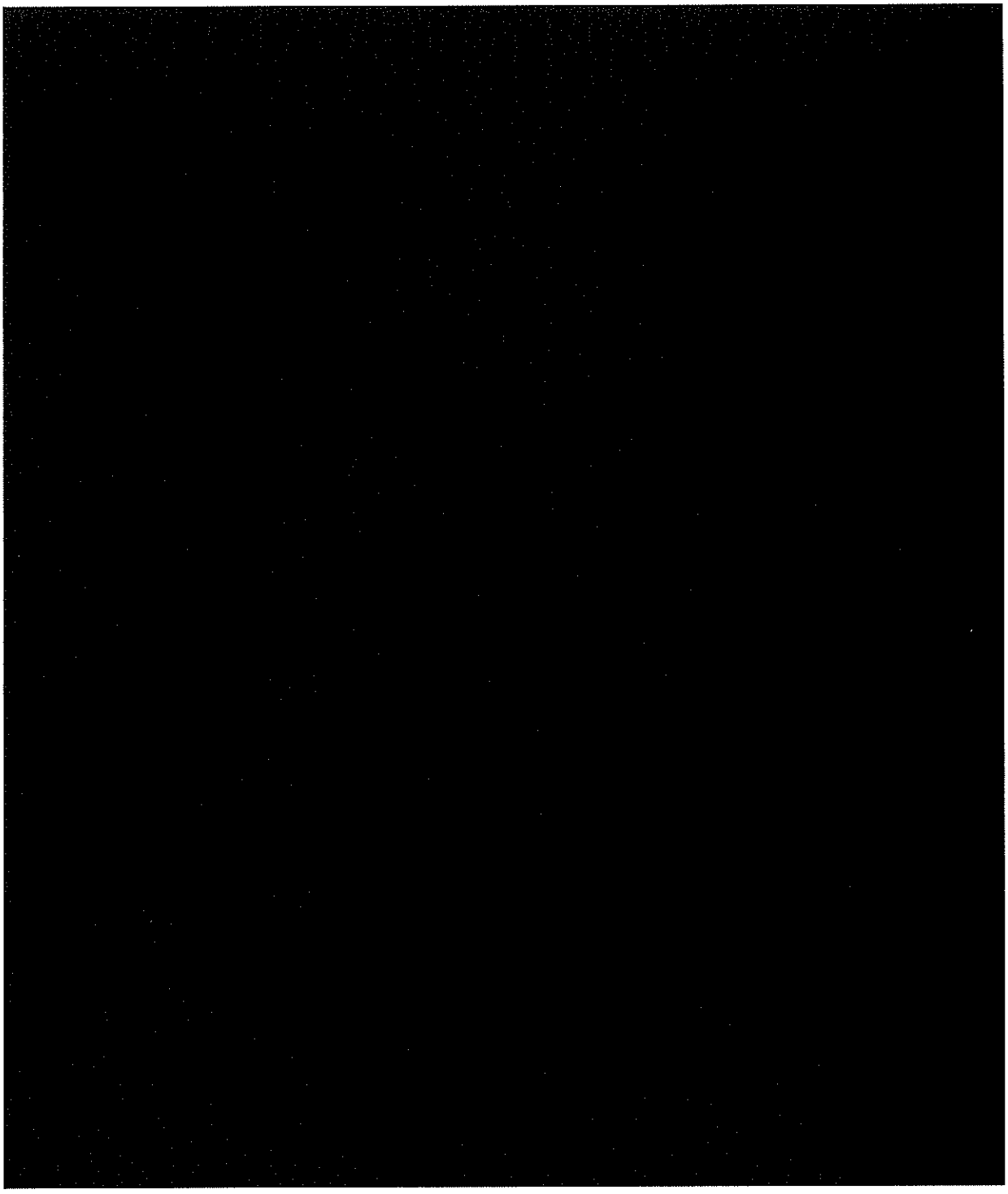
[redacted]

Engine-driven Pumps

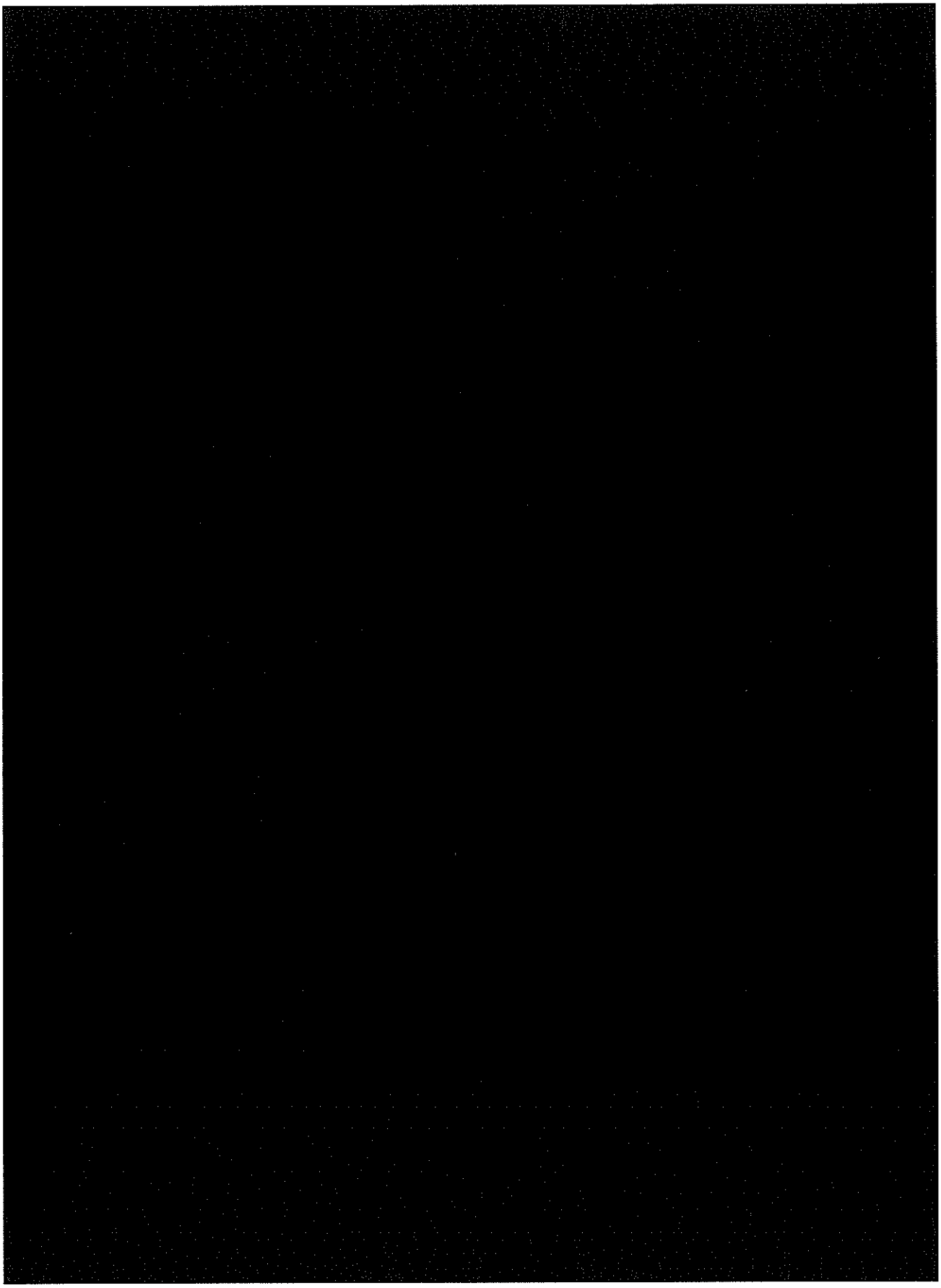
[redacted]

Table 1 - Engine Controls and Indicators

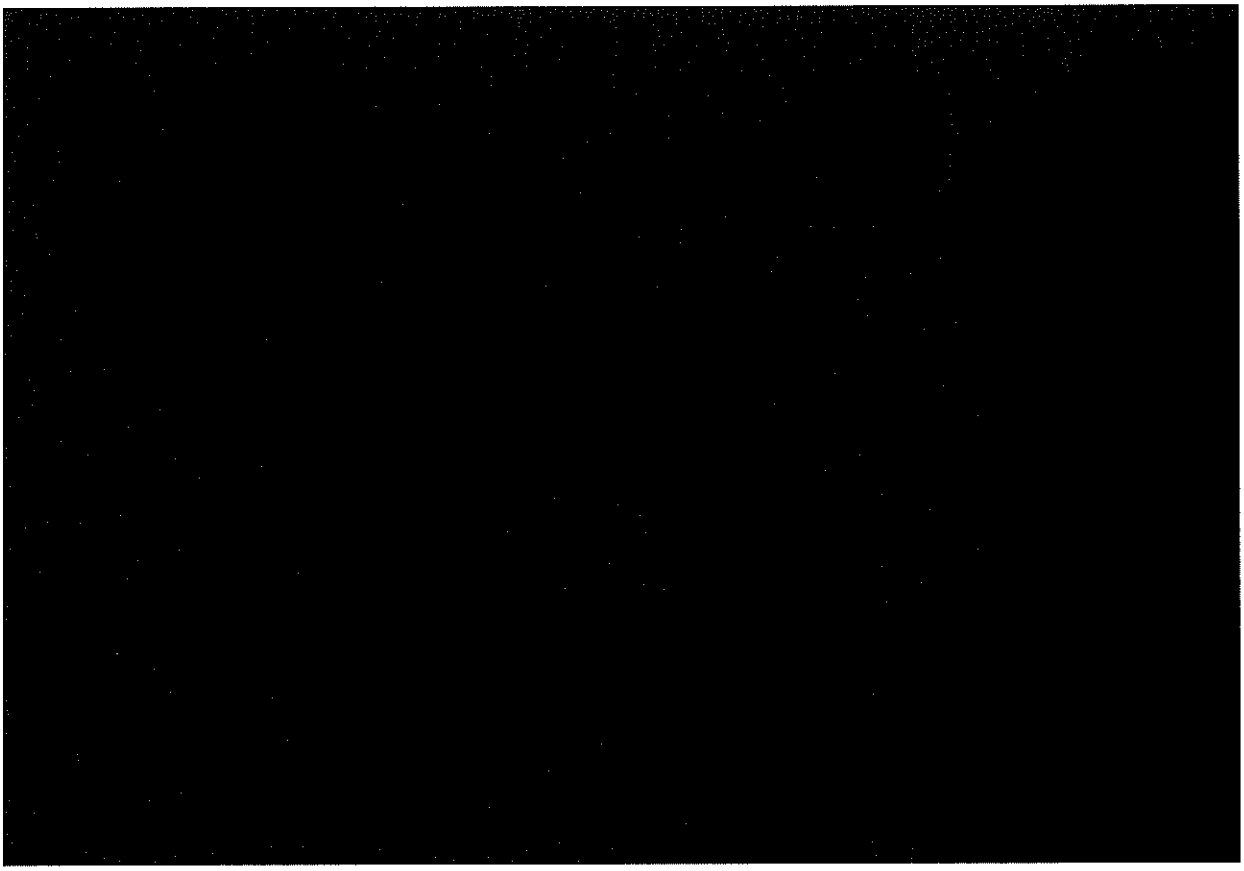
[redacted]



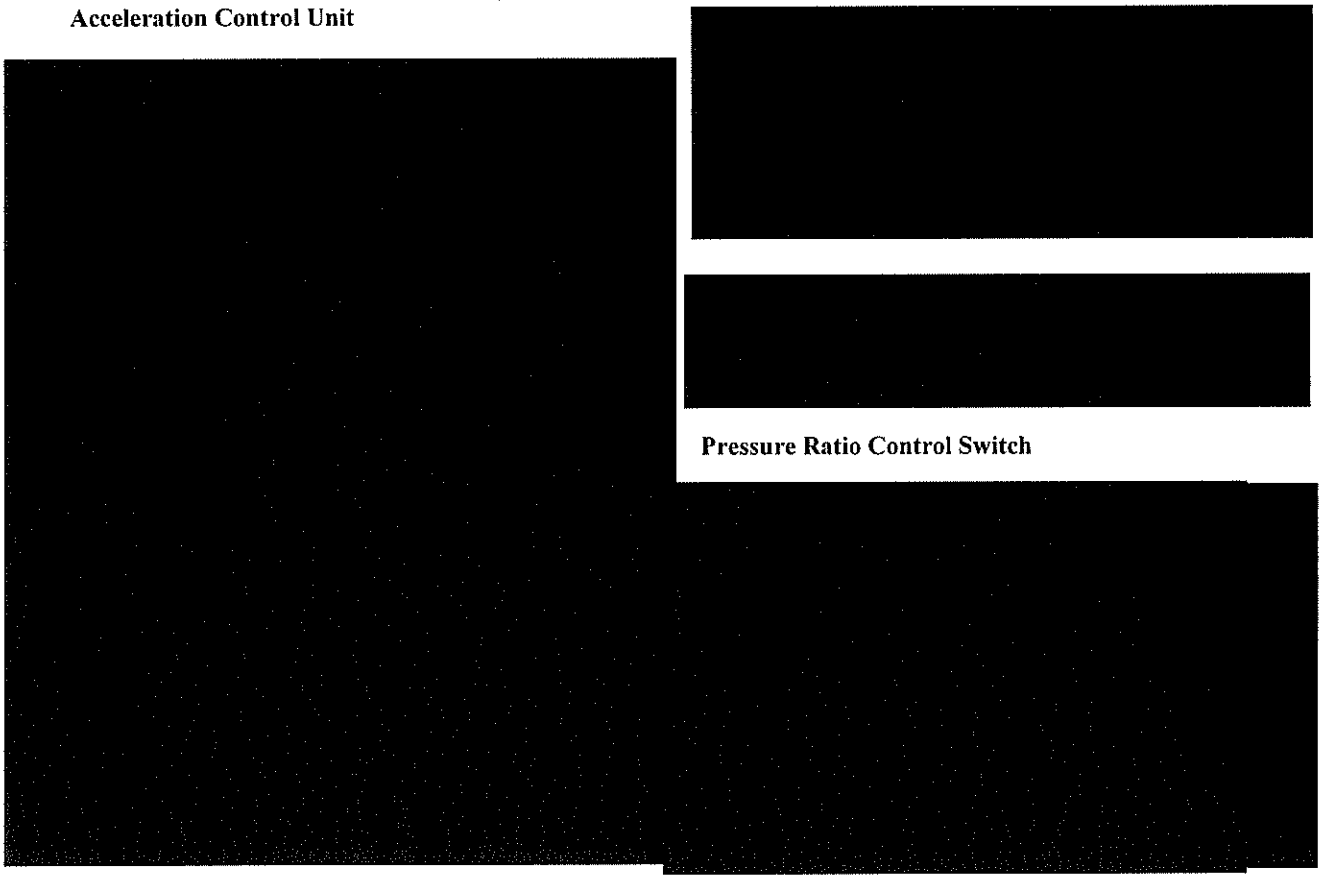
1 - 4 Fig 2 Engine Systems Controls and Indicators

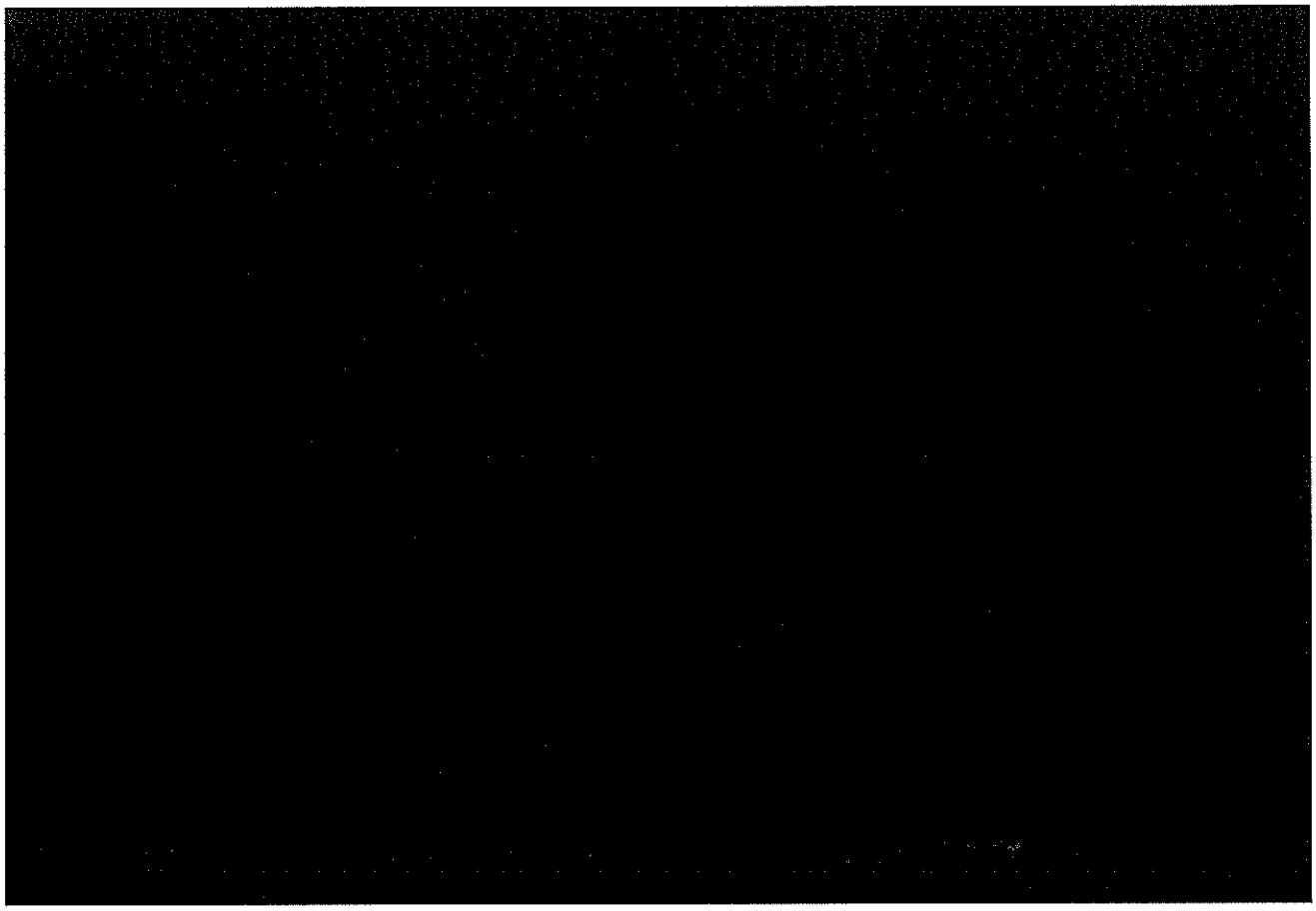


1 - 4 Fig 3 Fuel Control System Schematic

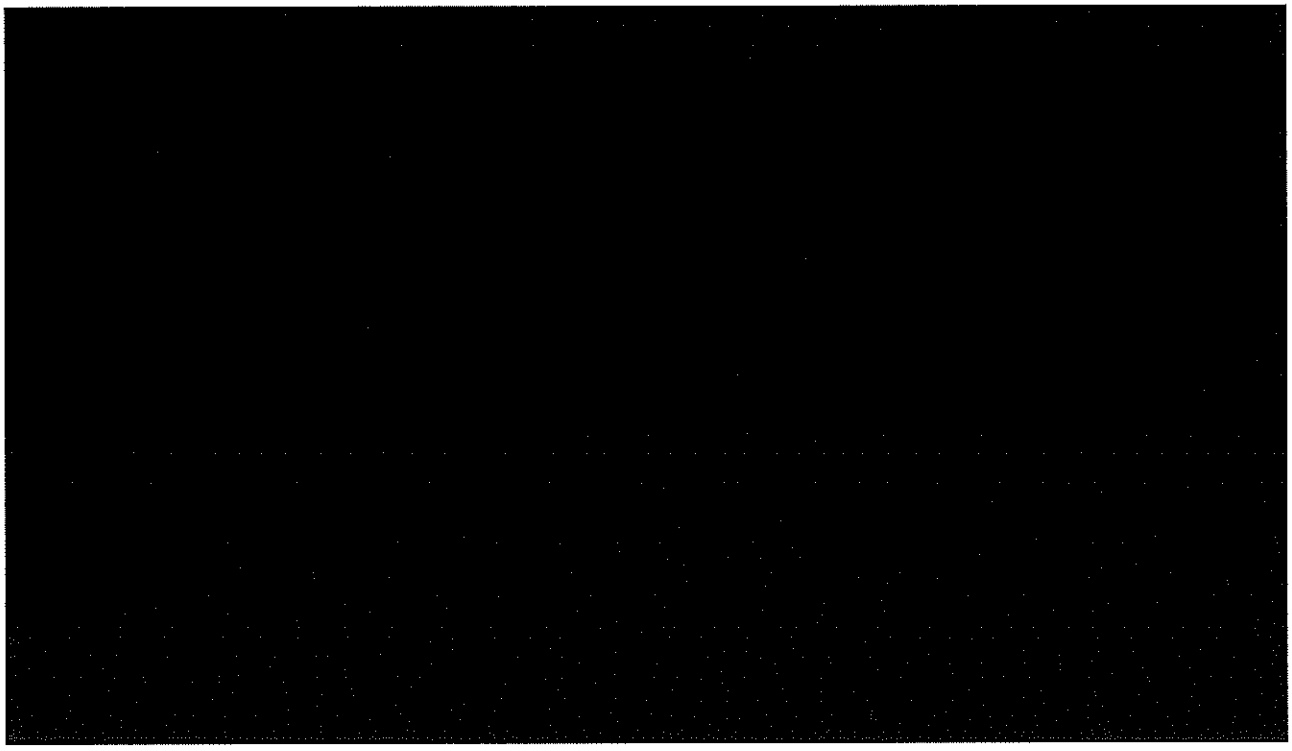


1 - 4 Fig 4 Acceleration Control Unit Schematic

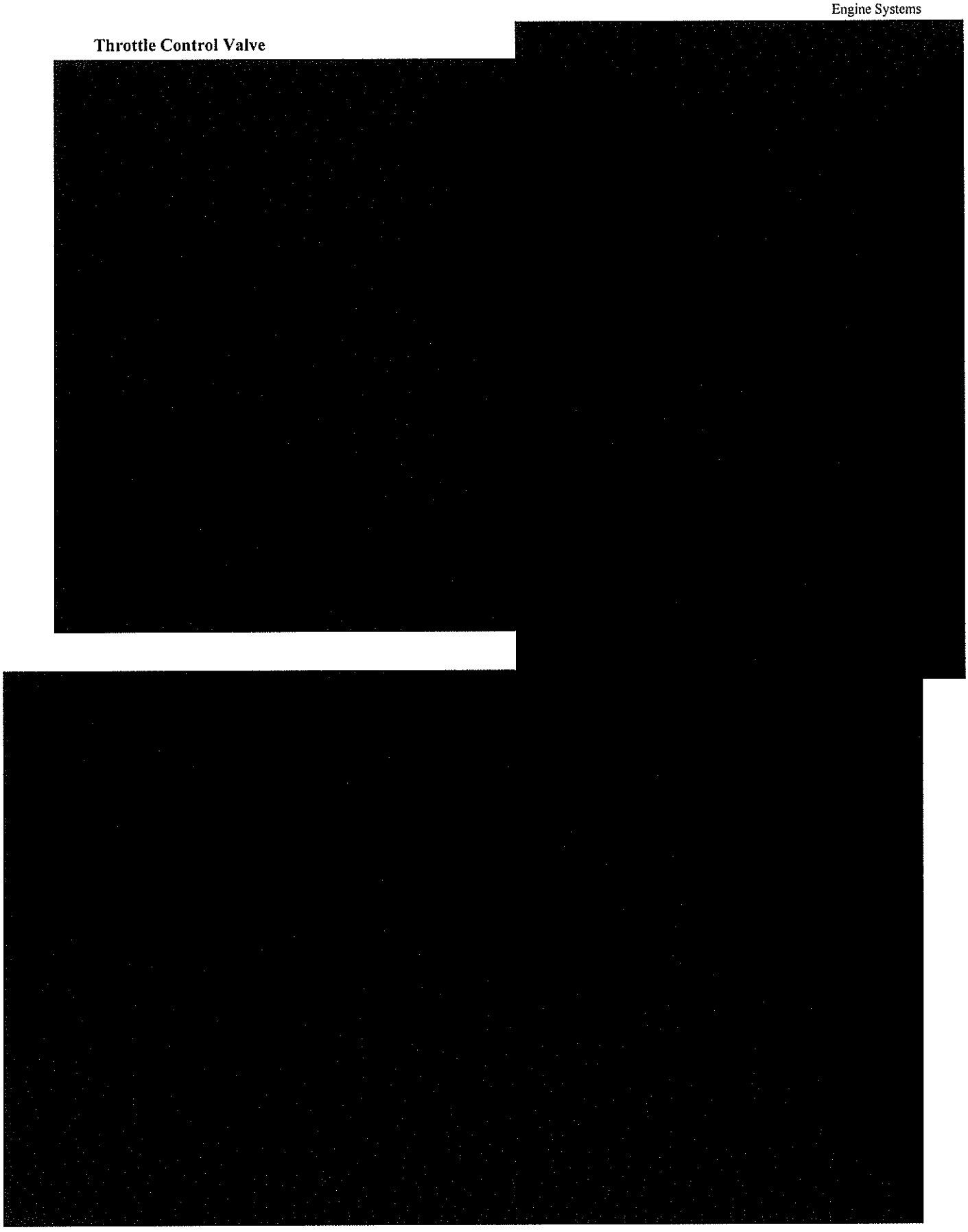




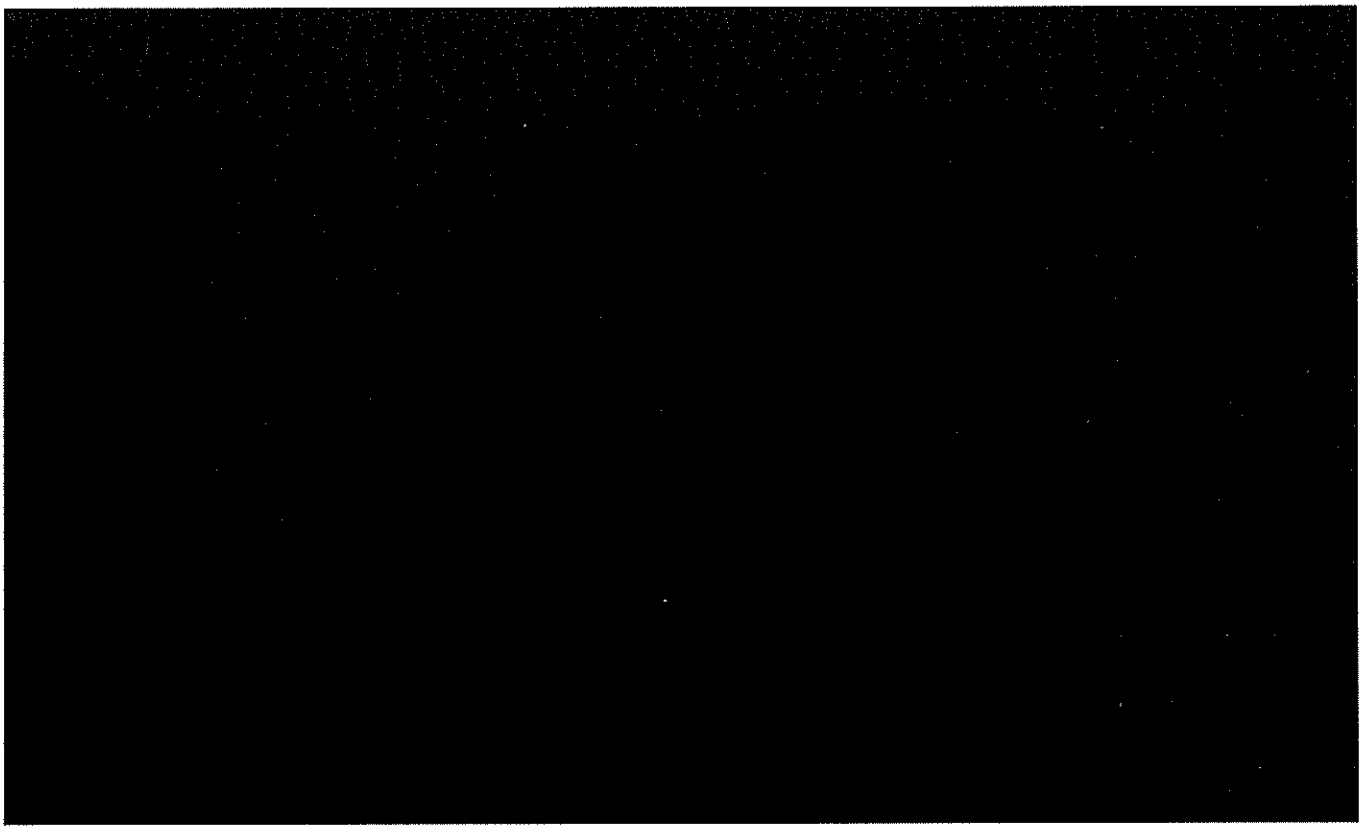
1 - 4 Fig 5 Fuel Flow Characteristics



1 - 4 Fig 6 Throttle Control Valve Schematic



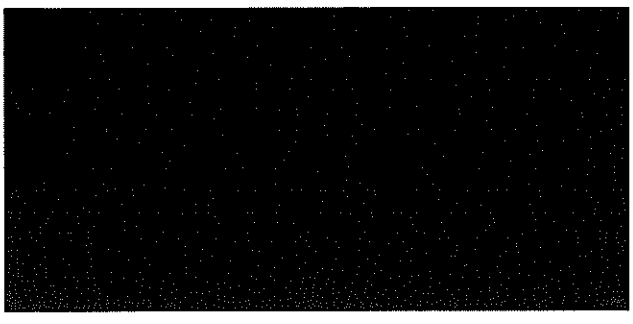
1 - 4 Fig 7 Gas Generator (NH) Governor Schematic

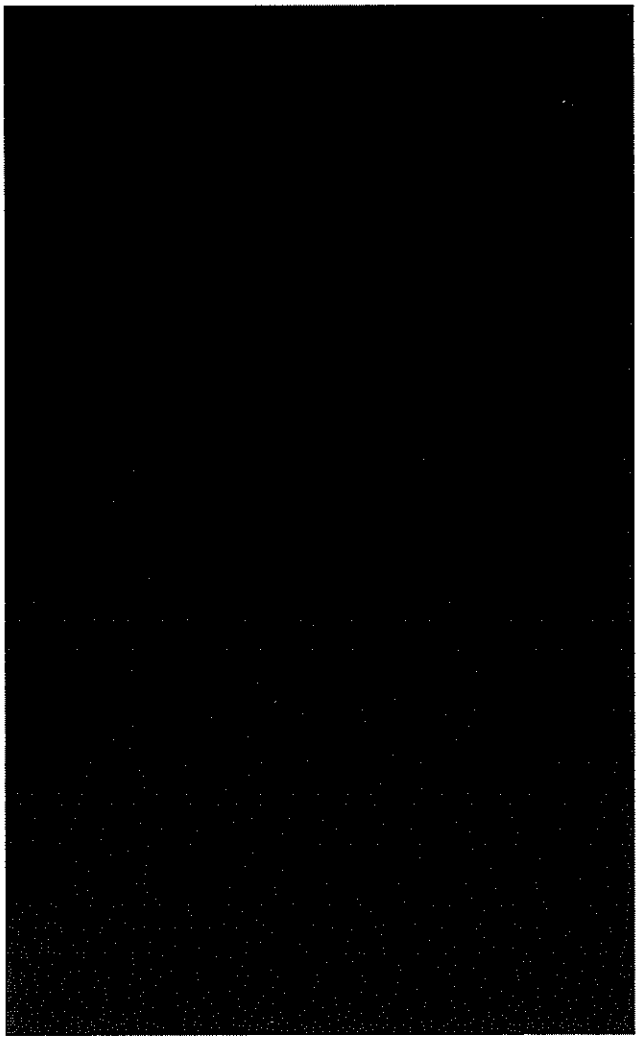


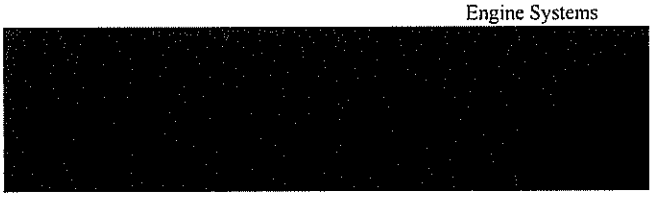
1 - 4 Fig 8 Power Turbine (Nf) Governor Schematic

Gas Generator (N_H) Governor

Power Turbine (Nf) Governor





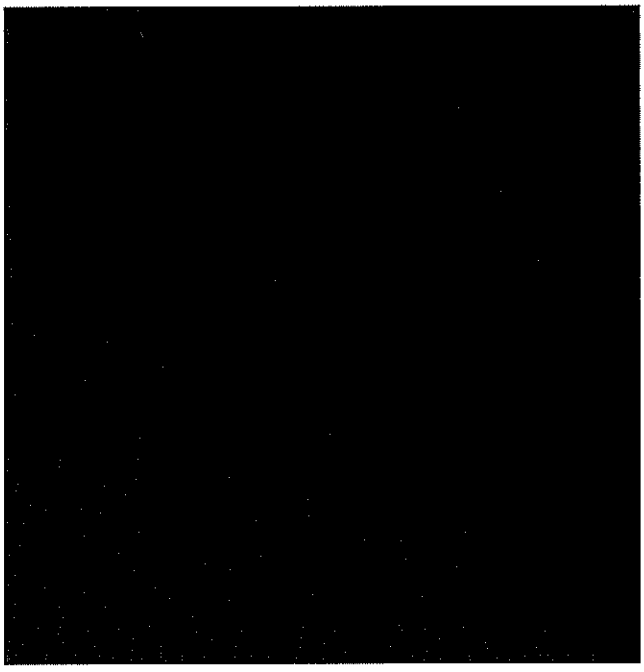


TORQUE MEASURING SYSTEM

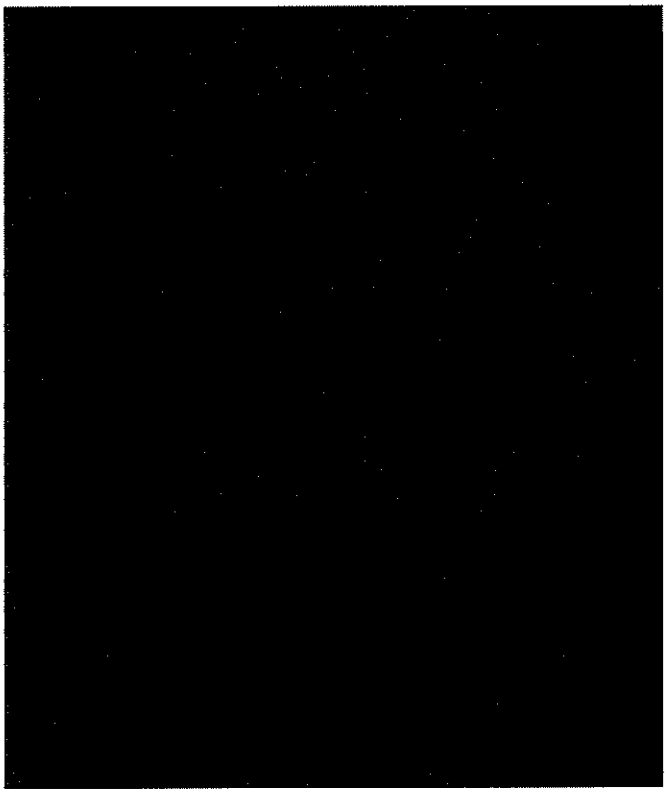
General

created between them.

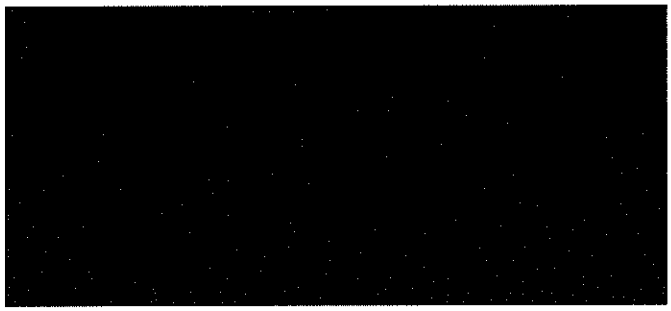
Operation

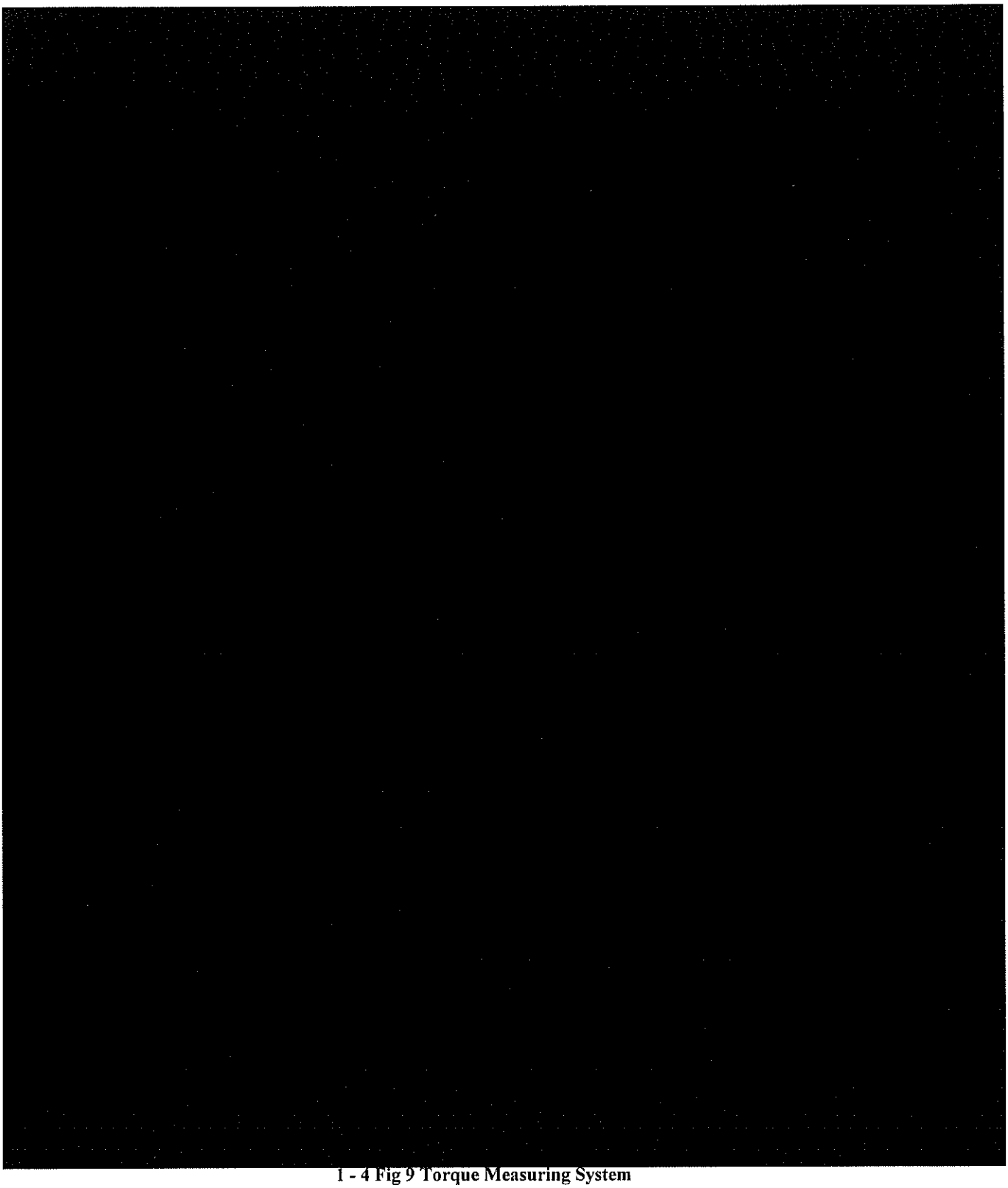


Electronic Protective Control Unit



Engine Matching

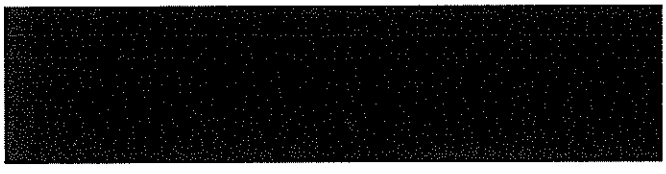


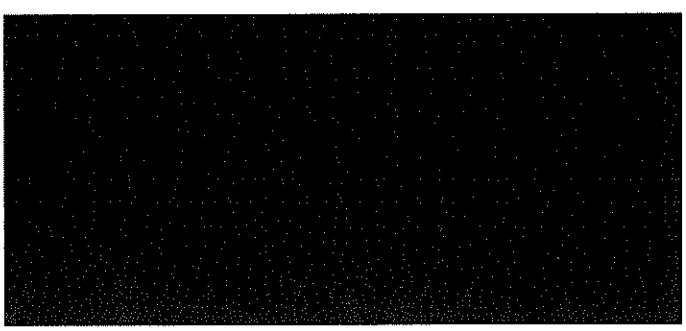


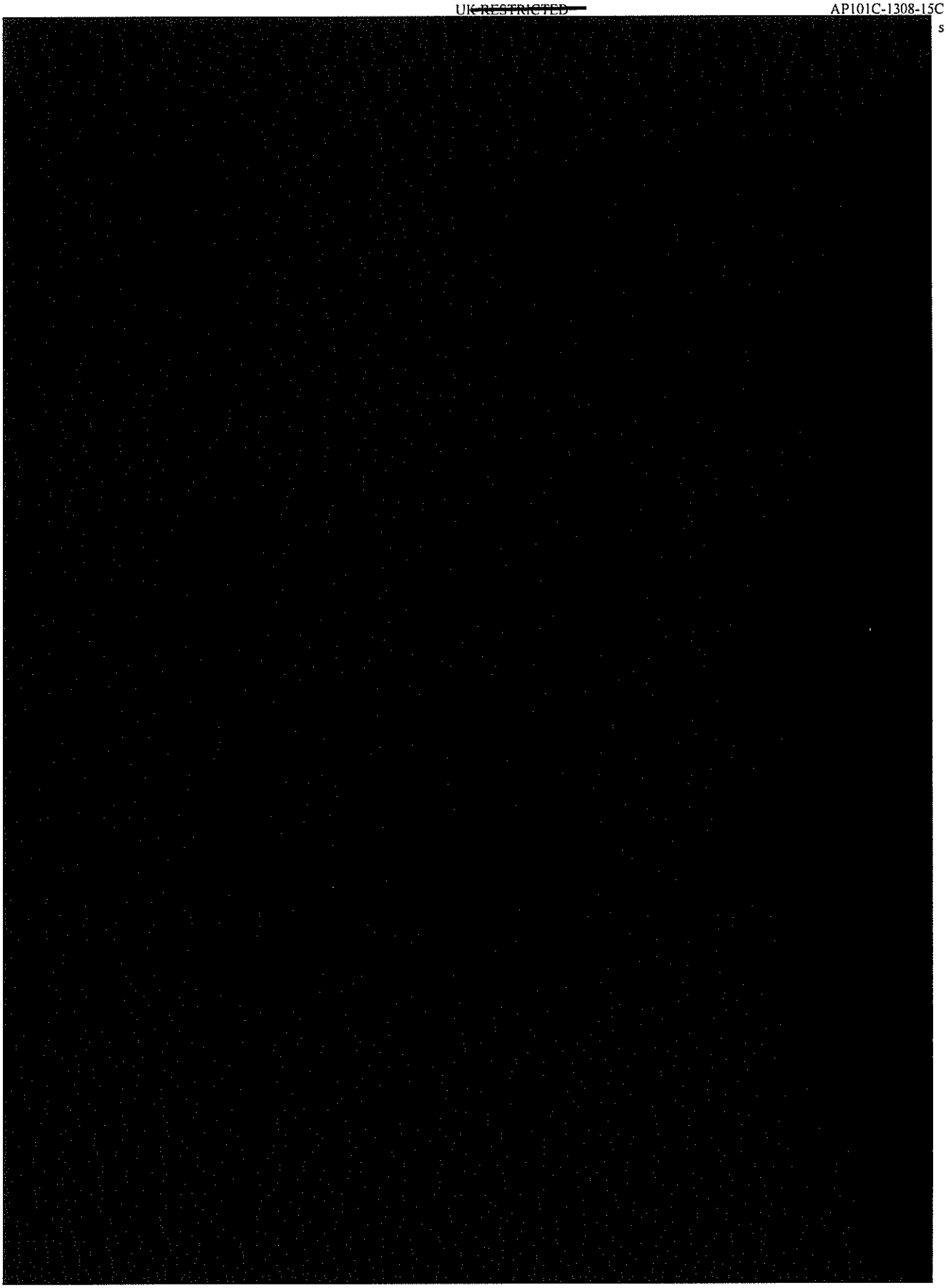
1 - 4 Fig 9 Torque Measuring System

ENGINE LUBRICATION SYSTEM

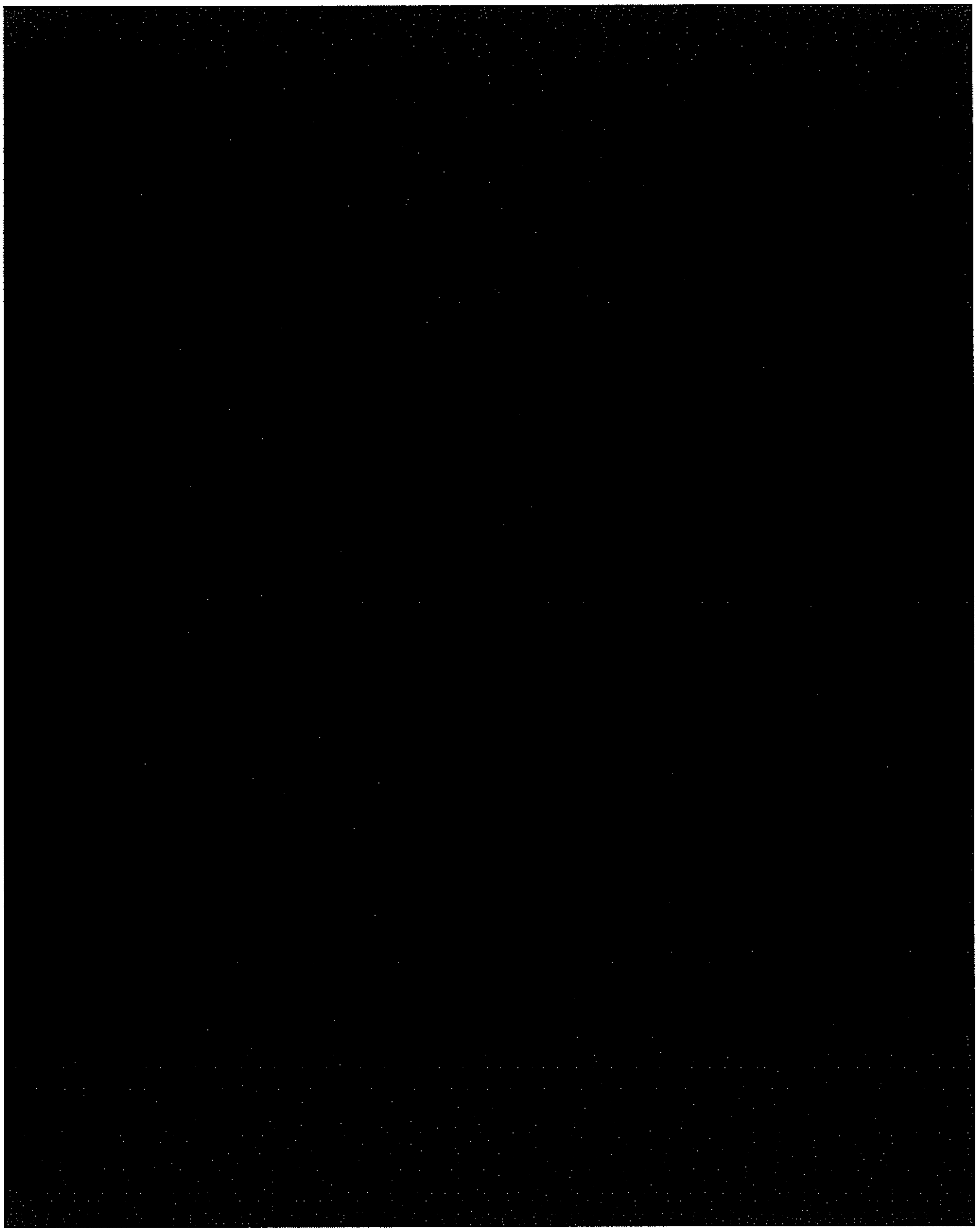
General





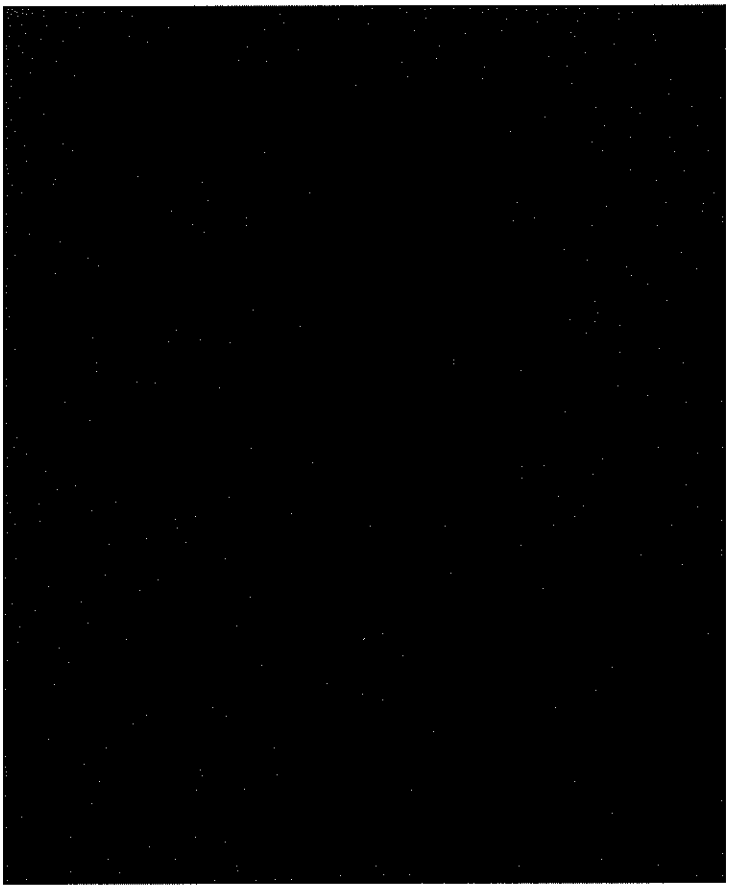


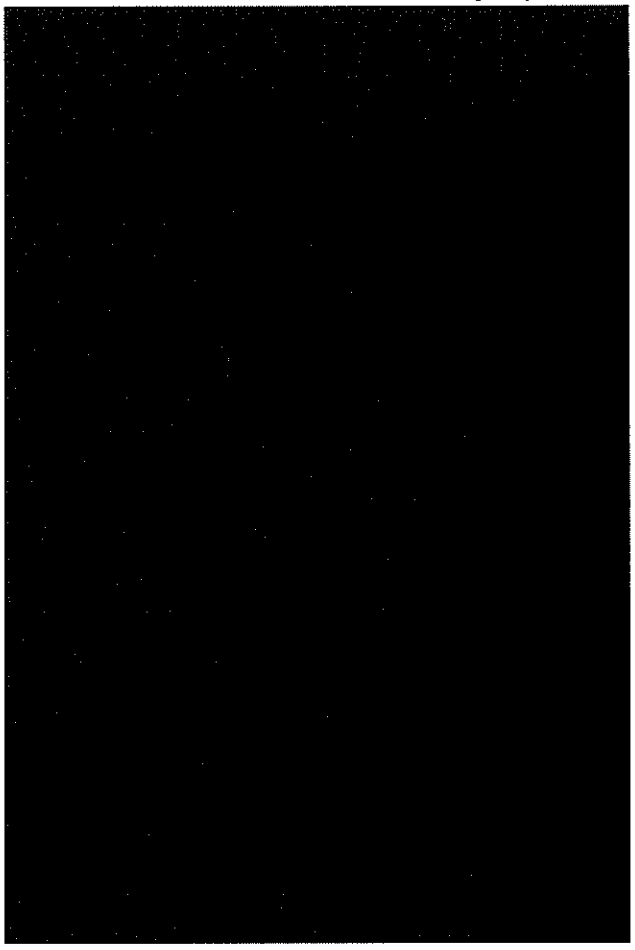
1 - 4 Fig 10 Oil Flow Schematic (Gem Mk 204)



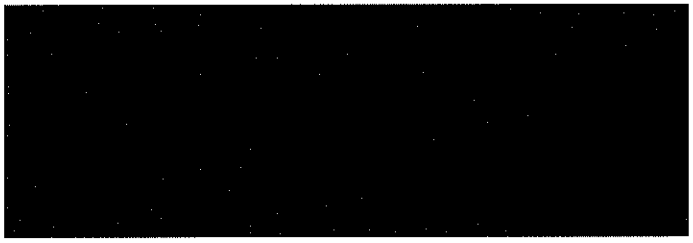
1 - 4 Fig 11 Oil Flow Schematic (Gem Mk 205)

Oil Tank





Oil Pump Unit



Pressure Regulation

STARTING AND IGNITION SYSTEM

General

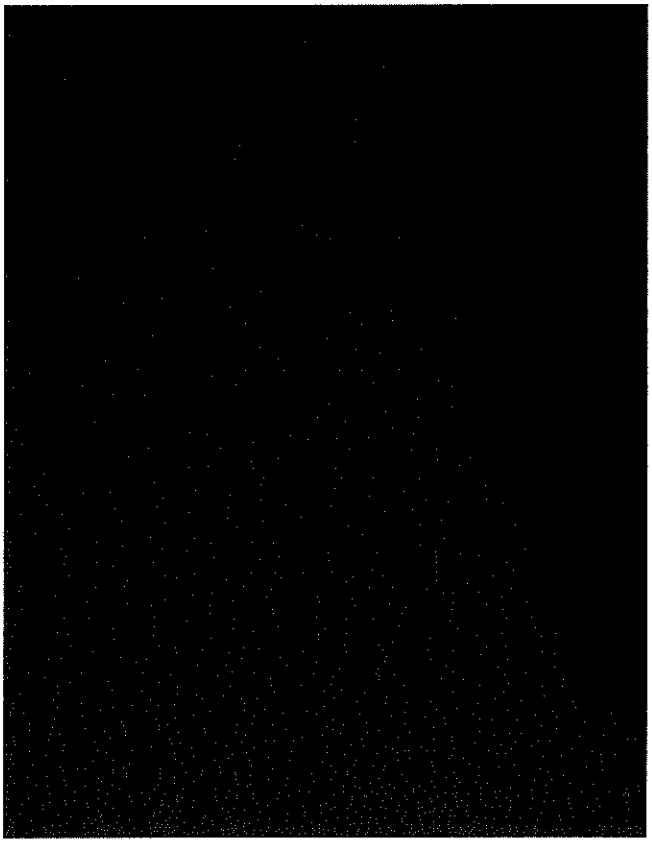
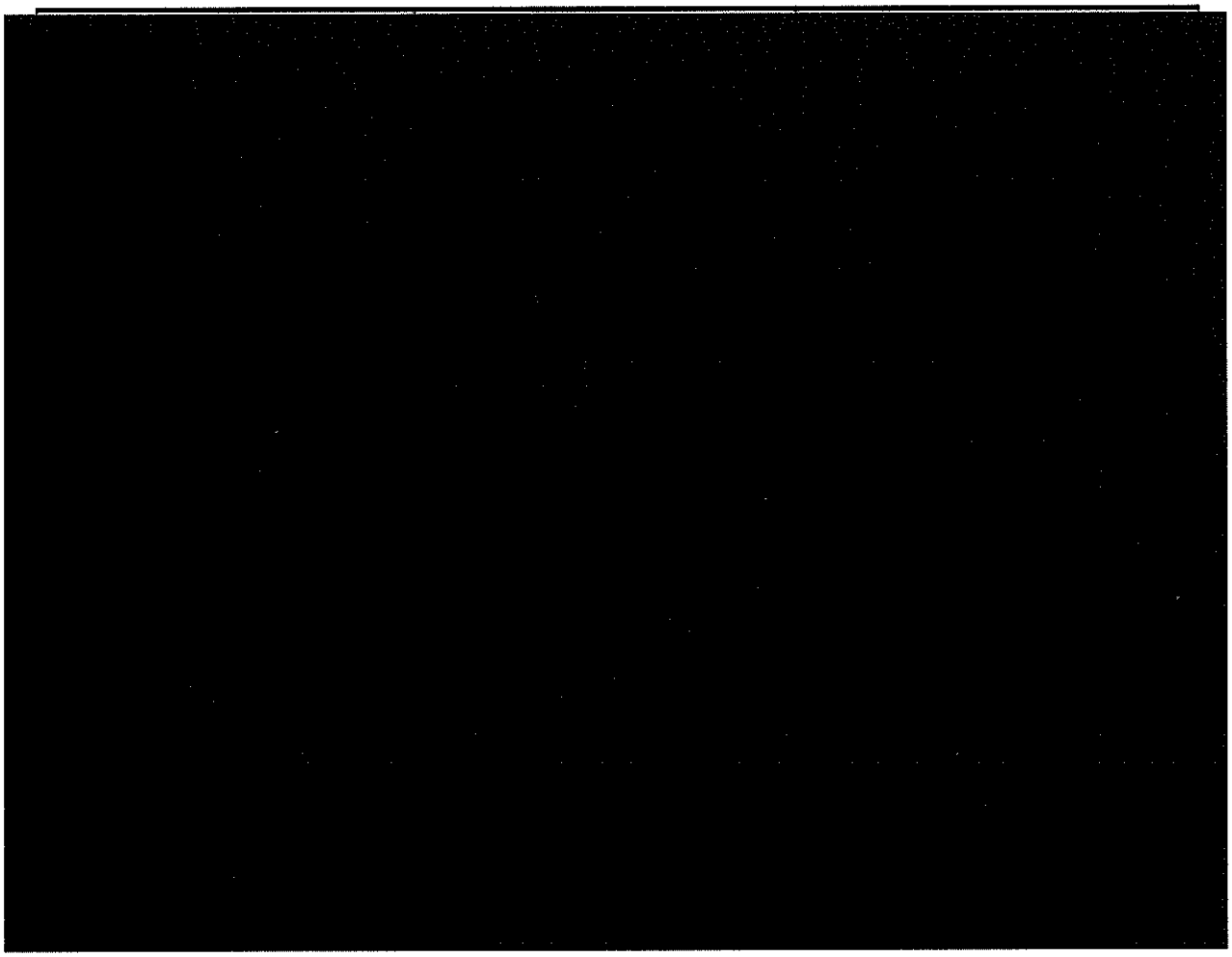
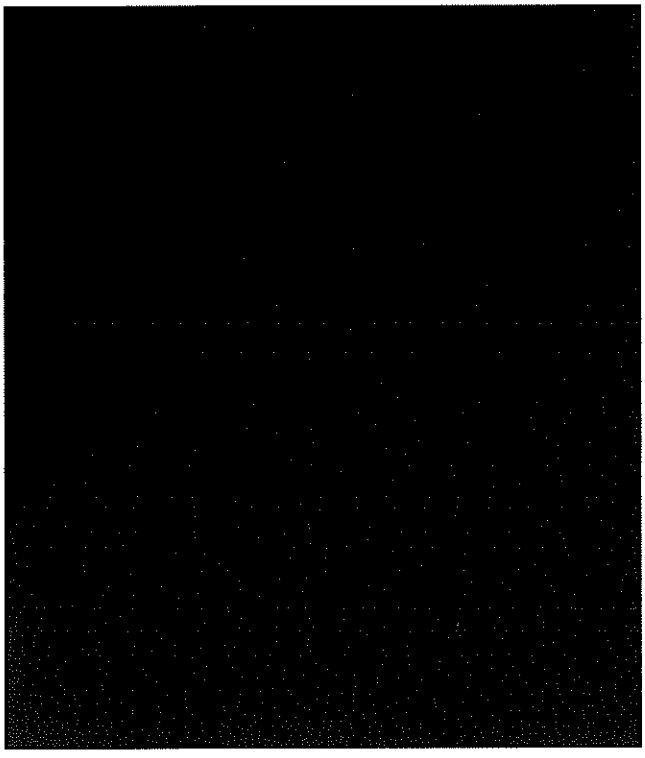


Table 2 - Starting and Ignition Controls and Indicators

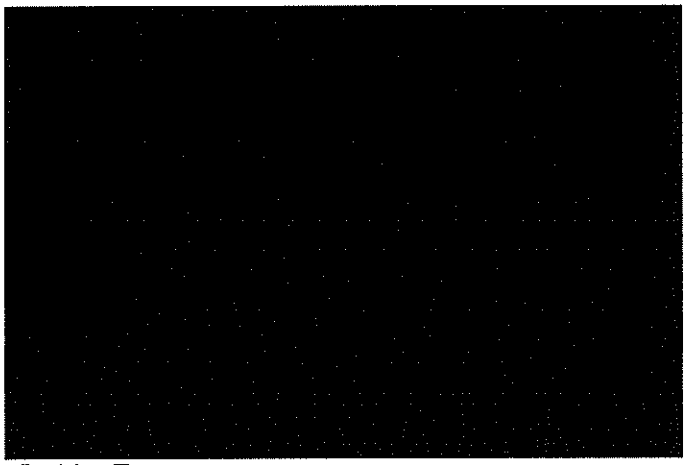


1 - 4 Fig 12 Starting and Ignition Electrical Circuits

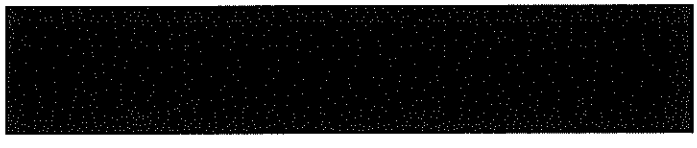
Normal Starting



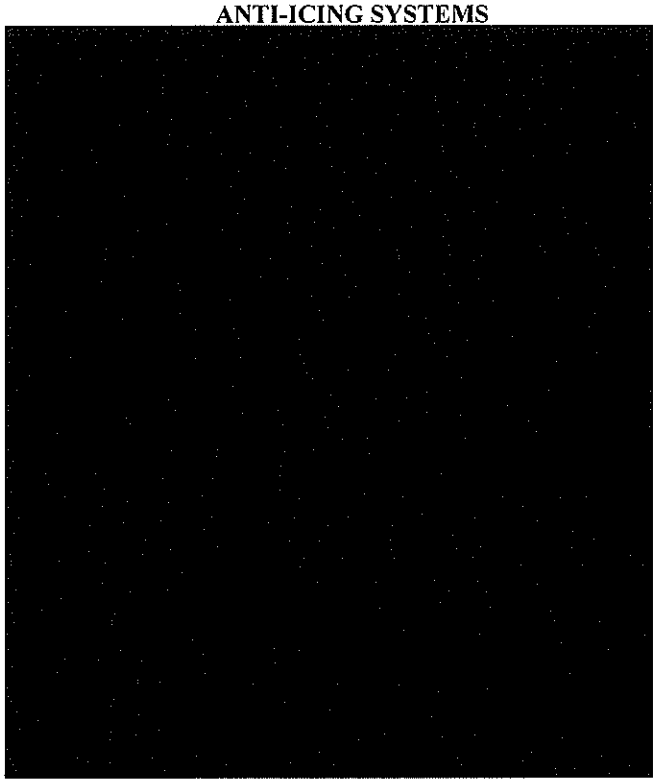
Venting



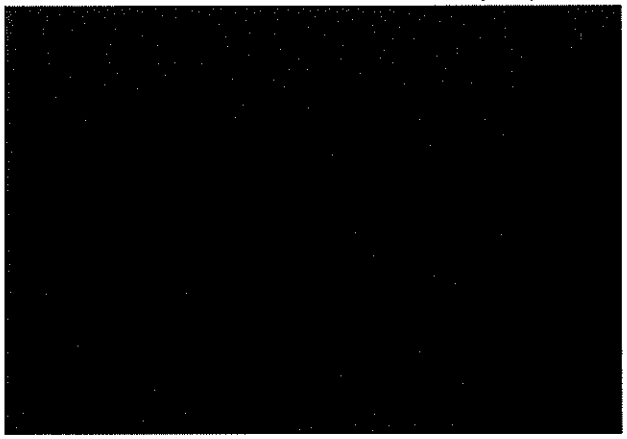
Ignition Test



ANTI-ICING SYSTEMS



Engine Anti-icing Hot Air System



Air Intake Anti-icing Heater Mat System

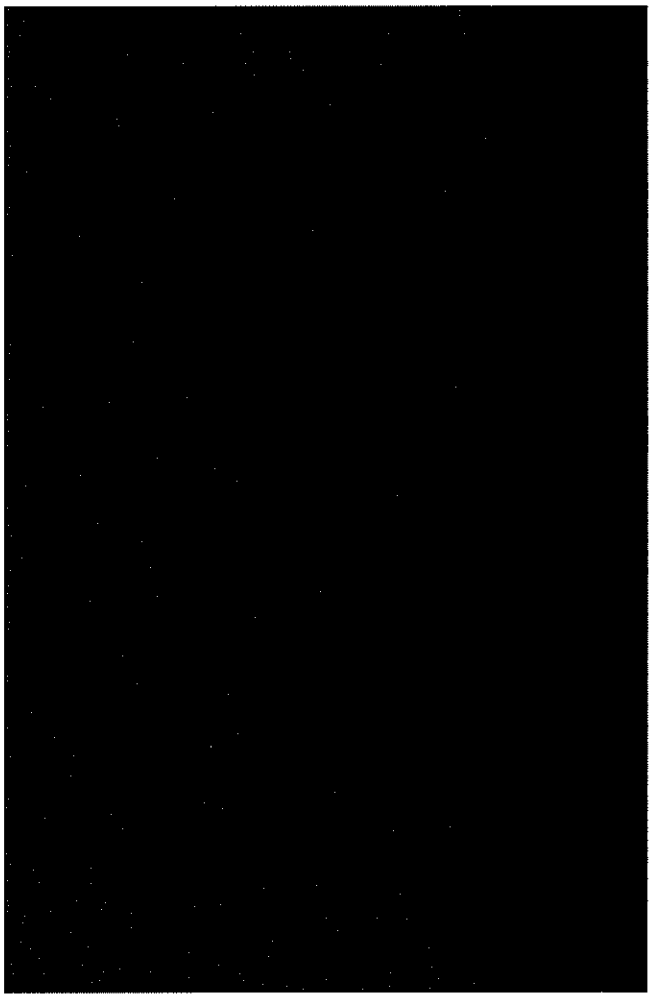
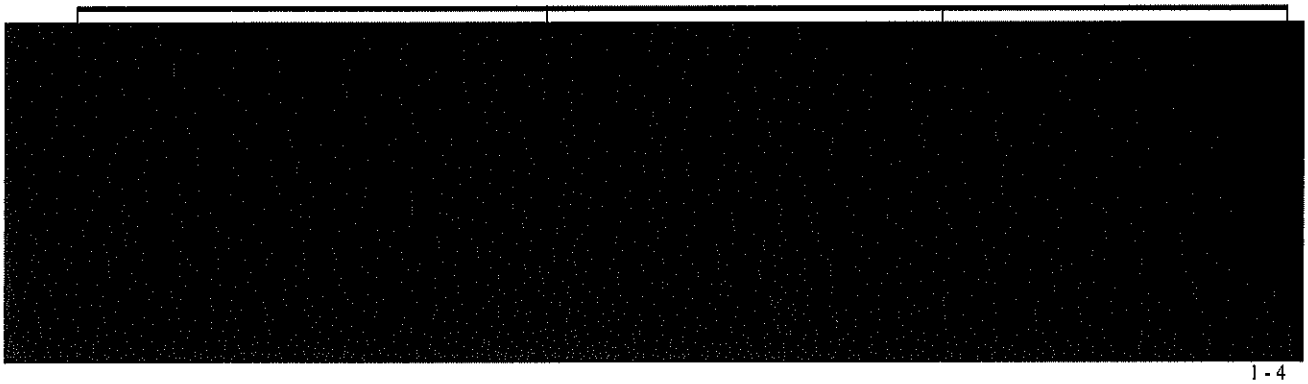
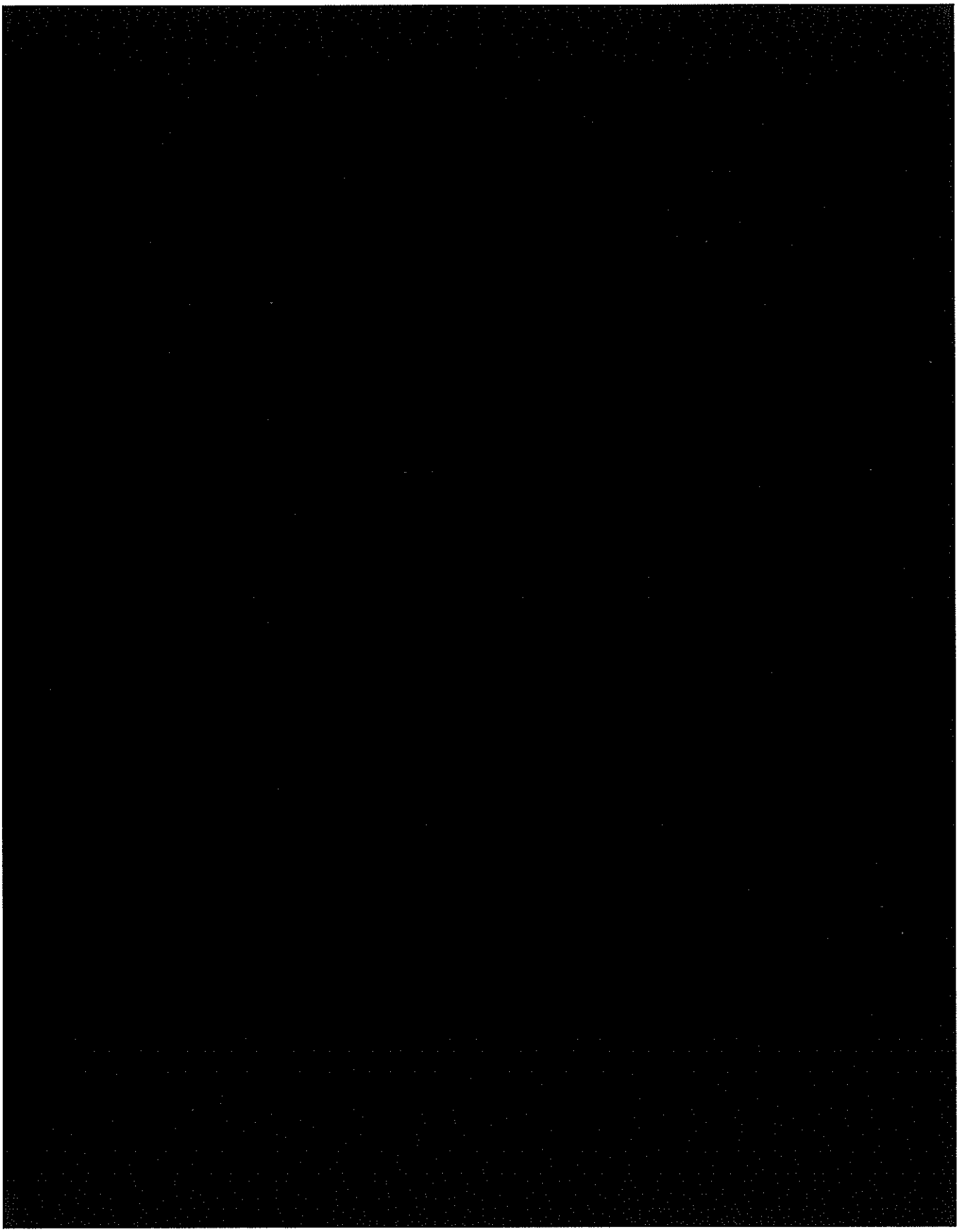


Table 3 - Anti-icing Systems Controls and Indicators





1 - 4 Fig 13 Engine Anti-icing Systems

Table 4 - Engine Fire Protection System Controls and Indicators

[redacted]

FIRE PROTECTION SYSTEM

General

[redacted]

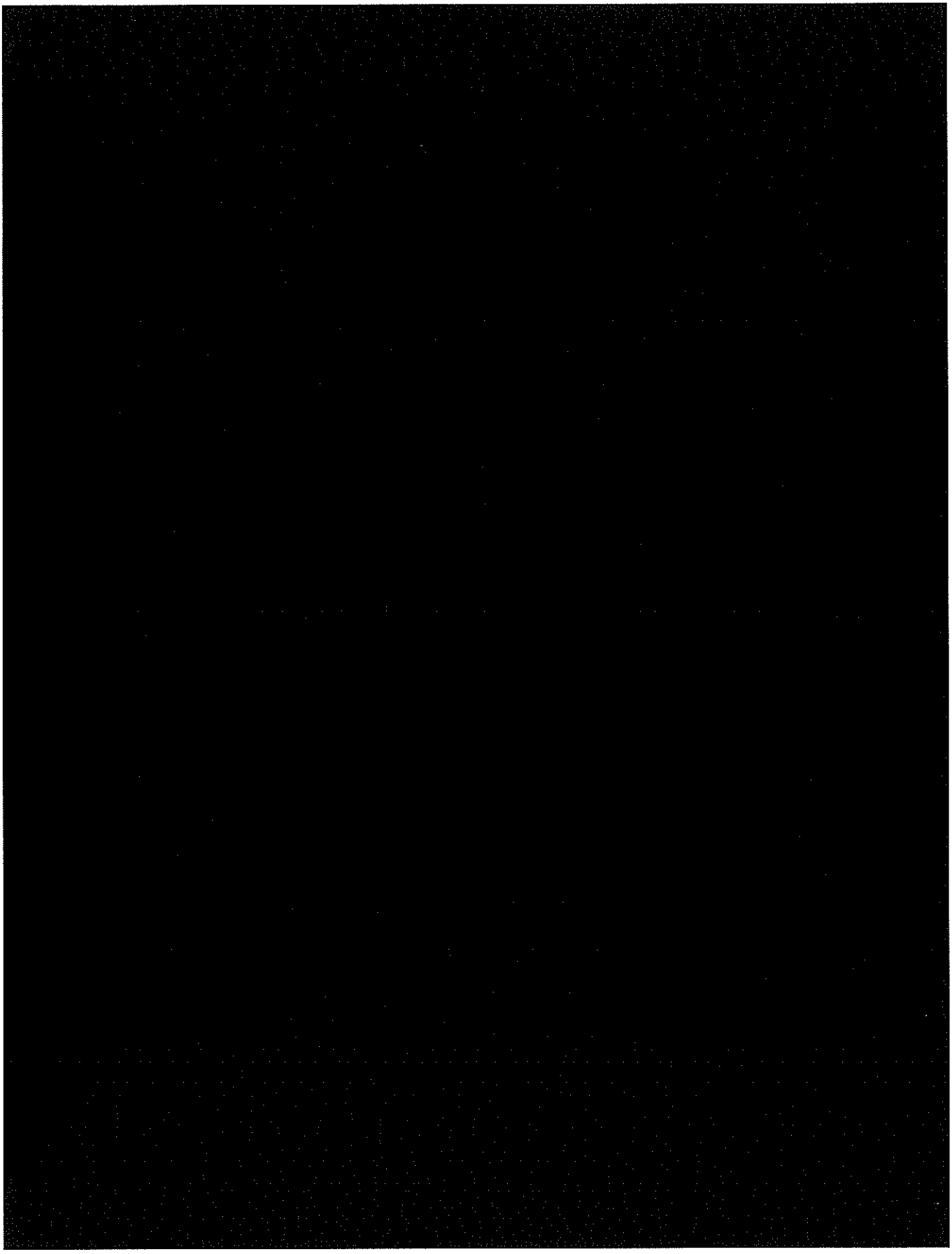
Operation

[redacted]

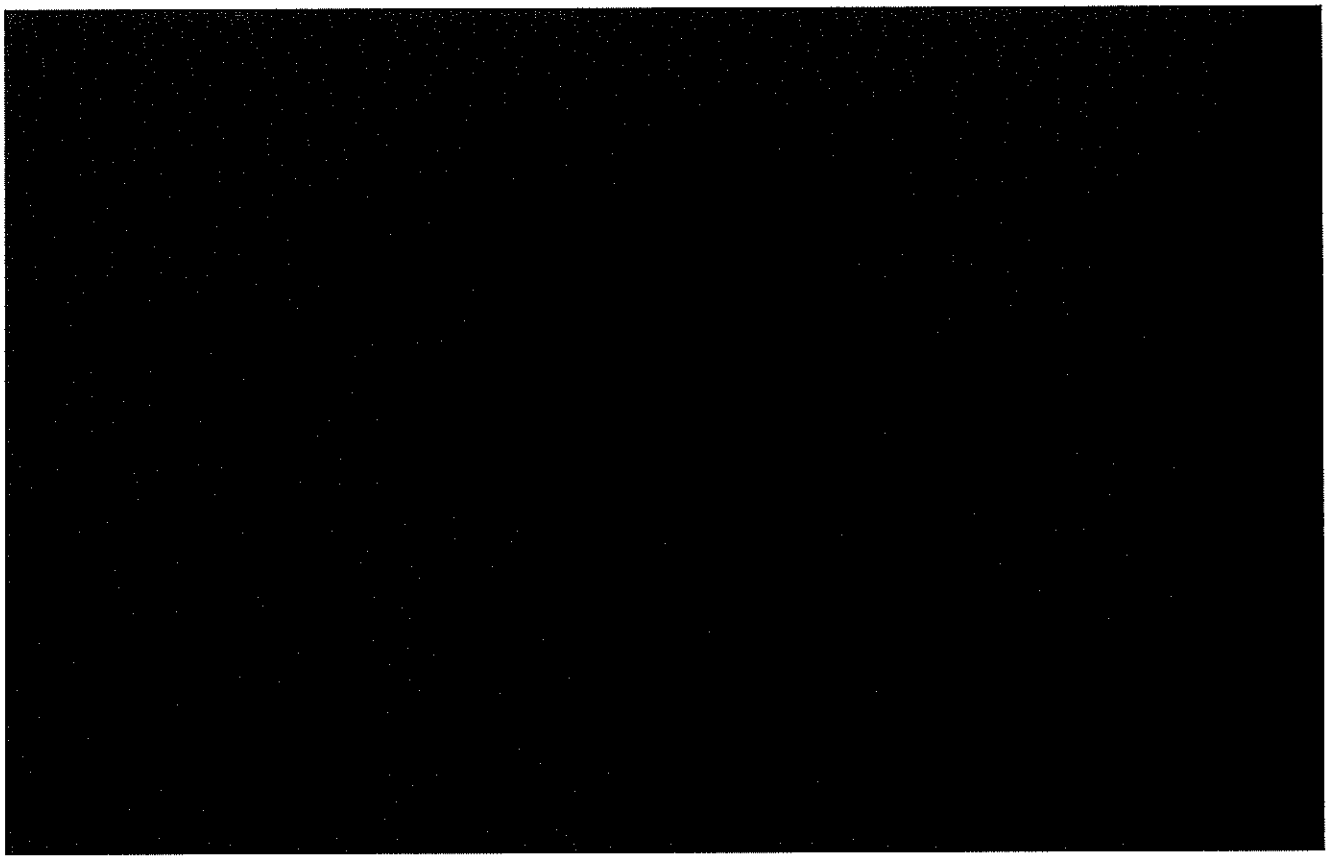
ENGINE BAY VENTILATION SYSTEM

General

[redacted]



1 - 4 Fig 14 Fire Protection Electrical Circuits



Intentionally Blank

PART 1

CHAPTER 5 - ROTORS, TRANSMISSION AND FLYING CONTROLS

Contents

GENERAL

General

[redacted]

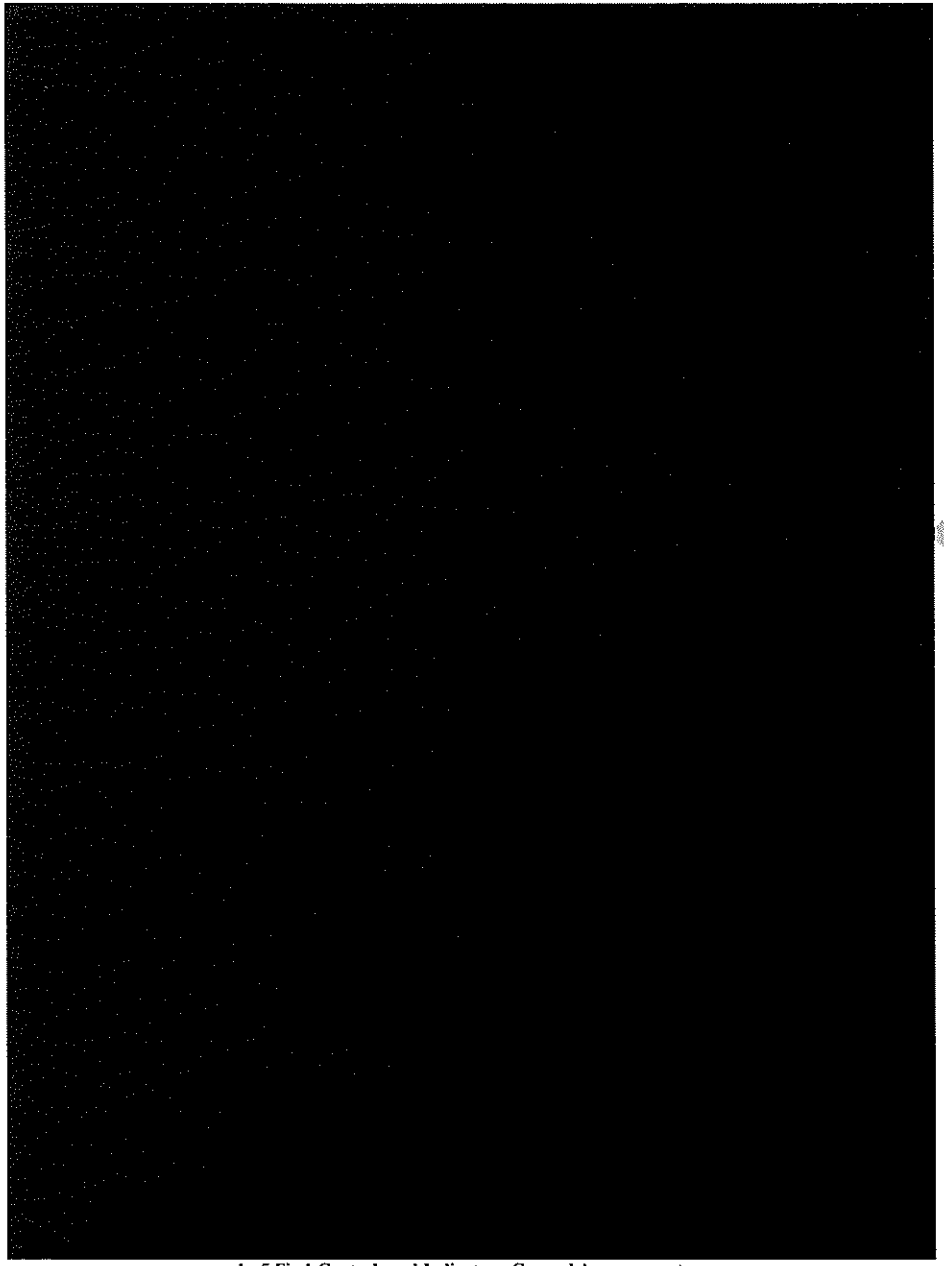
[redacted]

Controls and Indicators

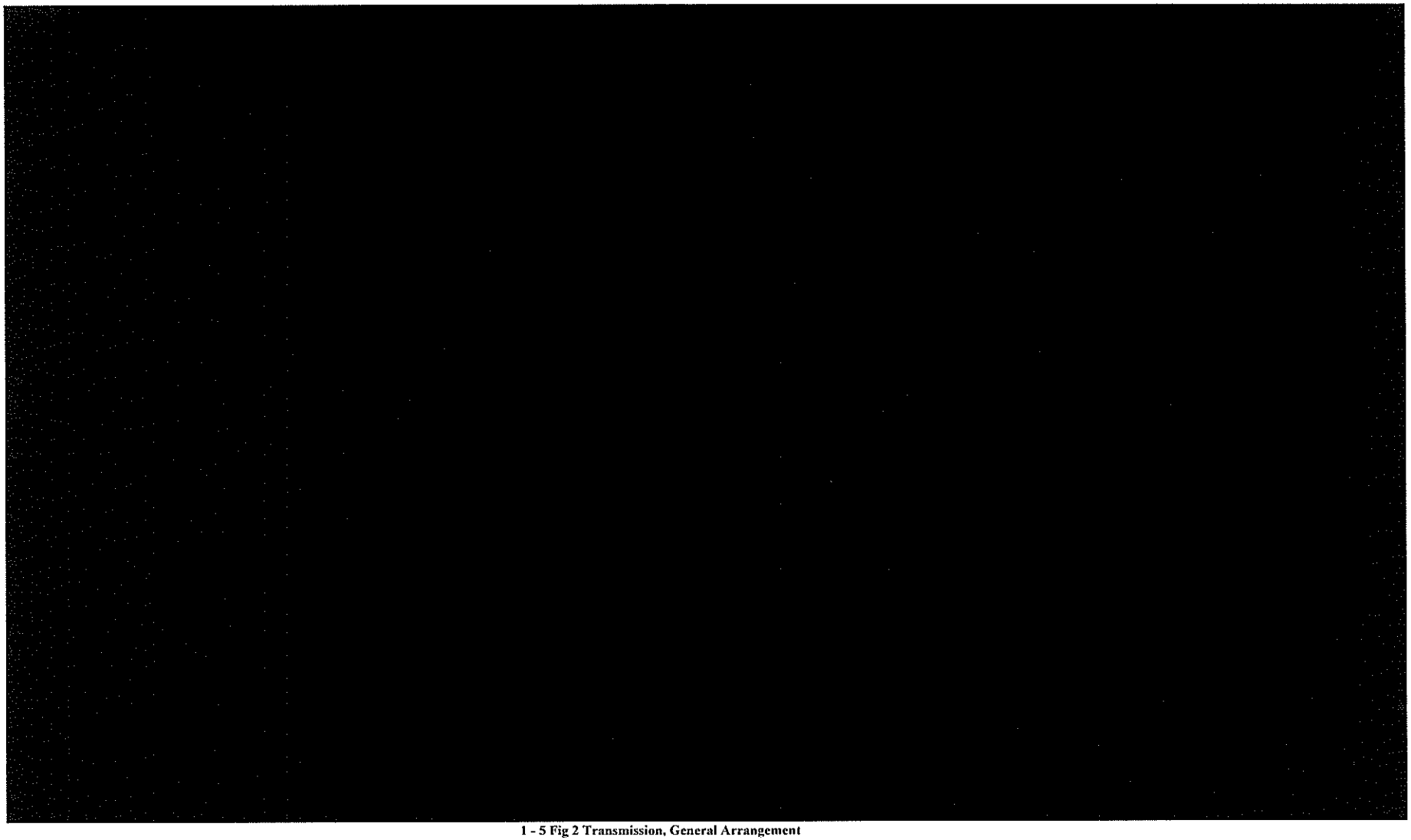
[redacted]

Table 1 - Transmission System Controls and Indicators

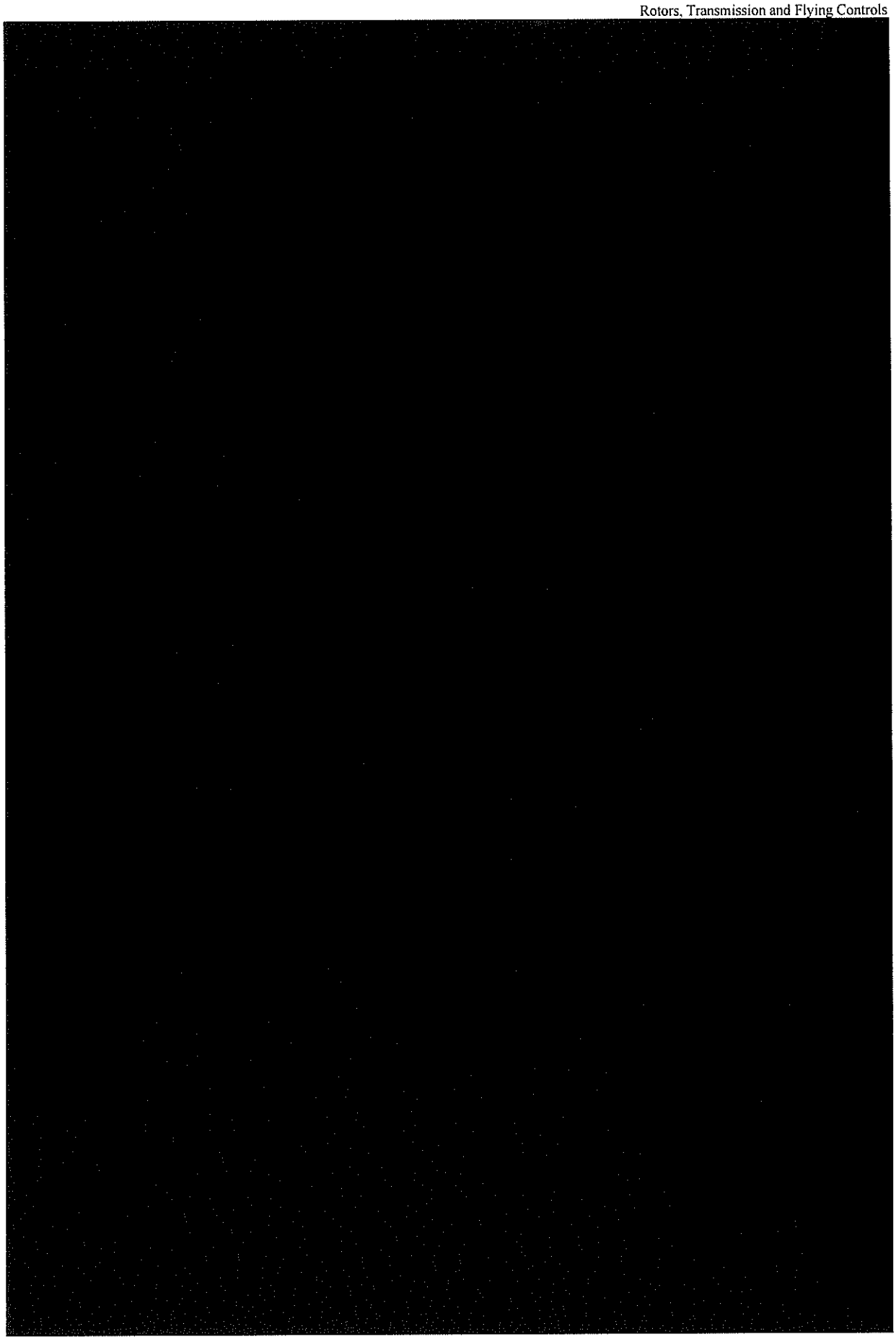
Control/Indicator	*Marking*	*Location*
[redacted]		



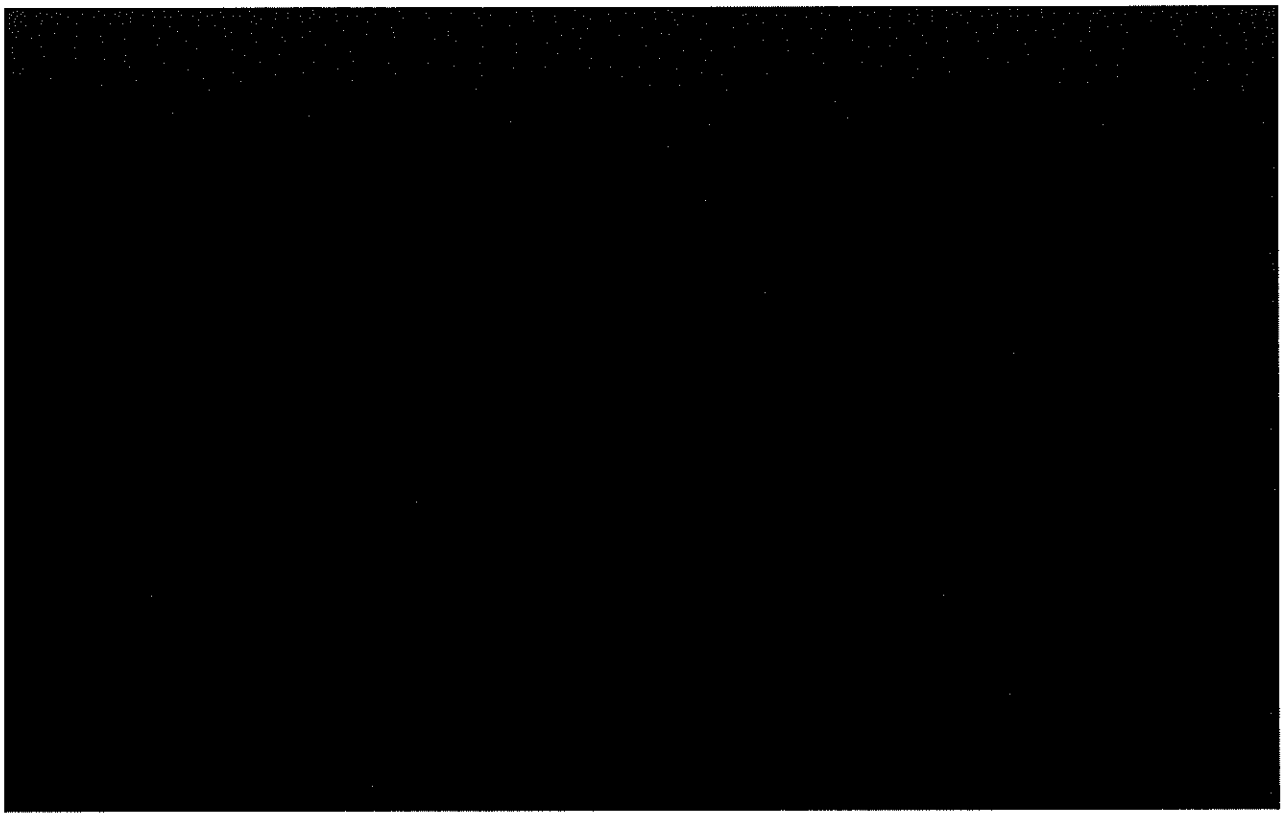
1 - 5 Fig 1 Controls and Indicators, General Arrangement



1 - 5 Fig 2 Transmission, General Arrangement



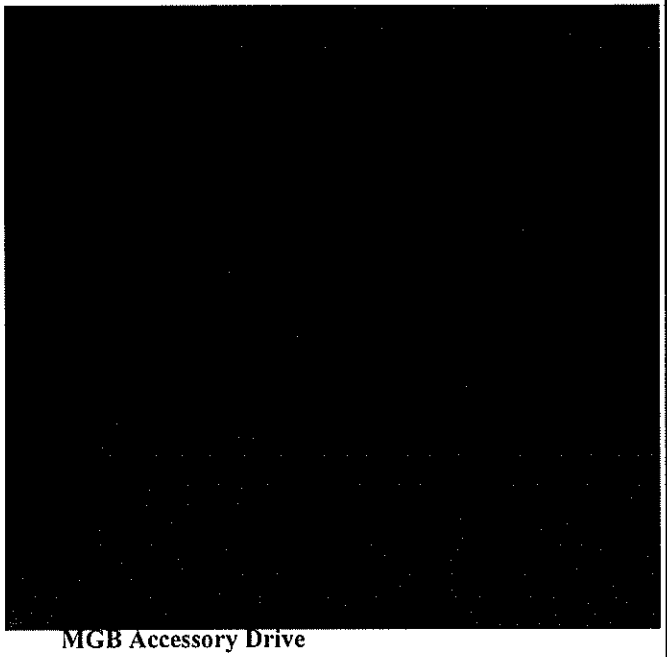
1 - 5 Fig 3 Transmission Schematic

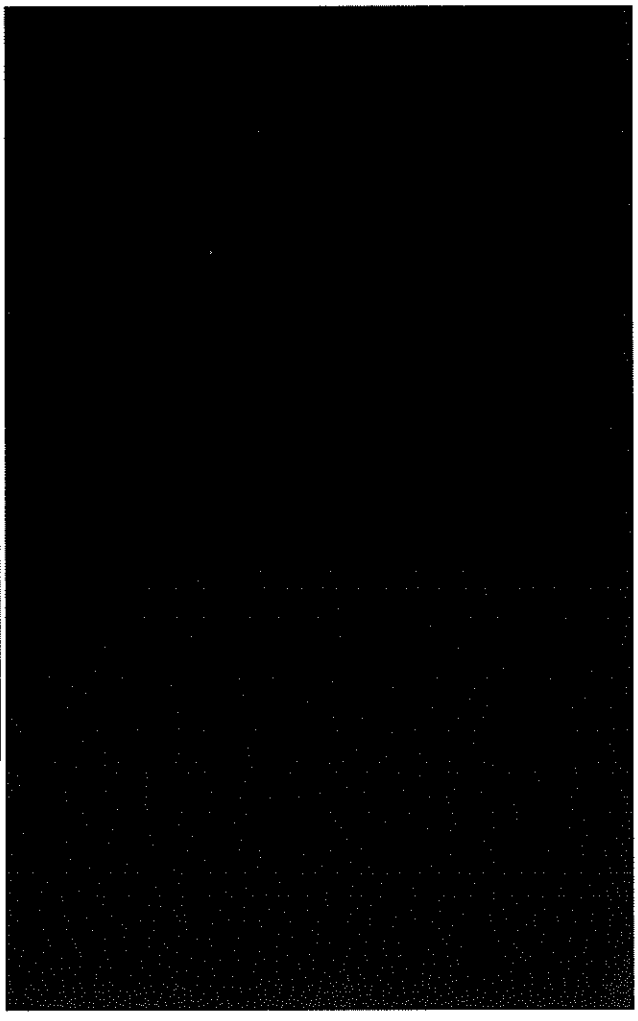


1 - 5 Fig 4 Accessory Drive Safety Interlocks

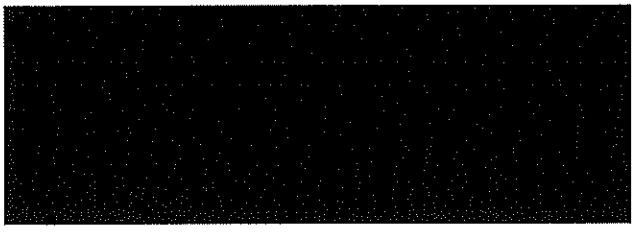
TRANSMISSION

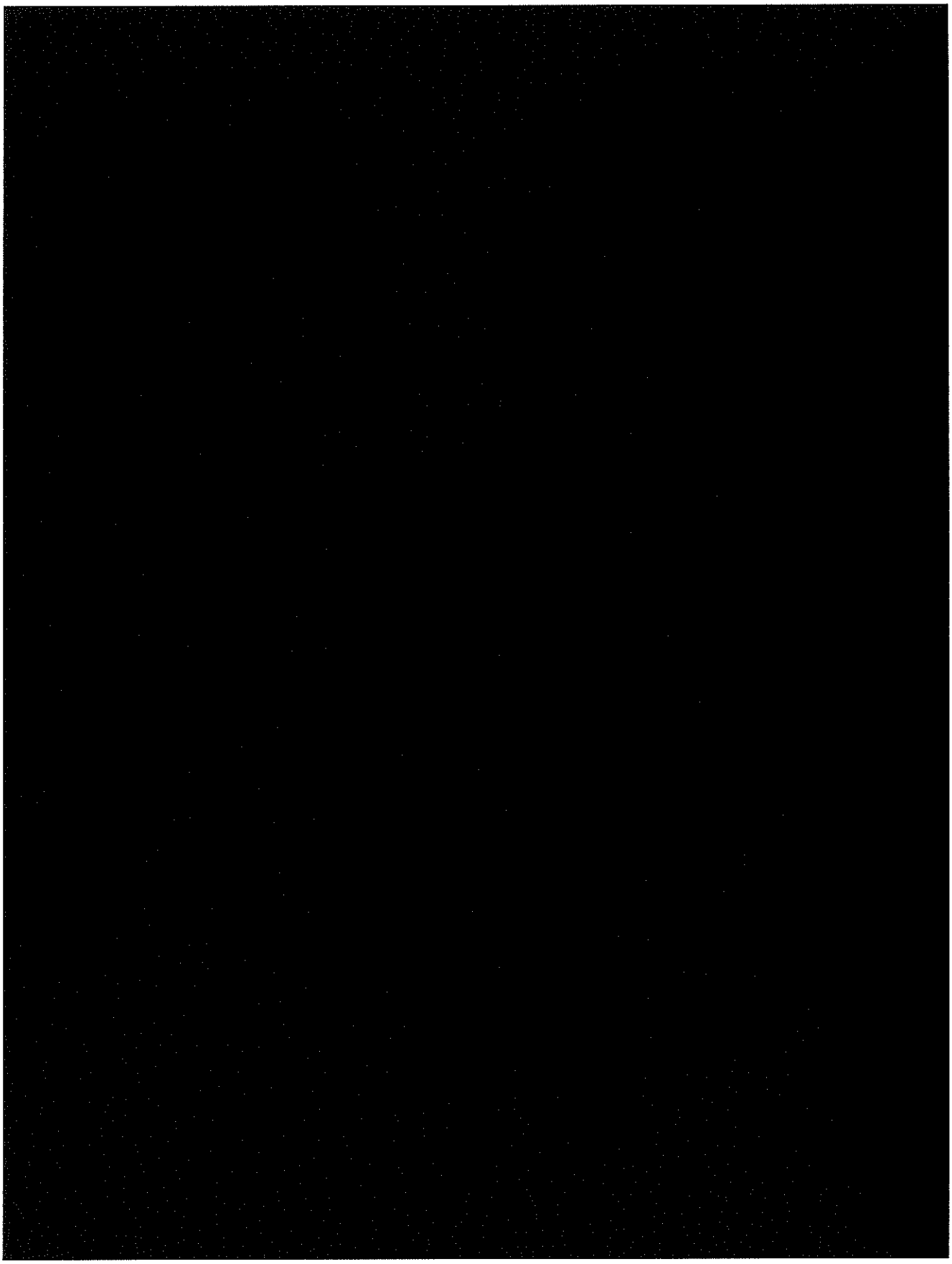
Main Rotor Transmission



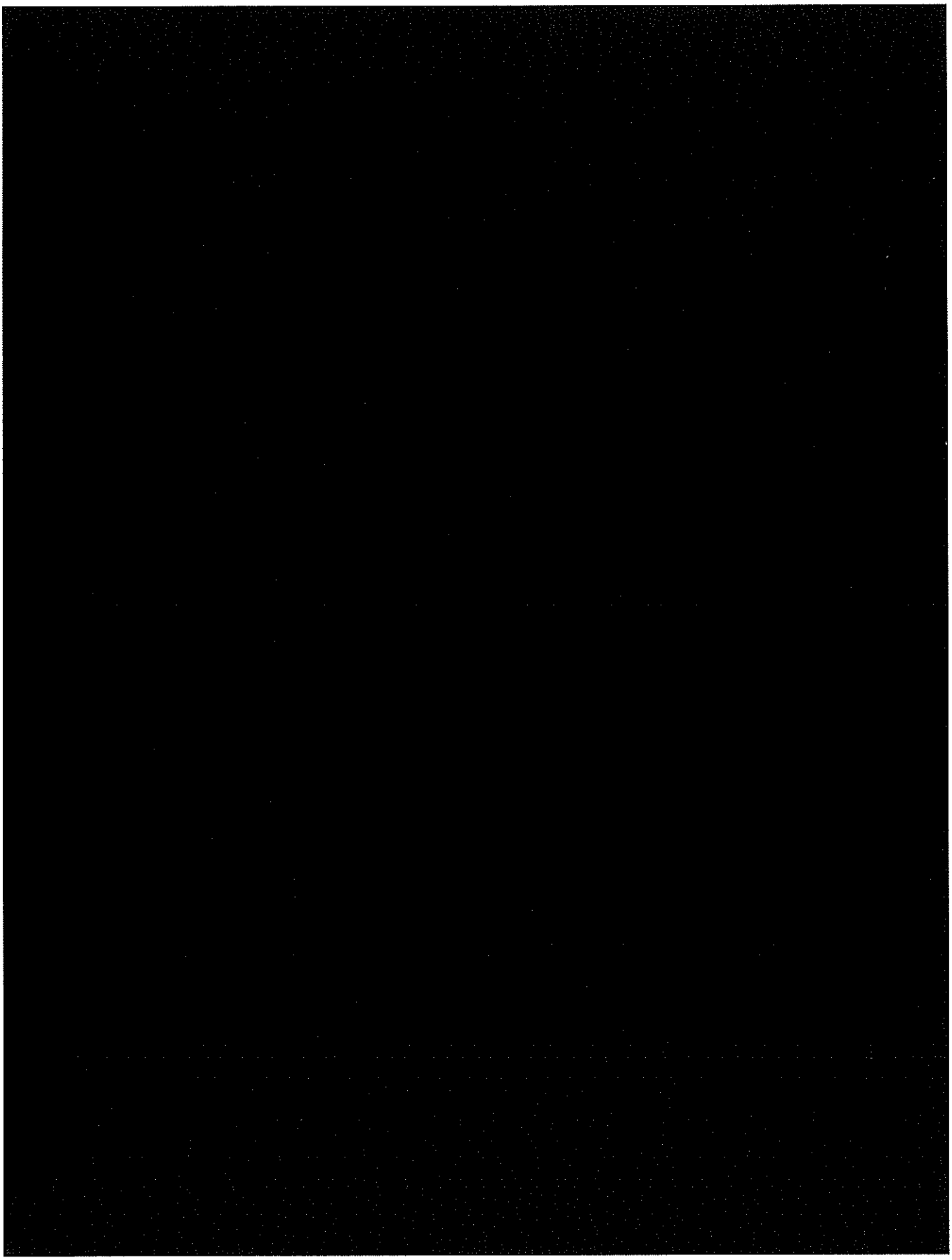


MGB Accessory Drive

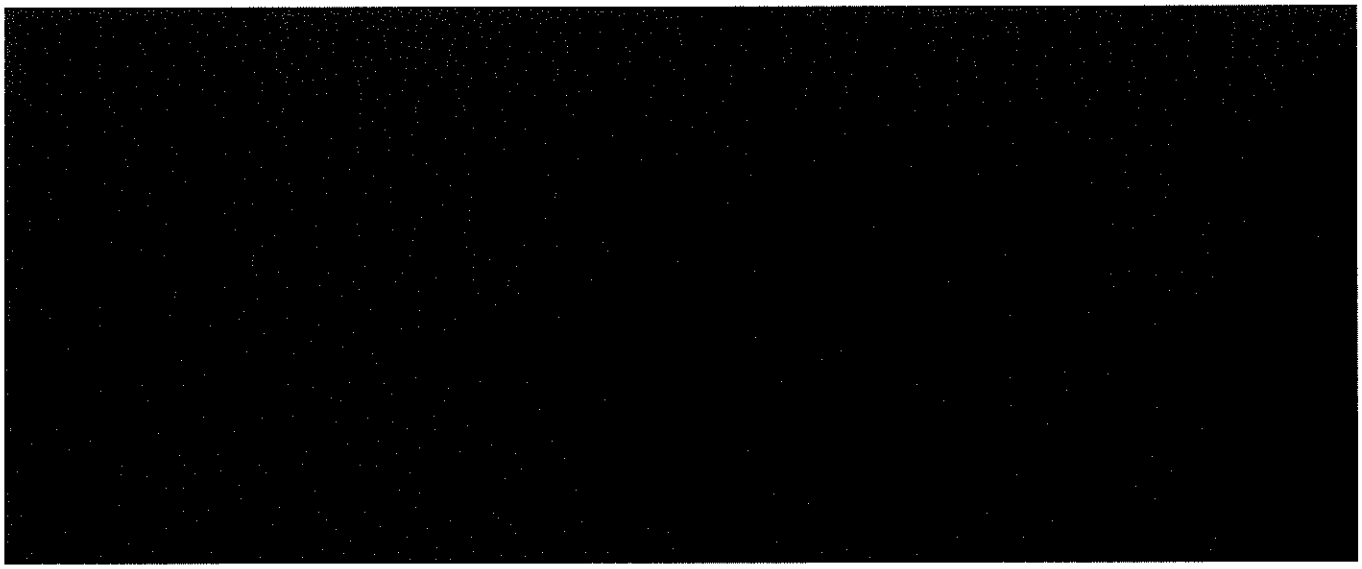




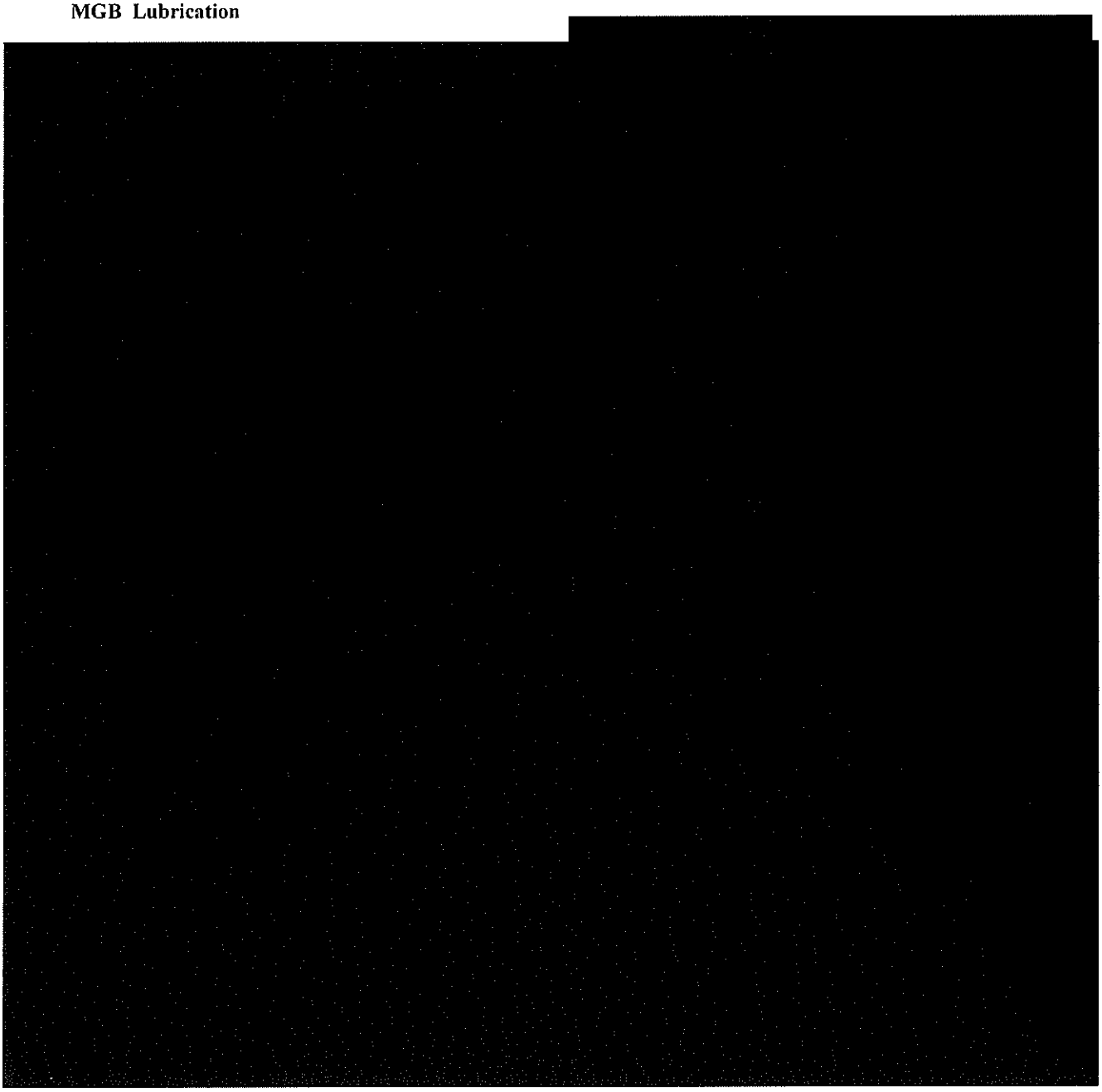
1 - 5 Fig 5 MGB Lubrication



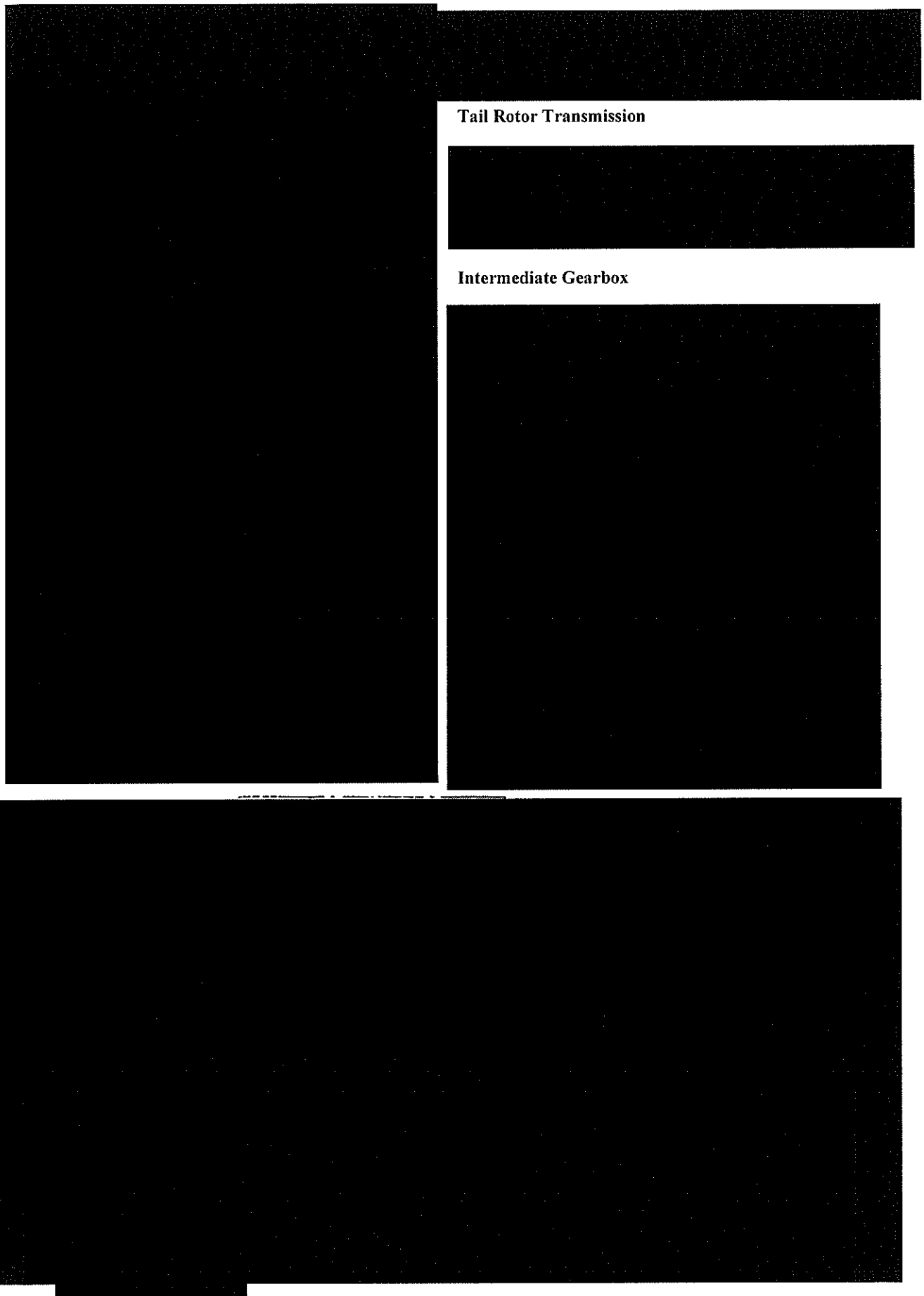
1 - 5 Fig 7 Intermediate Gearbox (pre and post-mod 495)



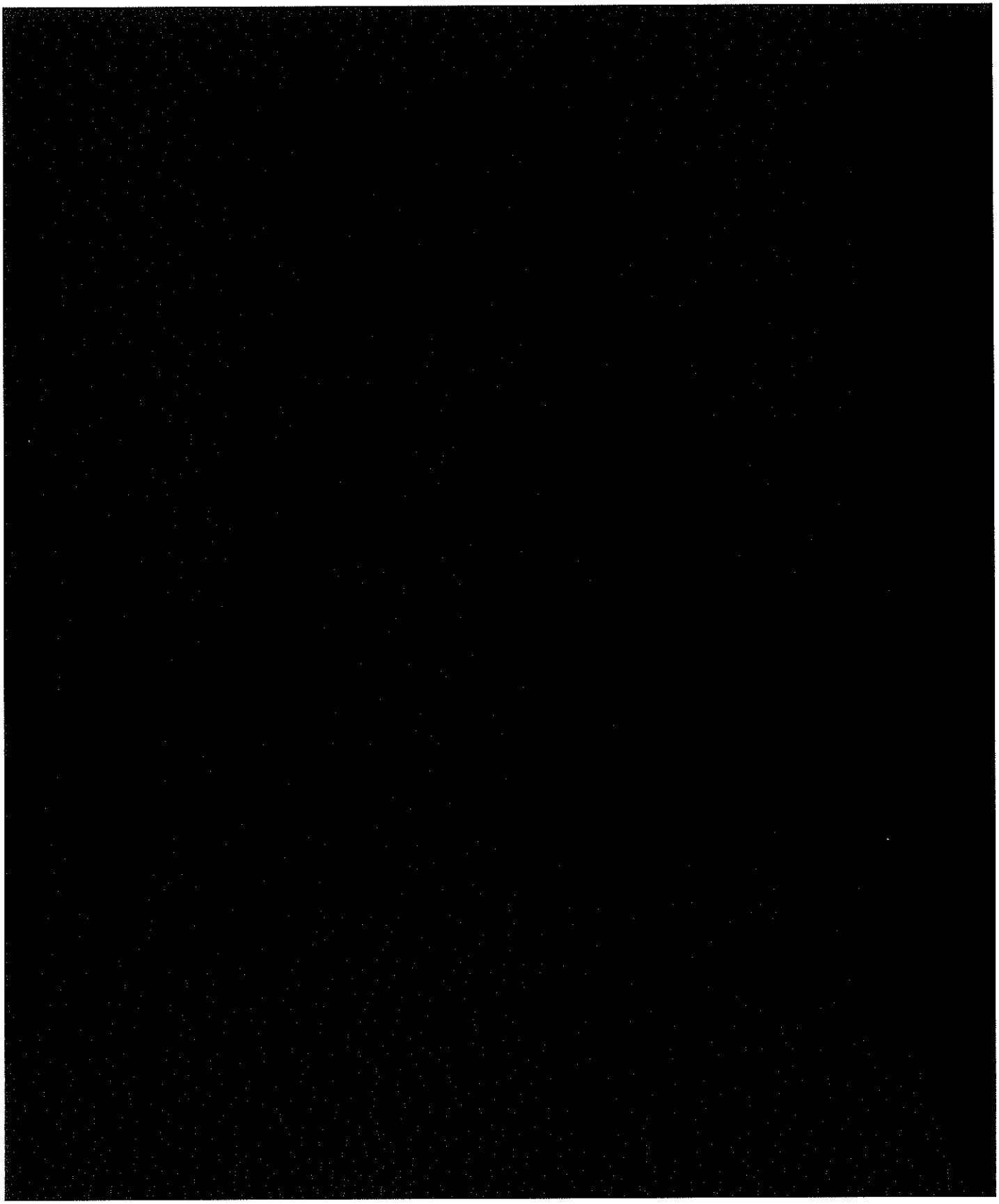
MGB Lubrication



1 - 5 Fig 8 Tail Rotor Gearbox



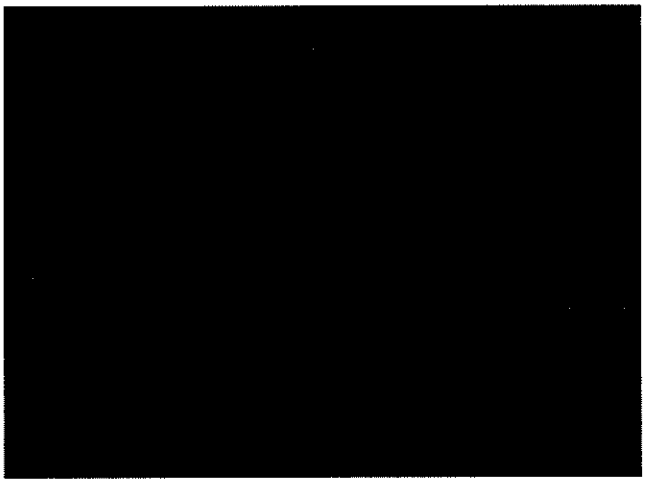
1 - 5 Fig 9 Rotor Brake



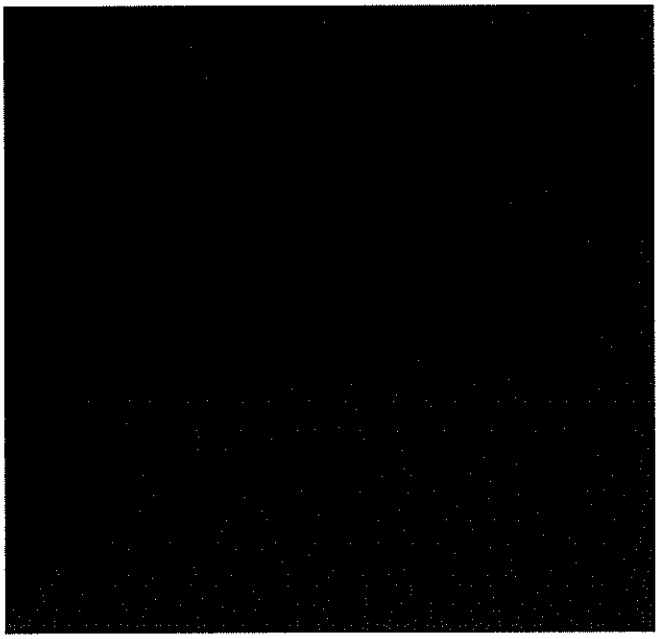
1 - 5 Fig 10 Main Rotor Assembly (Pre-mod 747A)

Tail Rotor Gearbox

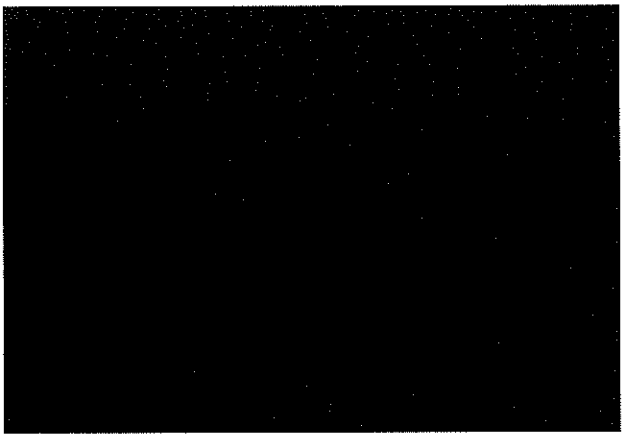
Rotor Brake



Rotor Overspeed Audio Warning System (ROAWS)



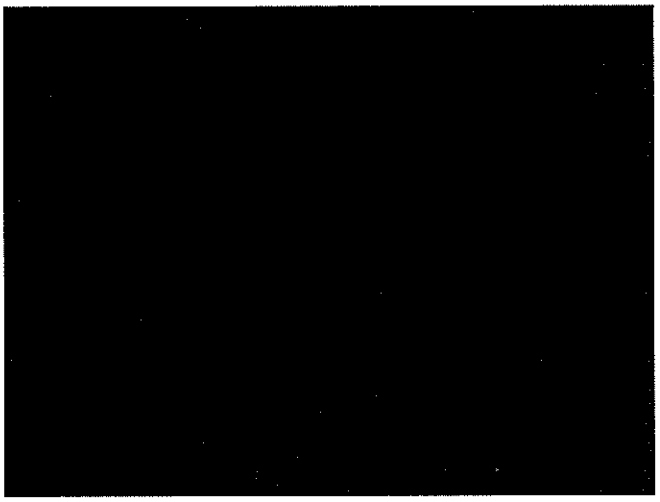
2
b



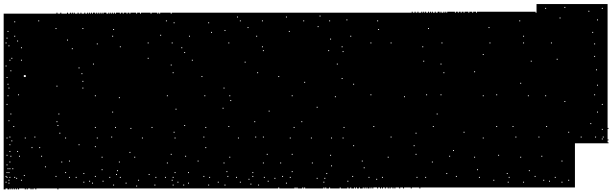
MAIN ROTOR FLYING CONTROLS

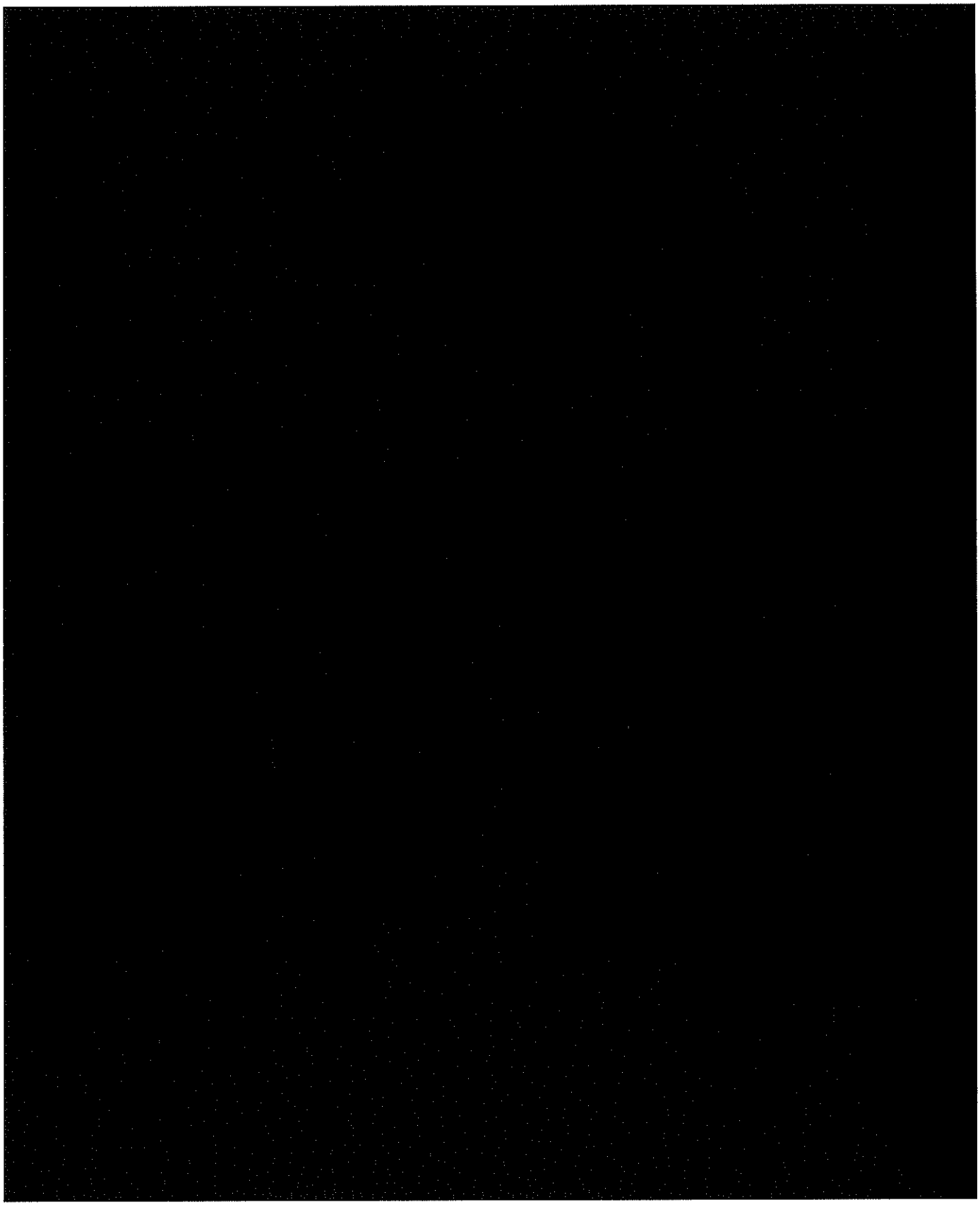
General

Rotor Head

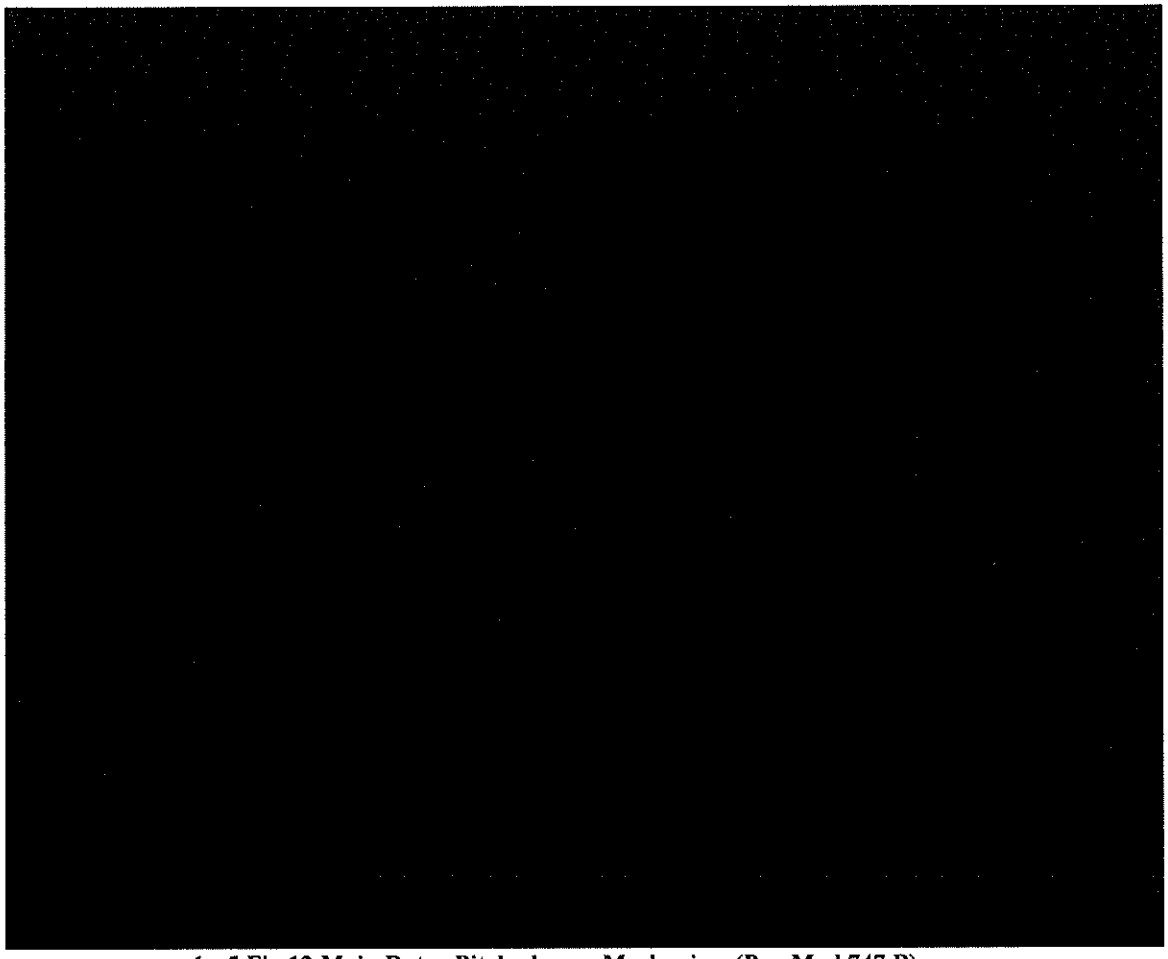


Main Rotor Blades





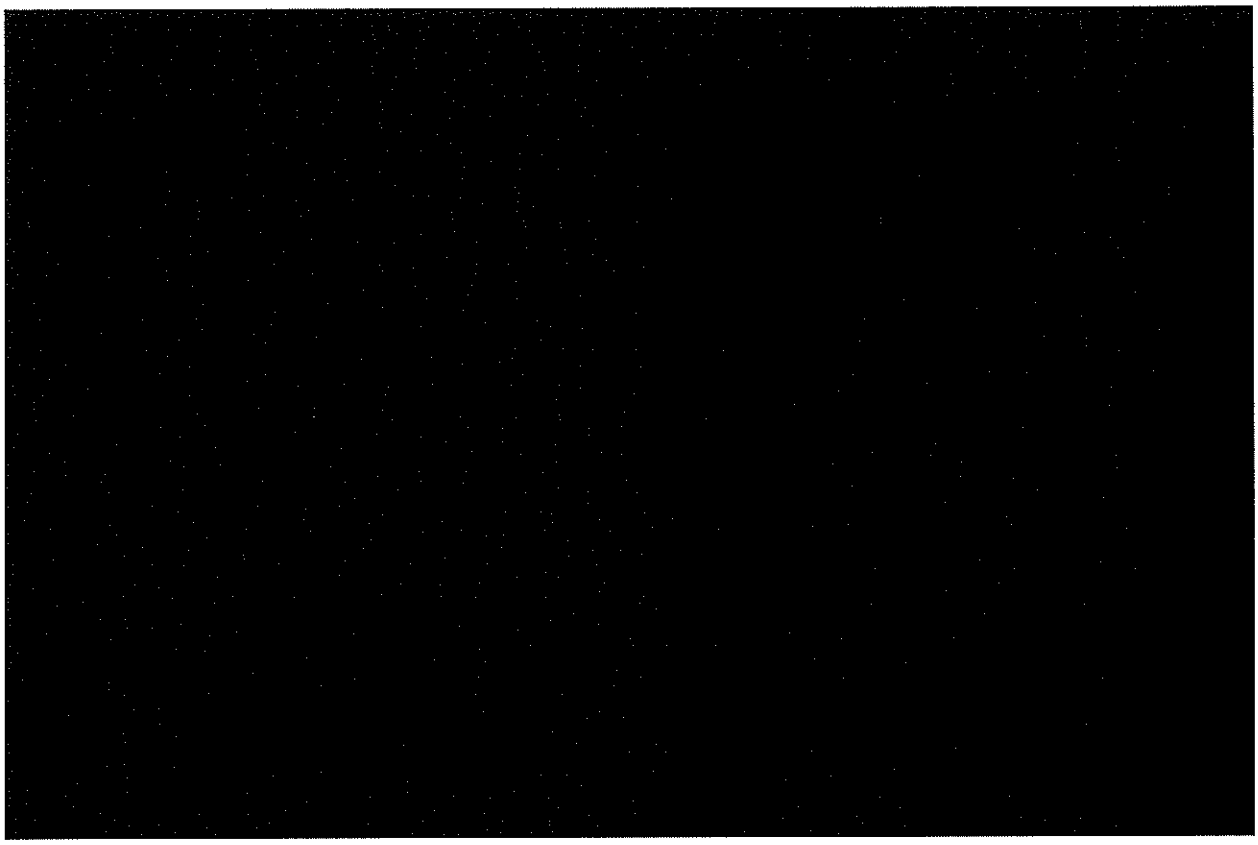
1 - 5 Fig 11 Main Rotor Assembly (Post-mod 747A)



1 - 5 Fig 12 Main Rotor Pitch-change Mechanism (Pre-Mod 747 B)

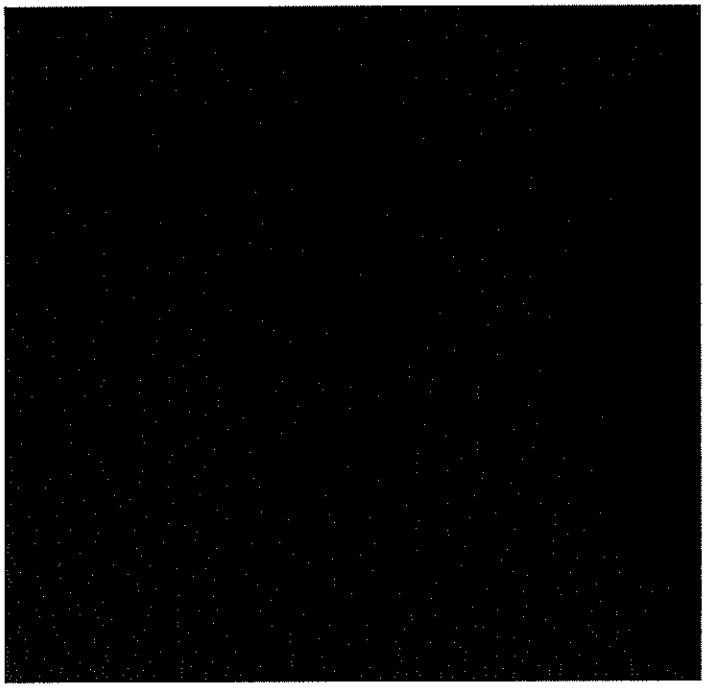
Pitch-change Mechanism

Collective Control

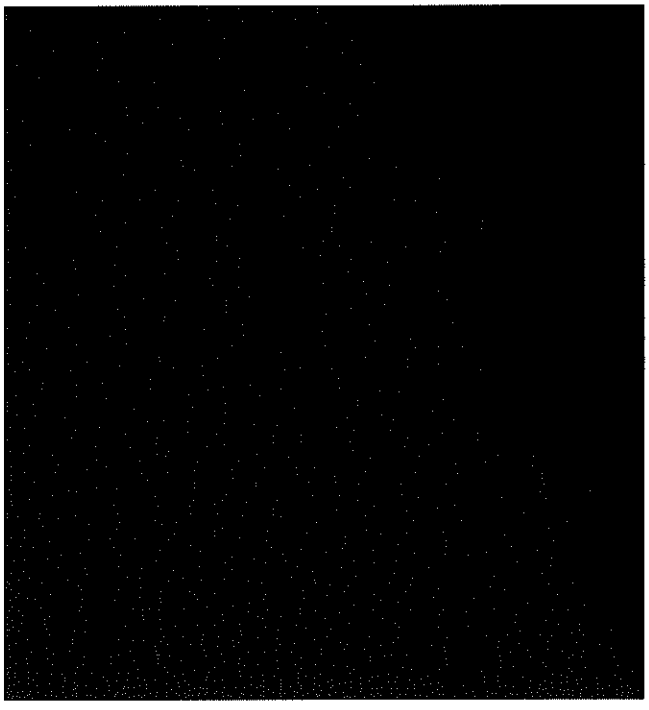


1 - 5 Fig 13 Main Rotor Pitch-change Mechanism (Post-Mod 747 B)

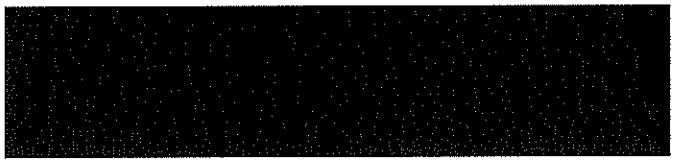
Cyclic Control

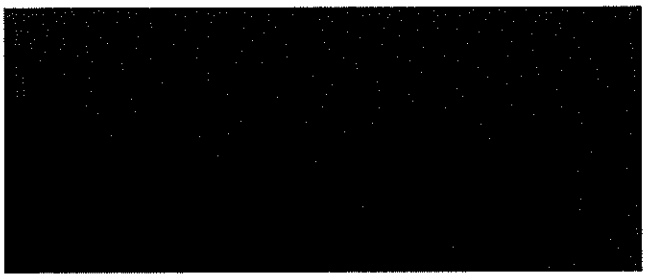


Cyclic Stick Trim



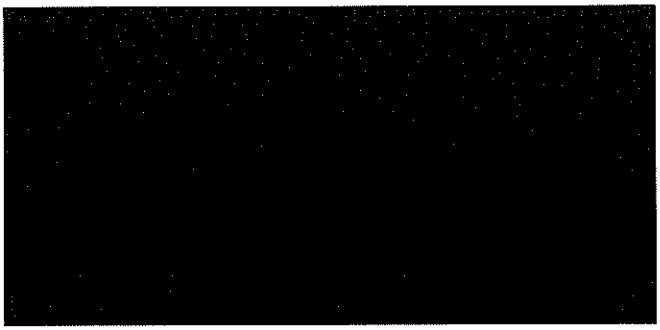
Collective to Cyclic Pitch Interlink





YAW CONTROLS

General



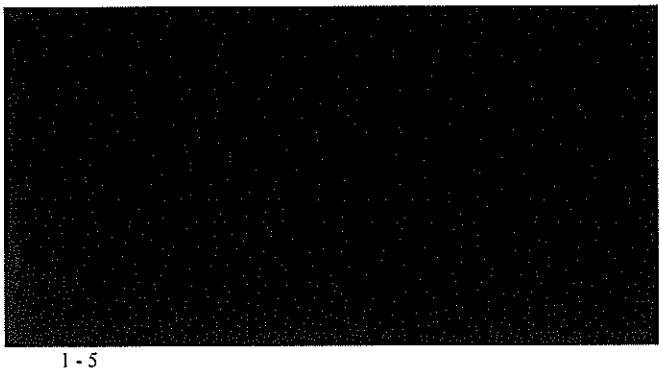
Spring Bias Unit

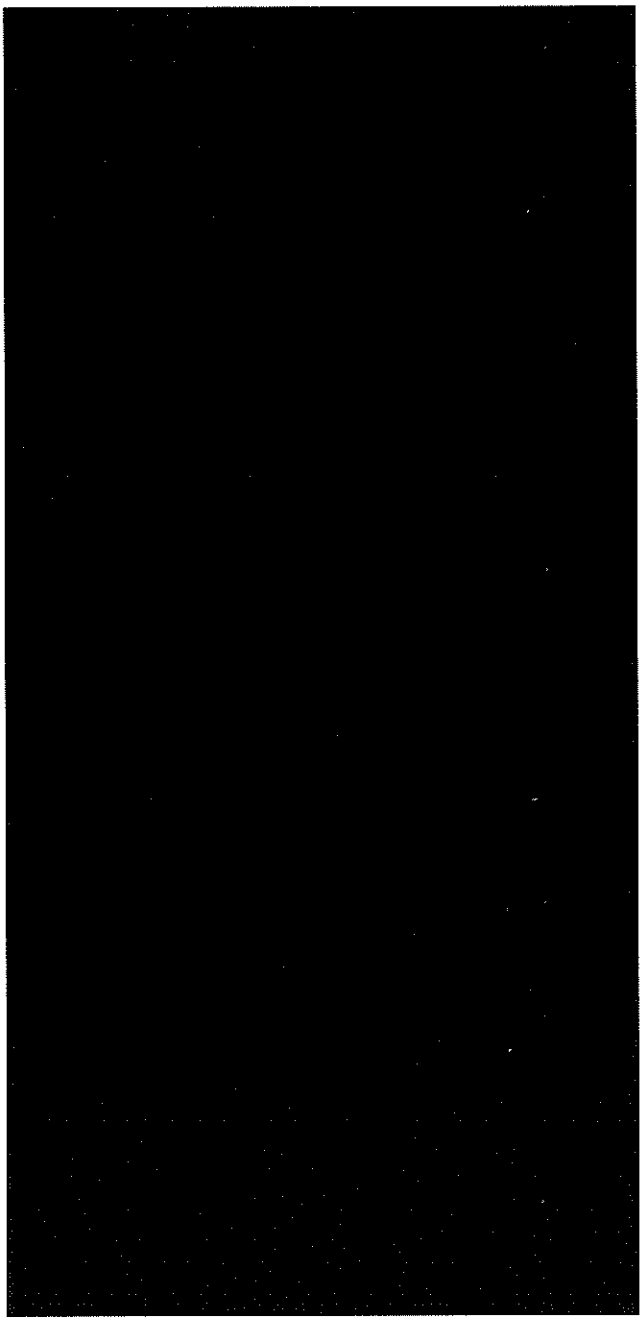
Tail Rotor Hub

Tail Rotor Blades

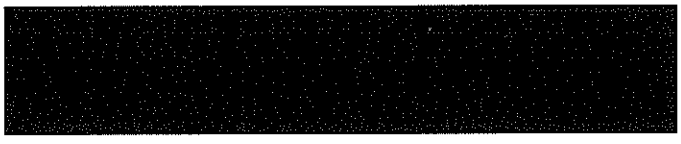
Pitch-change Mechanism

Yaw Control



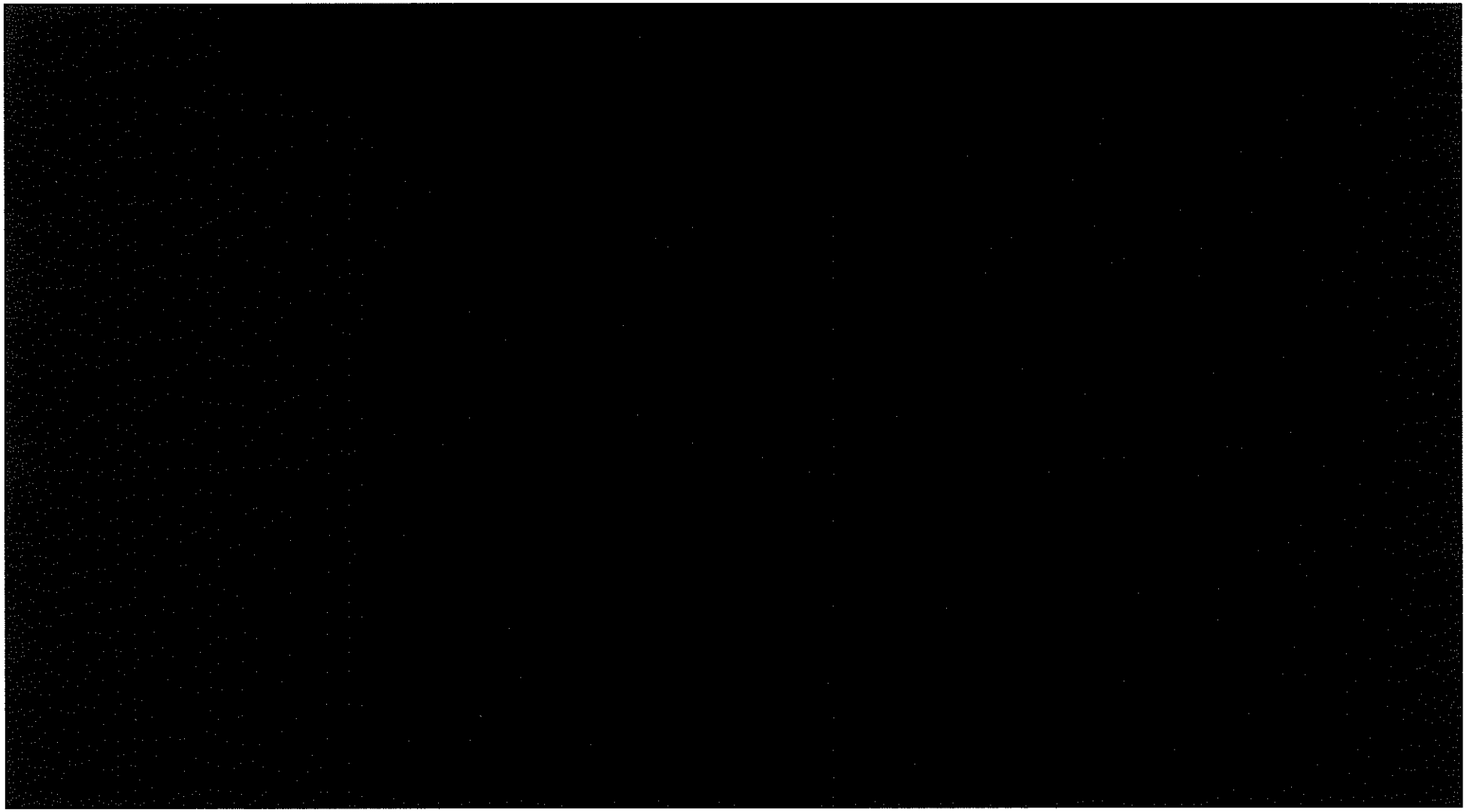


Collective to Yaw Pitch Interlink



[redacted]

Electrical Power Supplies



1 - 5 Fig 14 Collective Control

TAIL PYLON AND MAIN ROTOR BLADES FOLDING

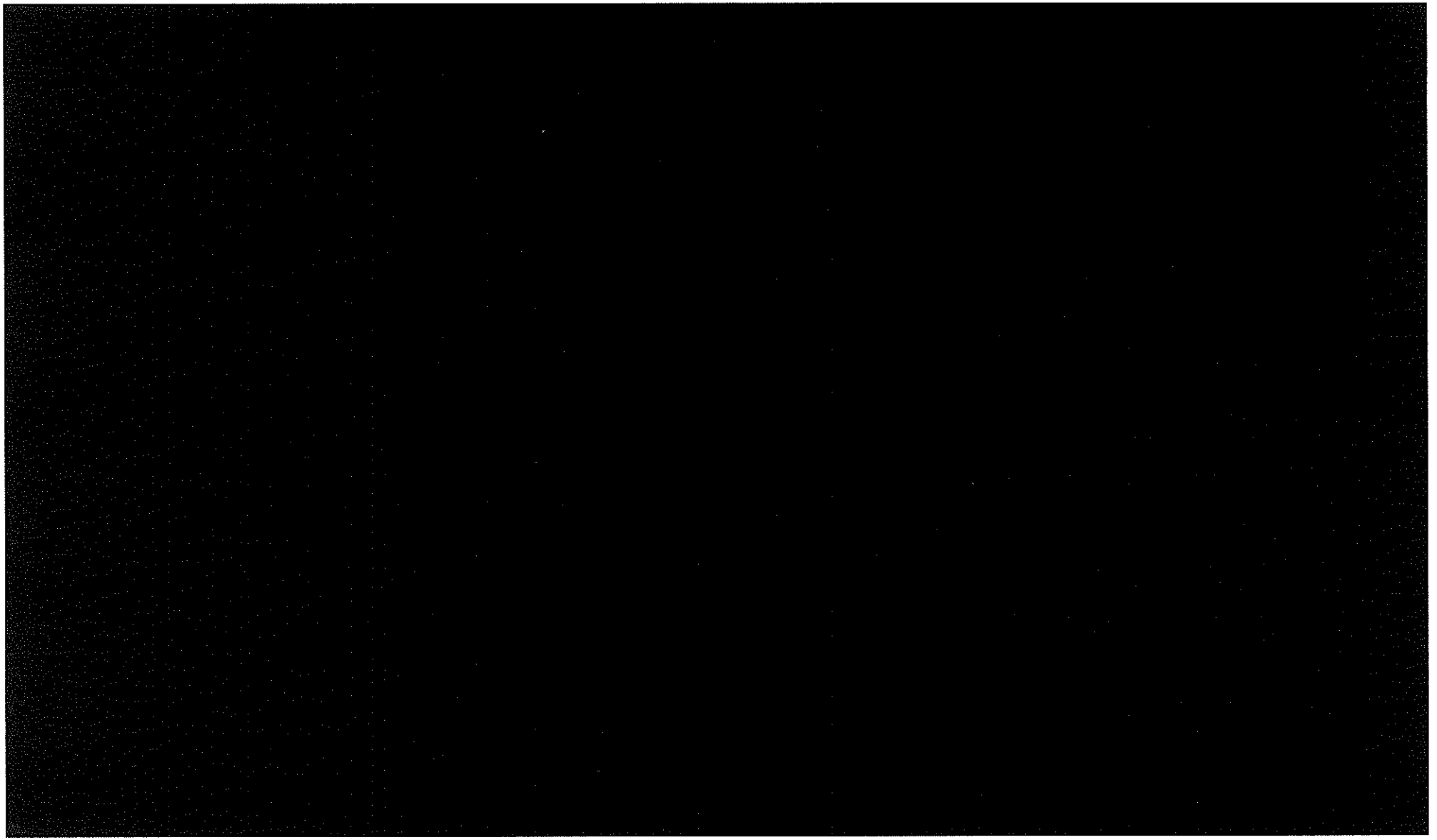
Tail Pylon Folding

[redacted]

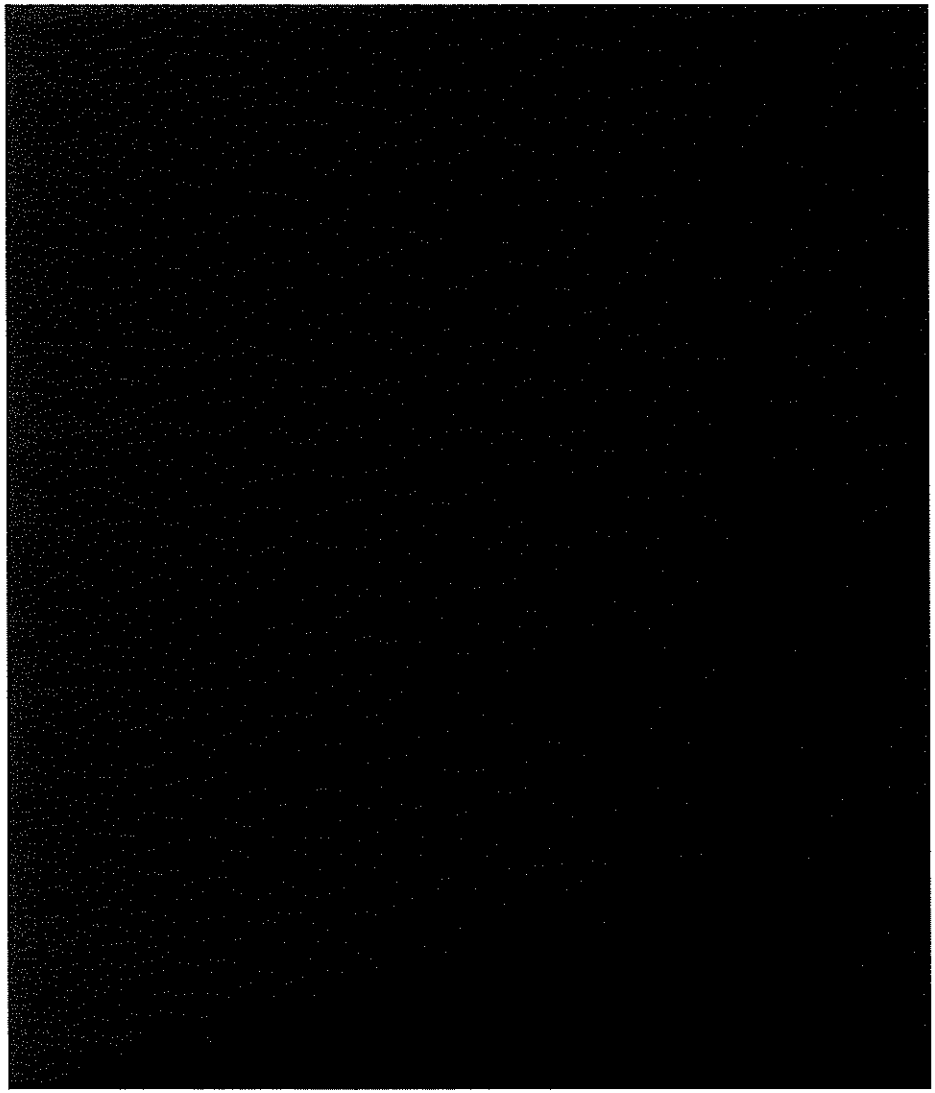
Main Rotor Blades Folding

[redacted]

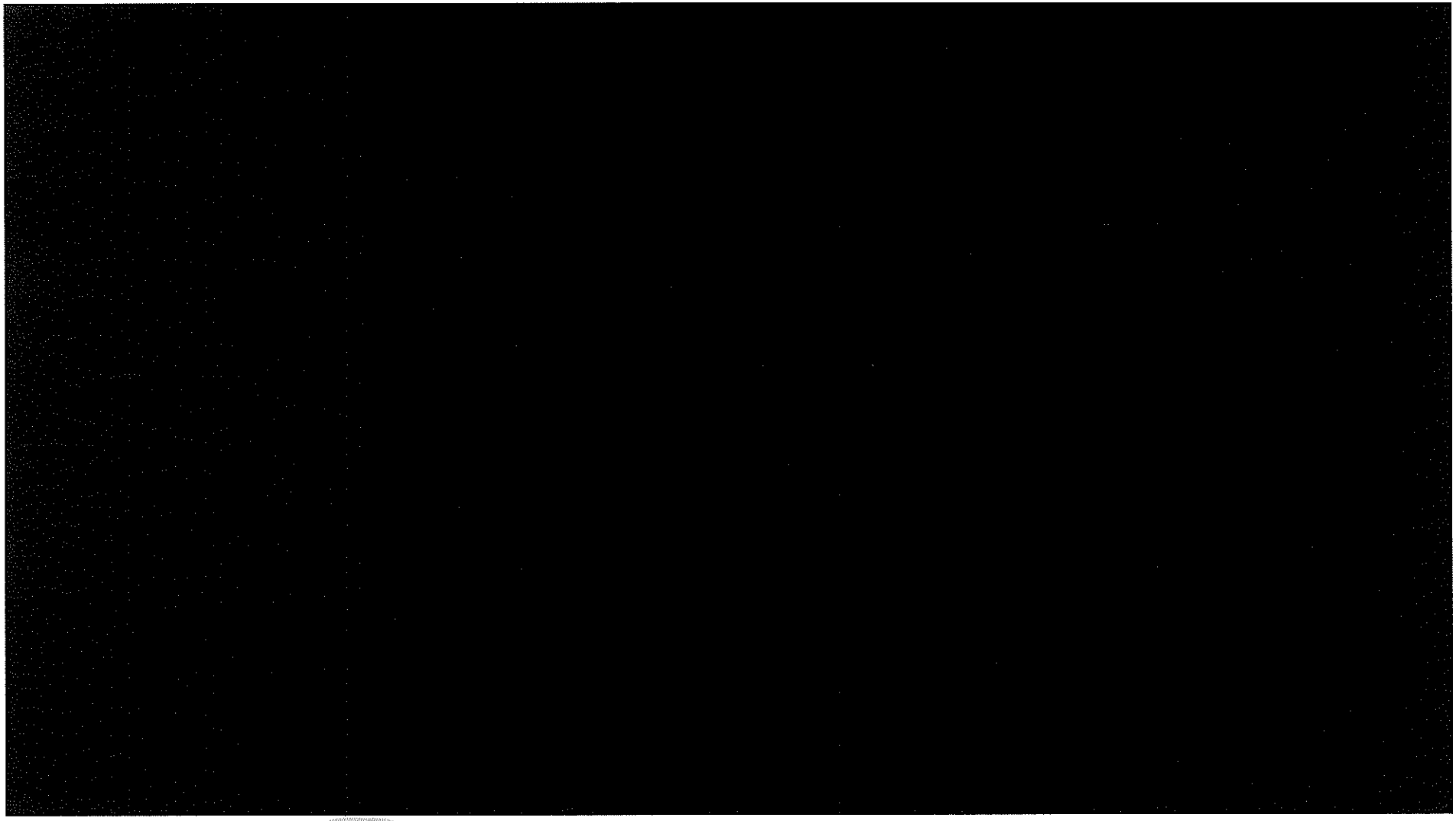
1 - 5 Fig 15 Spring Bias Unit



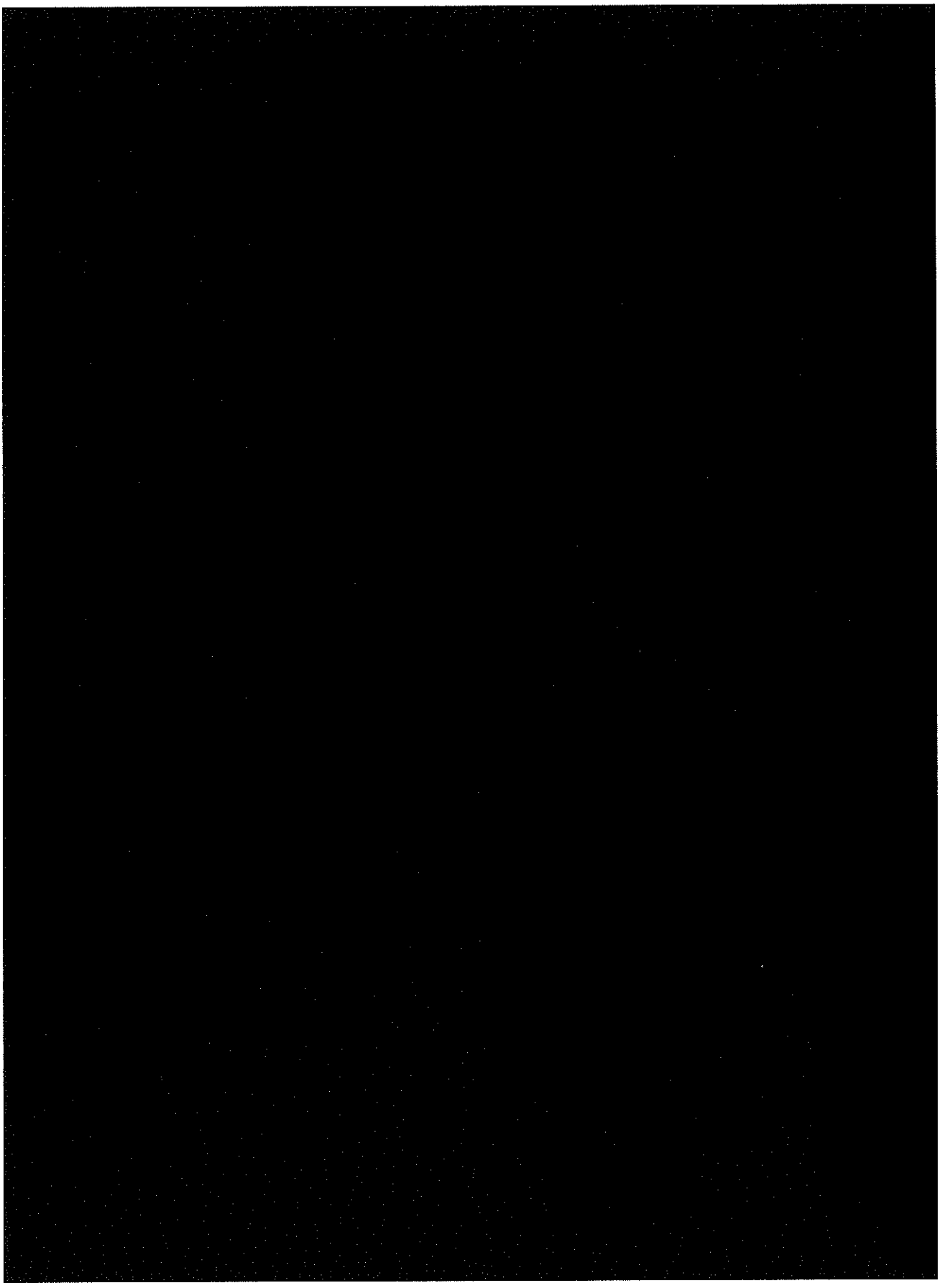
1 - 5 Fig 16 Cyclic Control



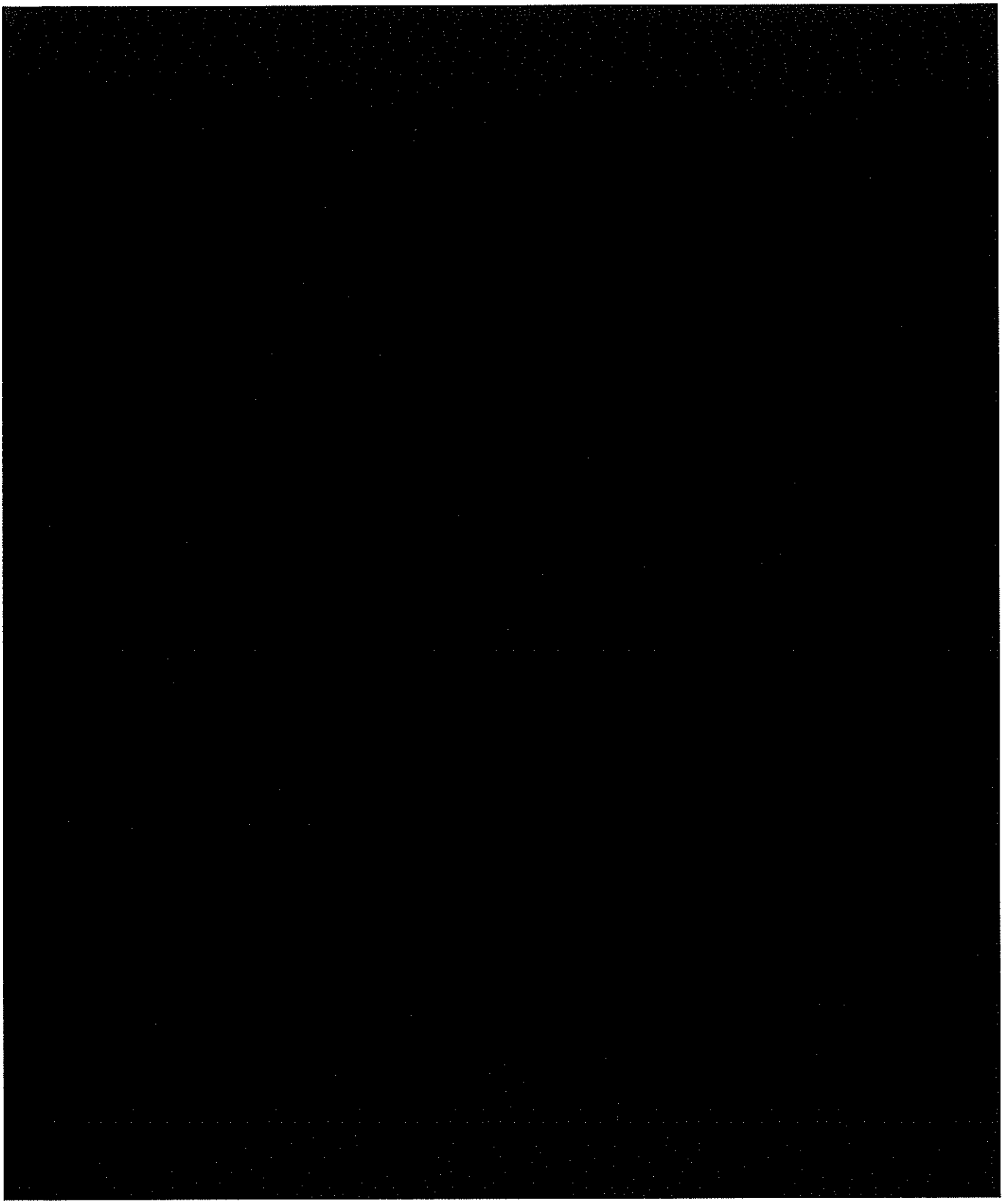
1 - 5 Fig 17 Tail Rotor Assembly



1 - 5 Fig 18 Yaw Control



1 - 5 Fig 19 Collective to Yaw Pitch Interlink



1 - 5 Fig 20 Tail Pylon Folding

PART 1

CHAPTER 6 - FLIGHT CONTROL SYSTEM

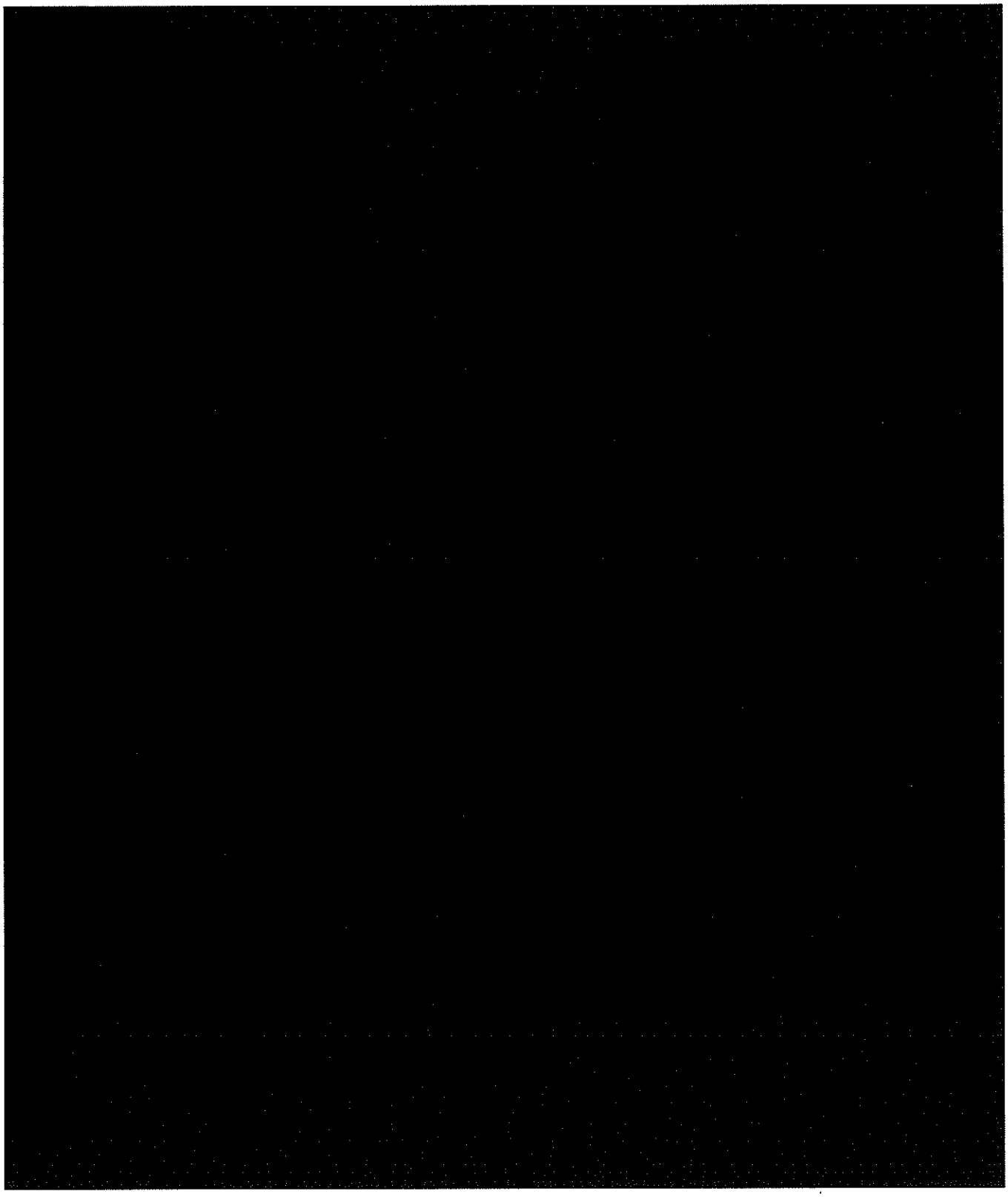
Contents

GENERAL

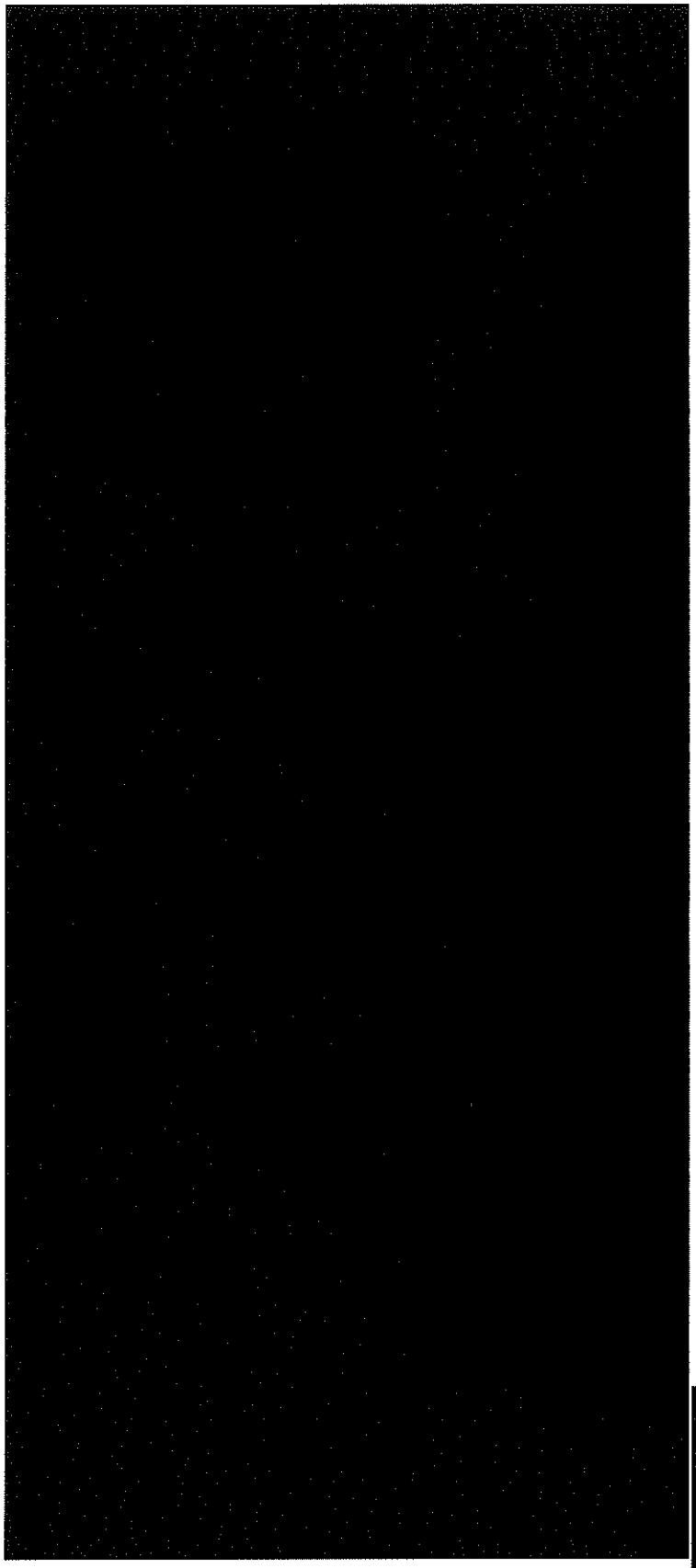
General

[redacted]

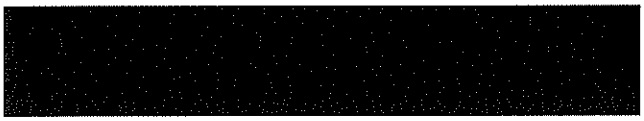
[redacted]

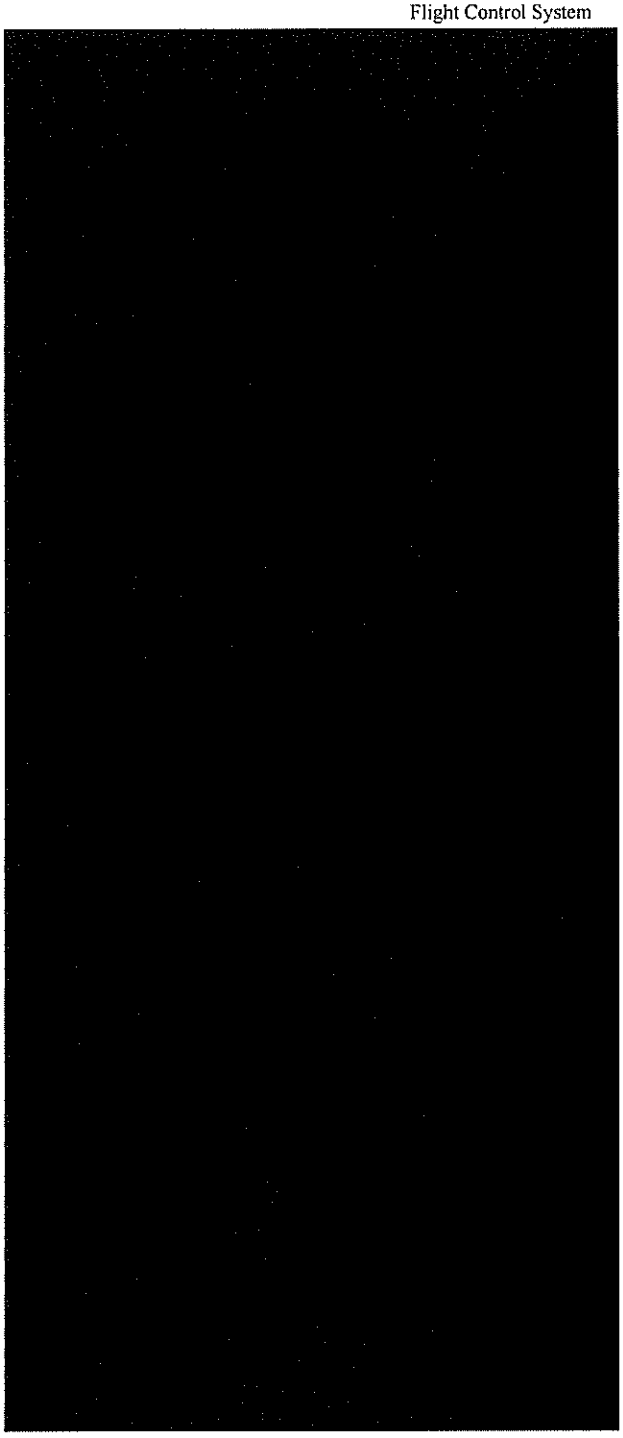


1 - 6 Fig 1 FCS General Arrangement

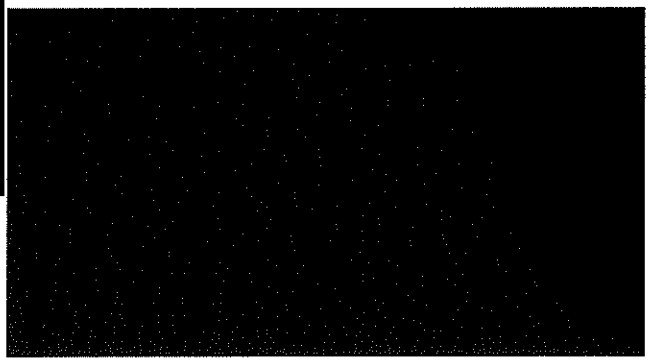


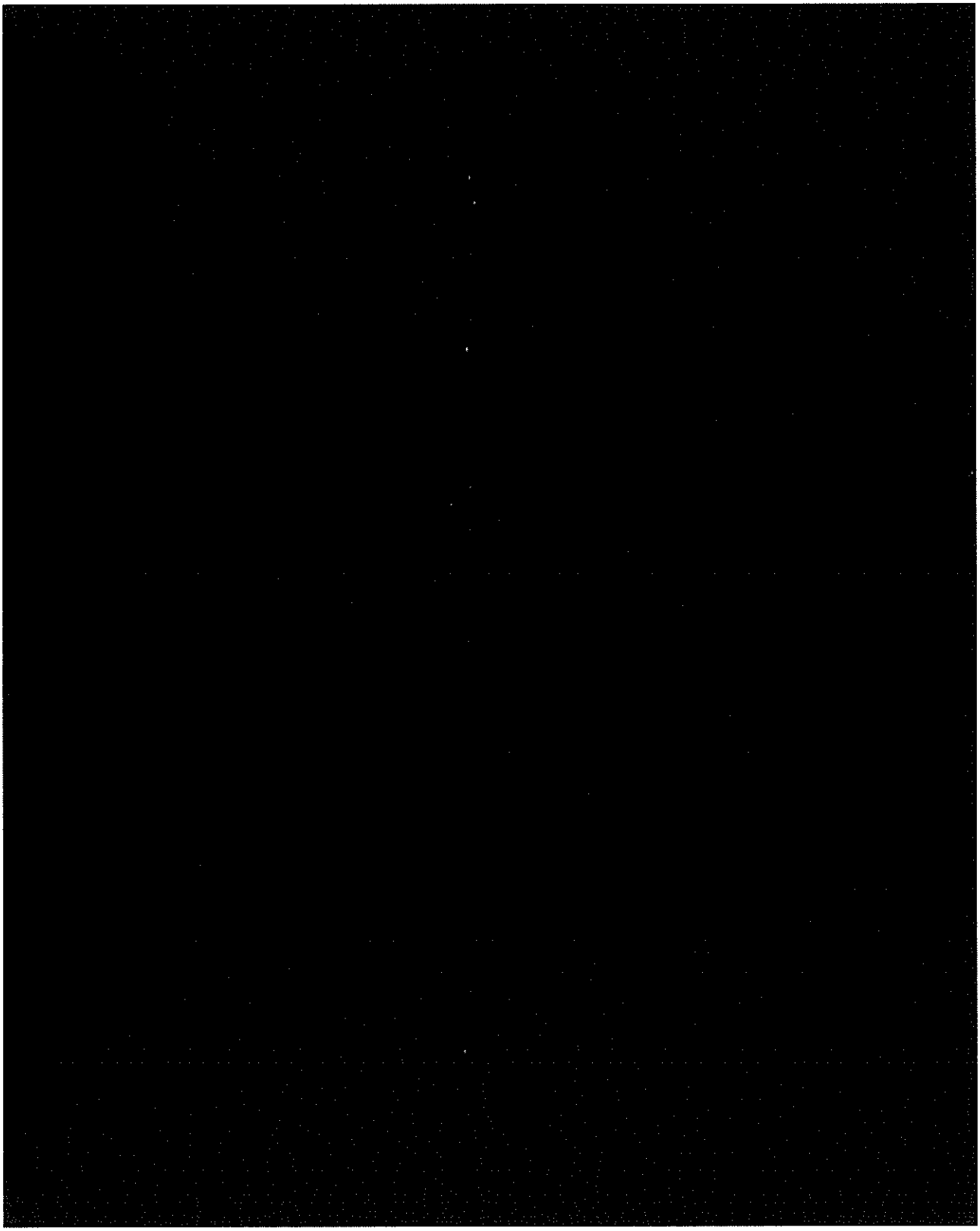
FCS Controller





FCS Disengagement

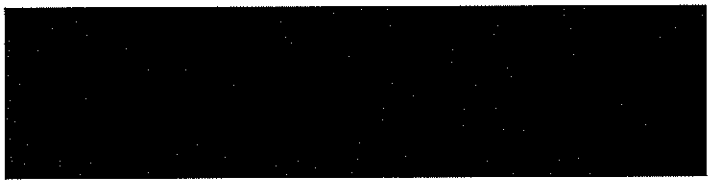




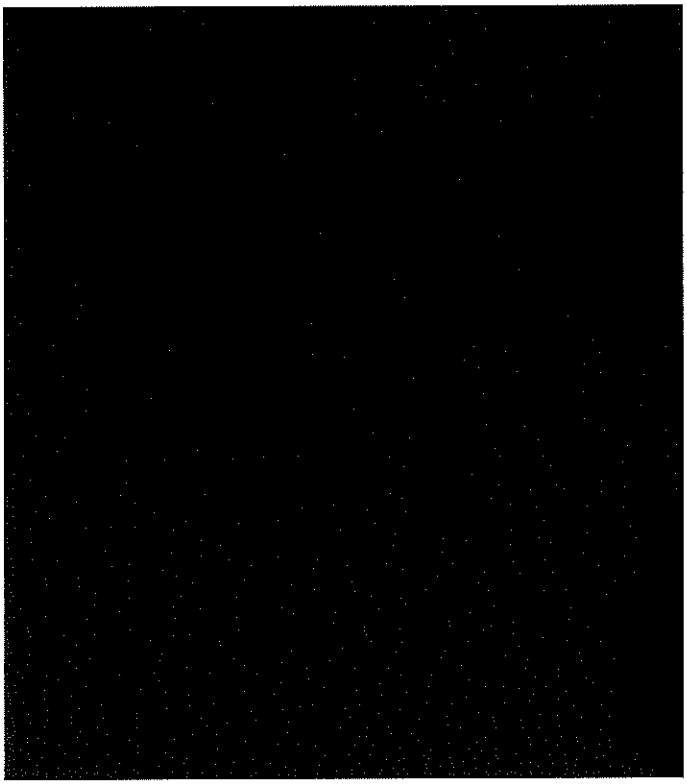
1 - 6 Fig 2 Controls and Indicators, General Arrangement

1 - 6 Fig 3 FCS Controller

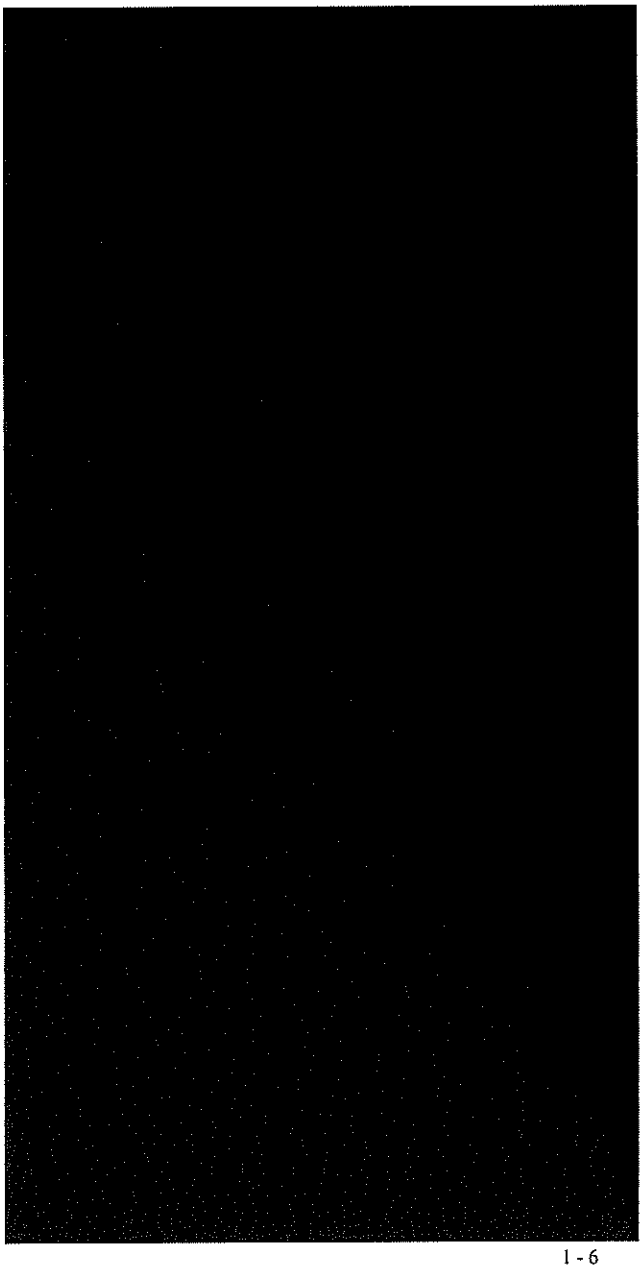
Rate Gyros

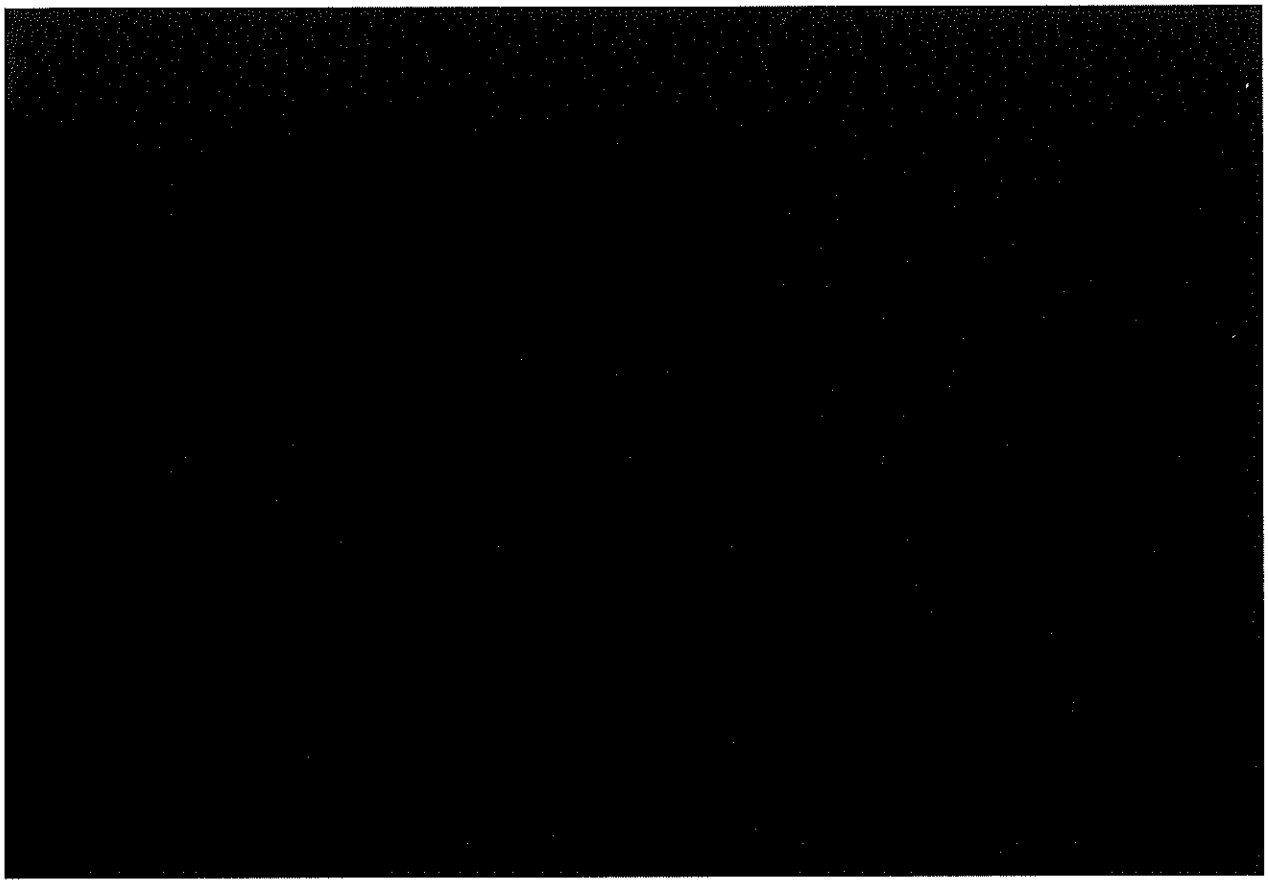


Vertical Reference System

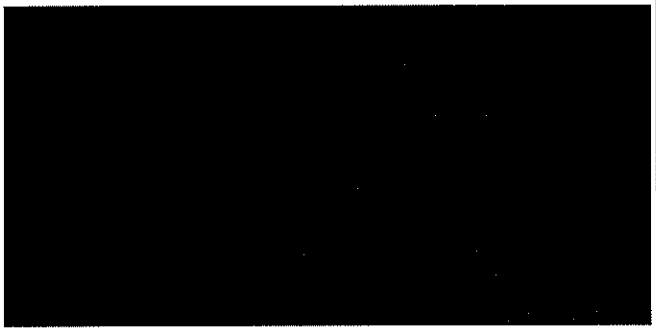


Pitch Channel Operation

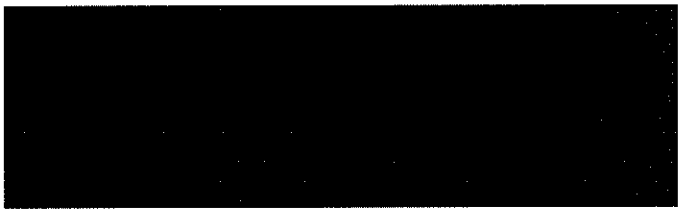




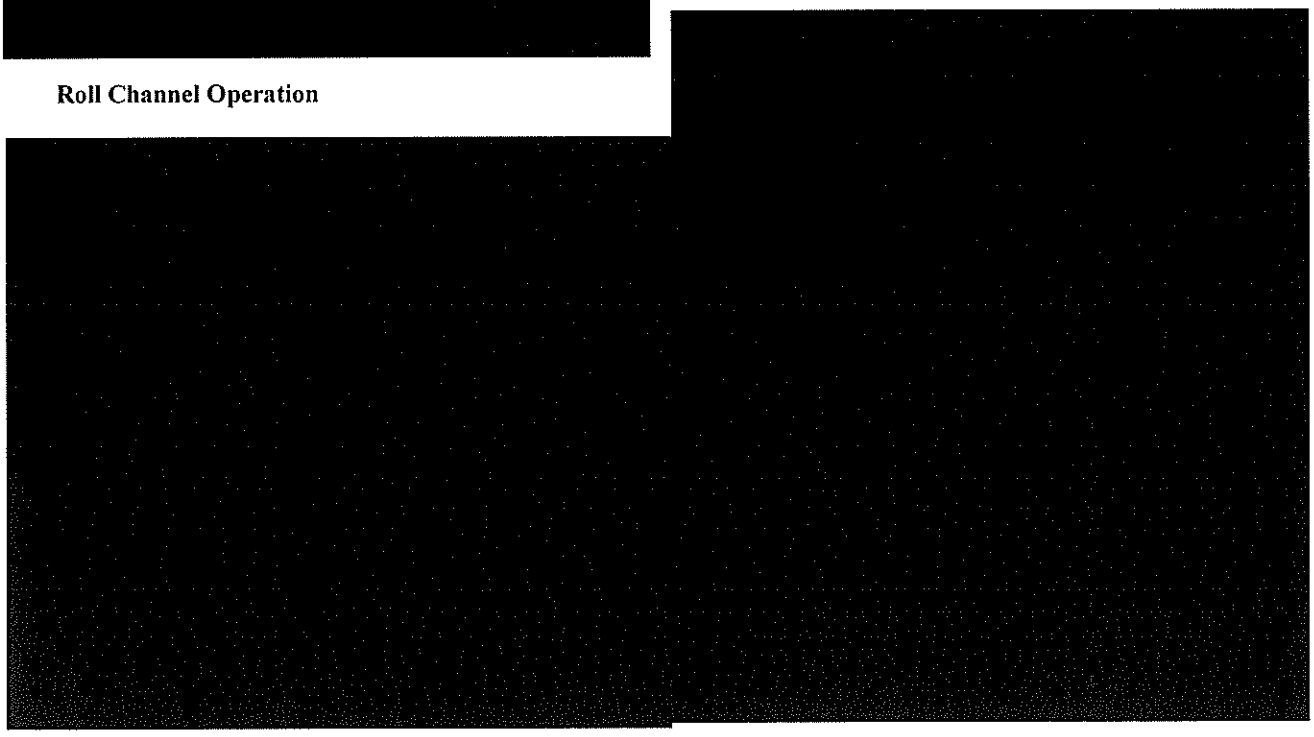
1 - 6 Fig 4 FCS Pitch Channel

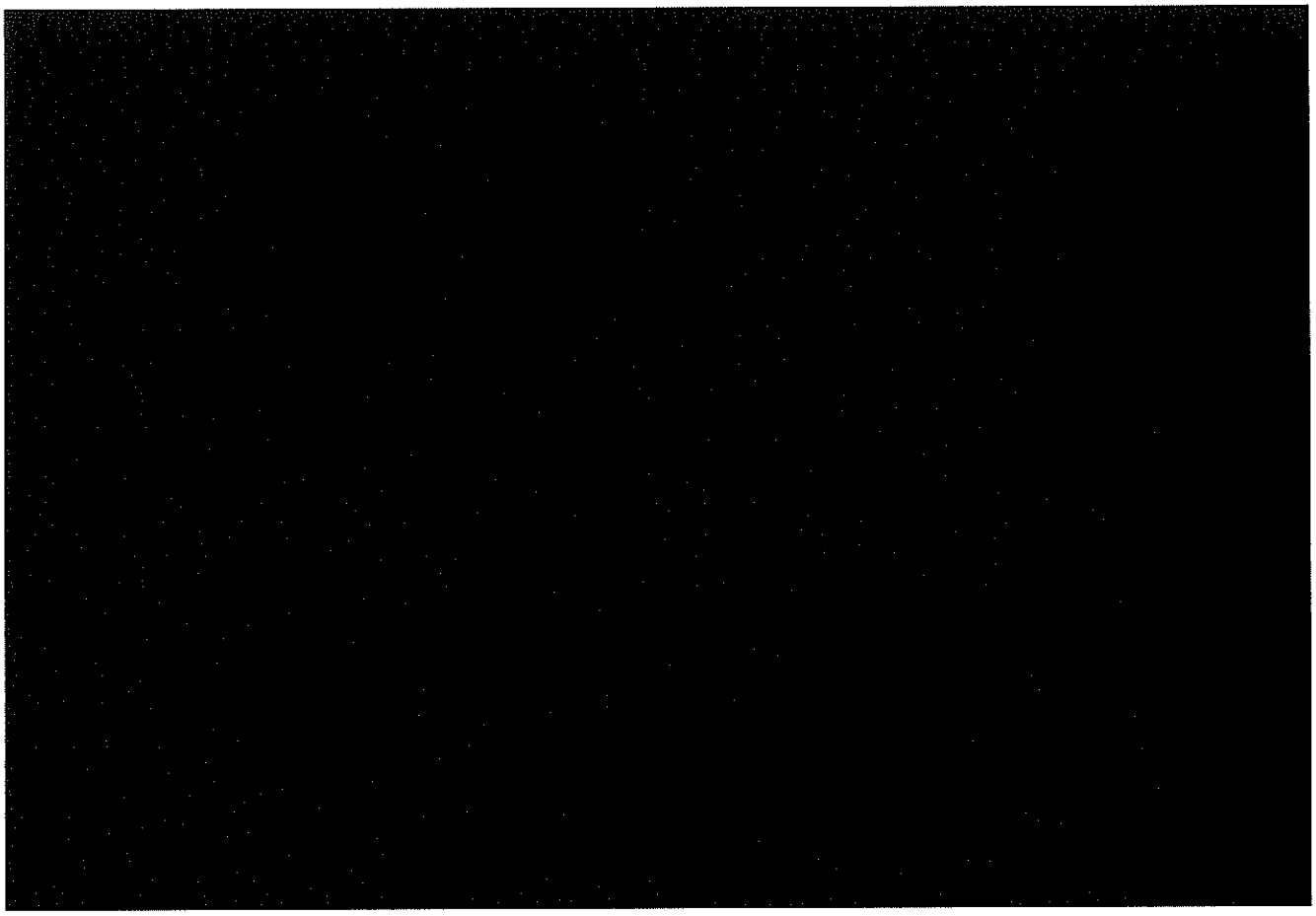


Roll Channel Operation

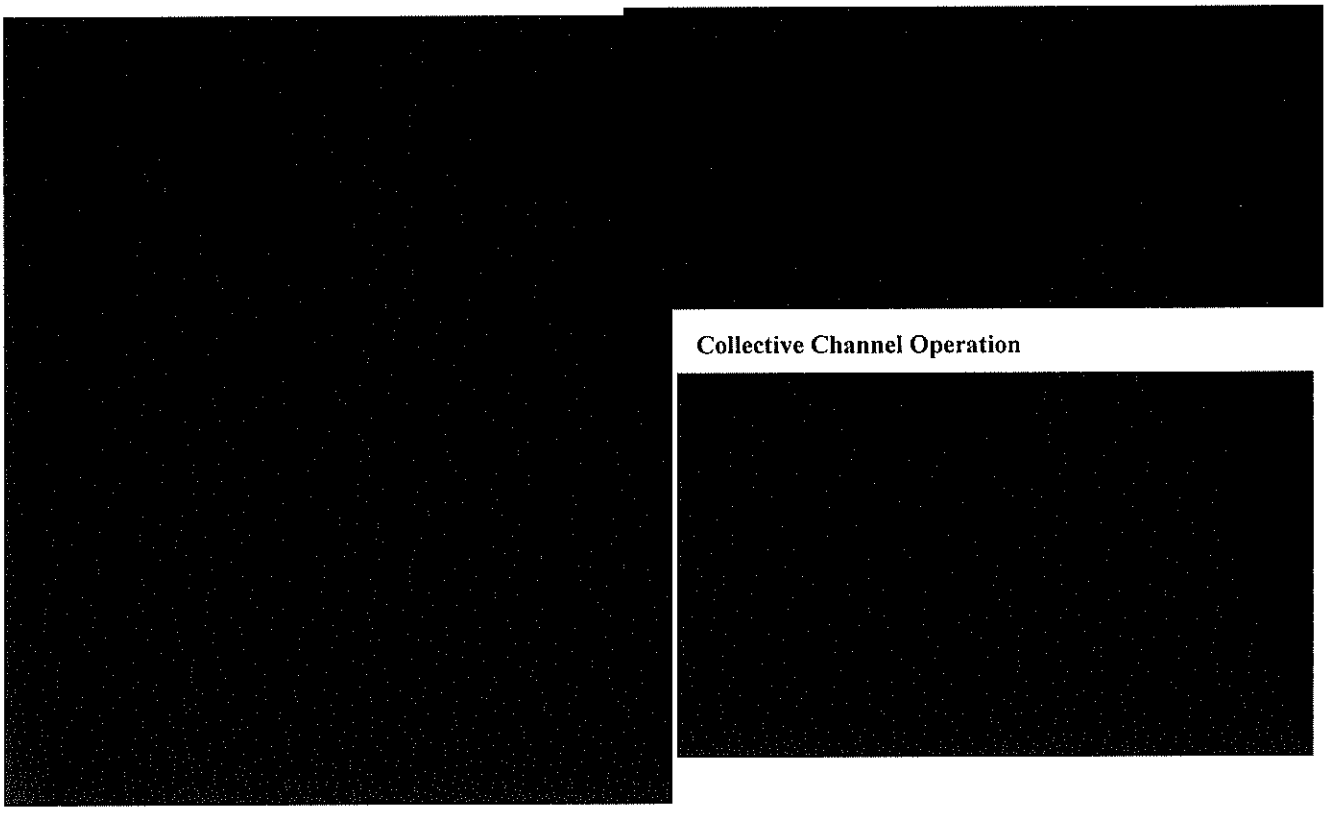


Yaw Channel Operation



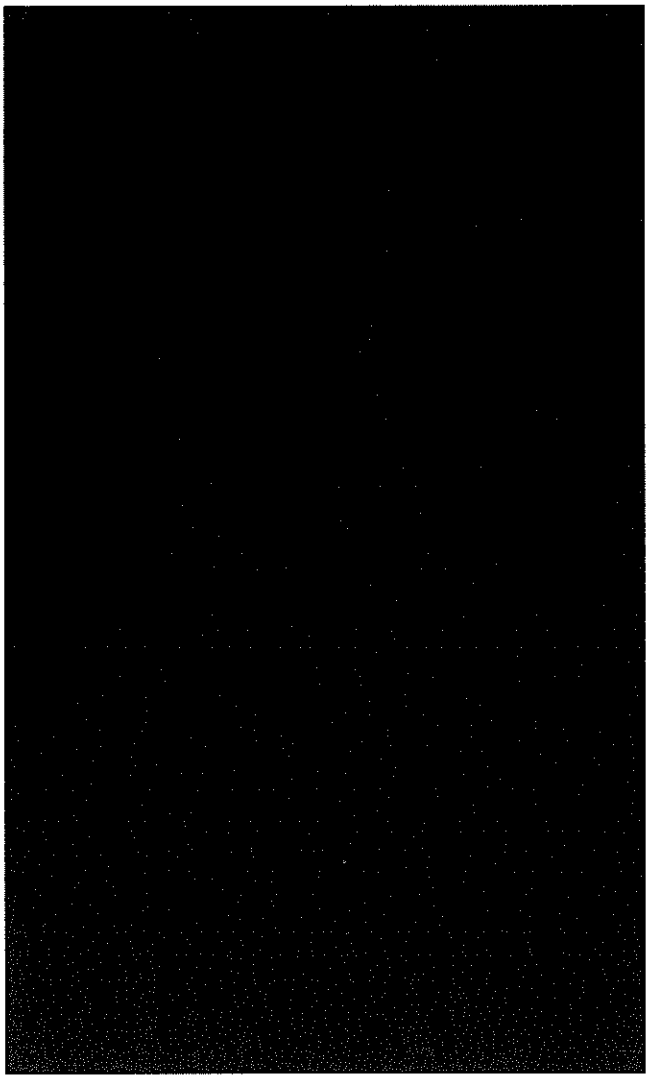


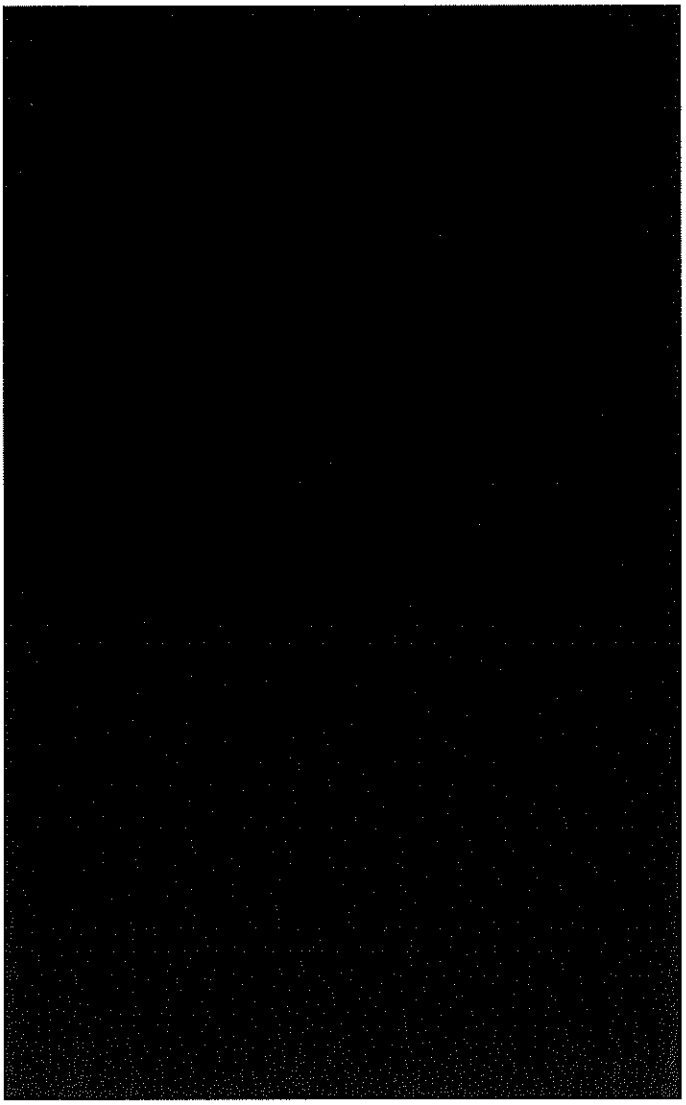
1 - 6 Fig 5 FCS Roll Channel

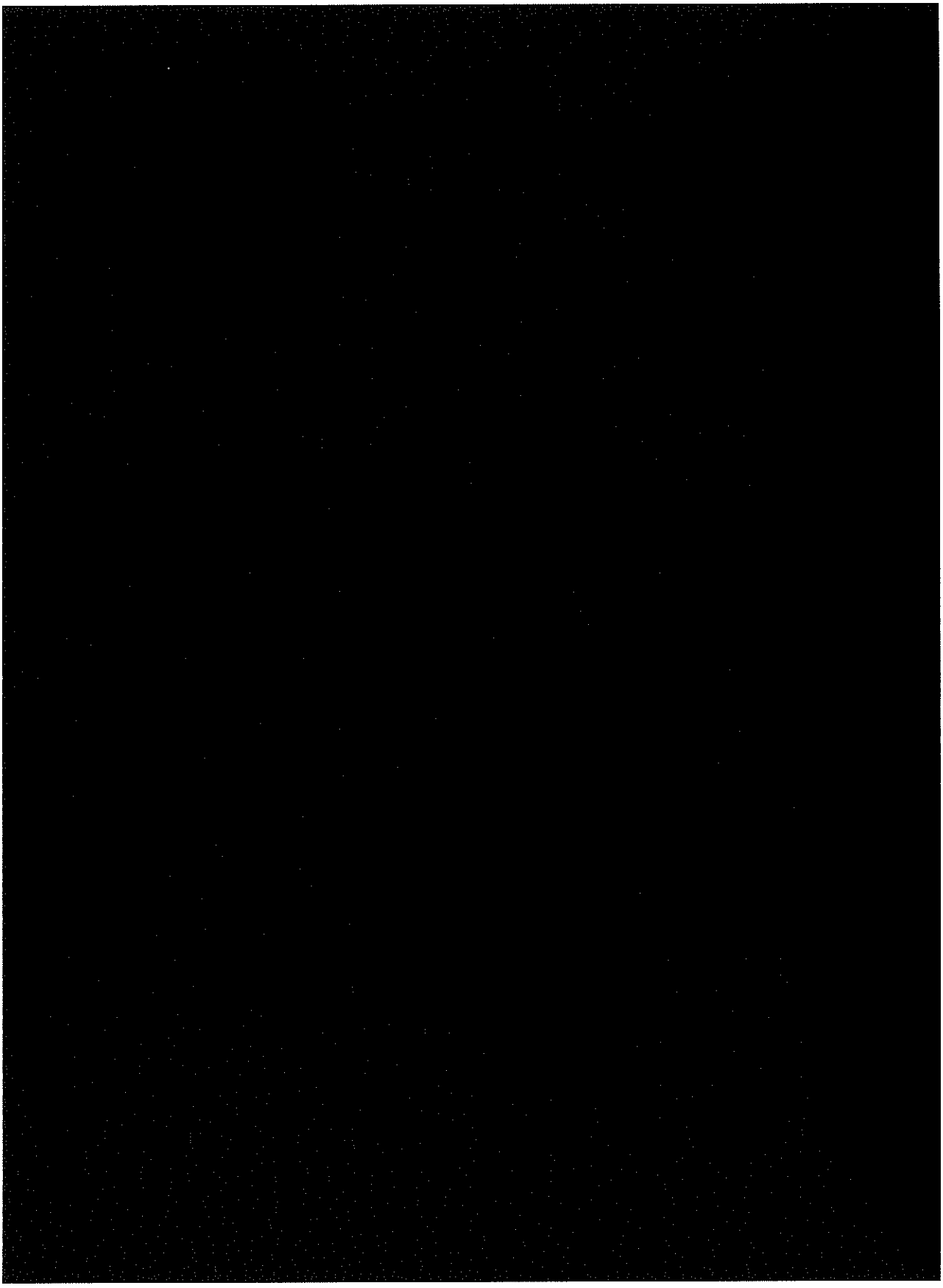


Collective Channel Operation

1 - 6 Fig 6 FCS Yaw Channel







1 - 6 Fig 8 Test Controller

Table 1 - FCS Modes, Engagement Disengagement

Facility	*Engage*	*Disengage*
[redacted]		

Testing

[redacted]

In-flight Operation

[redacted]

MALFUNCTIONING

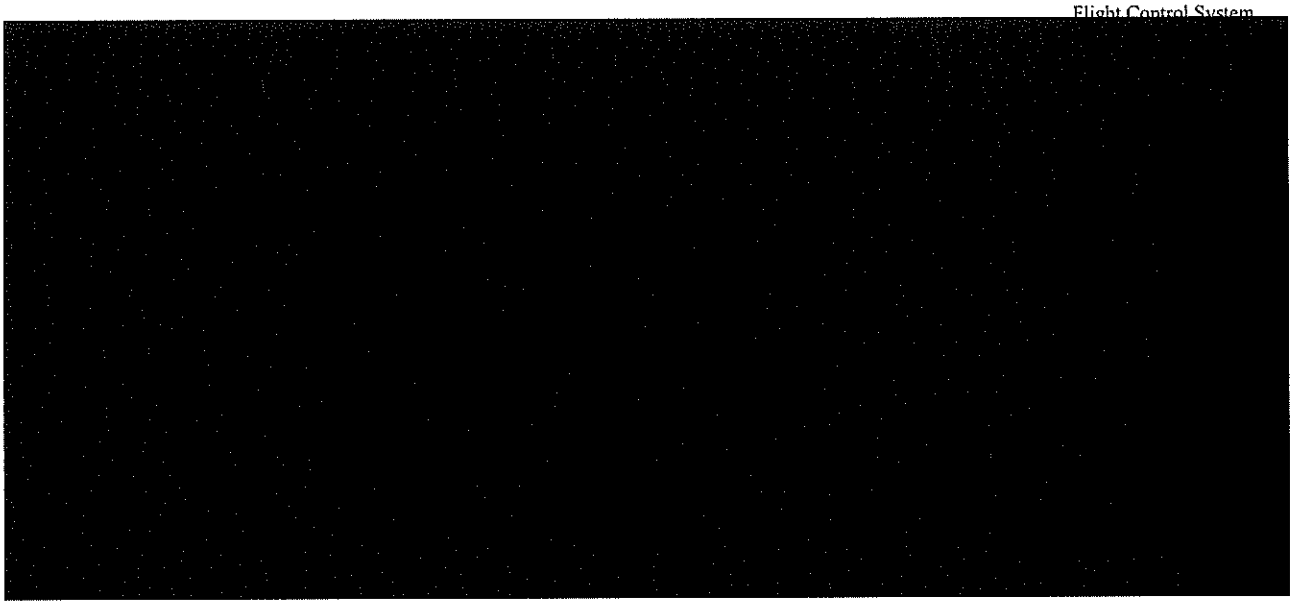
Systems Failures

[redacted]

NORMAL USE

General

[redacted]



Intentionally Blank

PART 1

CHAPTER 7 - HYDRAULIC SYSTEMS

Contents

GENERAL

General

[redacted]

Table 1 - Services Supplied from No 3 Hydraulic System

Service	*Reference*
Rotor brake.	Part 1, Chap 5.
Wheel lock release.	Part 1, Chap 10.
Nosewheel castoring.	Part 1, Chap 10.
Harpoon.	Part 1, Chap 10.
Hoist.	Part 1, Chap 9.

[redacted]

Controls and Indicators

[redacted]

Electrical Power Supplies

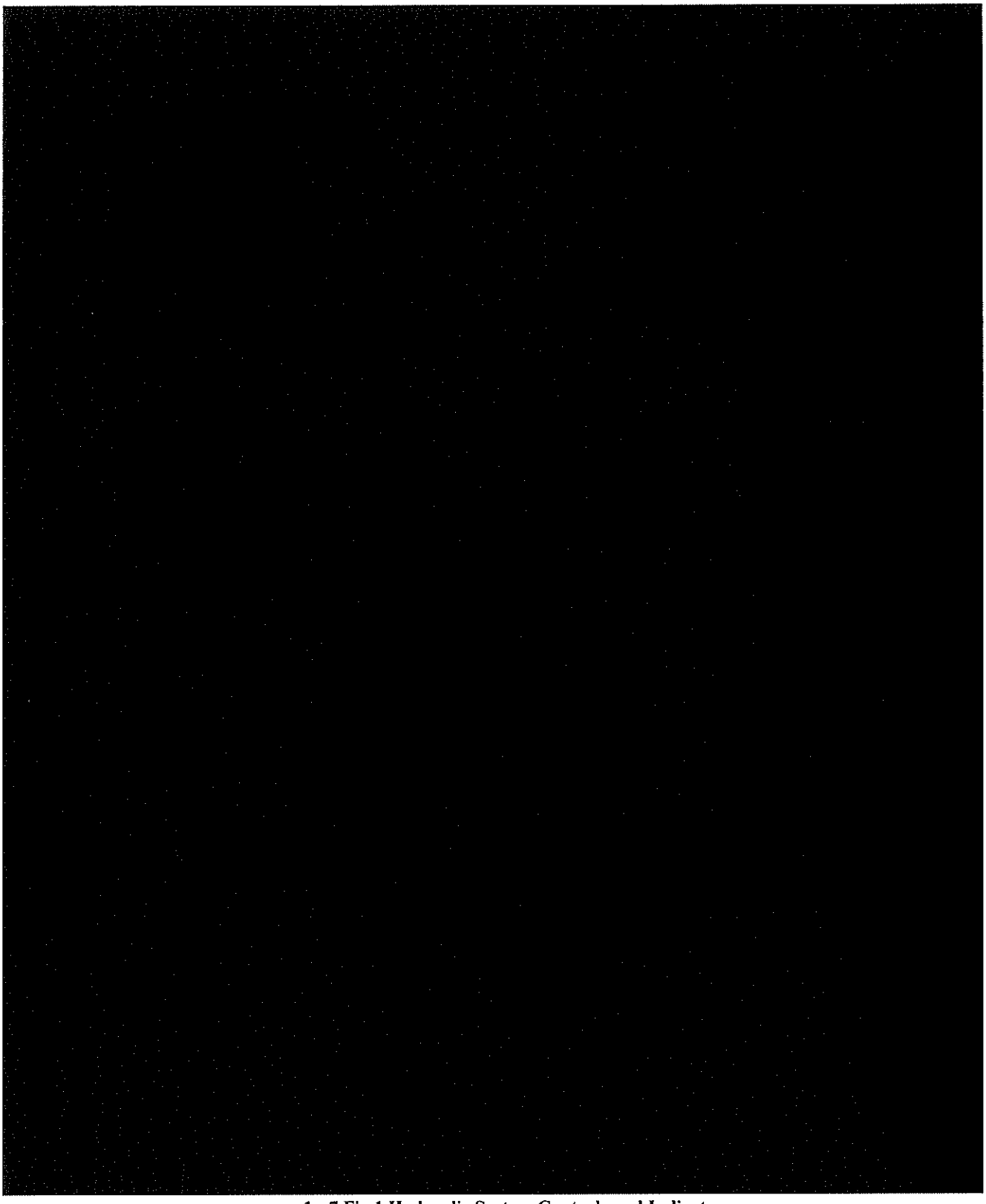
[redacted]

No 1 and No 2 Hydraulic Systems, General

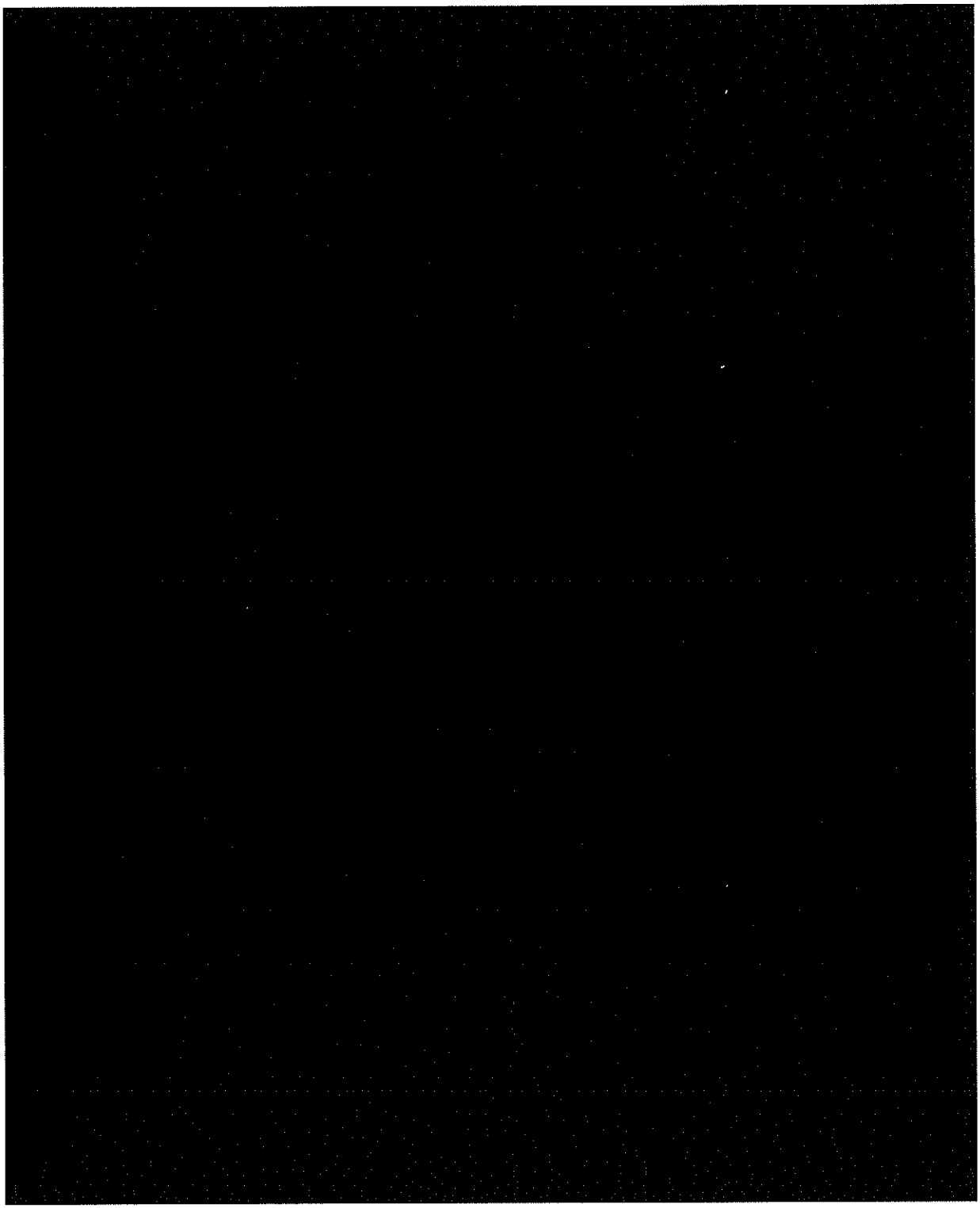
[redacted]

Table 2 - Hydraulic Systems, Controls and Indicators

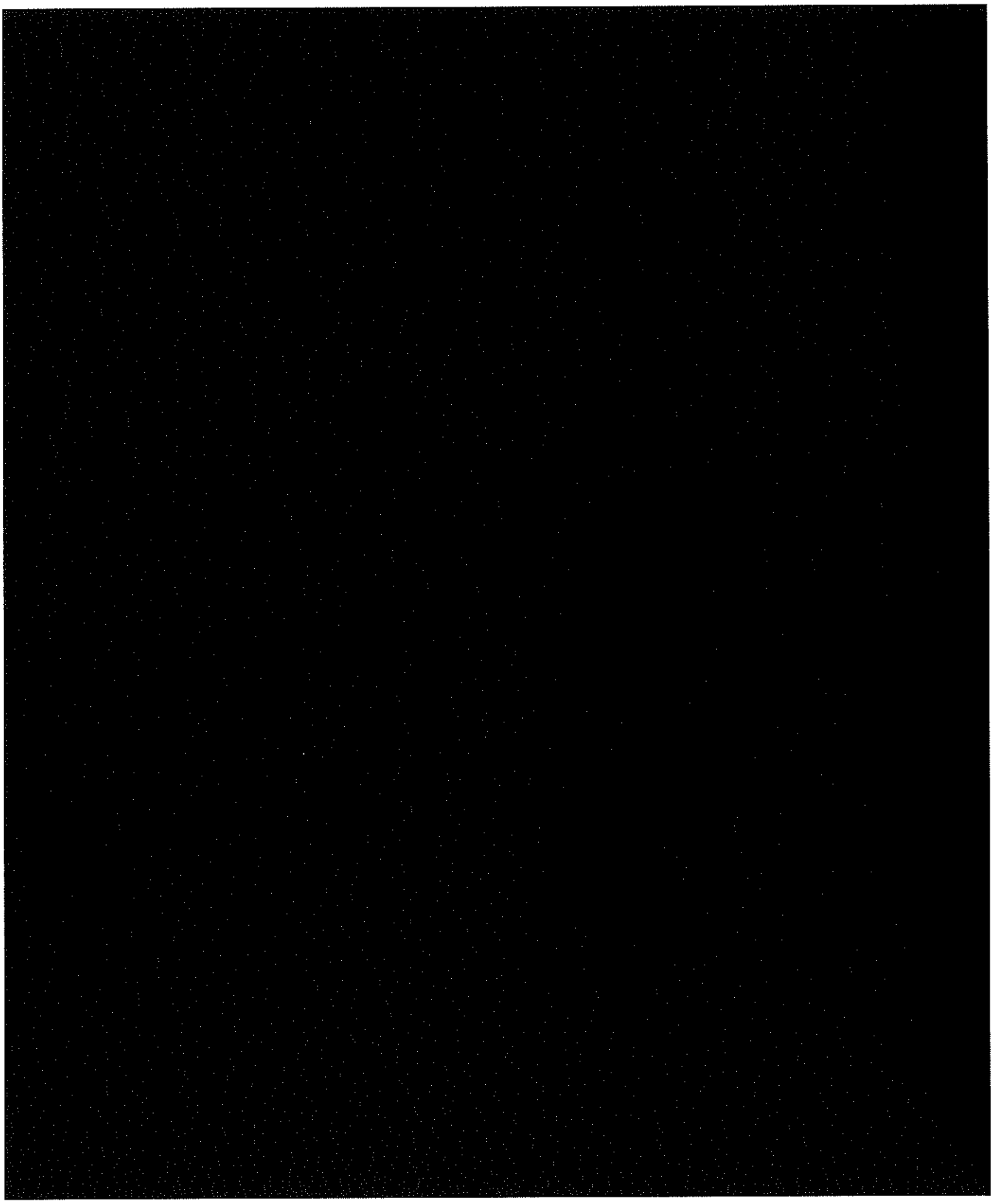
Control/Indicator	*Marking*	*Location*
[redacted]		



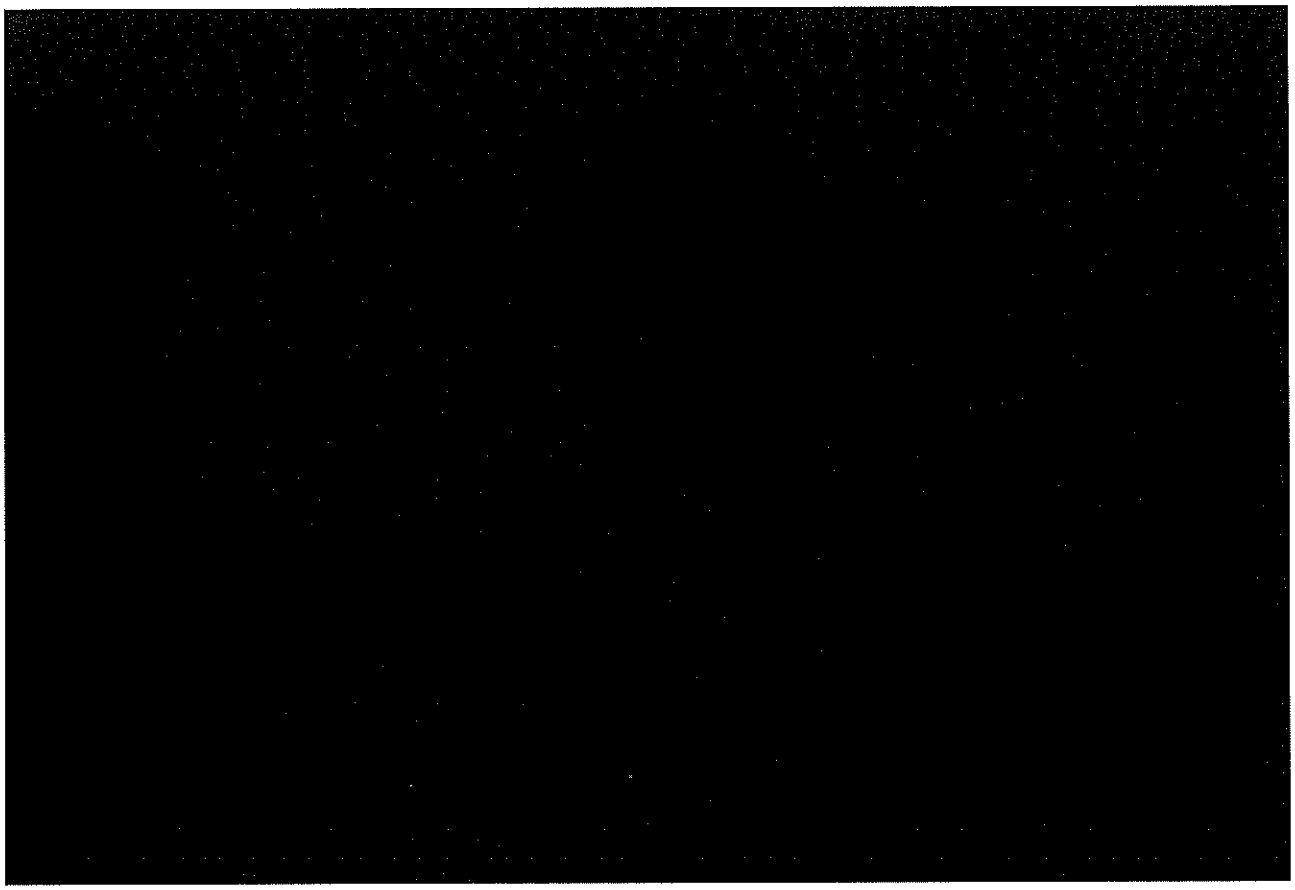
1 - 7 Fig 1 Hydraulic System Controls and Indicators



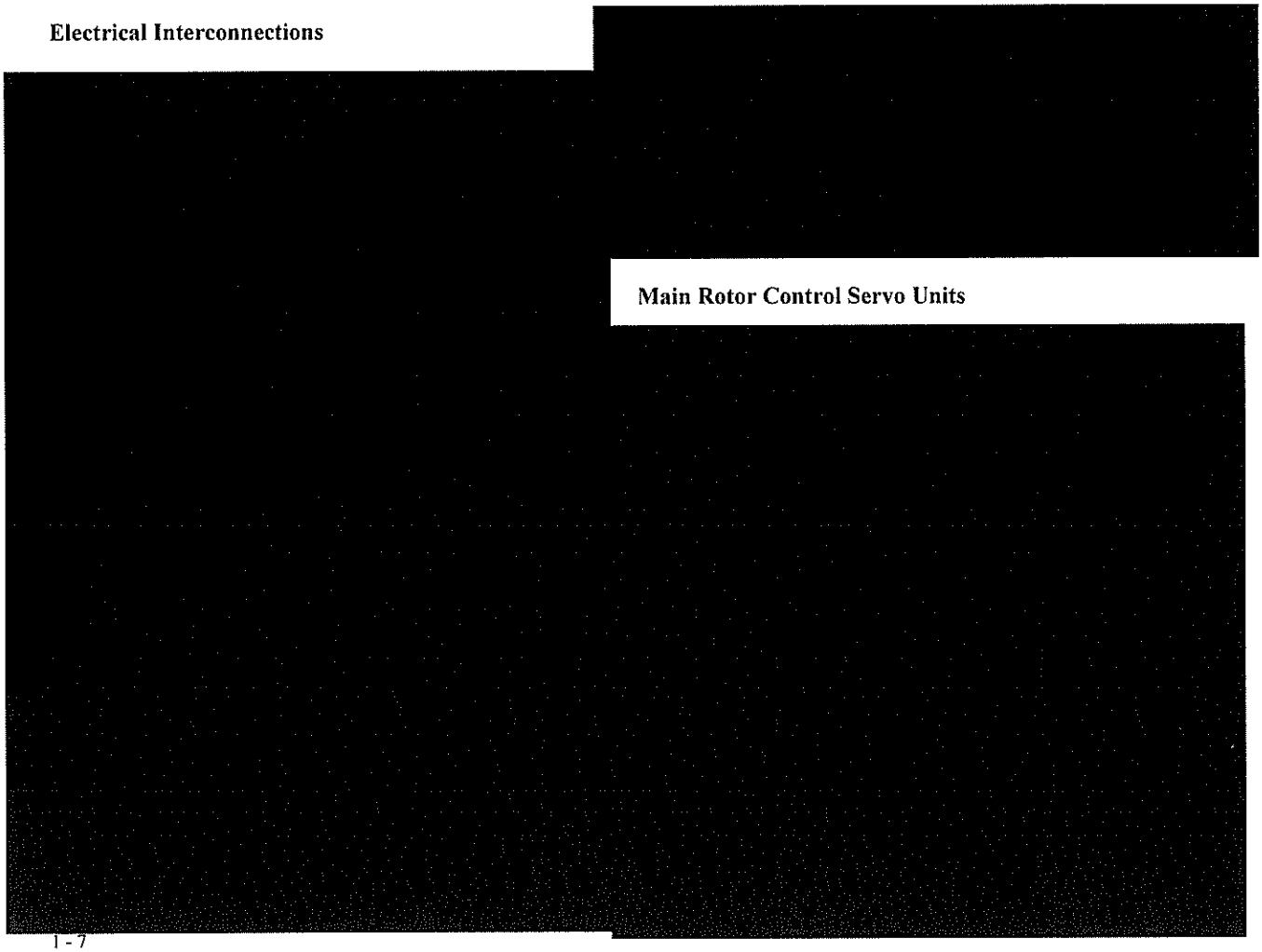
1 - 7 Fig 2 Hydraulic Systems Schematic

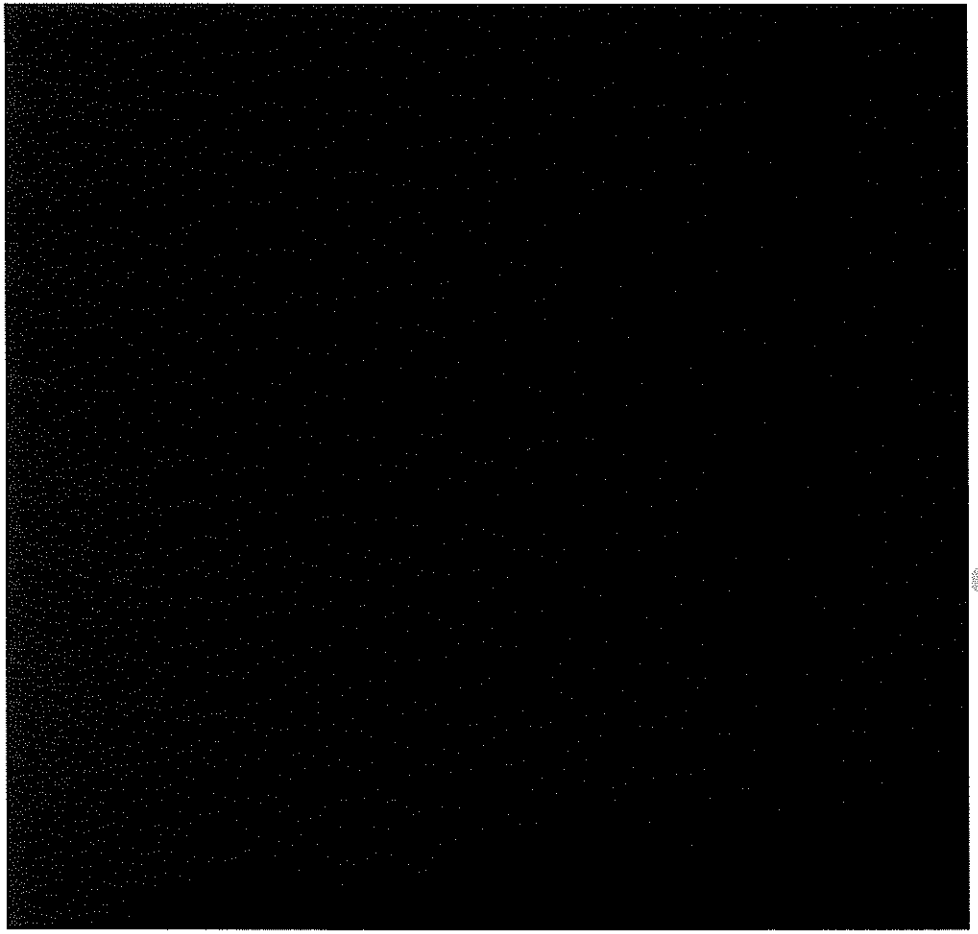


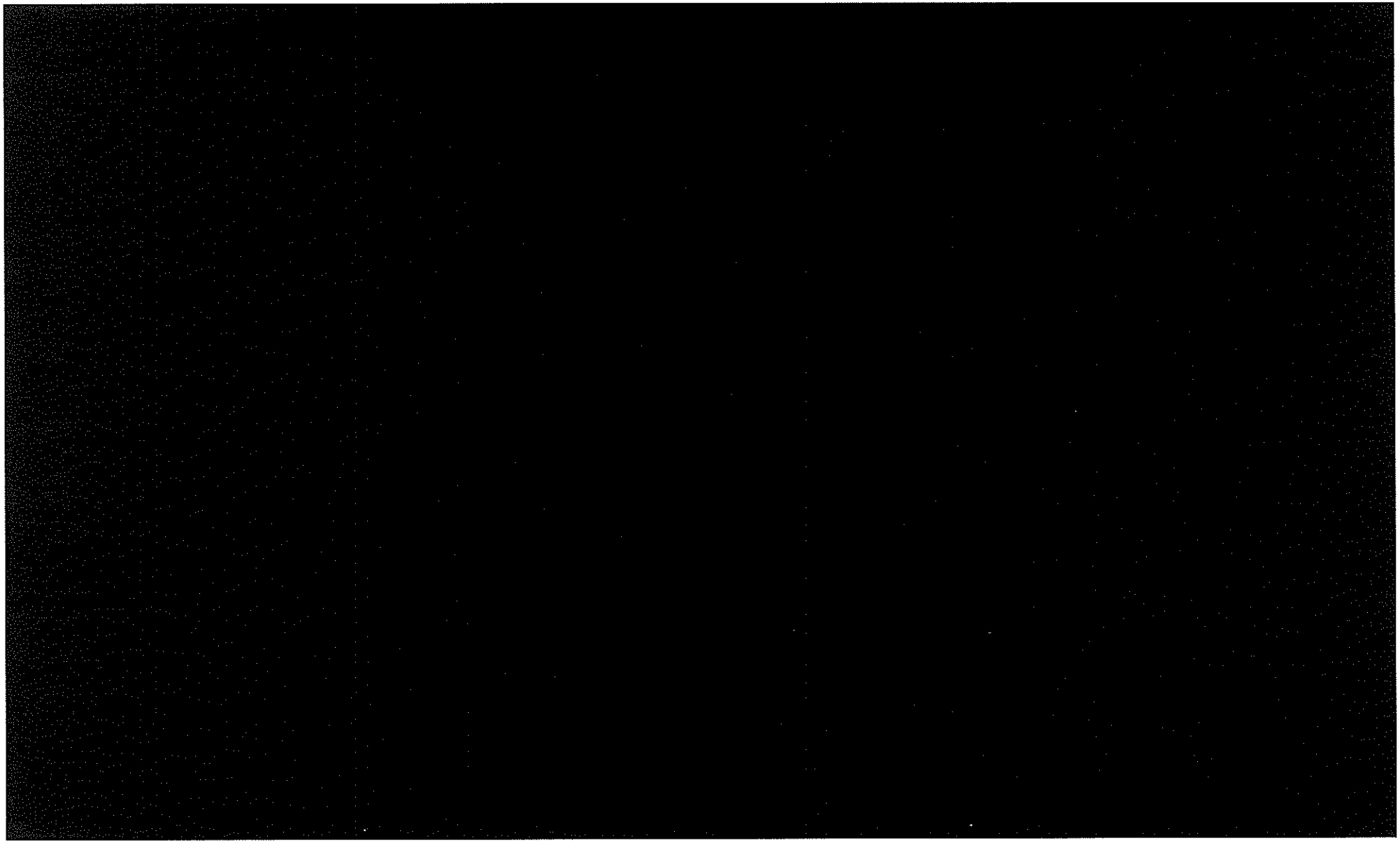
1 - 7 Fig 3 No 1 and 2 Hydraulic Systems



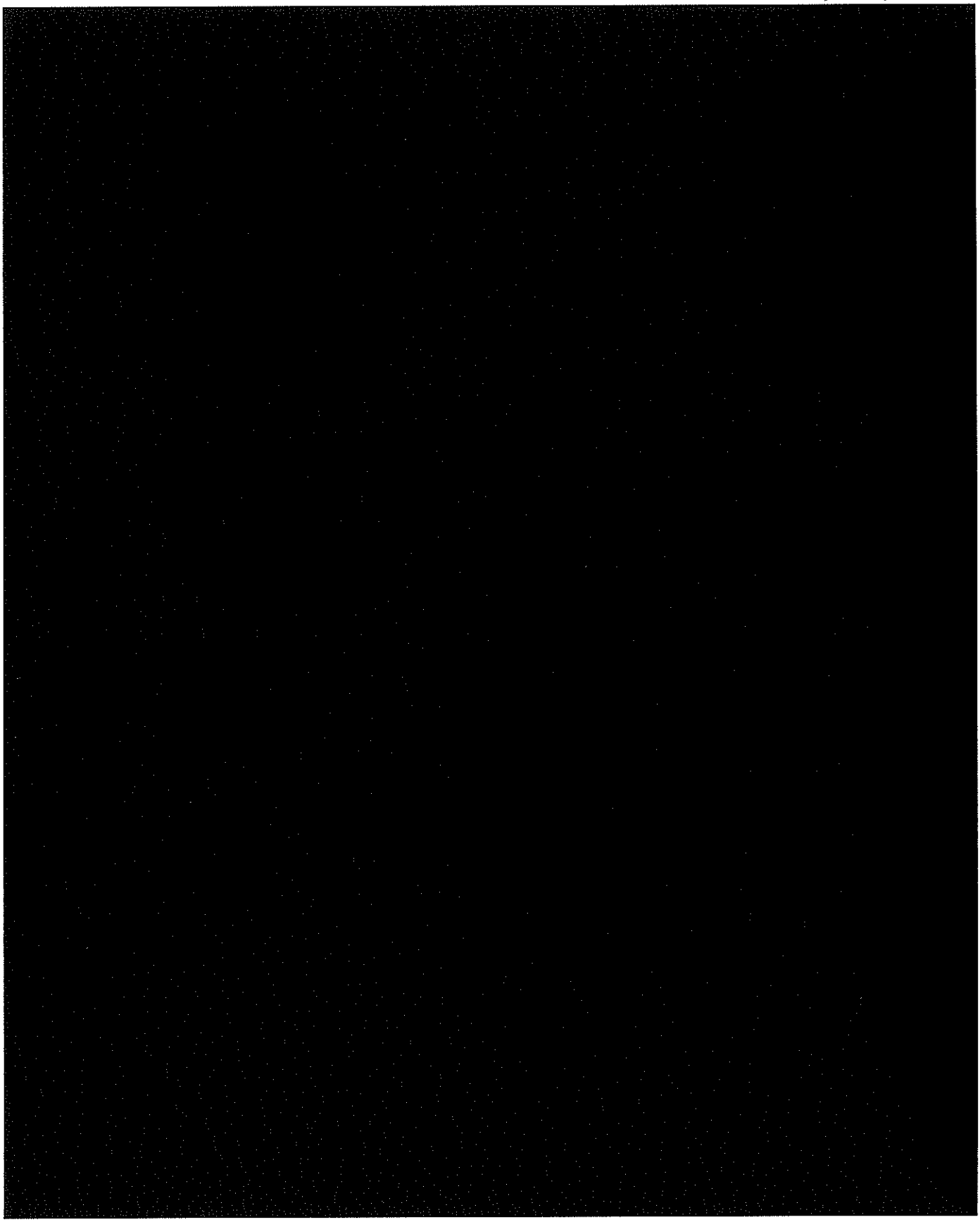
1 - 7 Fig 4 Electrical Interconnections



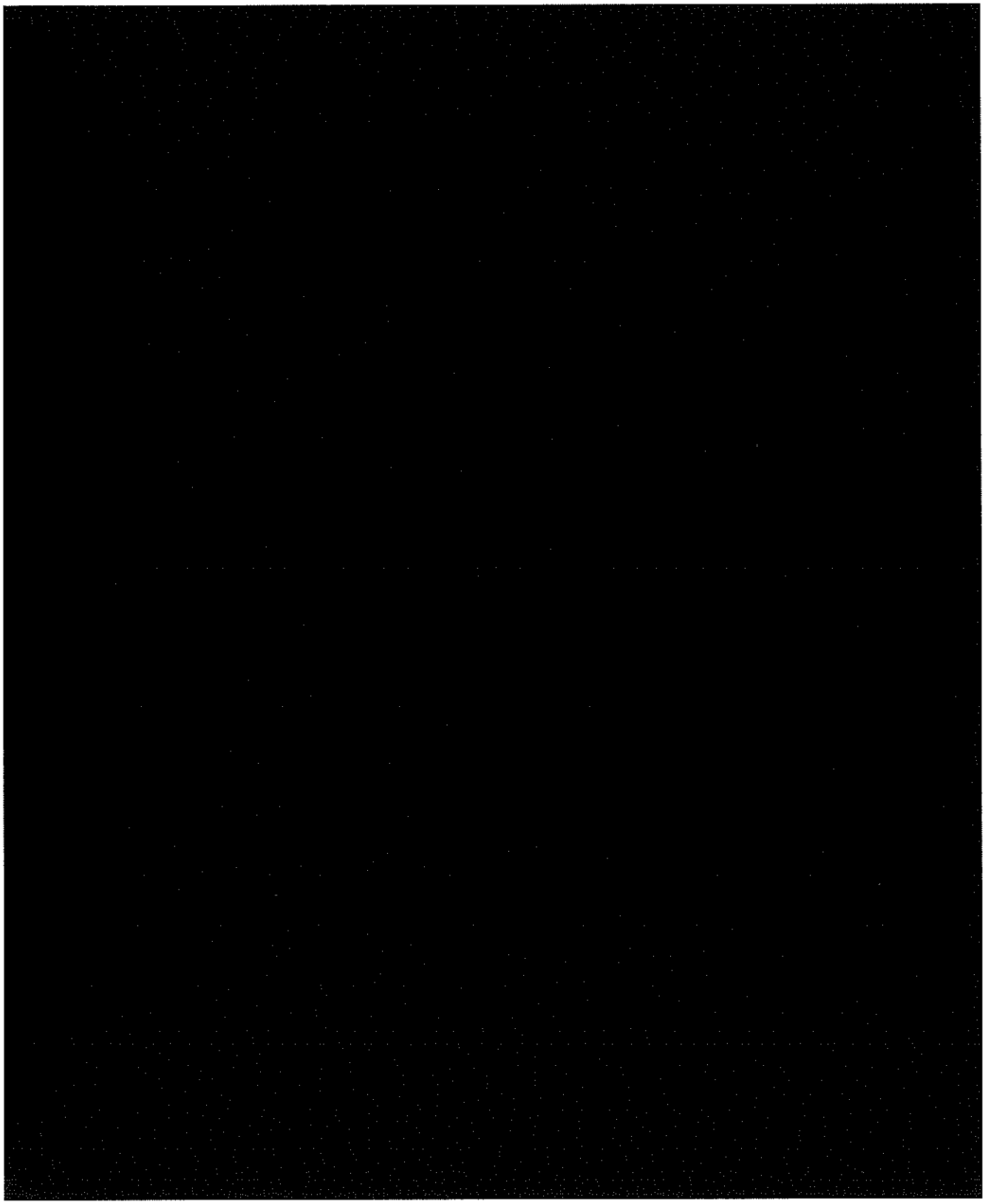




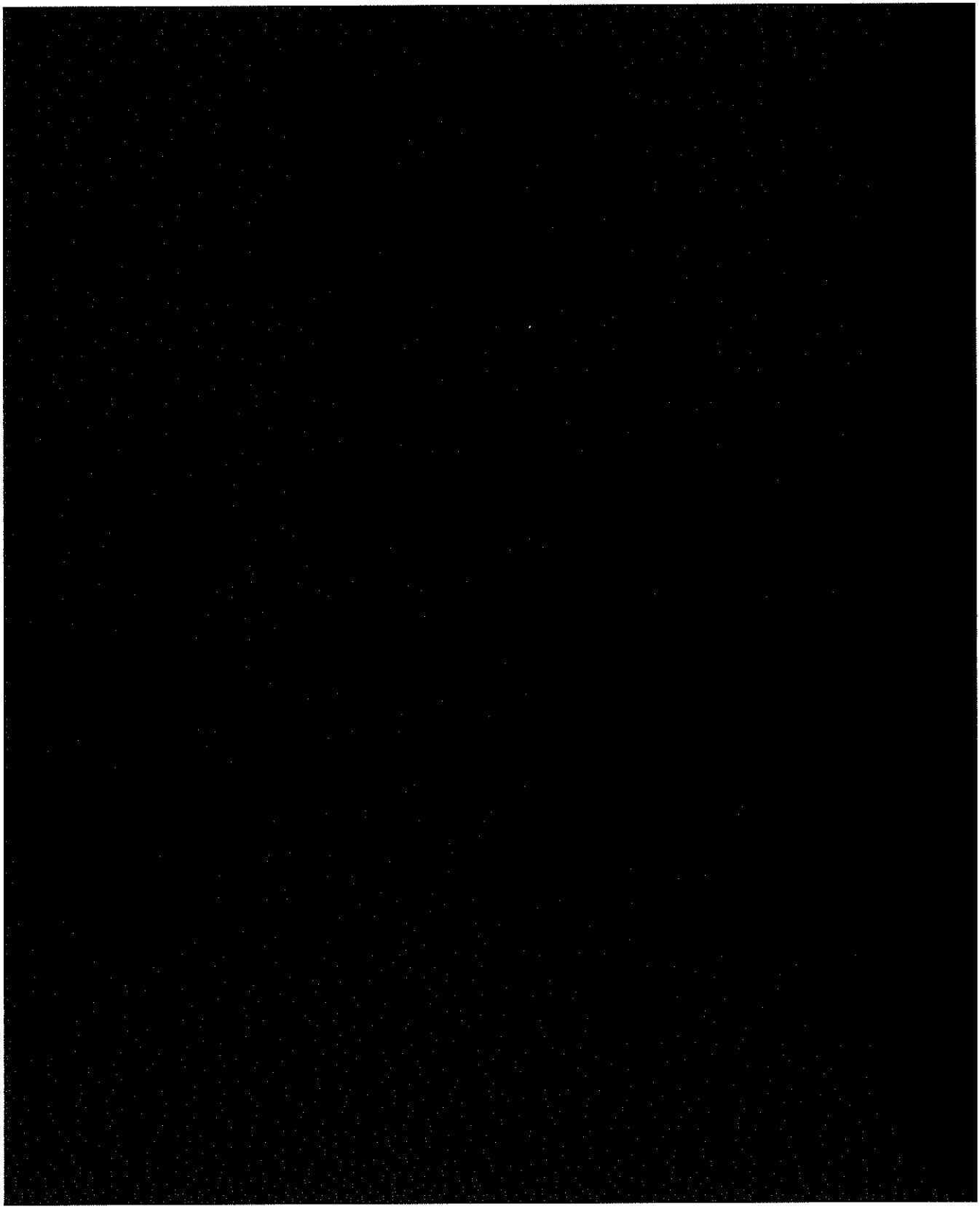
1 - 7 Fig 5 Main Rotor Control Servo Unit



1 - 7 Fig 6 Main Rotor Control Servo Unit, Pilot Controlled Input

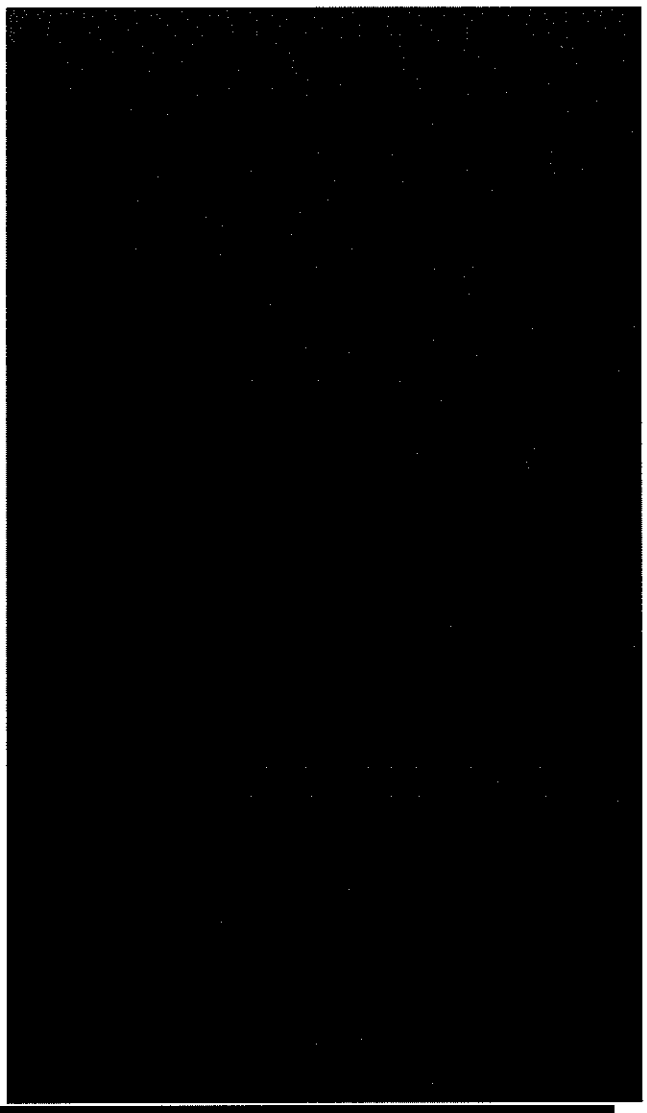


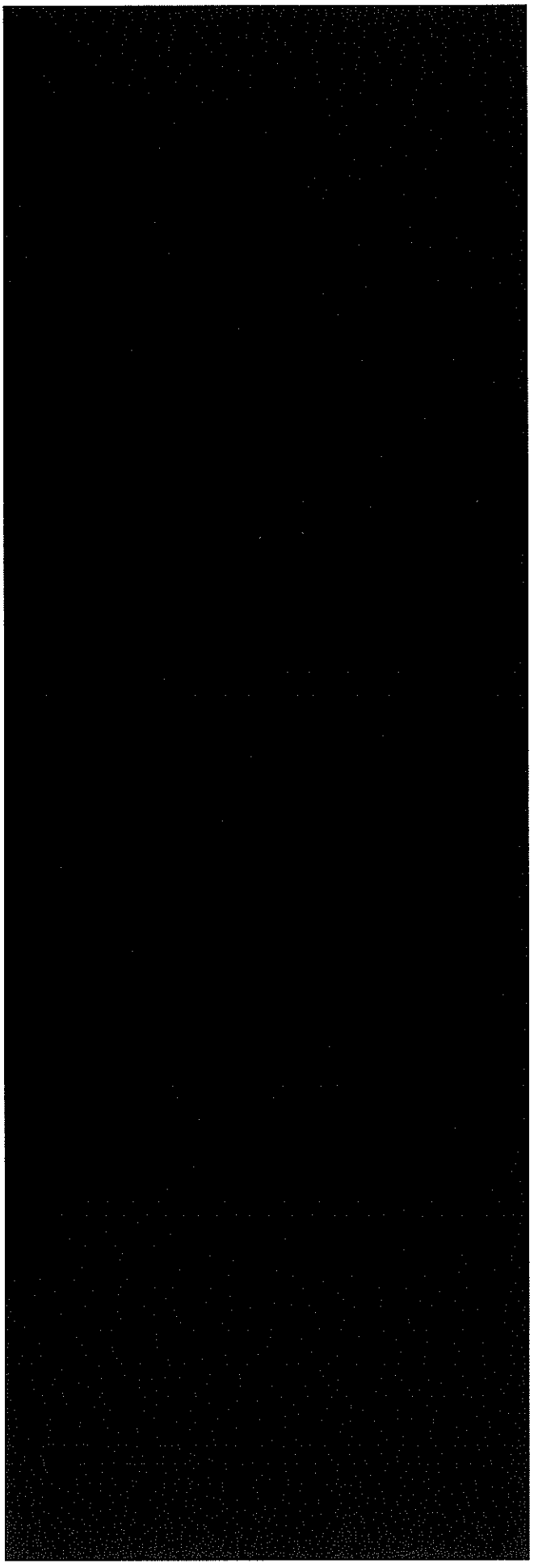
1 - 7 Fig 7 Main Rotor Control Servo Unit, FCS Inputs

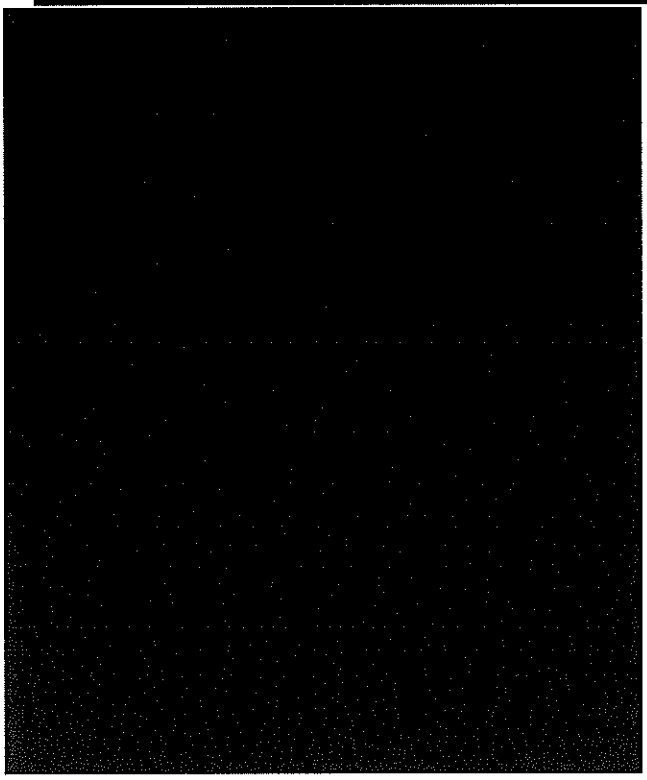


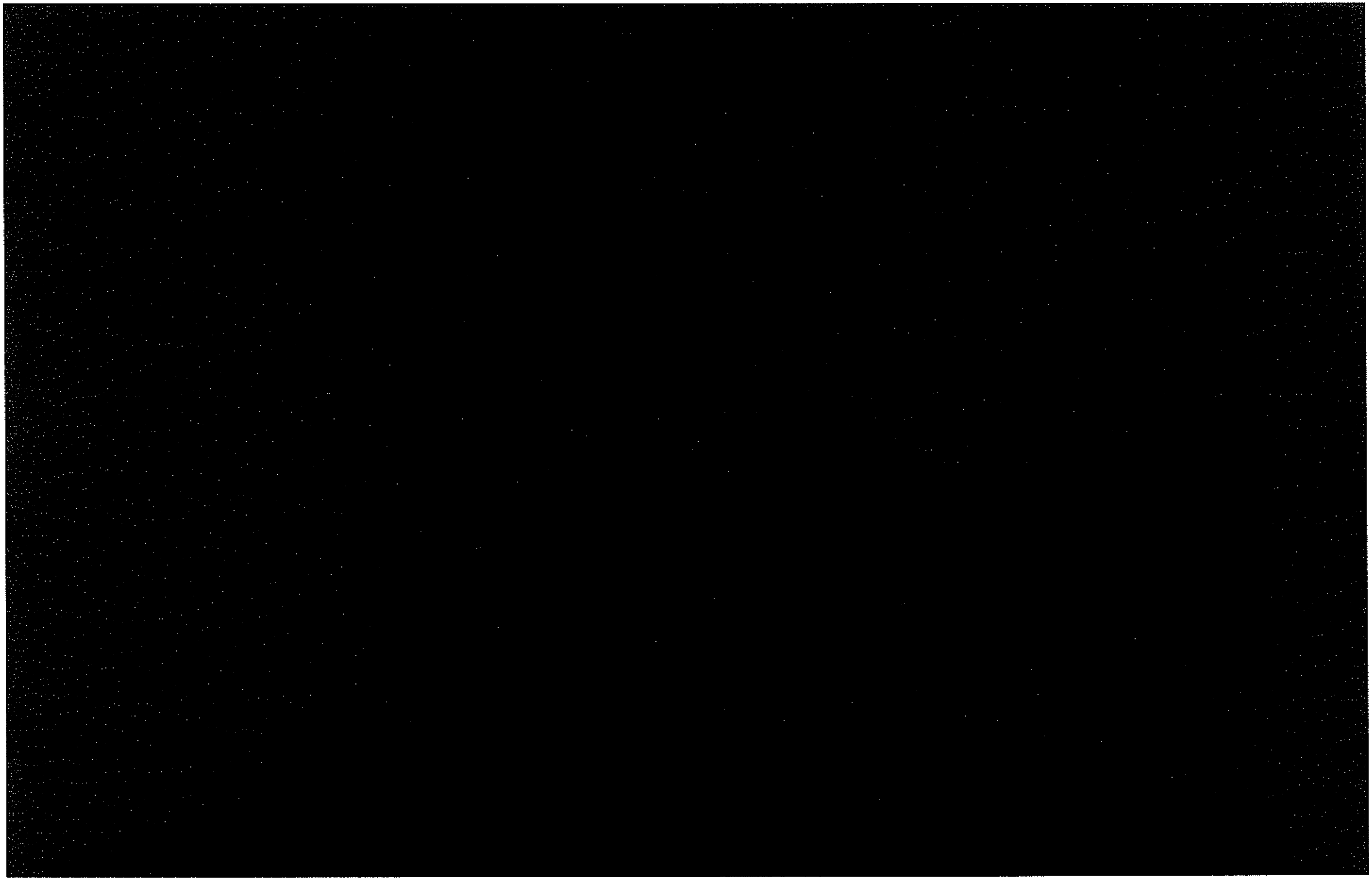
1 - 7 Fig 8 Main Rotor Control Servo Unit, Breakout Assembly Activated

Tail Rotor Control Servo Unit



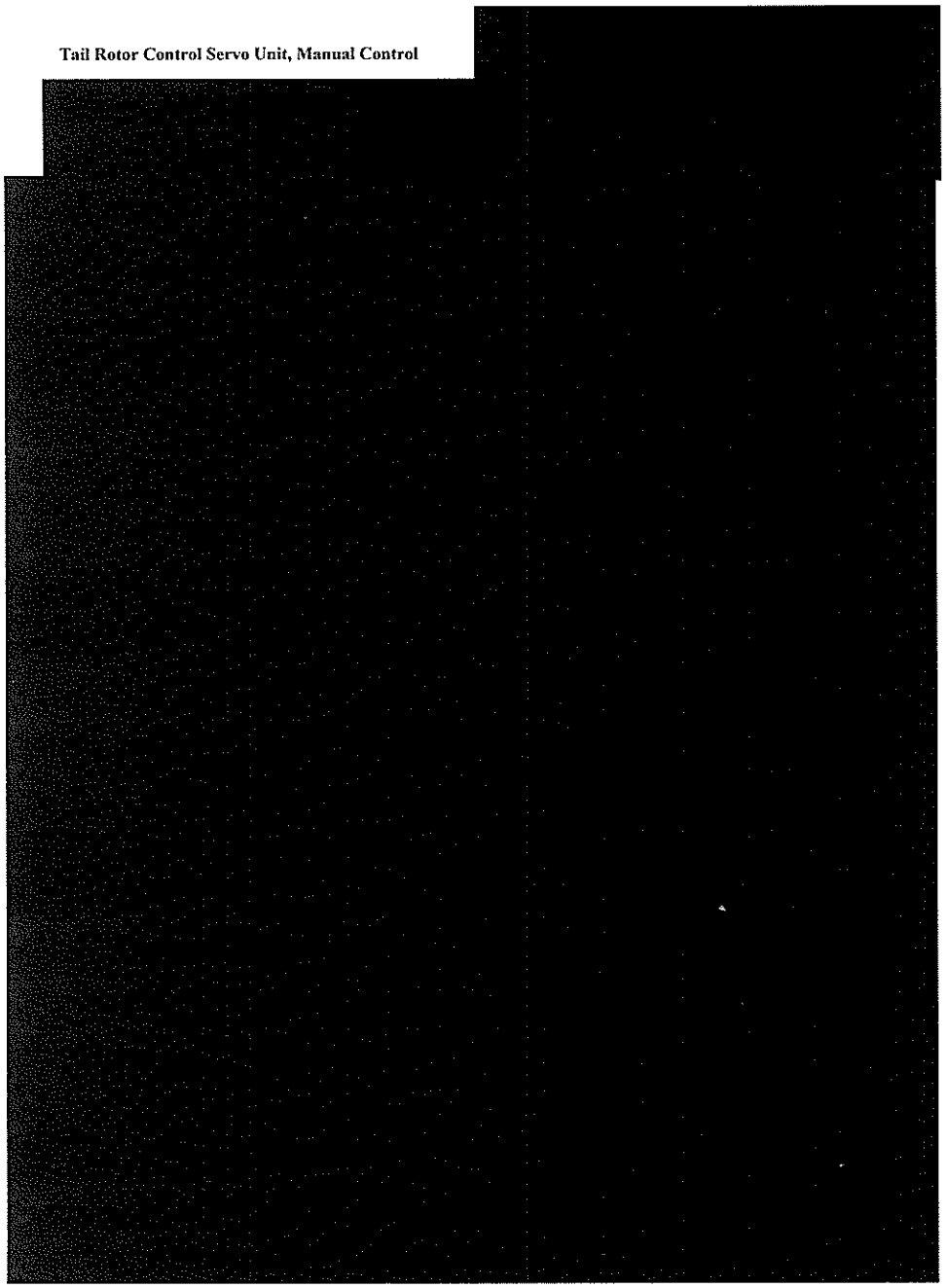






1 - 7 Fig 9 Tail Rotor Control Servo Unit

Tail Rotor Control Servo Unit, Manual Control



1 - 7 Fig 10 No 3 Hydraulic System

No 3 Hydraulic System

[redacted]

MALFUNCTIONING

Hydraulic System Failures

[redacted]

Main Rotor, Main Servo Valve Seizure

NORMAL USE

Checking the Flying Controls Hydraulic Systems

[redacted]

Main Rotor, FCS Actuator Seizure

[redacted]

[redacted]

PART 1

CHAPTER 8 - FLIGHT INSTRUMENTS

Contents

GENERAL

Introduction

[redacted]

Pitot-static System

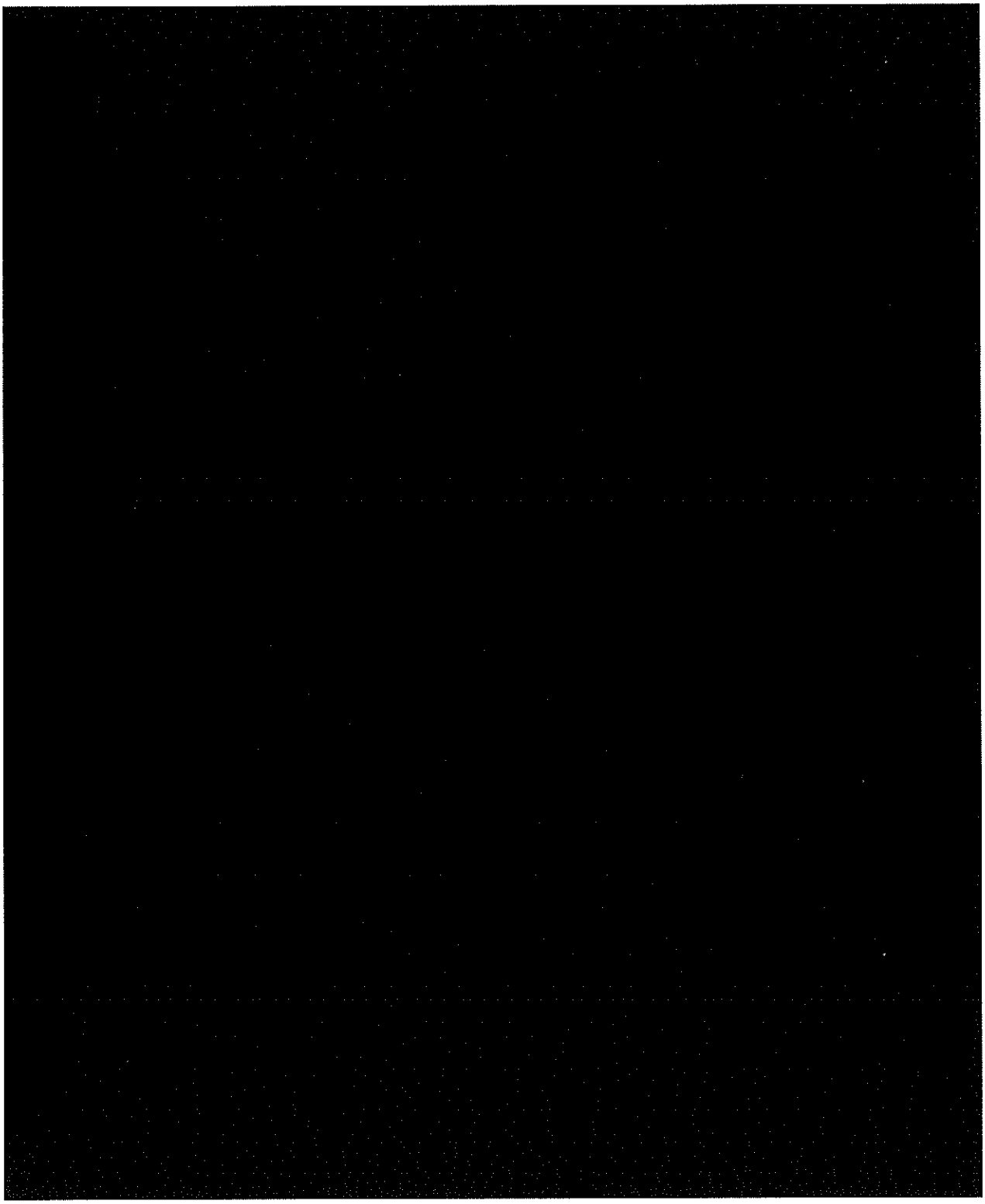
[redacted]

Airspeed Indicators

[redacted]

Barometric Altimeters

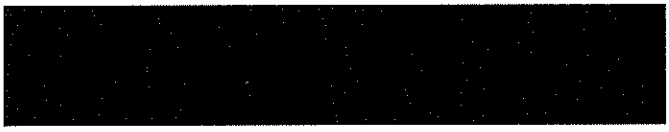
[redacted]

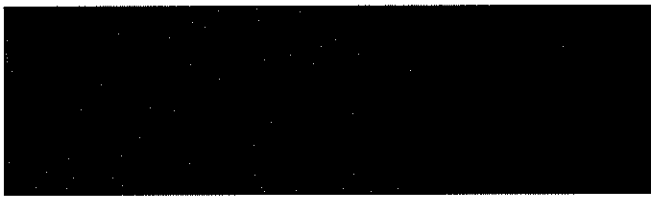


1 - 8 Fig 1 Flight Instruments, General Arrangements

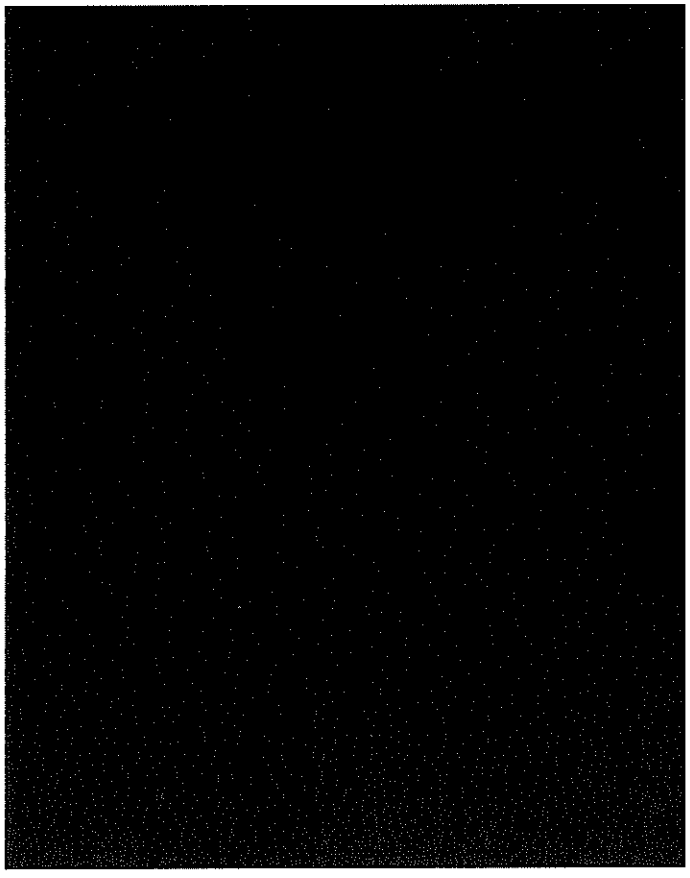
1 - 8 Fig 2 Pitot-static System

Vertical Speed Indicator



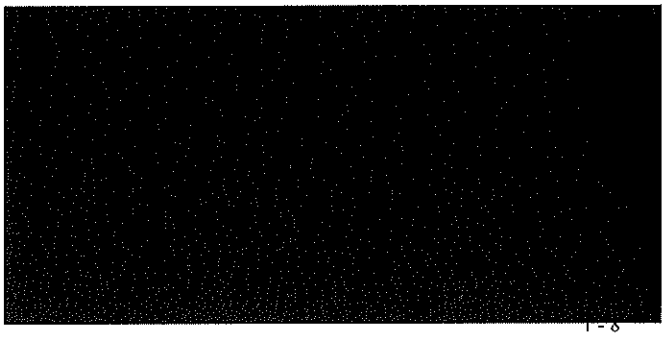


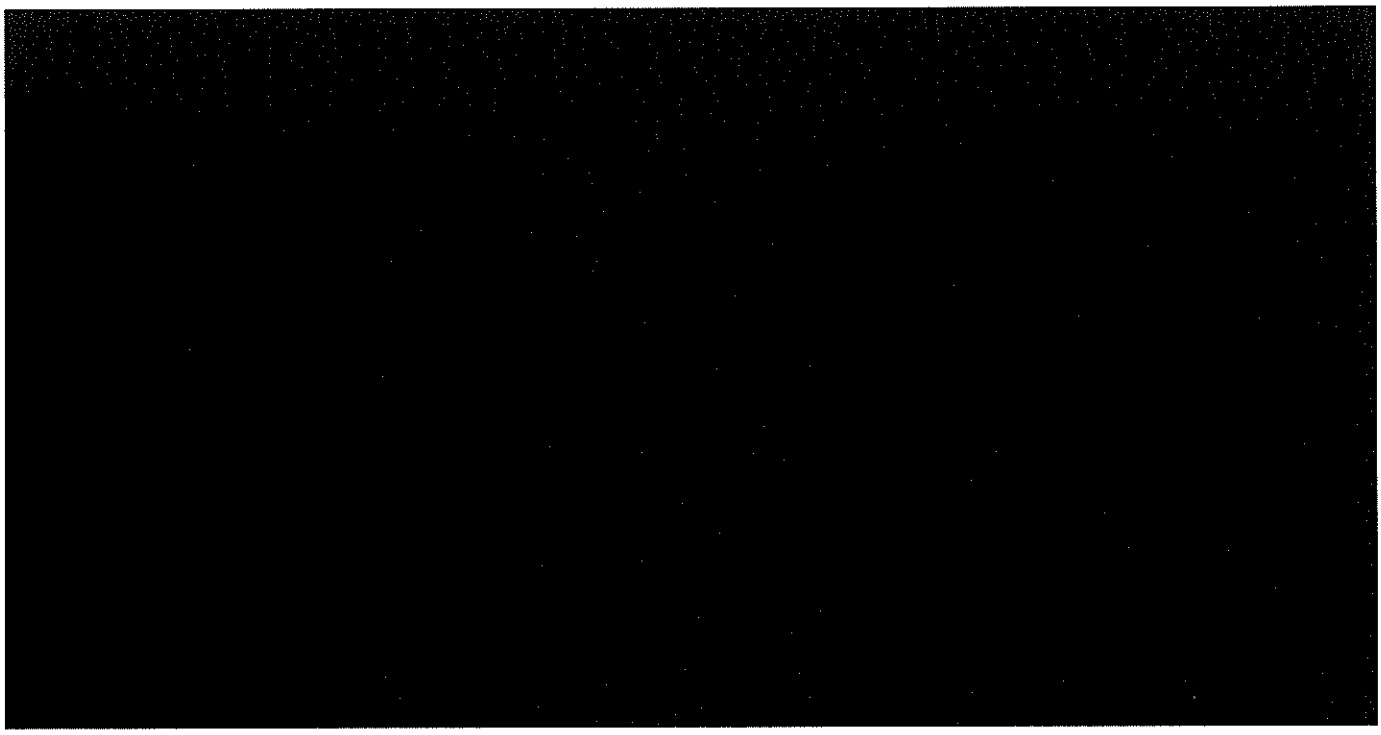
Main Attitude Indicator (AI)



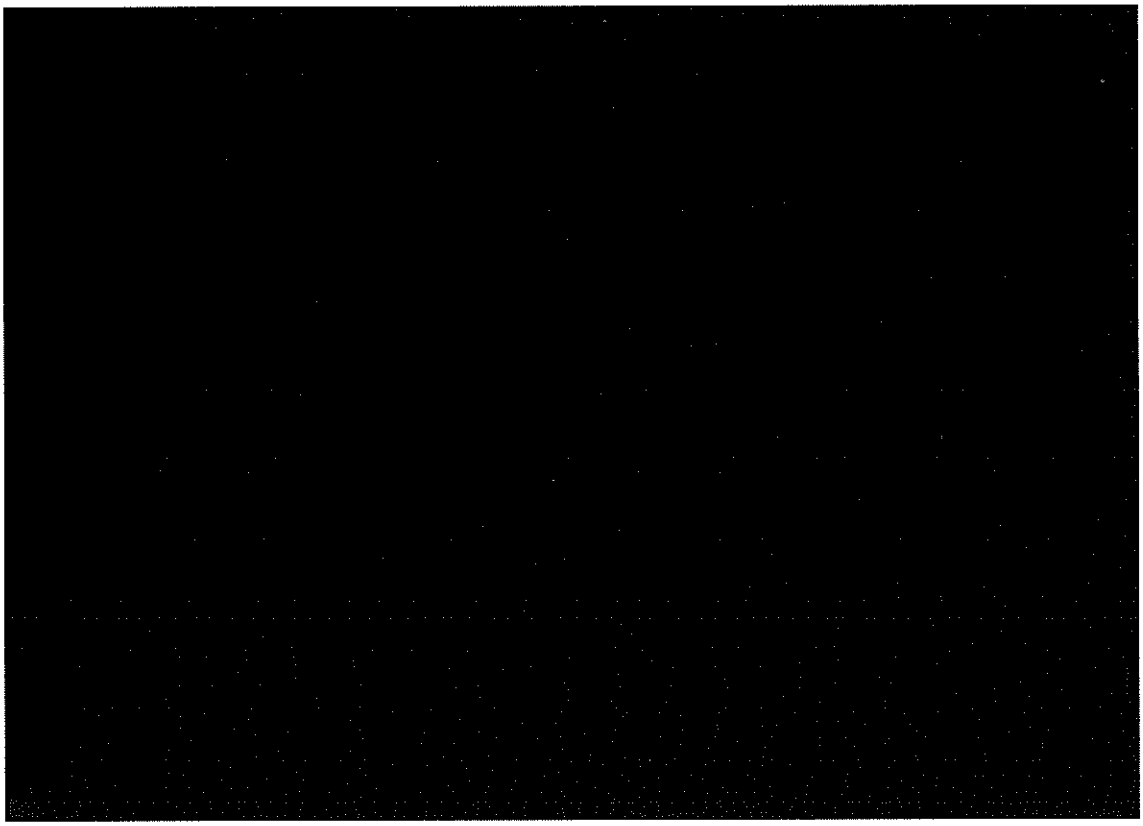
Standby Attitude Indicator

Radar Altimeter

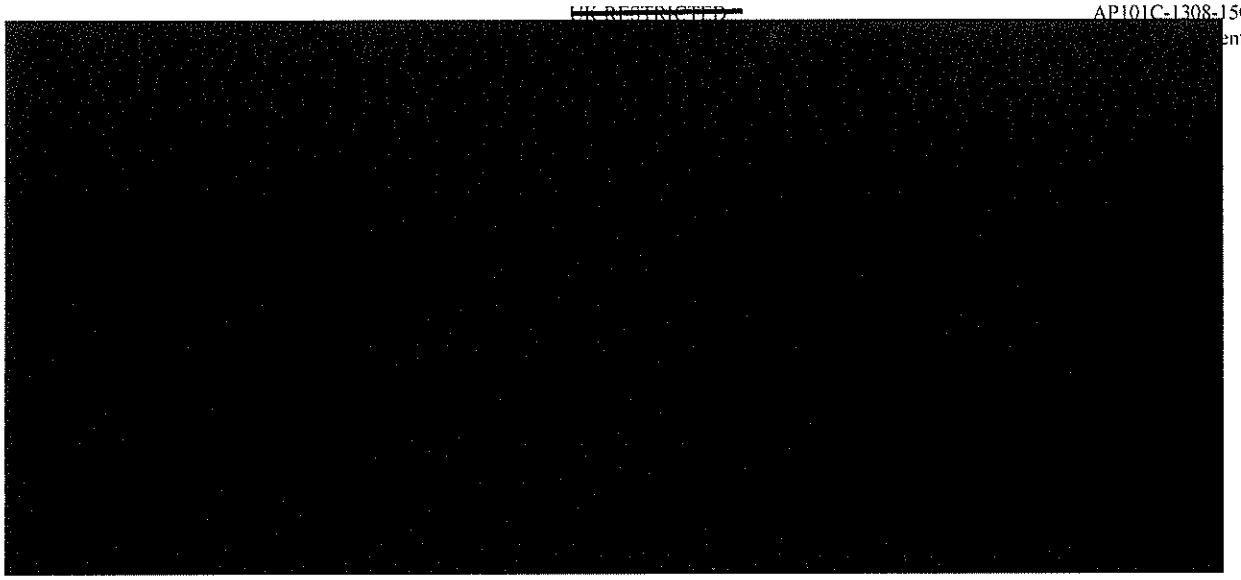




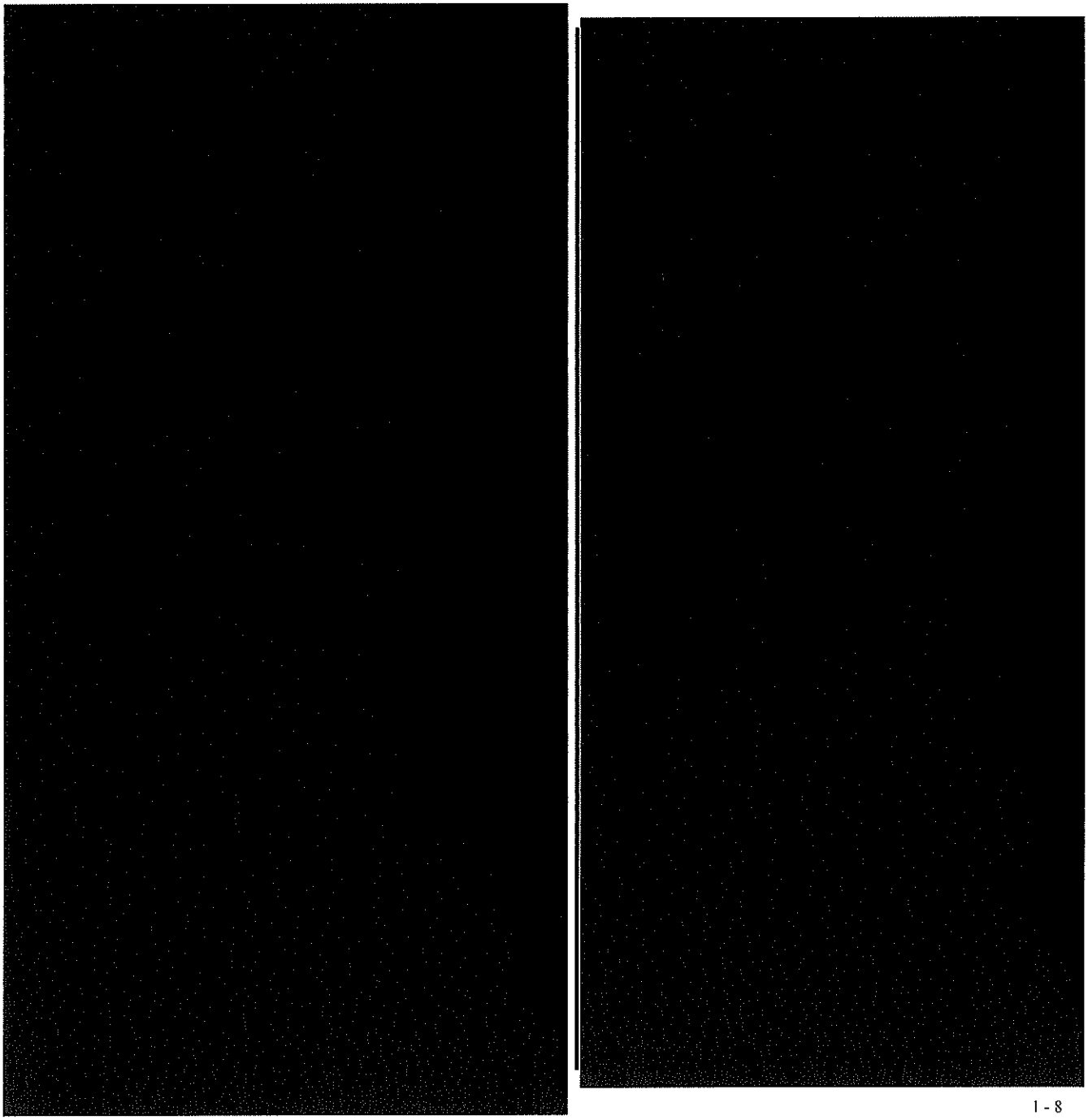
1 - 8 Fig 3 Airspeed and Vertical Speed Indicators and Barometric Altimeter



1 - 8 Fig 4 Attitude Indicator and Mode Selector



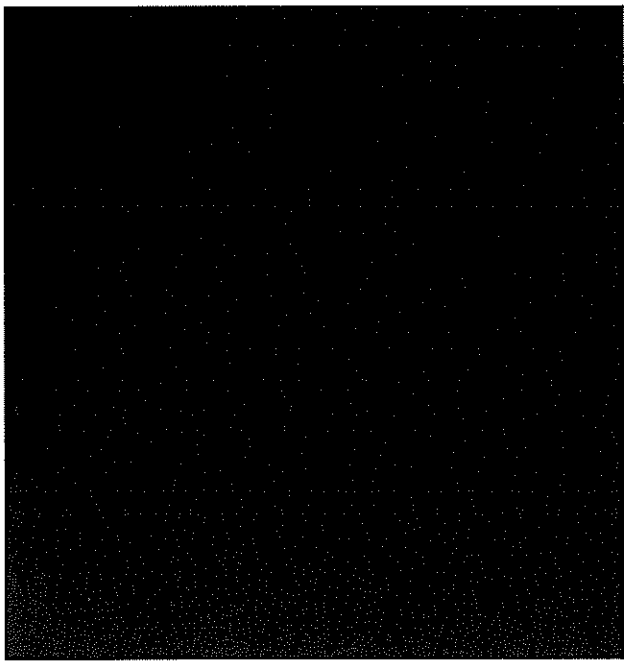
1 - 8 Fig 5 Standby Attitude Indicator



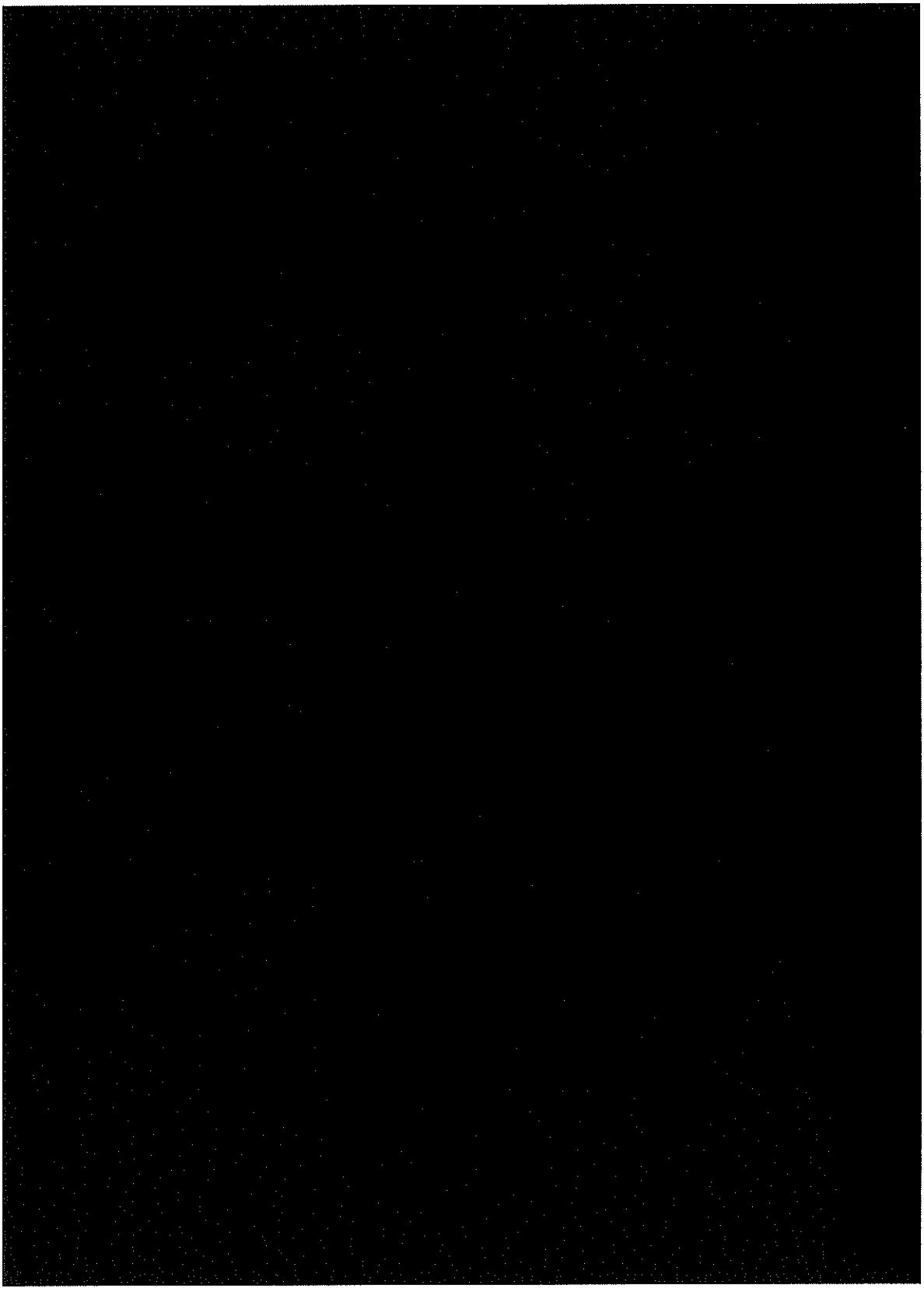
[redacted]

on.

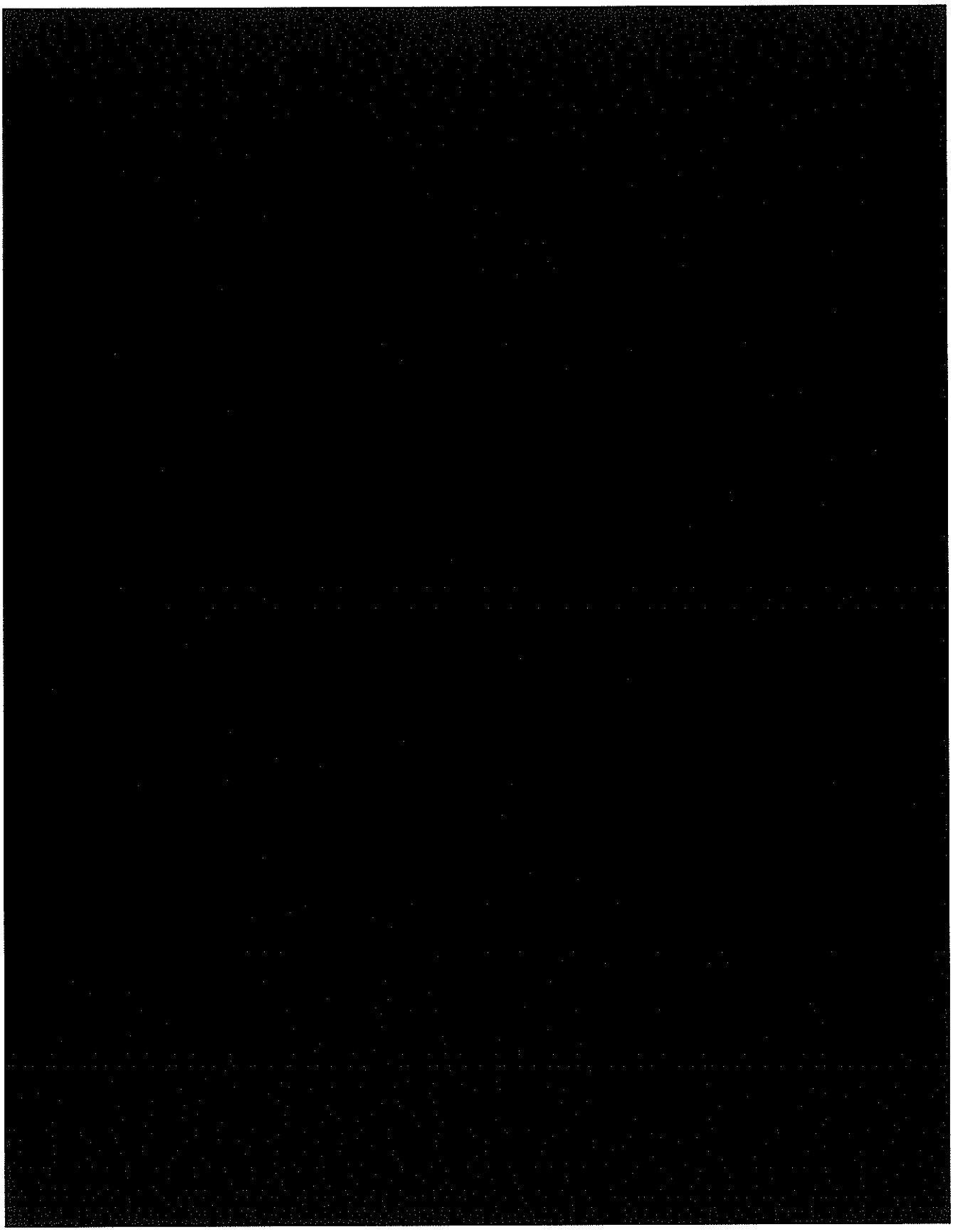
Gyro-magnetic Compass



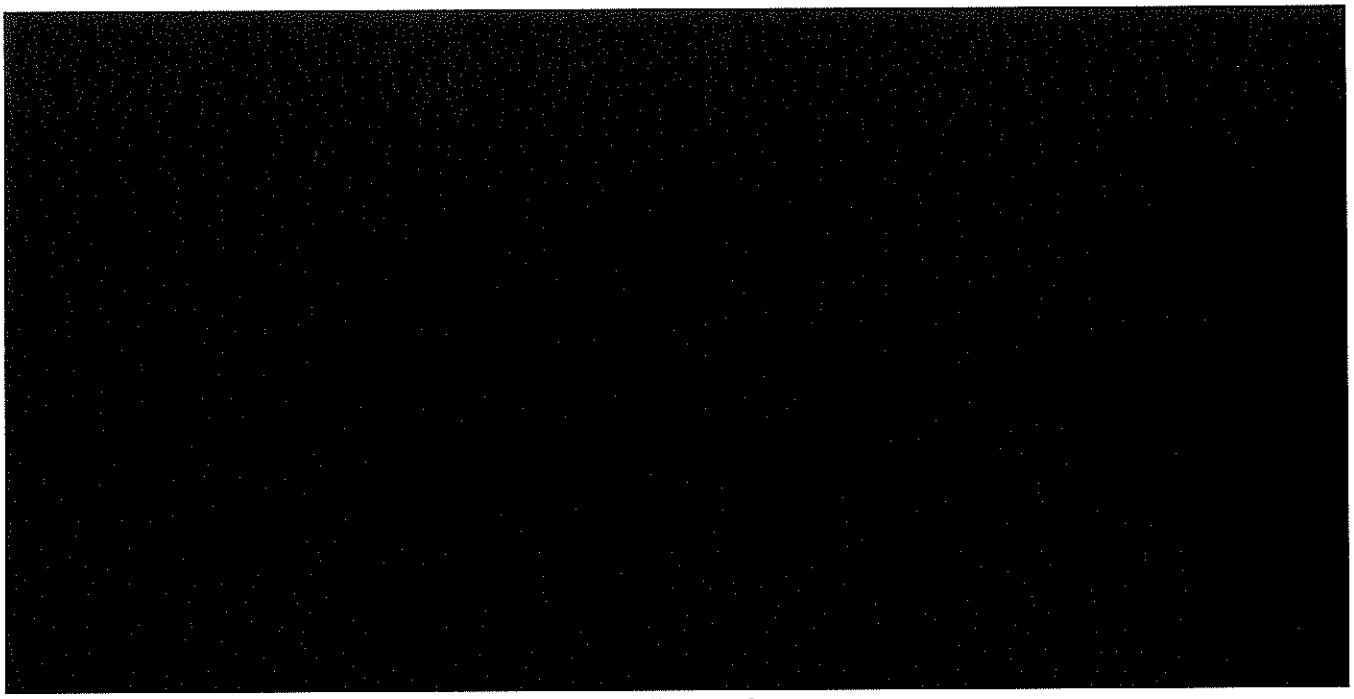
[redacted]



1 - 8 Fig 8 Radar Altimeter and Low Height Warning System (Post-Mod 792 Part B)



1 - 8 Fig 9 Gyro-magnetic Compass



1 - 8 Fig 10 Miscellaneous Instruments

Miscellaneous Instruments

Instrument Lighting

Table 1 - Compass System Controls and Indicators

Control/Indicator	*Marking*	*Function*

Intentionally Blank

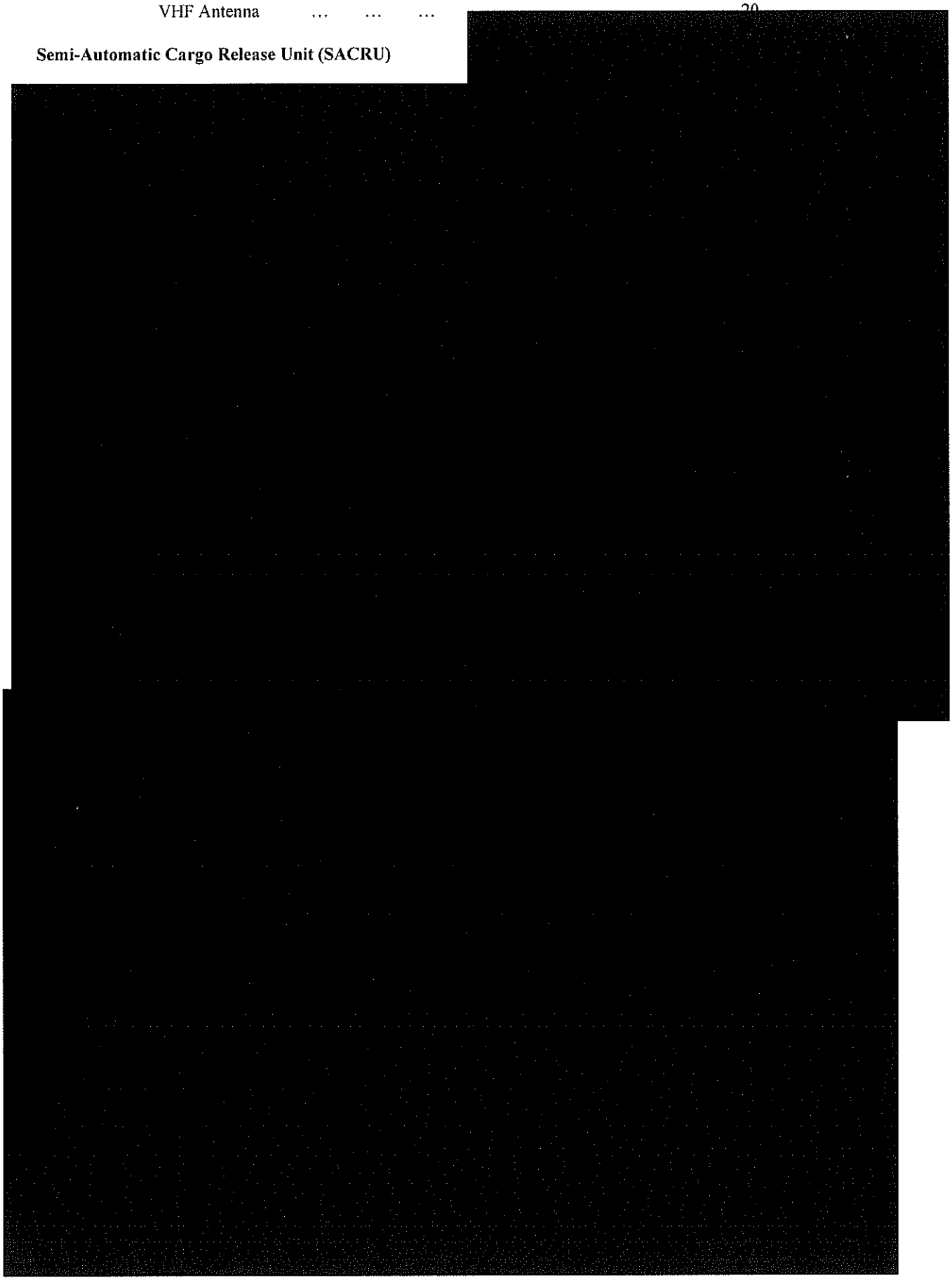
PART 1

CHAPTER 9 - MISCELLANEOUS ROLE EQUIPMENT

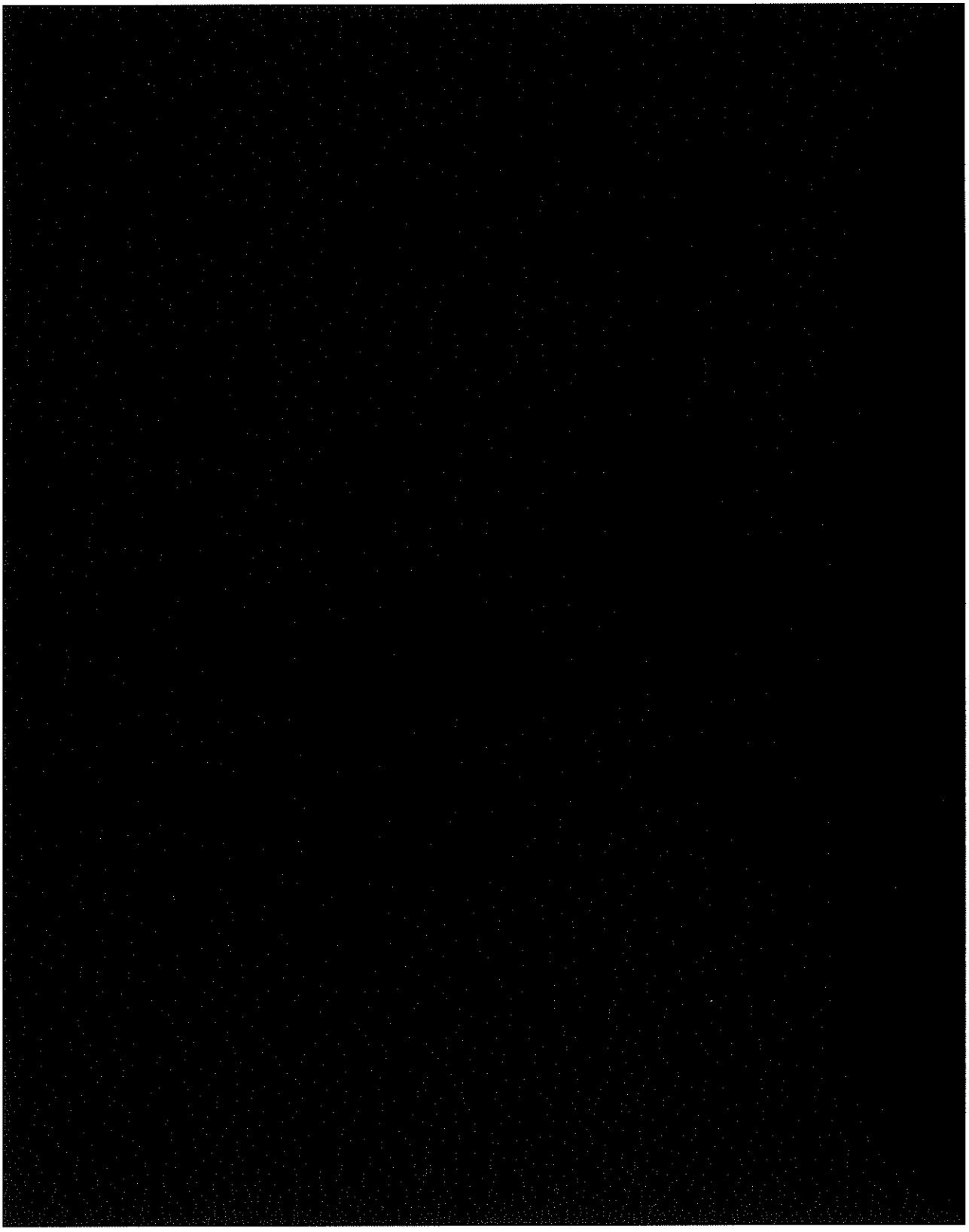
Contents

VHF Antenna 20

Semi-Automatic Cargo Release Unit (SACRU)

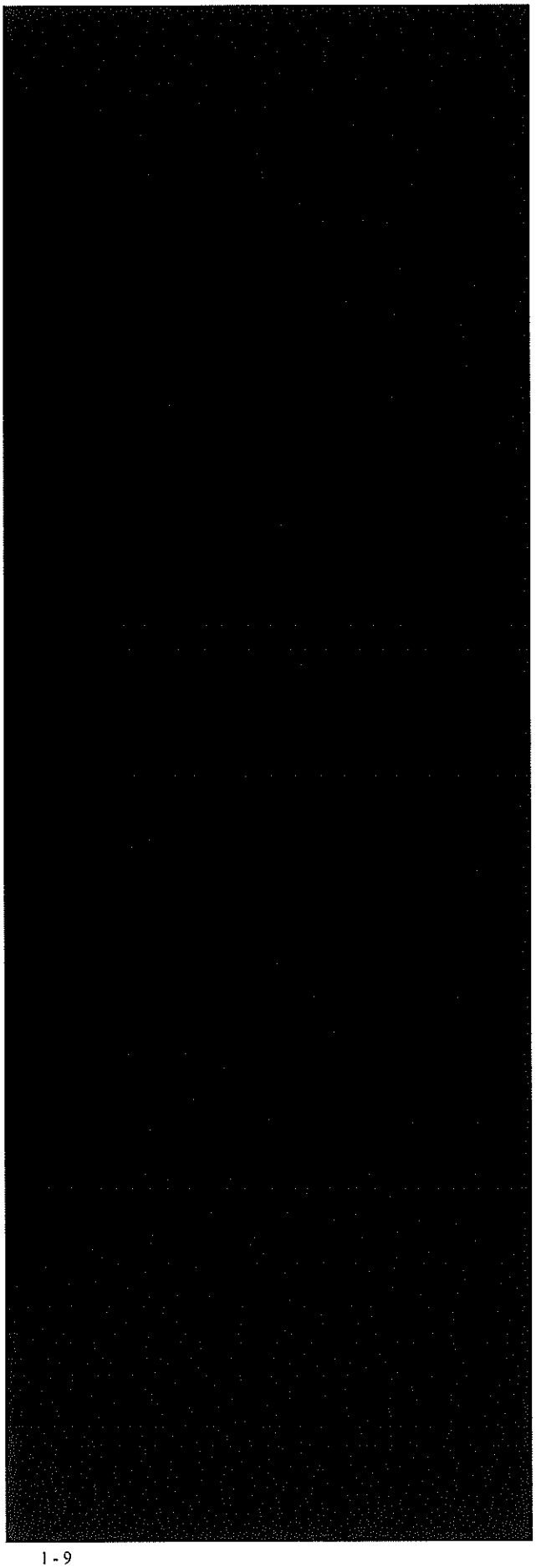


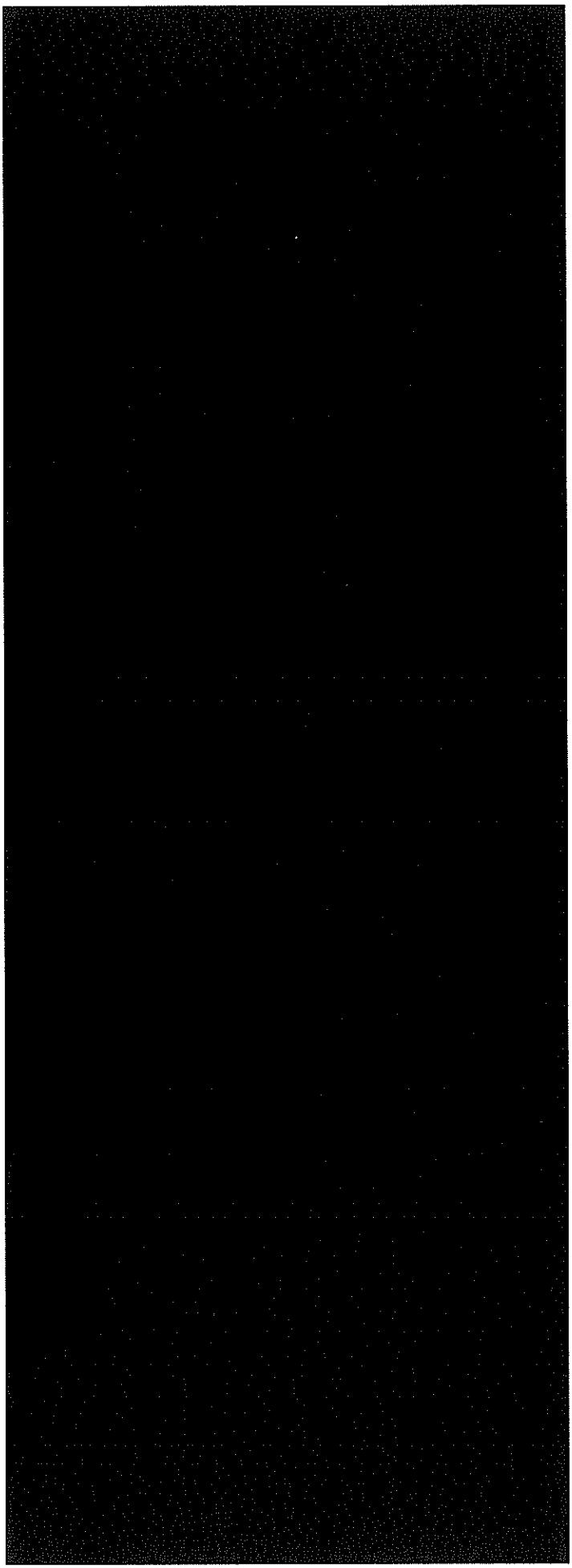
1 - 9 Fig 1 SACRU Electrical Circuits

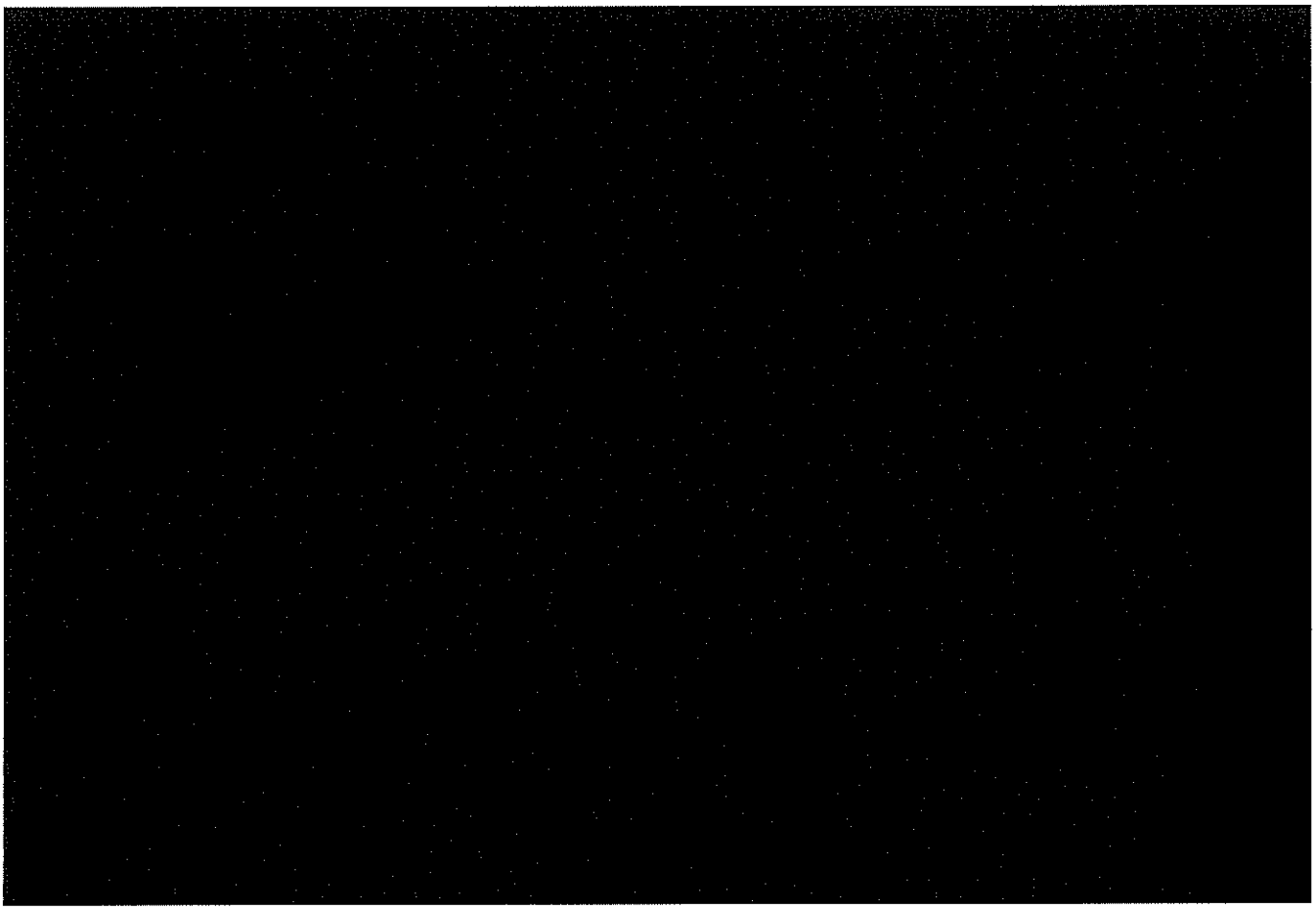


1 - 9 Fig 2 SACRU Controls and Indicators

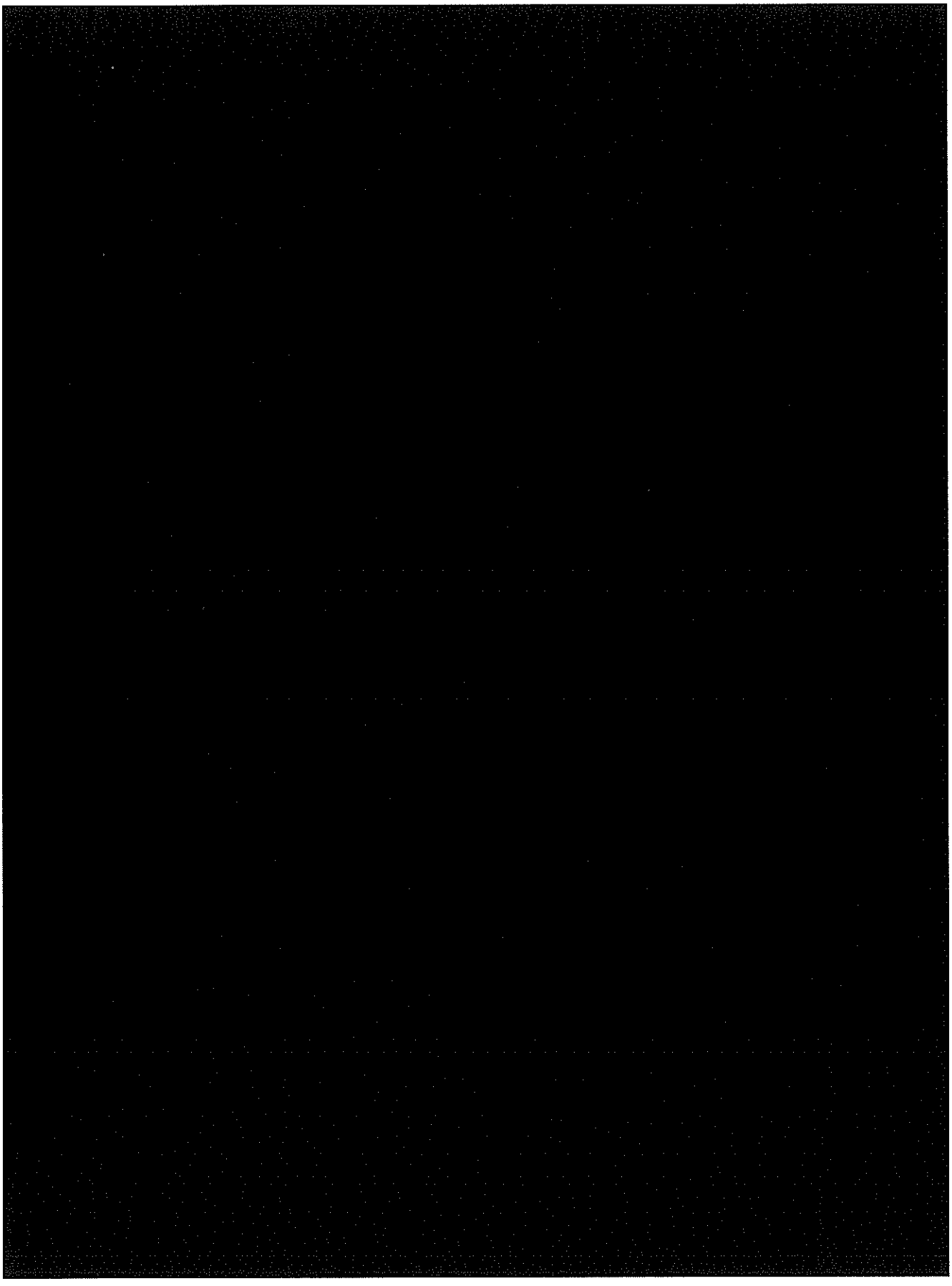
Hoist





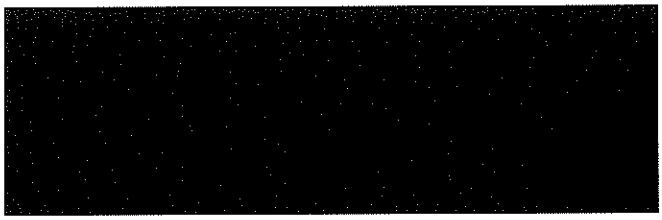


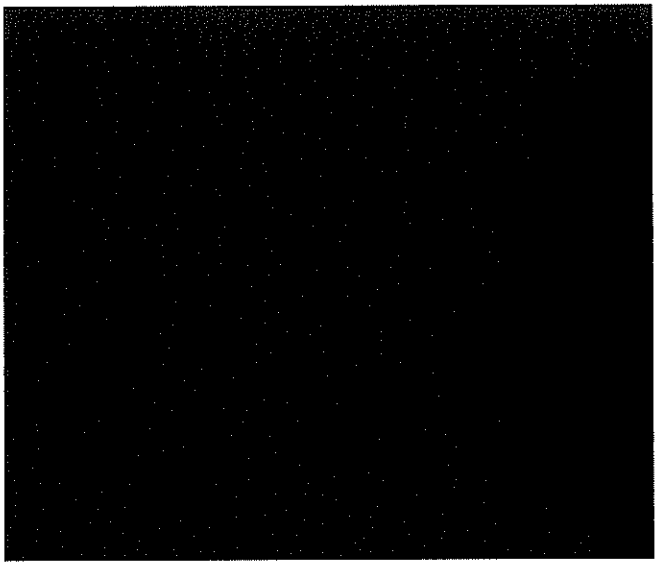
1 - 9 Fig 3 Hoist Electrical Circuits

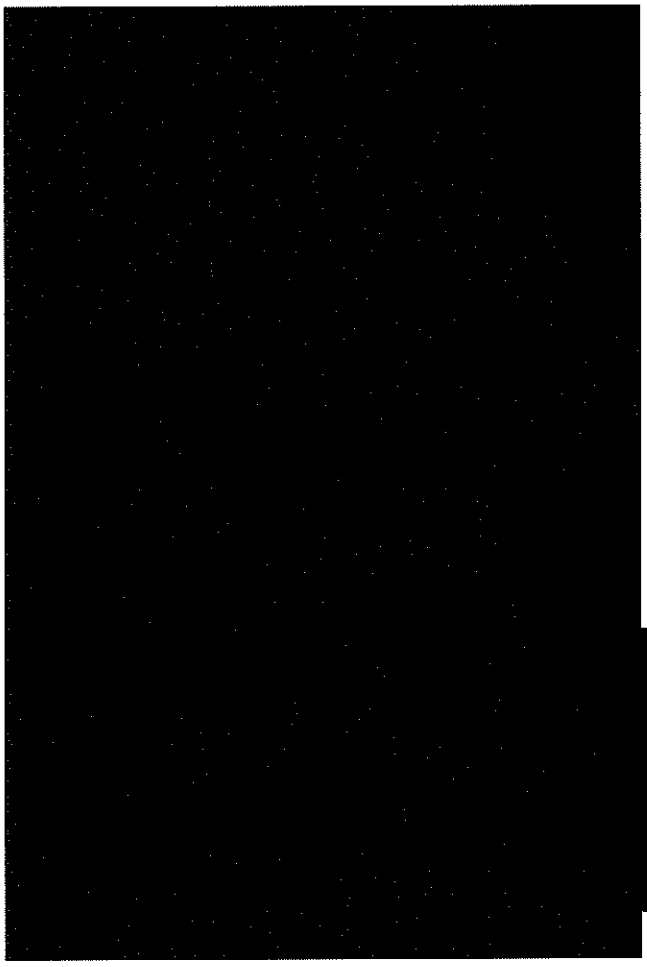


1 - 9 Fig 4 Hoist Controls and Indicators

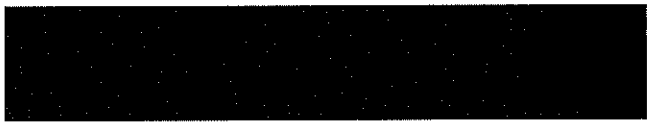
Roping





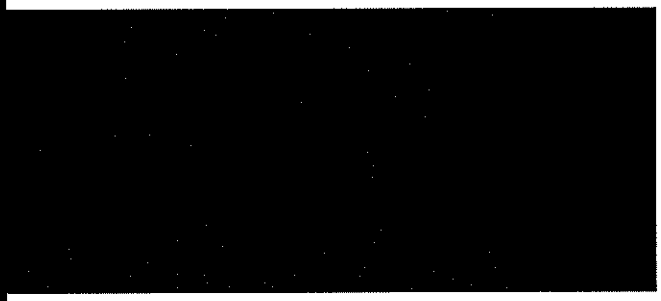


Overload Tank



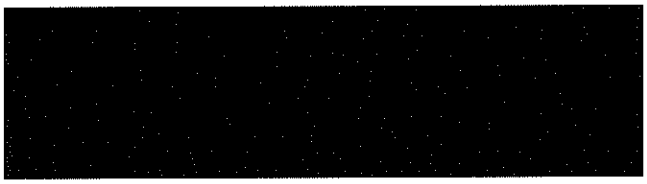
Debris Guards

Snow Guards

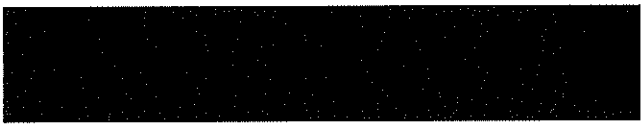


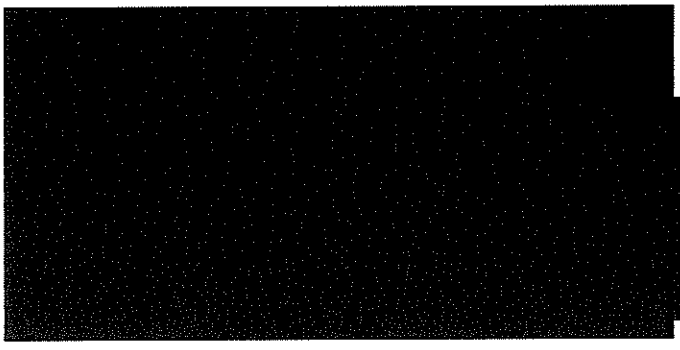
Rear View Mirror

Troop Seats

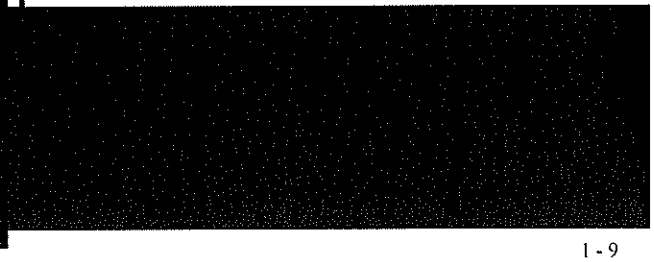


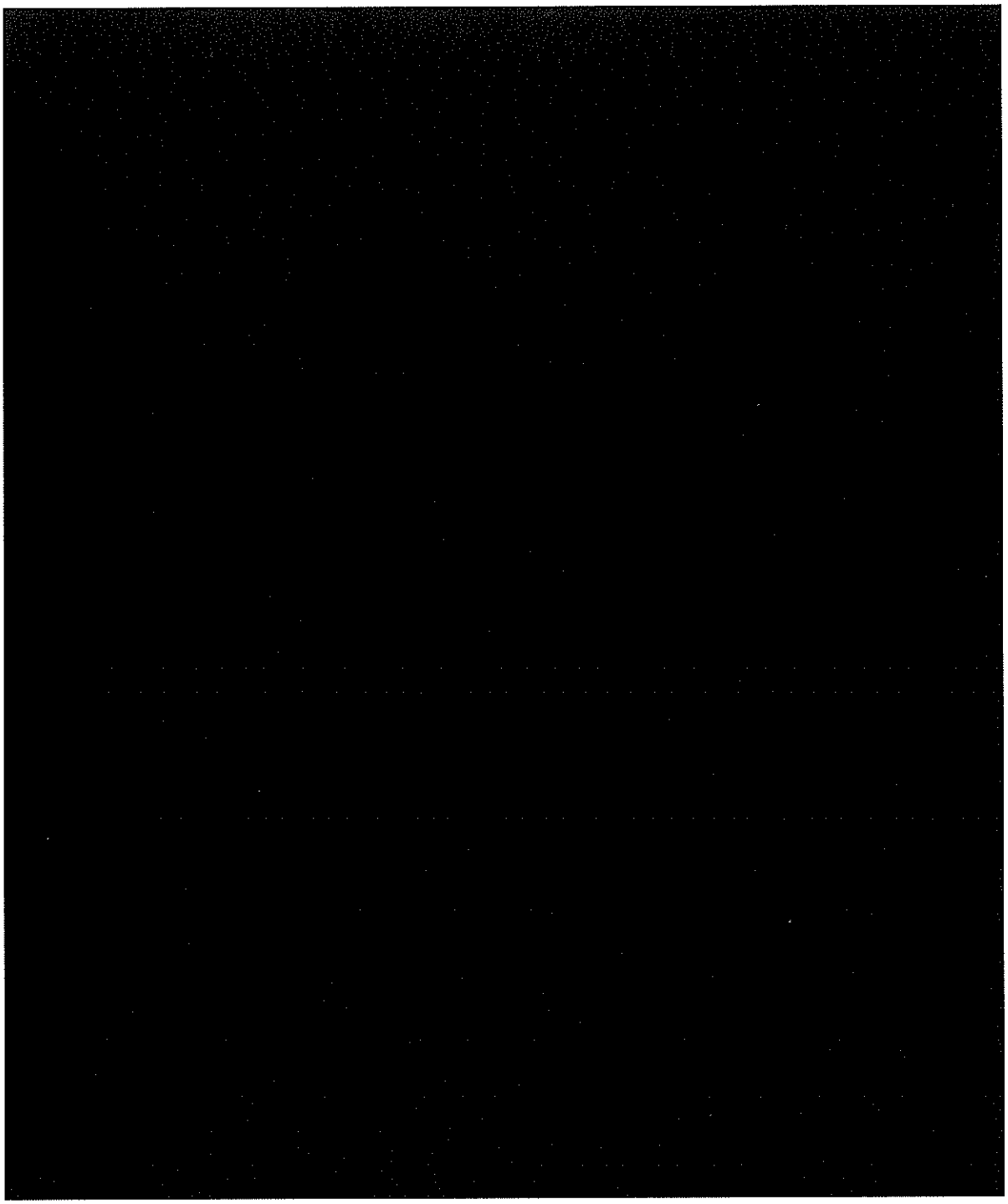
Night Vision Aids Stowage





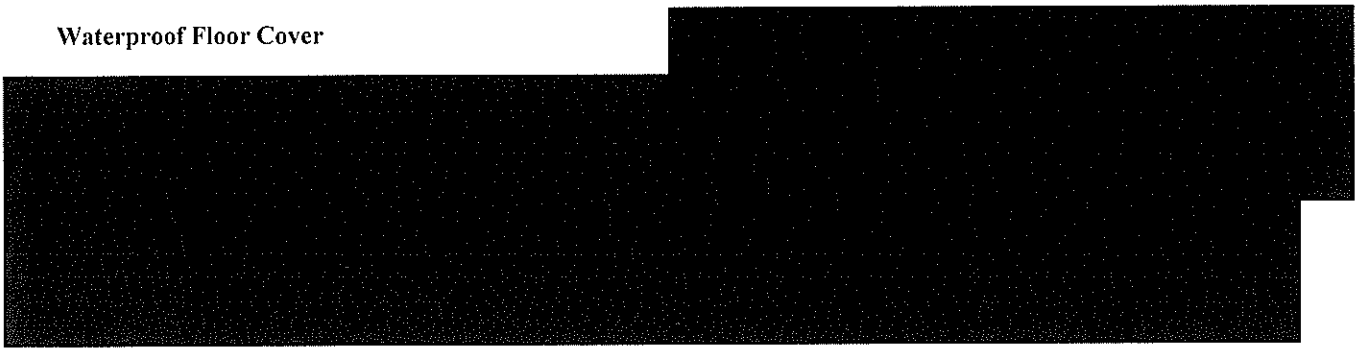
Dual Flying Controls





1 - 9 Fig 5 Inflatable Troop Seats

Waterproof Floor Cover



[redacted] RADIO

General

[redacted]

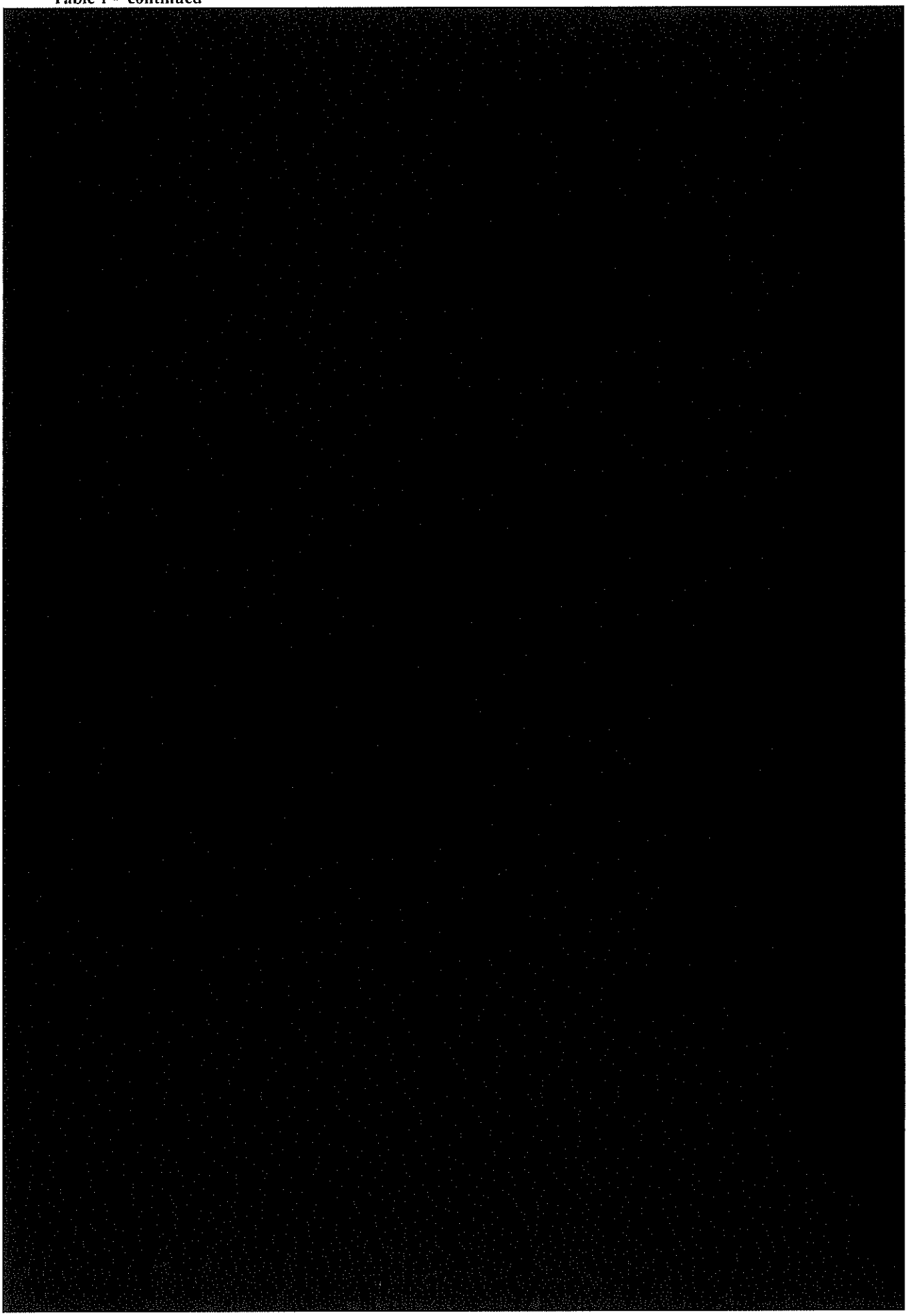
[redacted]

Table 1 - Display Field Entries

Display Fields	*Display Entries*
[redacted]	

(Continued)

Table 1 - continued



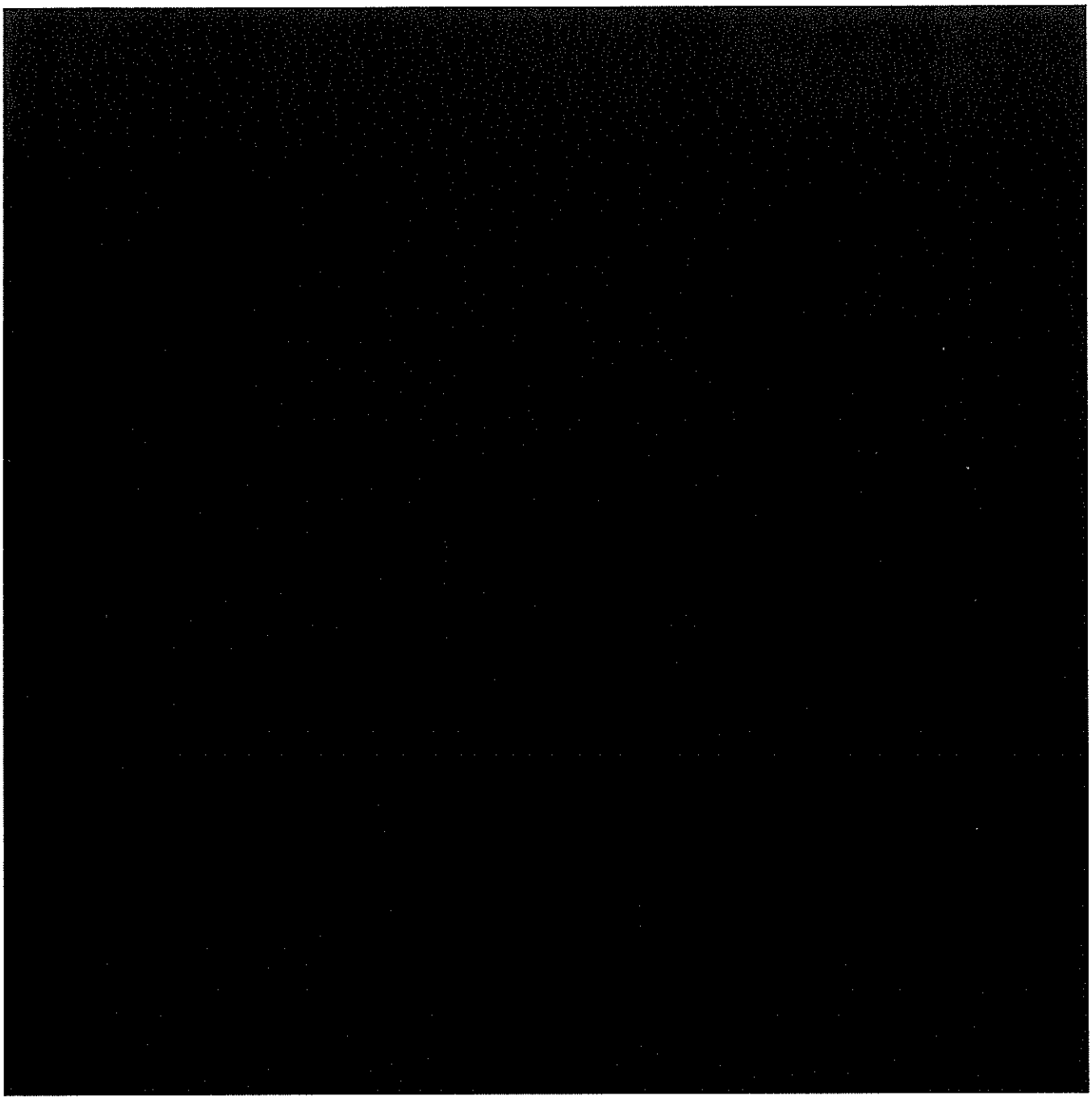
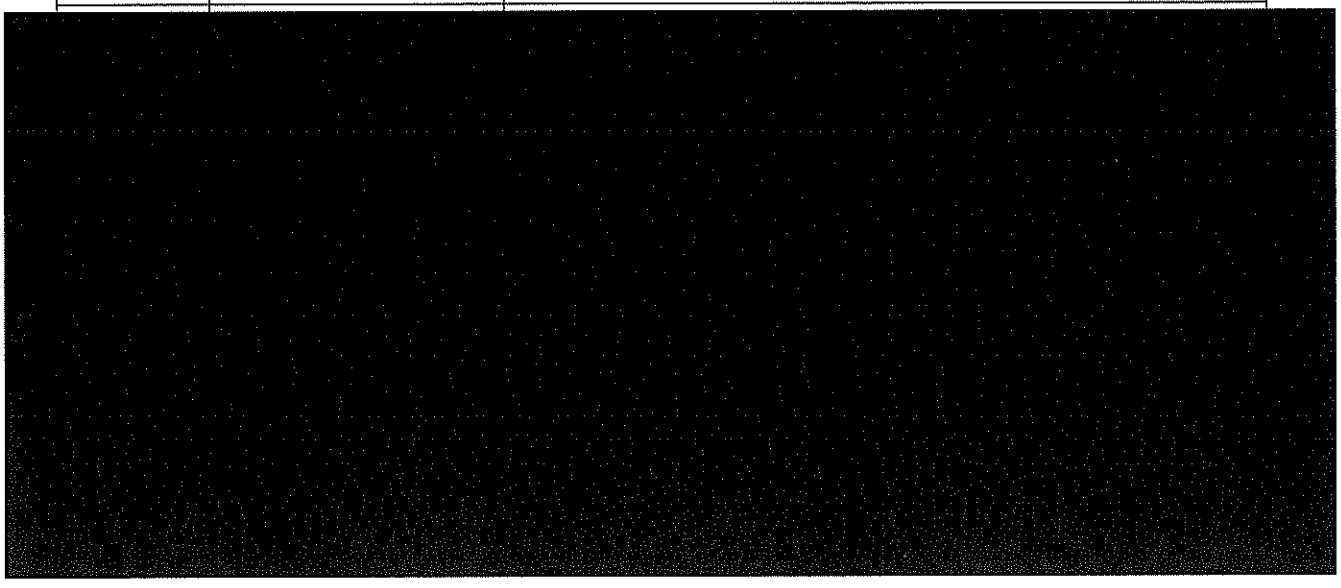
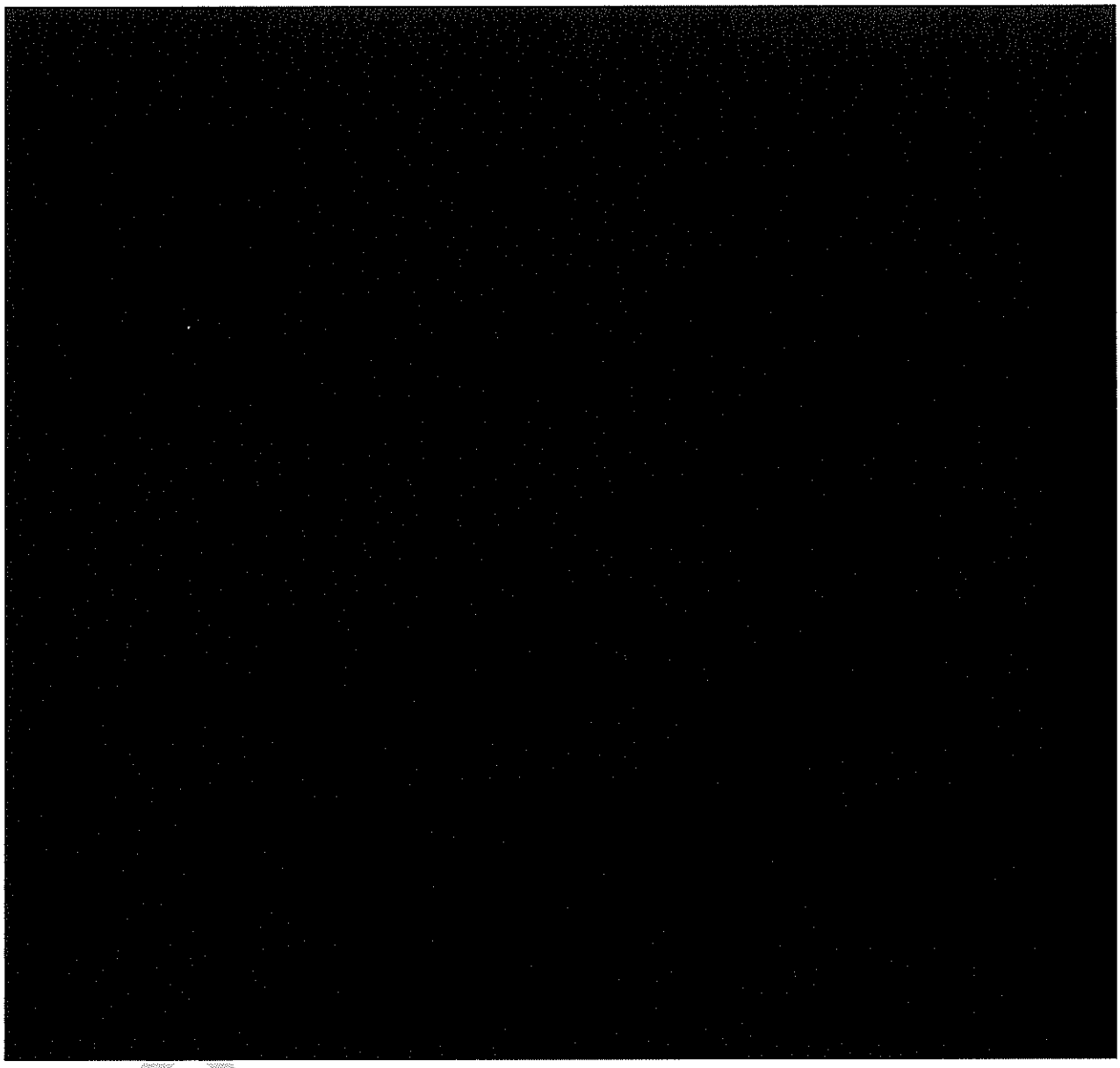


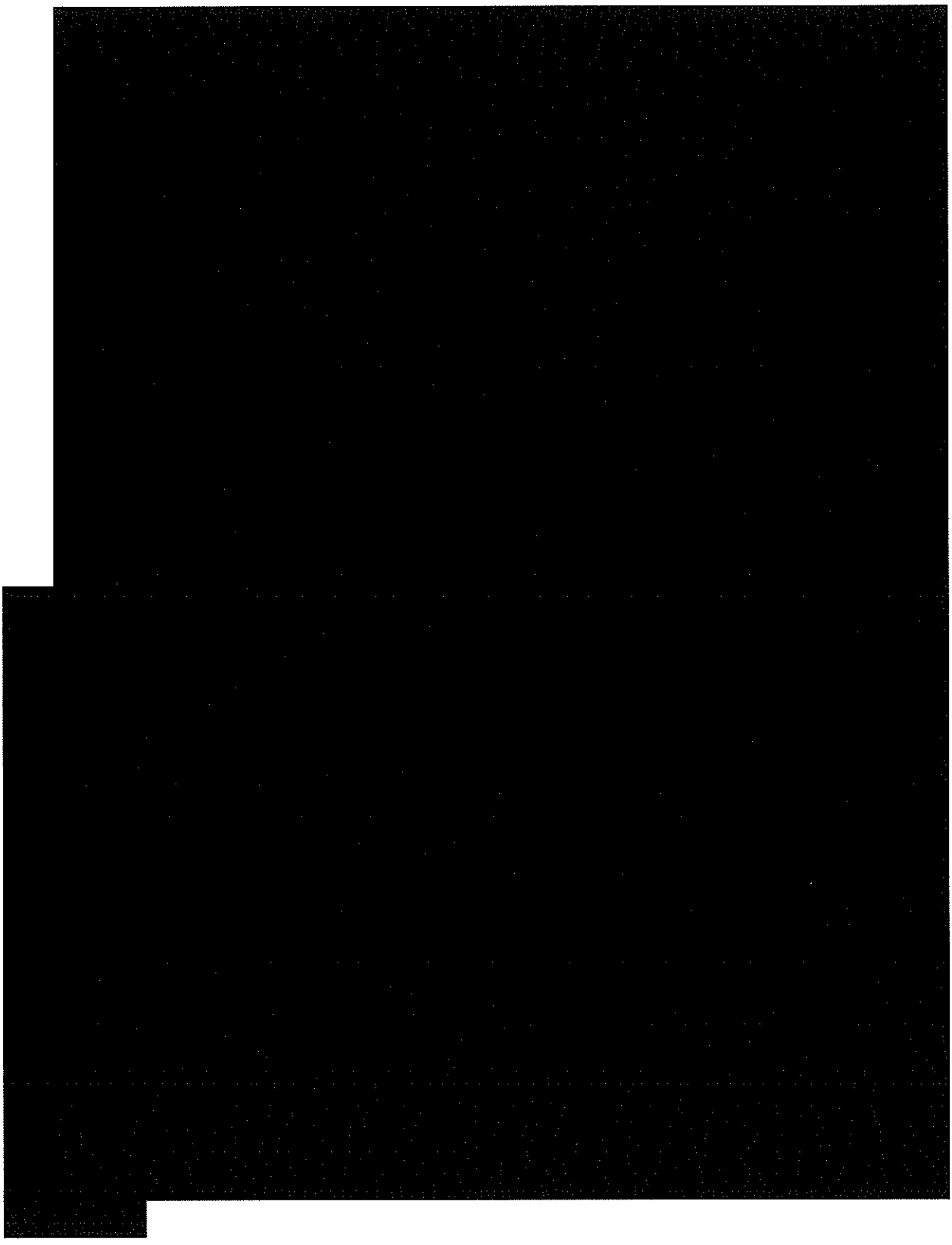
Table 2 - Menu Trees

Menu Key	*Menu Tree*	*Function*

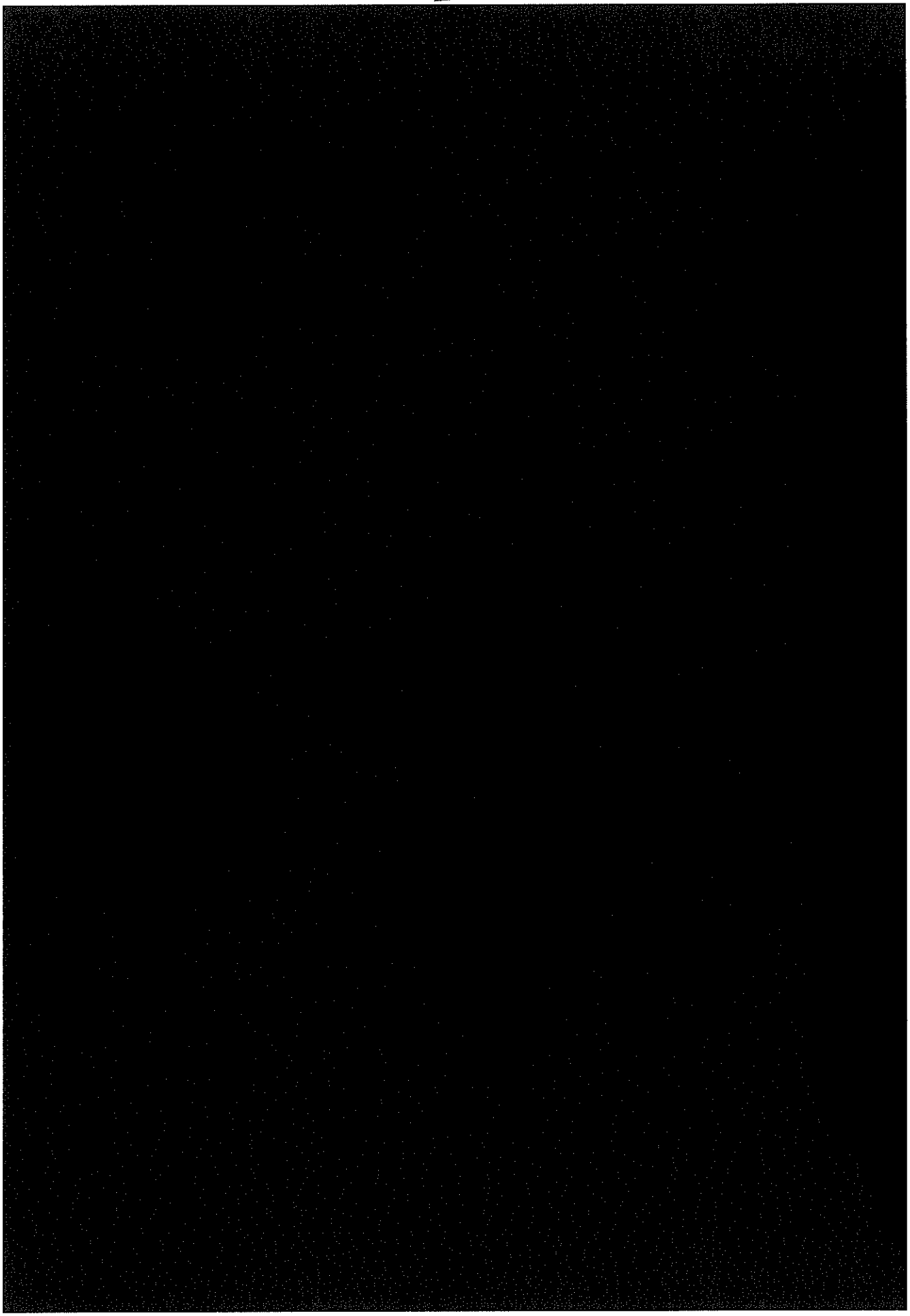


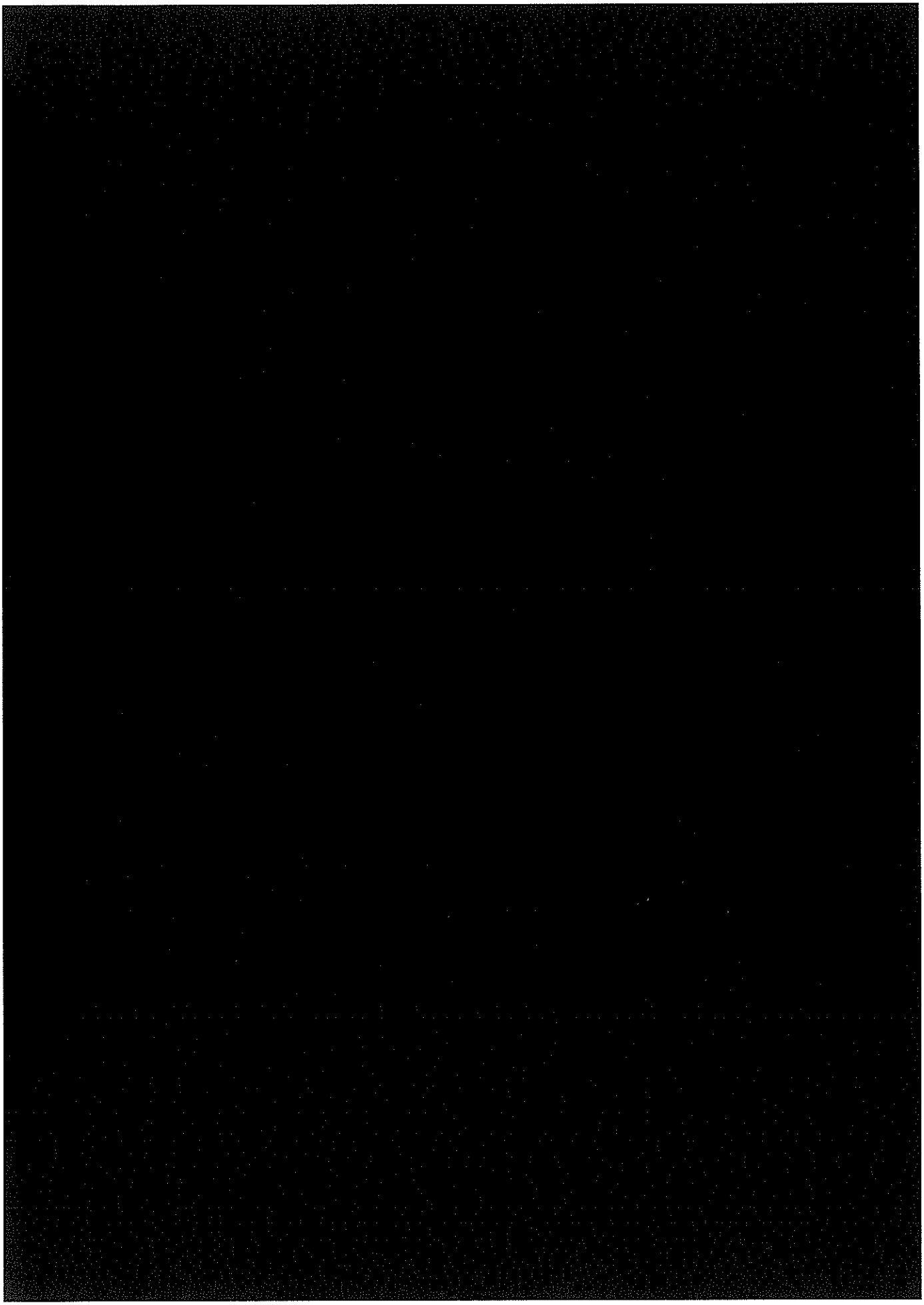


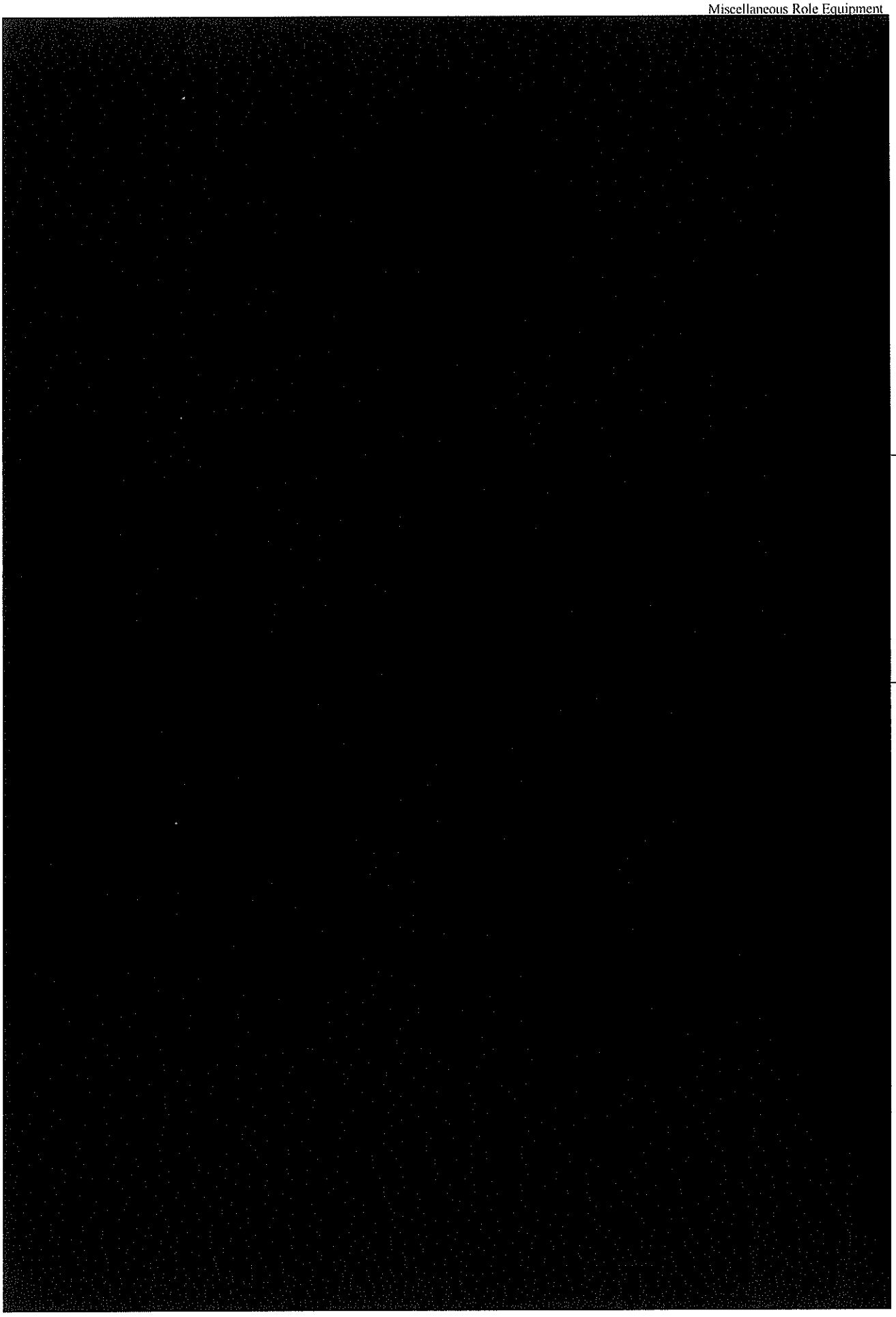
1 - 9 Fig 12 VHF Menu Trees (1)

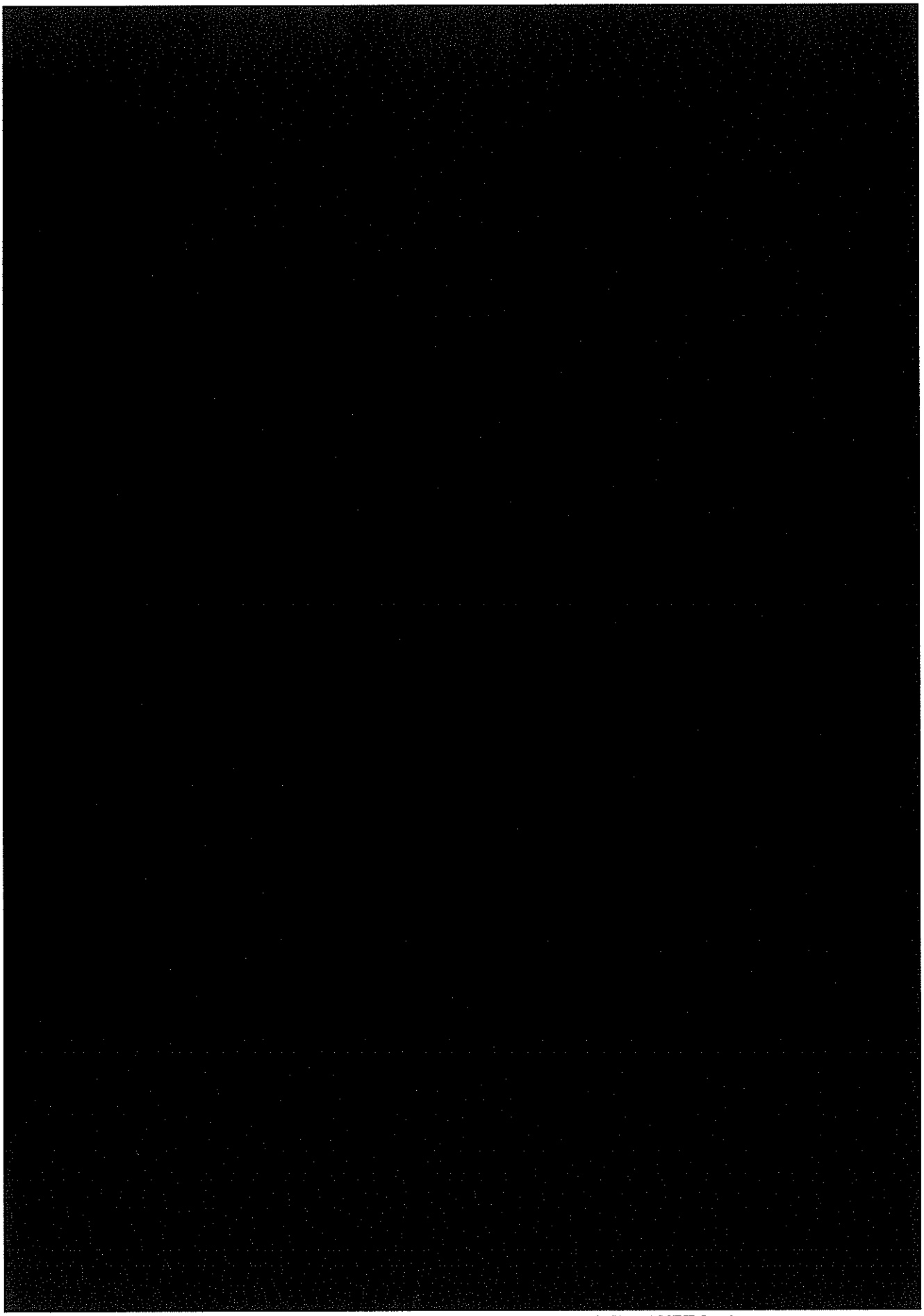


1 - 9 Fig 13 VHF Menu Trees (2)

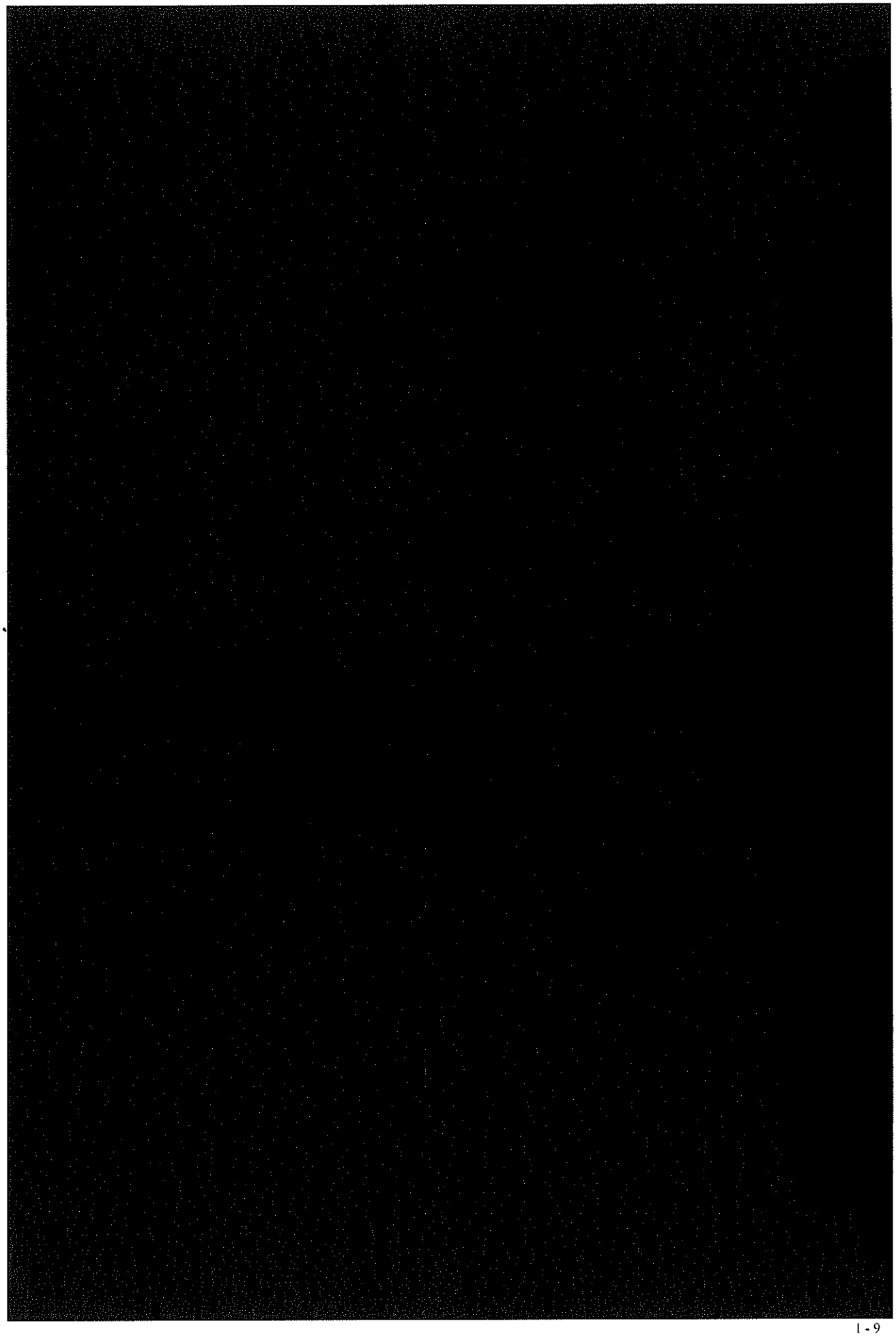








1 - 9 Fig 14 NET Setting



[redacted]

[redacted]

Malfunctions

[redacted]

84. **HAIL Detect Protocol:**

[redacted]

BITE Checks

[redacted]

Table 4 - Audio Tones, Alarms and Alerts

Condition	*Frequency (Hz)*	*Audio Level*	*Duration*	*Function*
[redacted]				

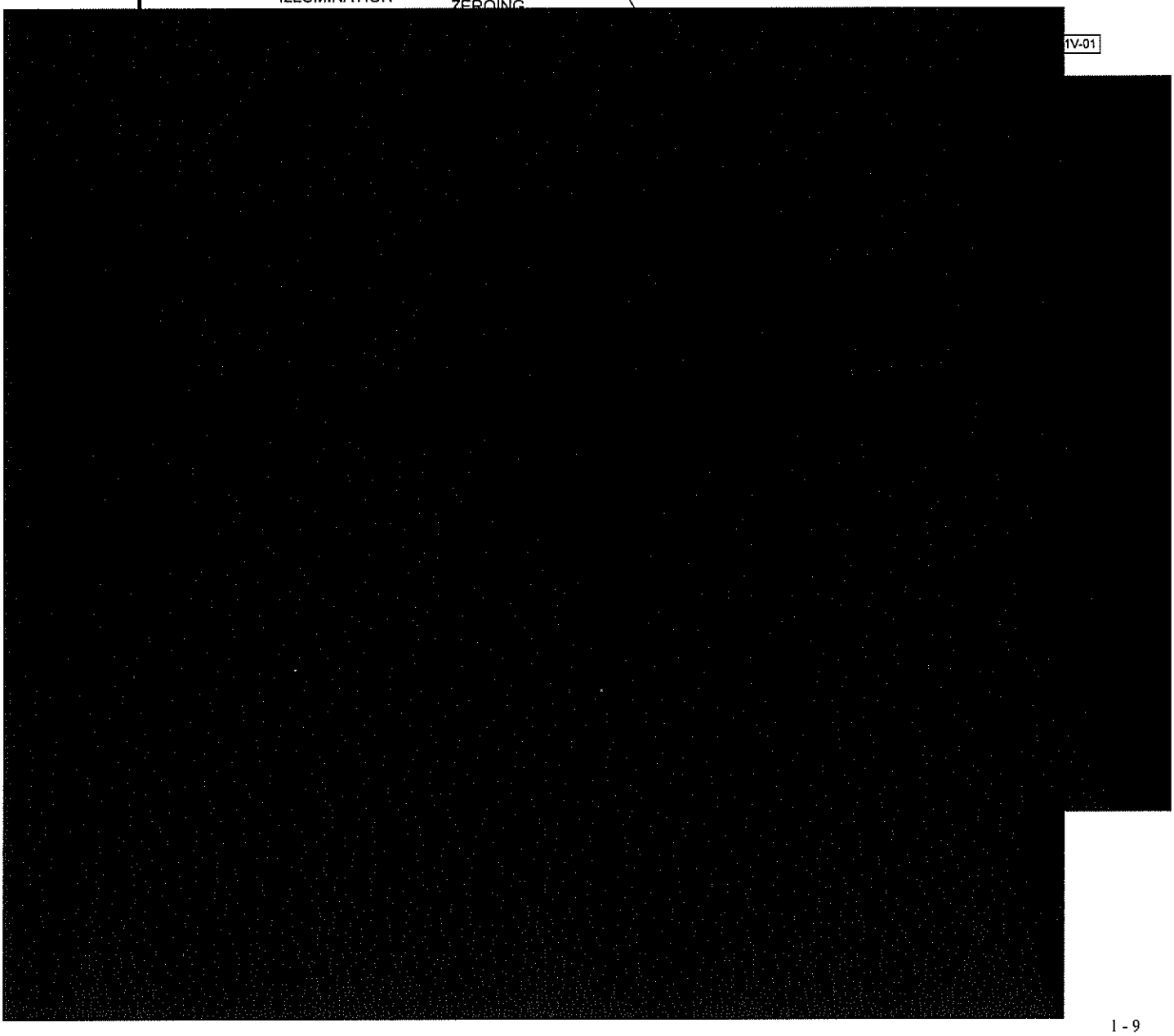
ROLE-FIT MACHINE GUNS

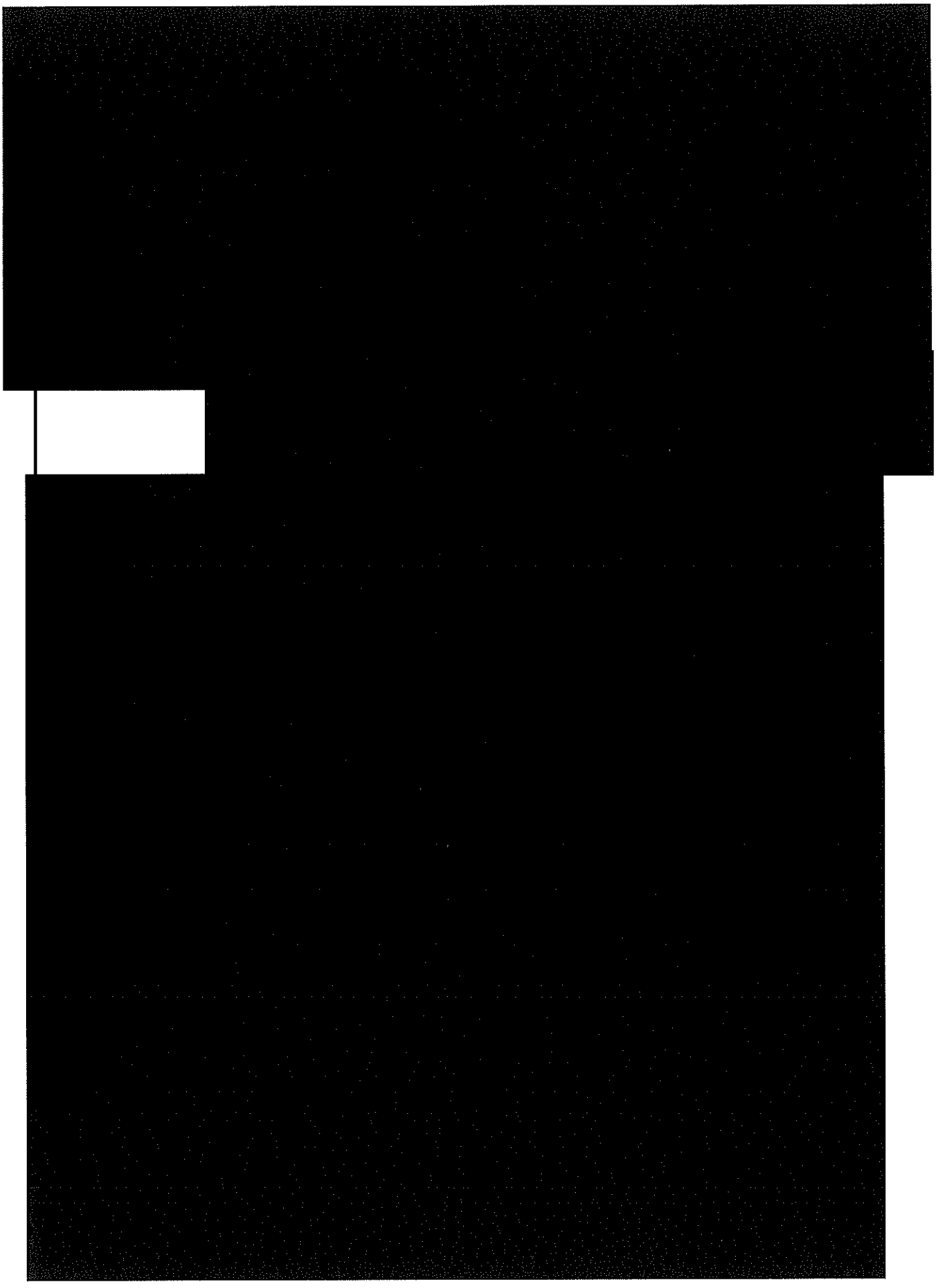
[redacted]

[redacted]

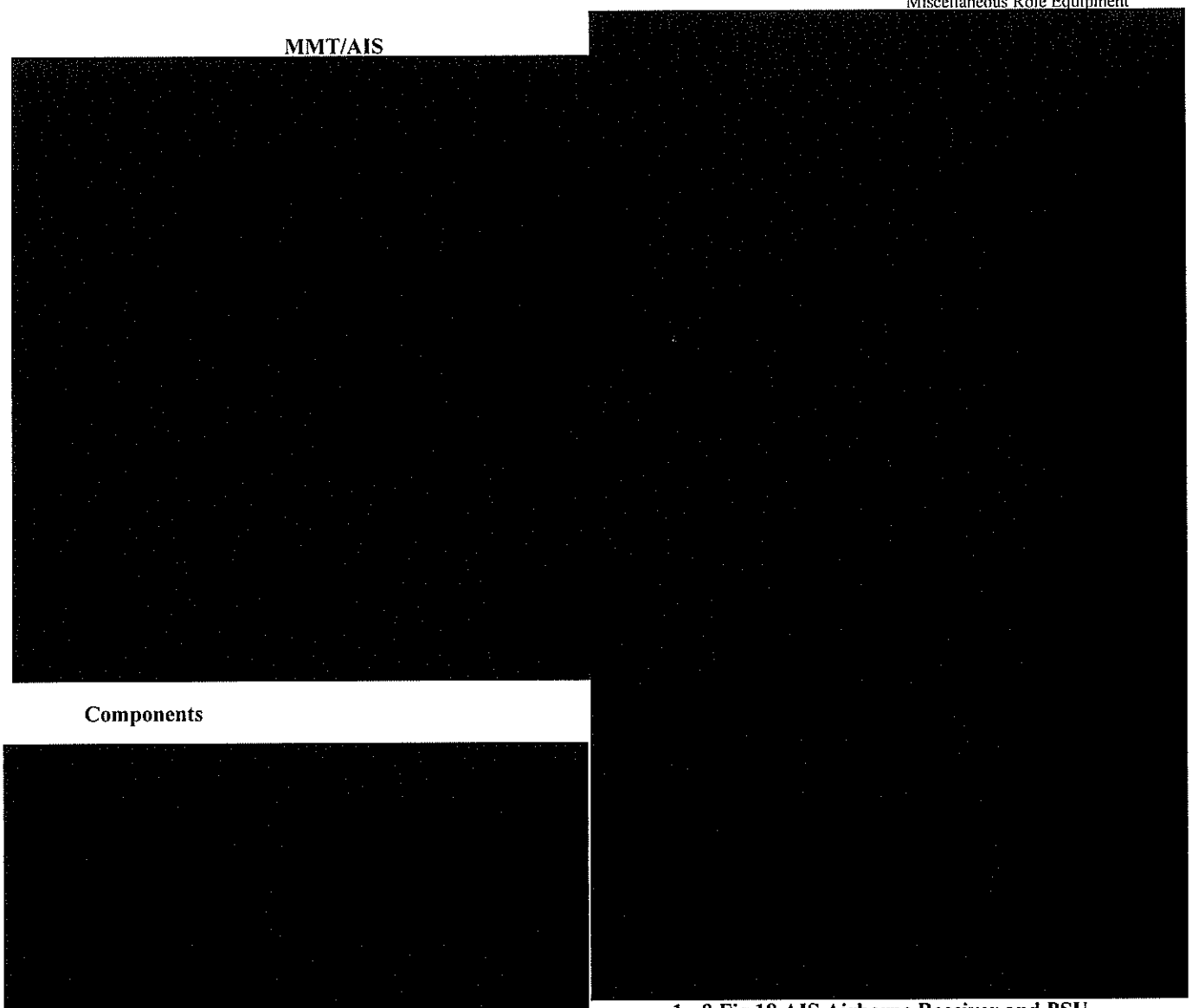
Table 5 - Ringsight

[redacted]

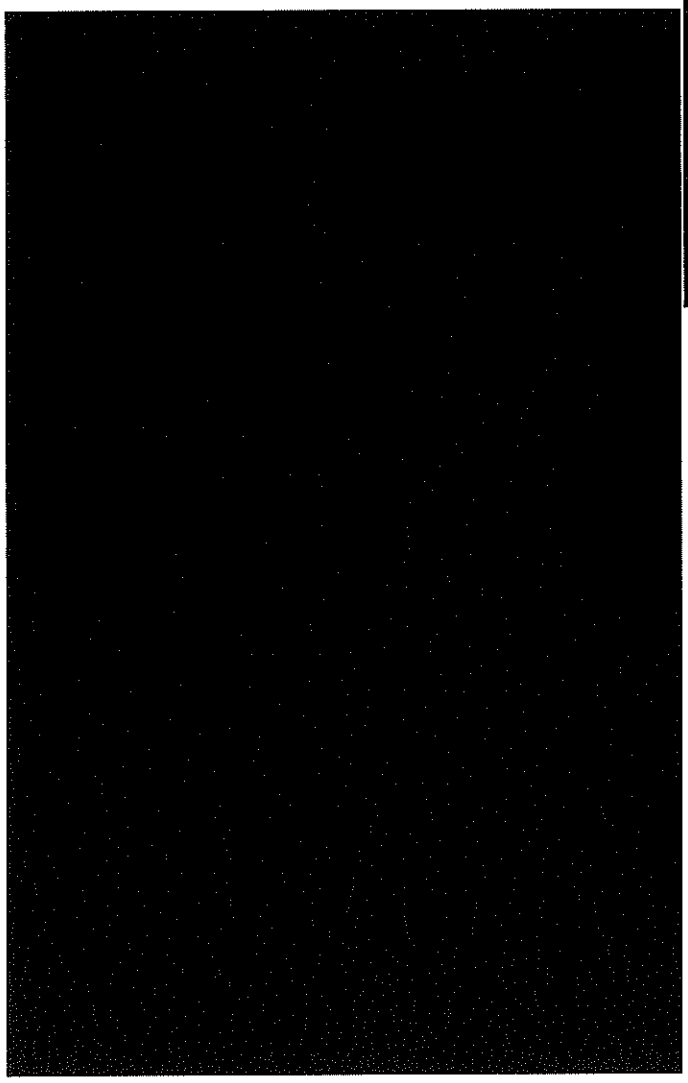

ILLUMINATION
ZEROING
1V-01



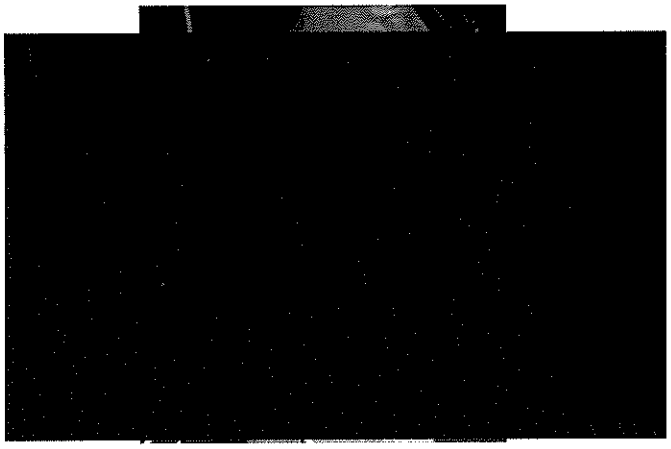
MMT/AIS



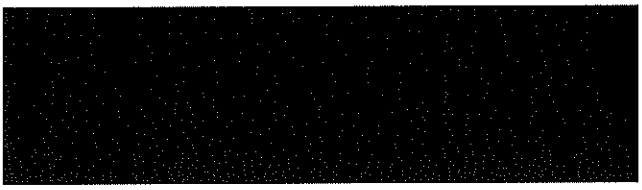
Components



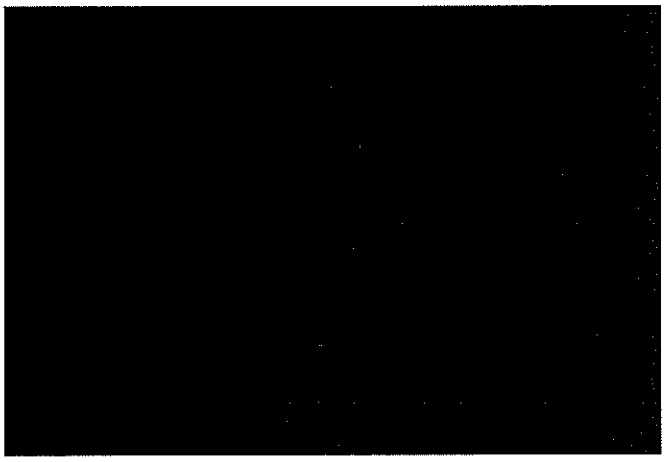
1 - 9 Fig 18 AIS Airborne Receiver and PSU



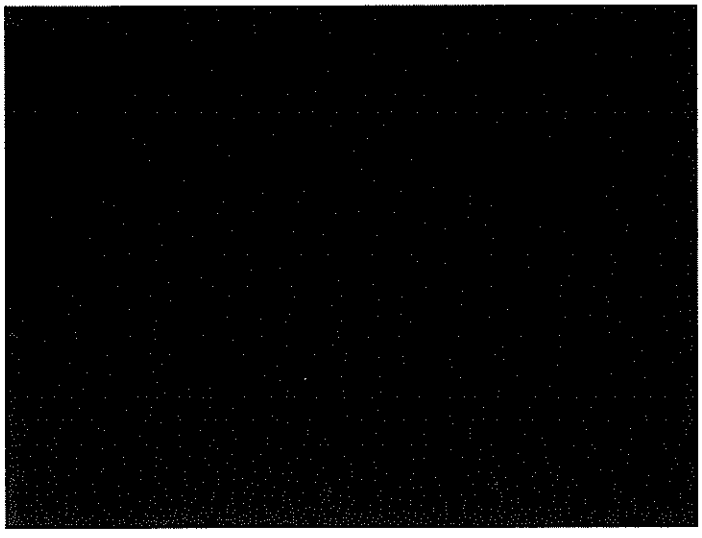
1 - 9 Fig 19 MMT/AIS Circuit Breaker/Switch Box

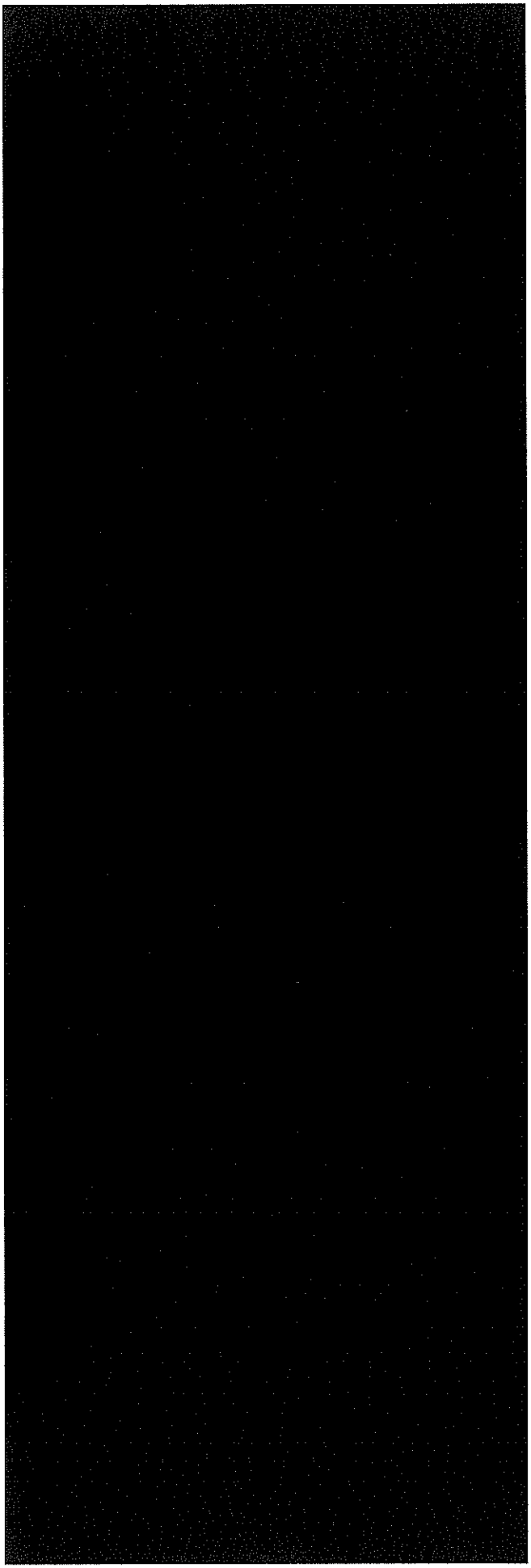


1 - 9 Fig 20 VHF Antenna



Limitations





AIS

Introduction

[redacted]

General

[redacted]

Components

[redacted]

1 - 9 Fig 21 AIS Airborne Receiver and Data Converter

[redacted]

1 [redacted] l
fa

[redacted]

1 - 9 Fig 22 AIS Switch Box

[redacted]

Limitations

[redacted]

AMMWAS Set-up

[redacted]

[redacted]

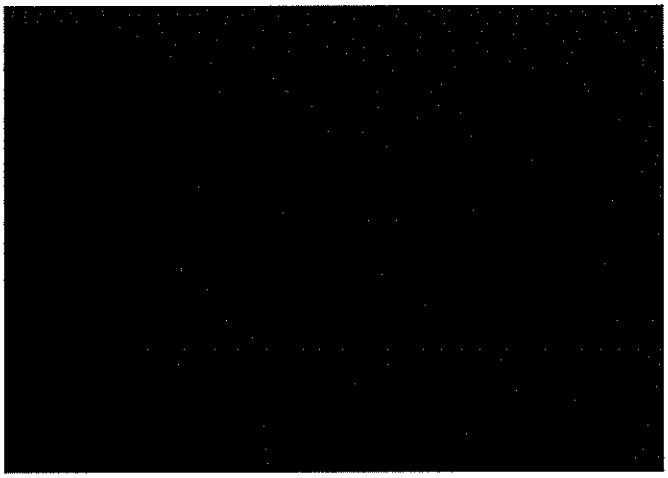
PART 1

CHAPTER 10 - GENERAL AND EMERGENCY EQUIPMENT

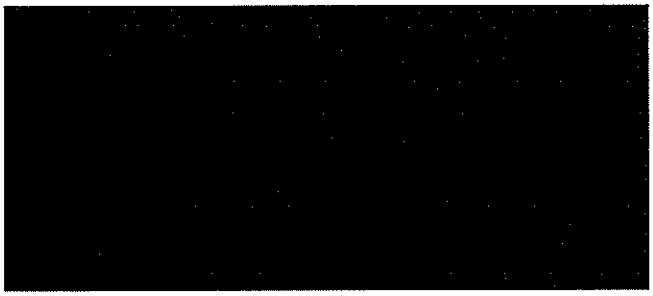
Contents

LANDING GEAR AND HARPOON

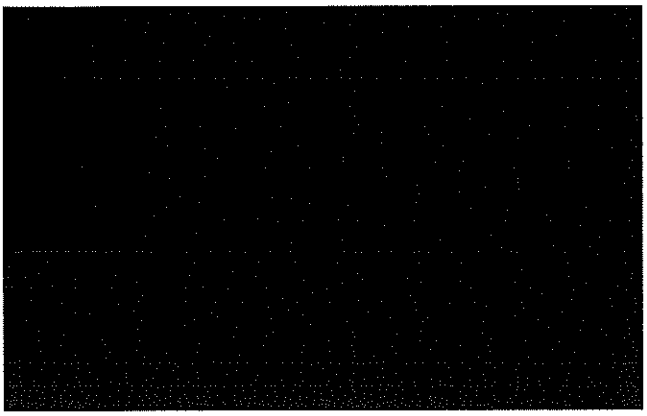
General



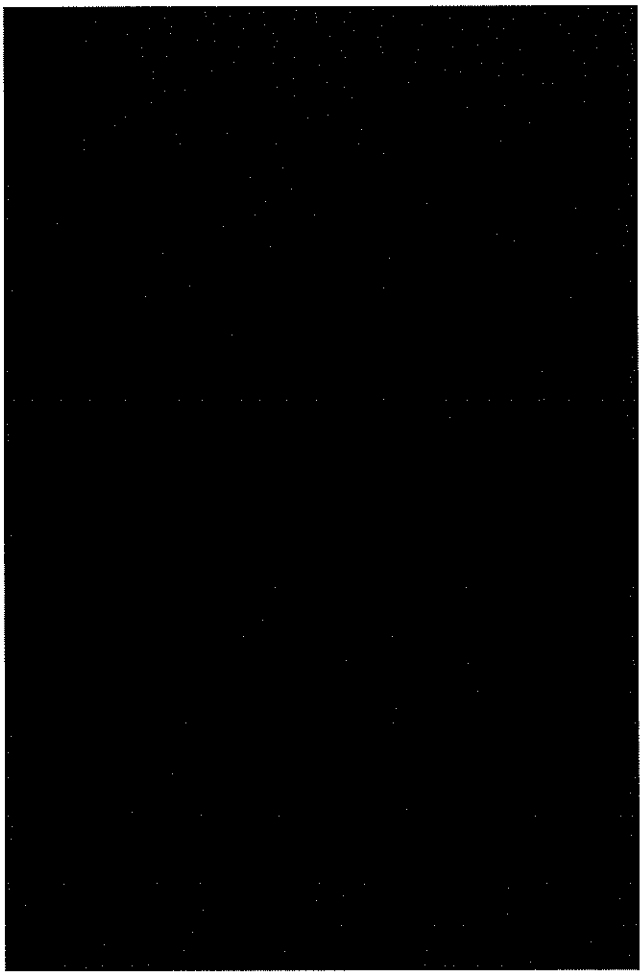
Mainwheels



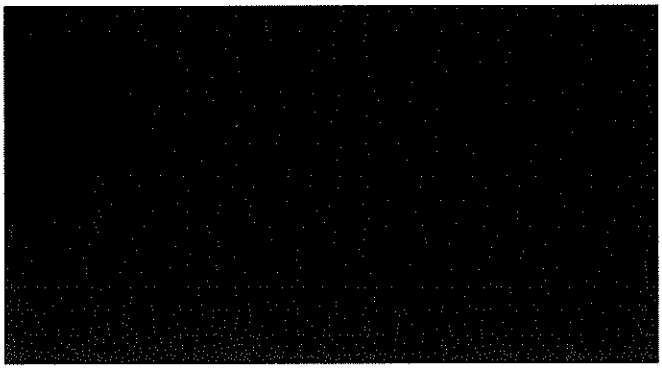
Nosewheels



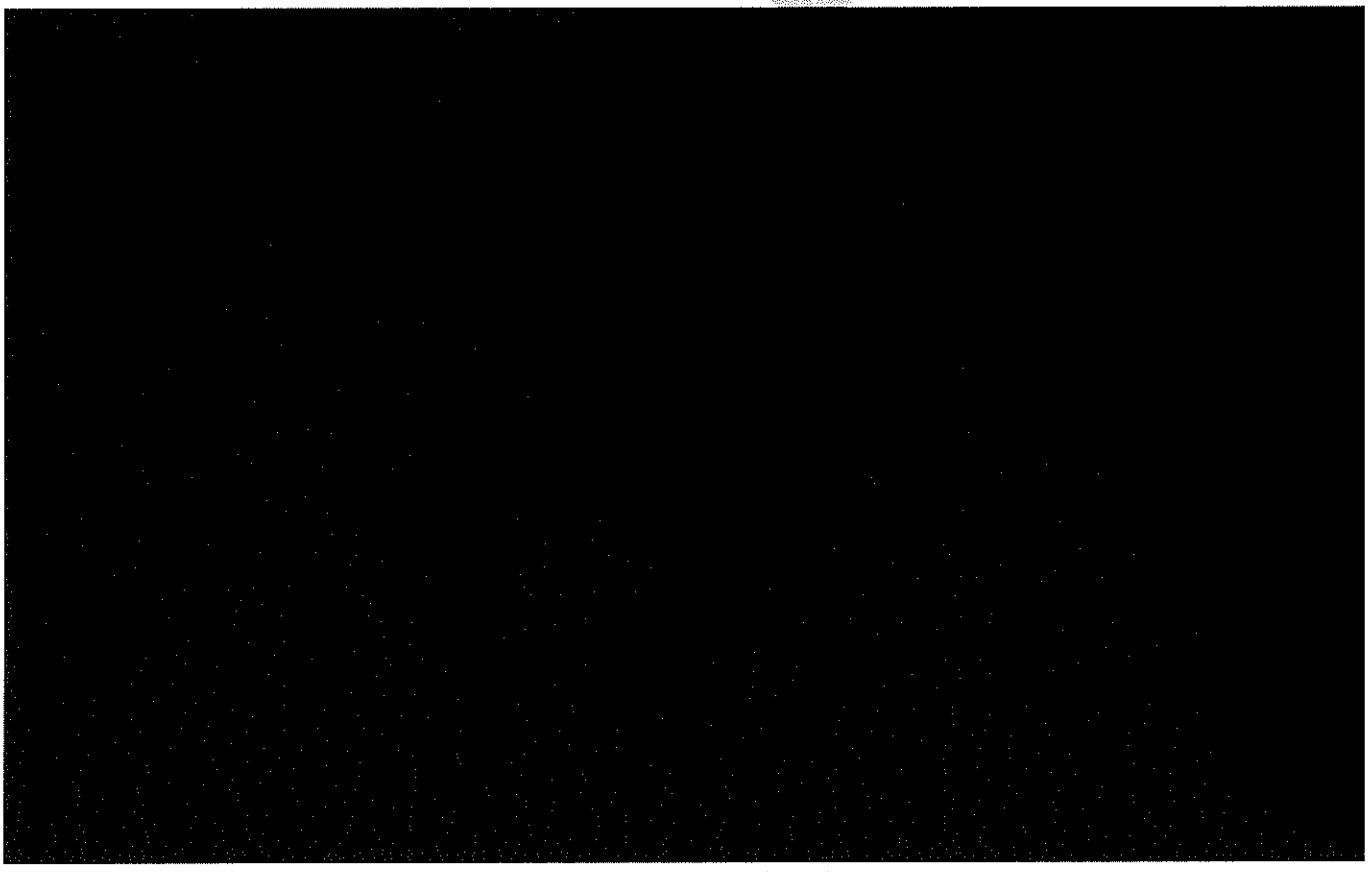
Nosewheel Castoring



Wheel Locks



1 - 10 Fig 1 Landing Gear and Harpoon



1 - 10 Fig 2 Landing Gear Components

Table 1 - Landing Gear Controls and Indicators

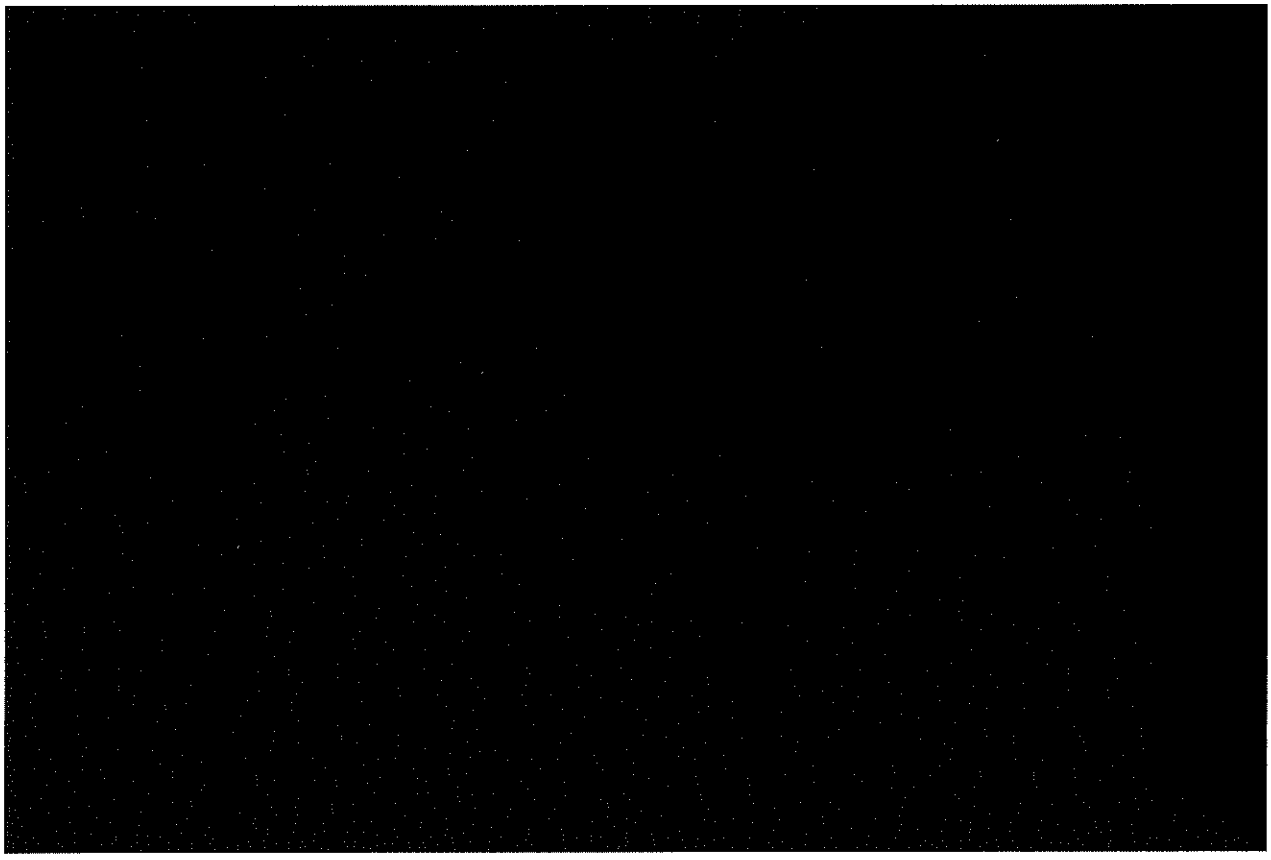
Control/Indicator	*Marking*	*Location*
[redacted]		

7. **Operation.**

[redacted]

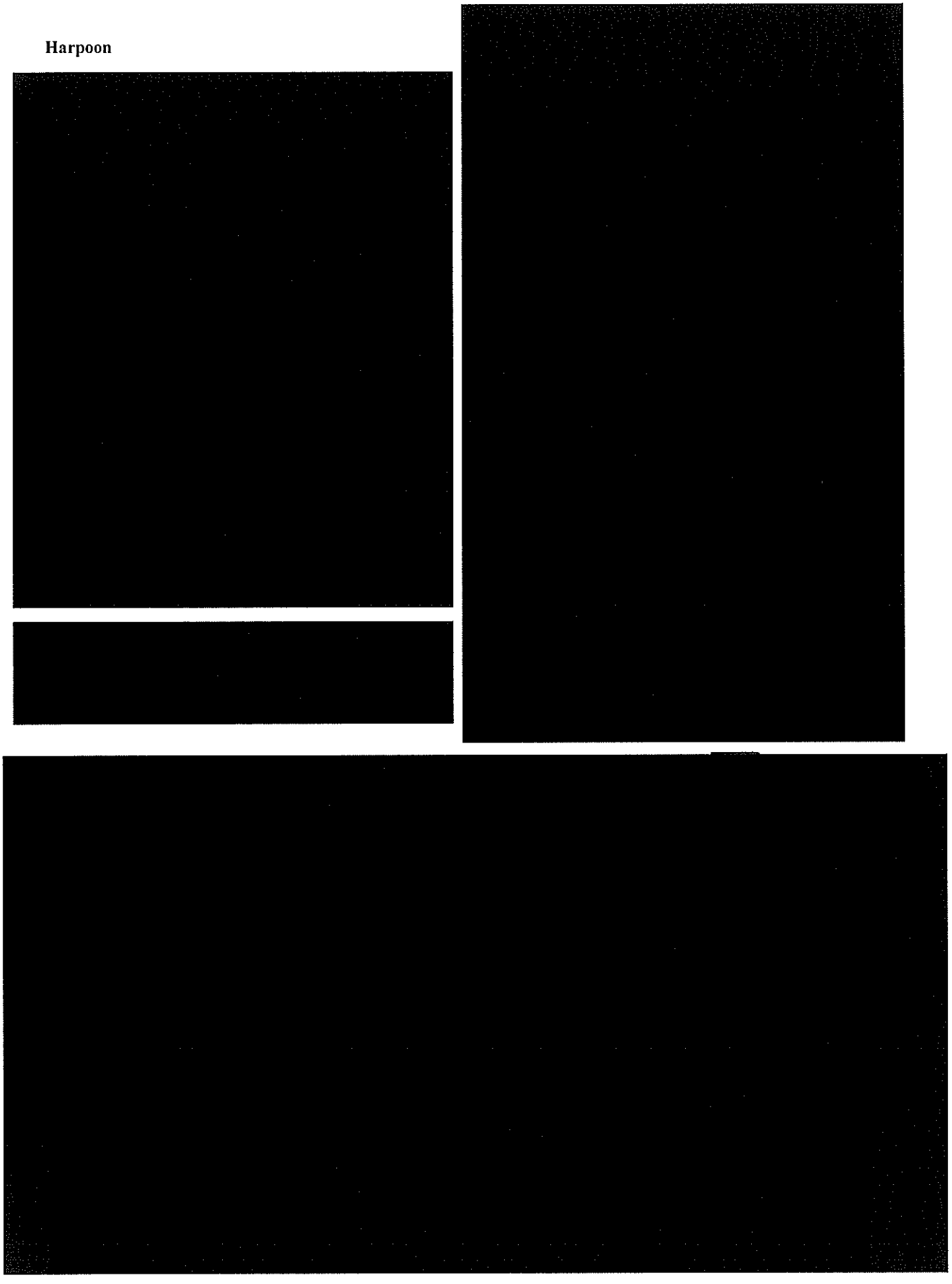
1 - 10 Fig 3 Nosewheel Castoring System

1 - 10 Fig 4 Wheel Lock Operation

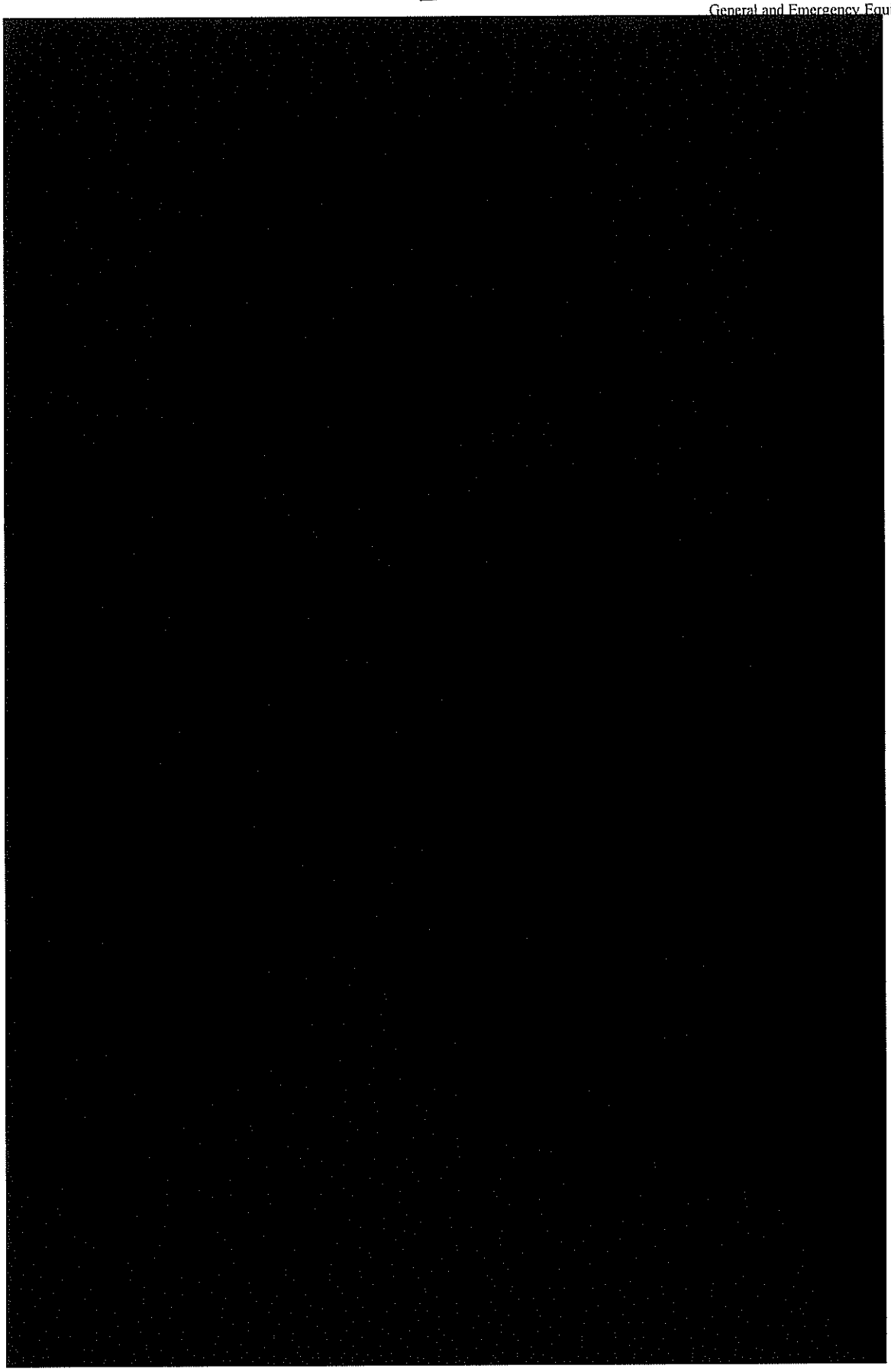


1 - 10 Fig 5 Wheel Lock System

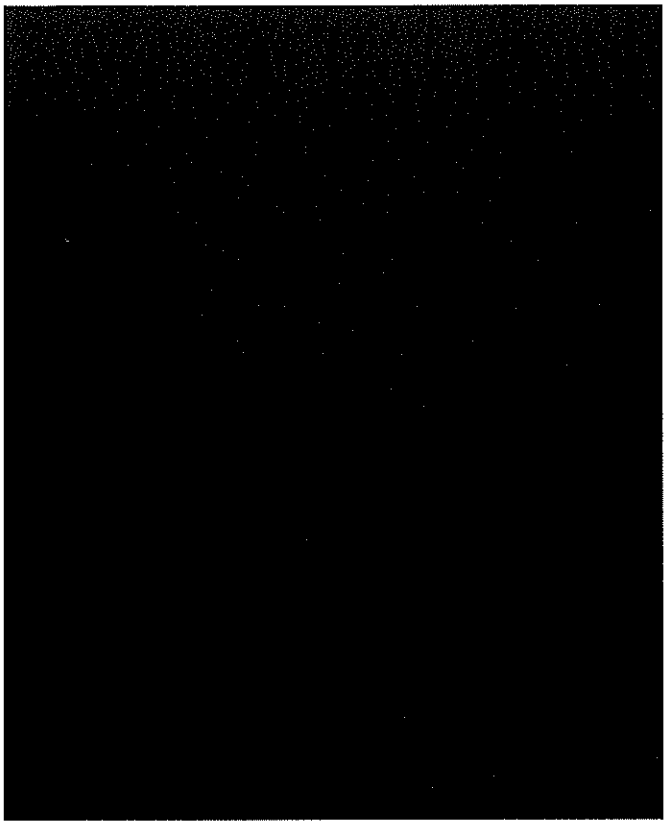
Harpoon

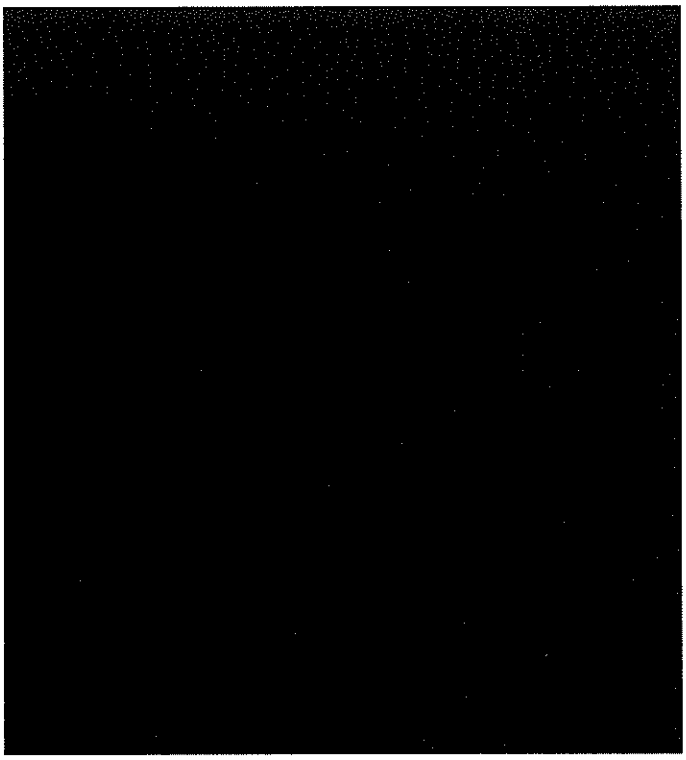


1 - 10 Fig 6 Deck Lock Harpoon System

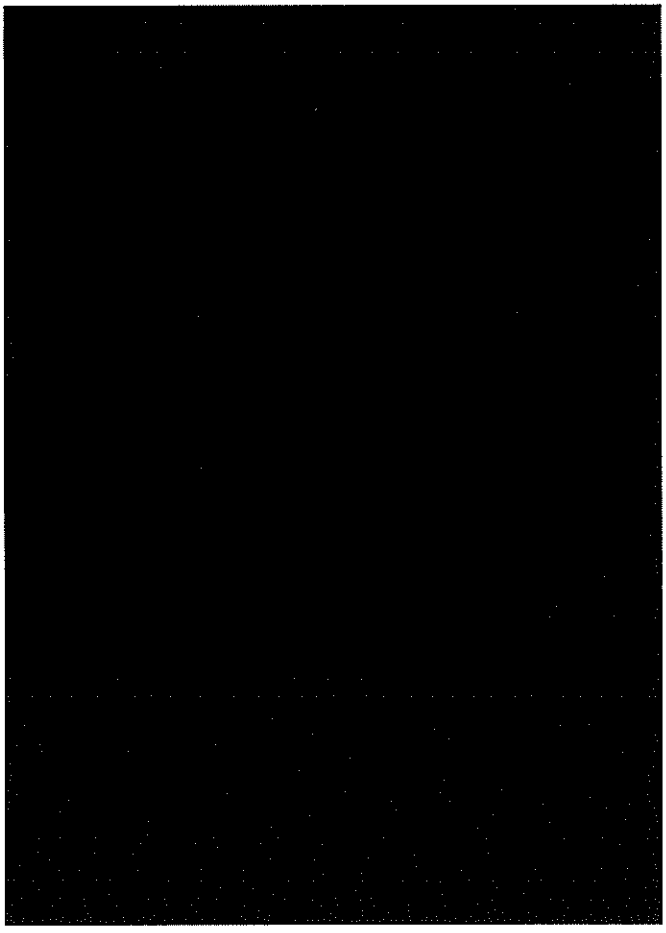


1 - 10 Fig 7 Deck Lock Harpoon





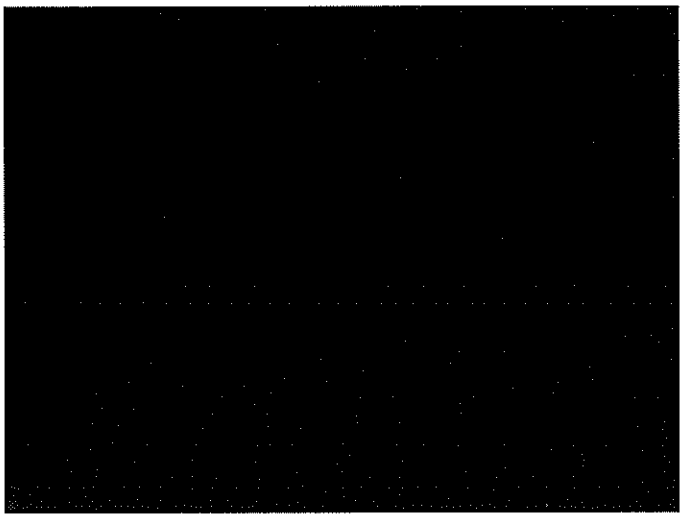
NVG Compatible Cockpit Lighting.

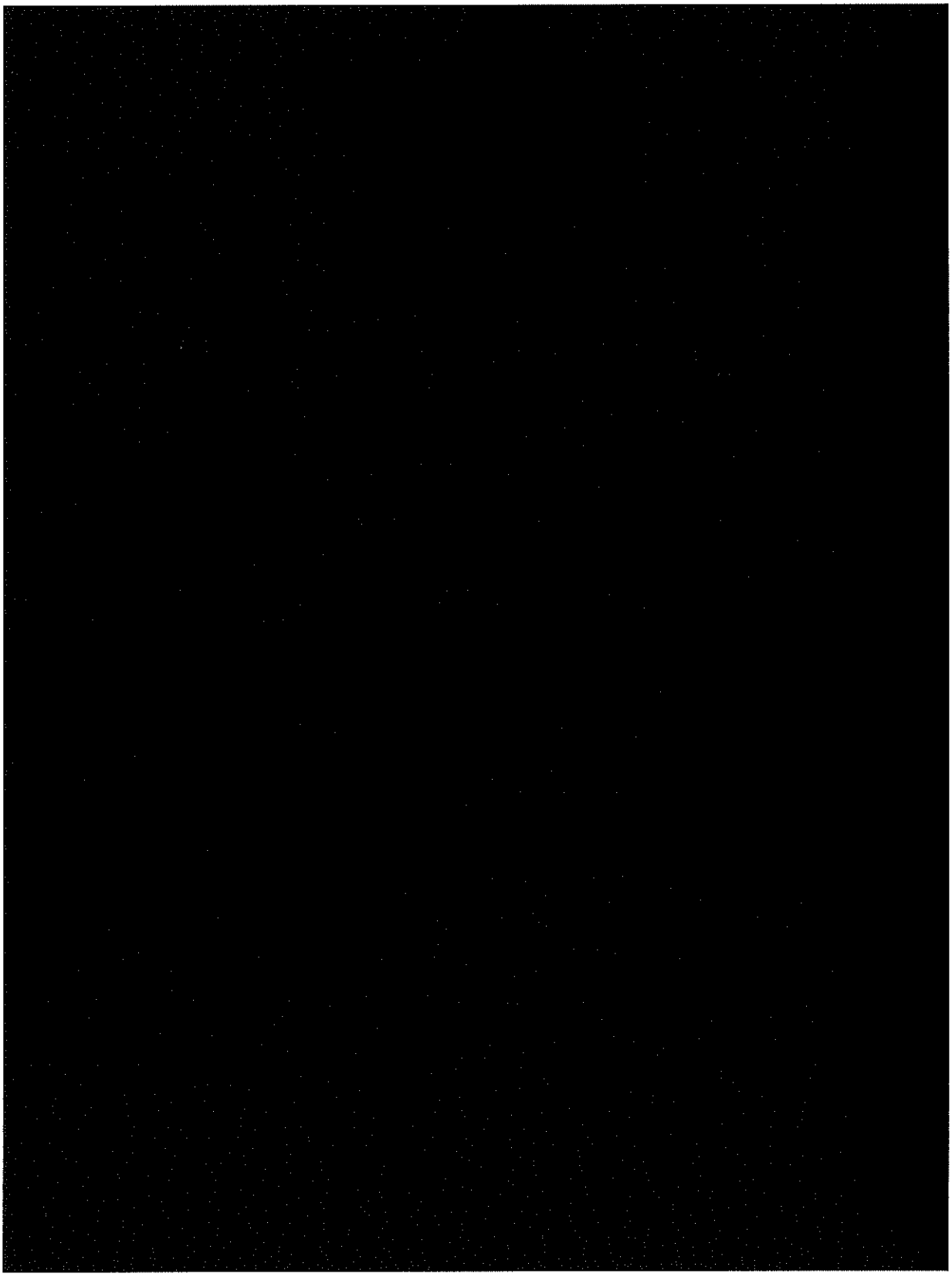


INTERNAL AND EXTERNAL LIGHTING

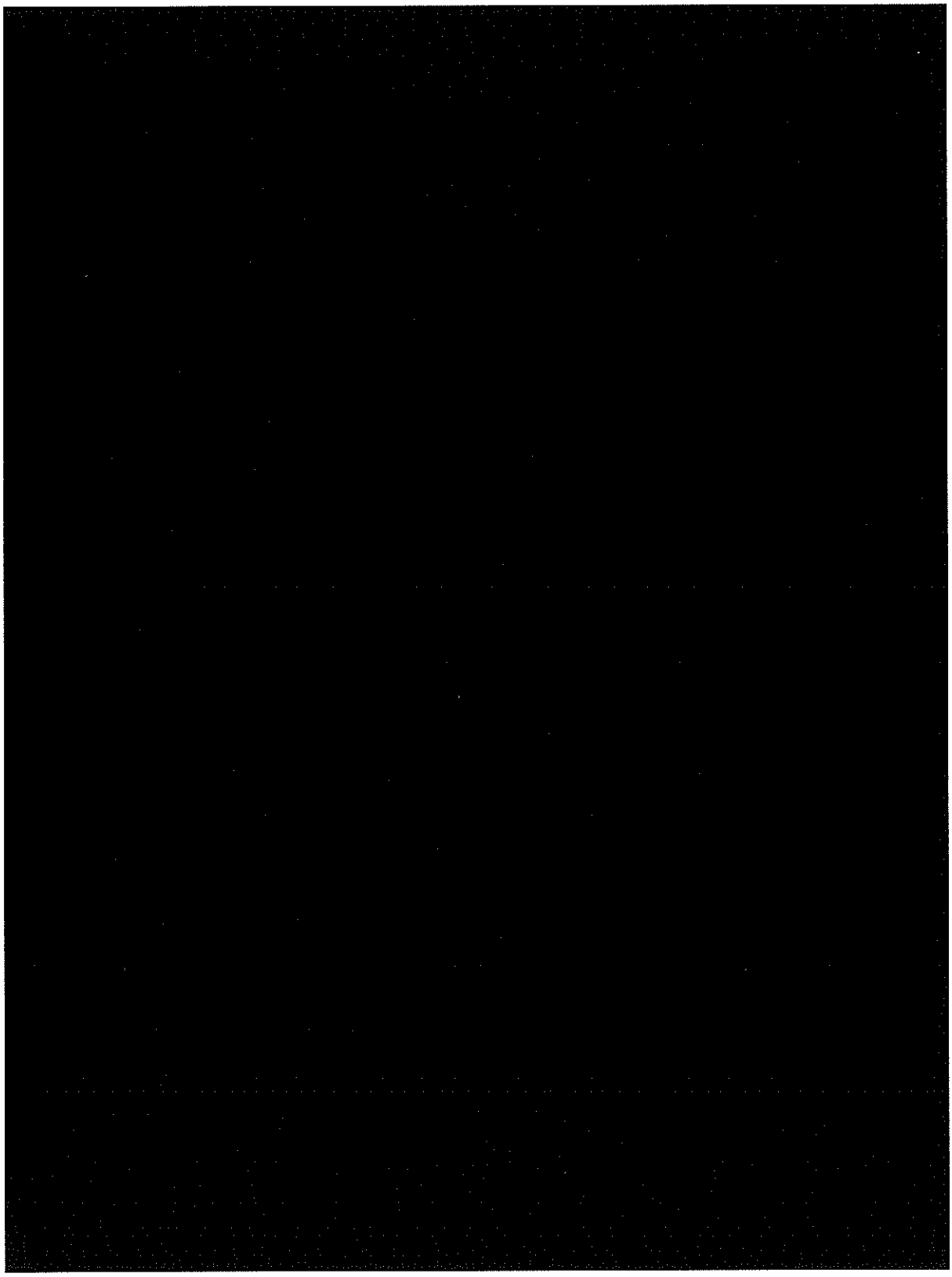
General

Internal Lights

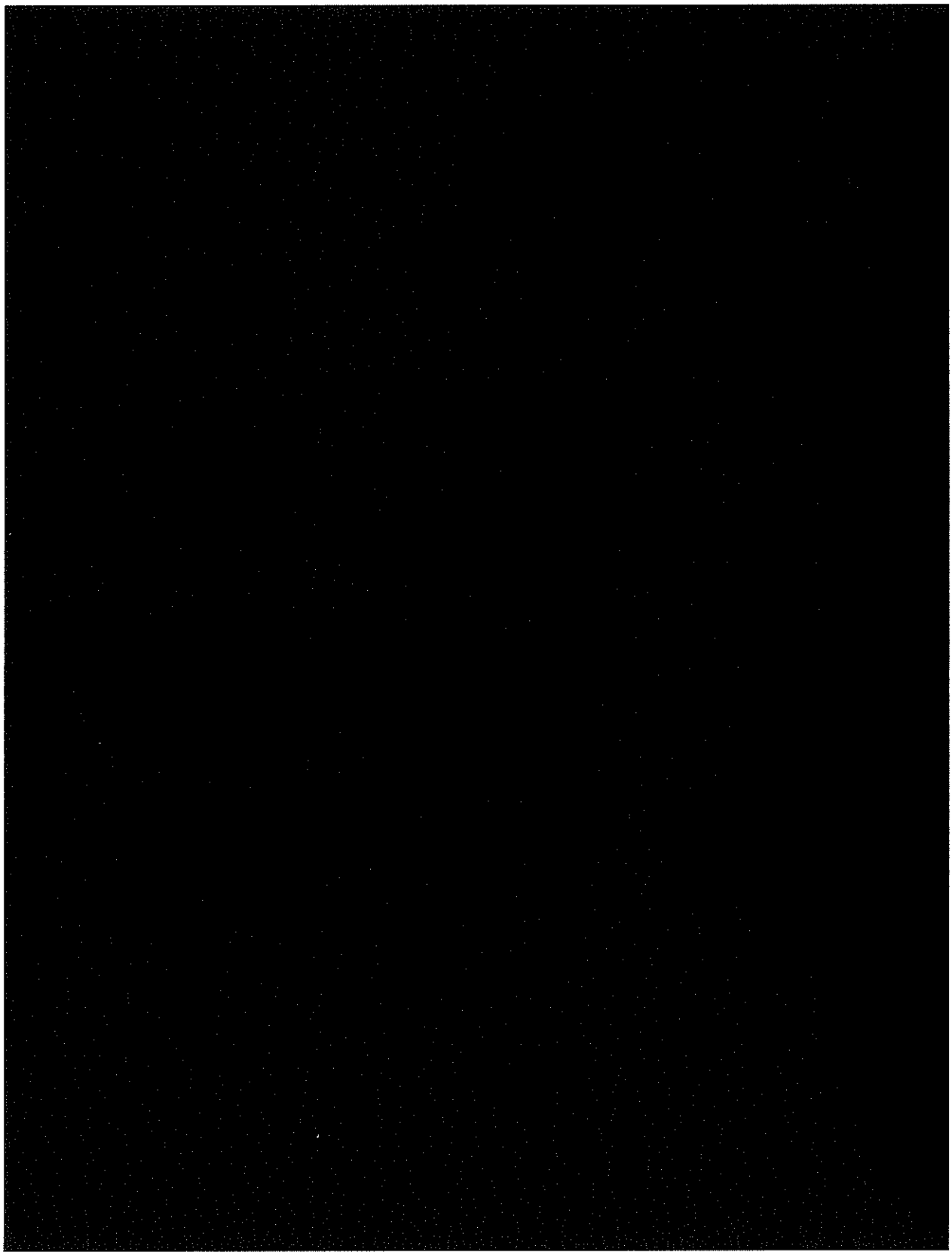




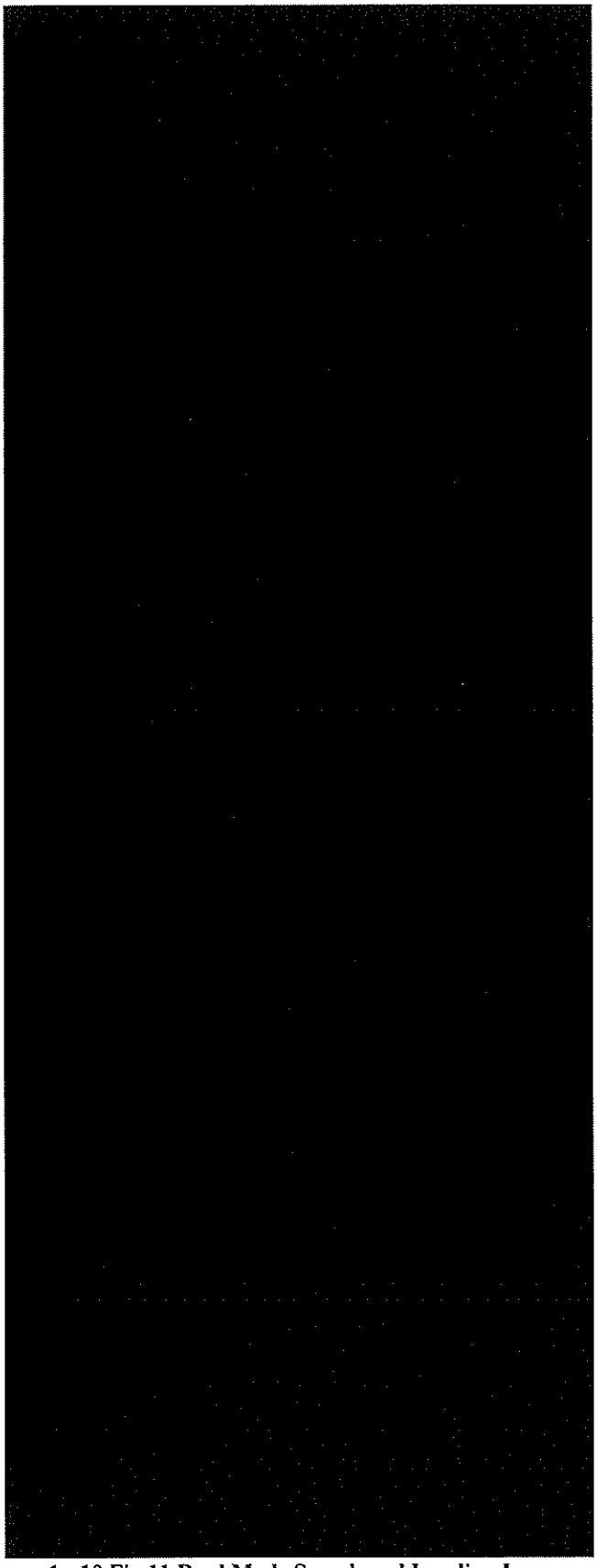
1 - 10 Fig 8 Non-NVG Lighting and Air Conditioning Controls, General Layout

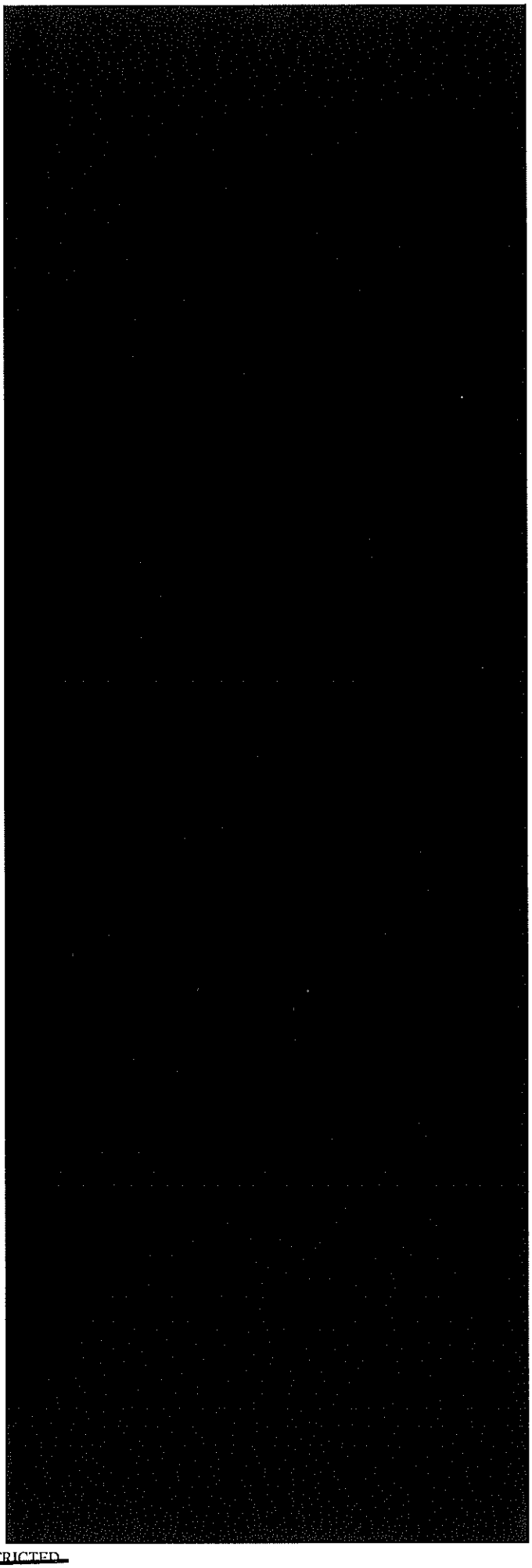


1 - 10 Fig 9 NVG Compatible Cockpit Lighting

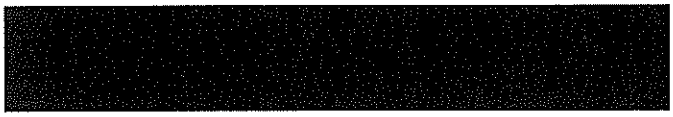


1 - 10 Fig 10 NVG Compatible Cockpit Lighting Filters





1 - 10 Fig 11 Dual Mode Search and Landing Lamp



[redacted]

WINDSCREEN EQUIPMENT

Windscreen Wipers

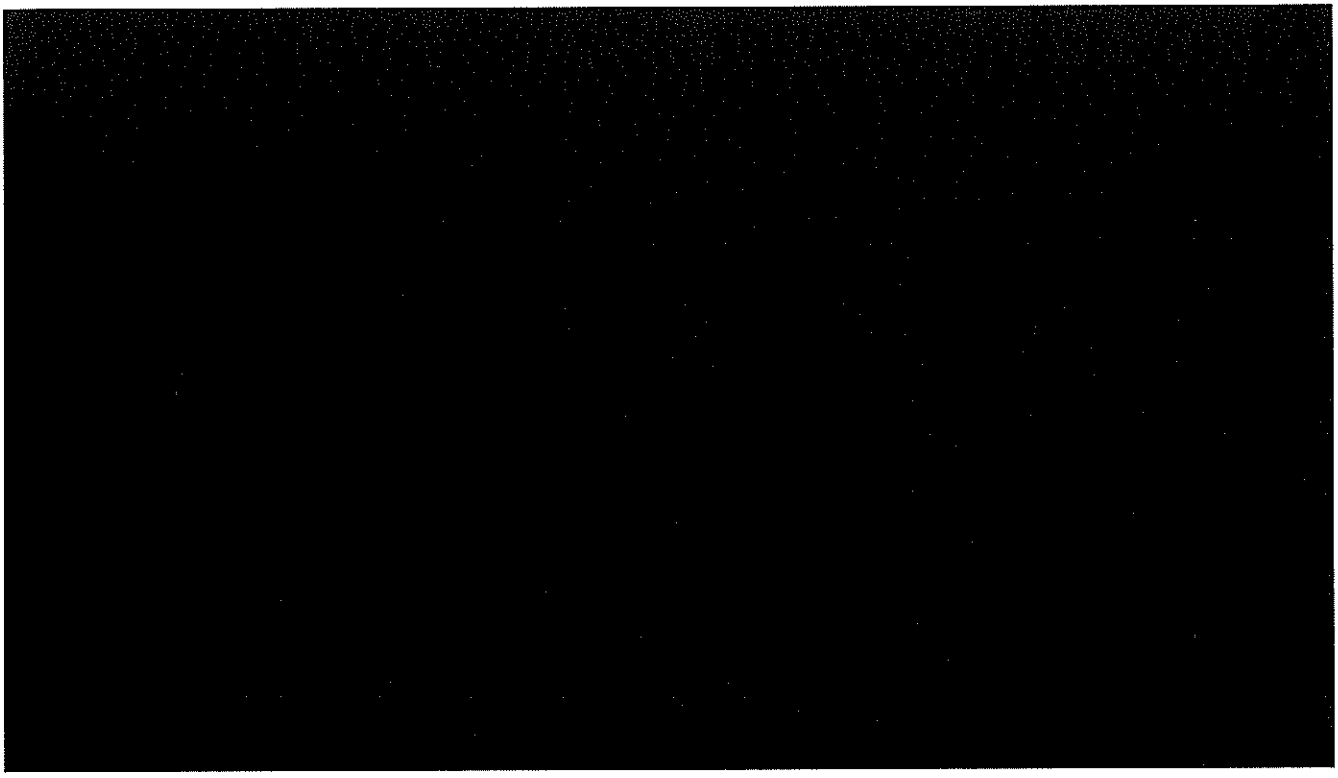
[redacted]

Windscreen Washing

[redacted]

Windscreen Heating

[redacted]

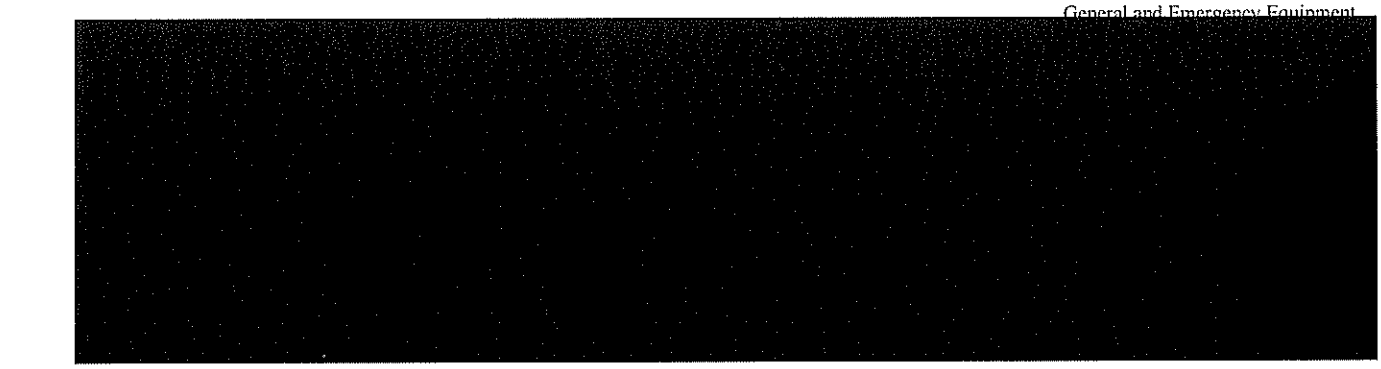


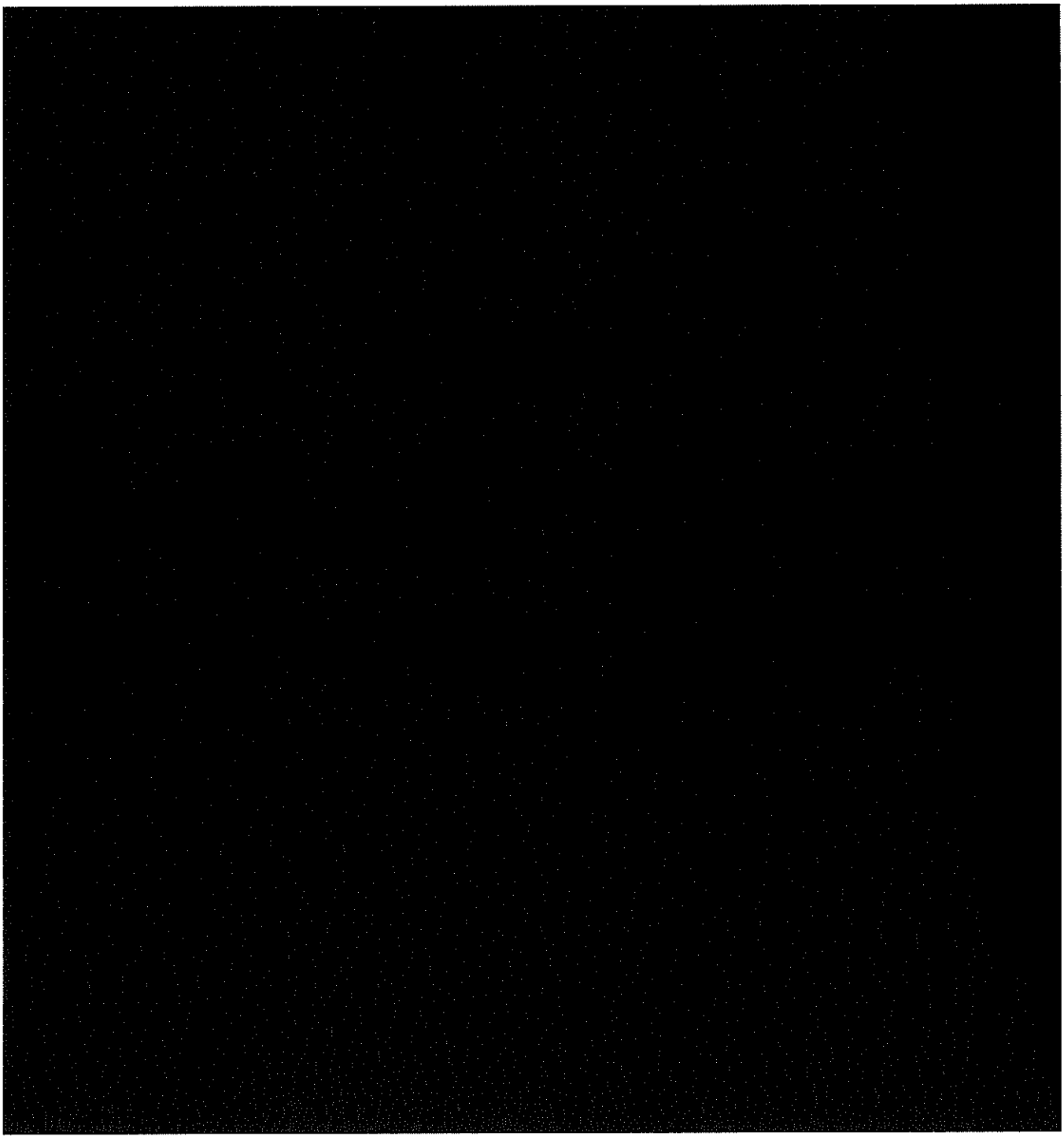
1 - 10 Fig 15 Windscreen Heating System

MISCELLANEOUS EQUIPMENT

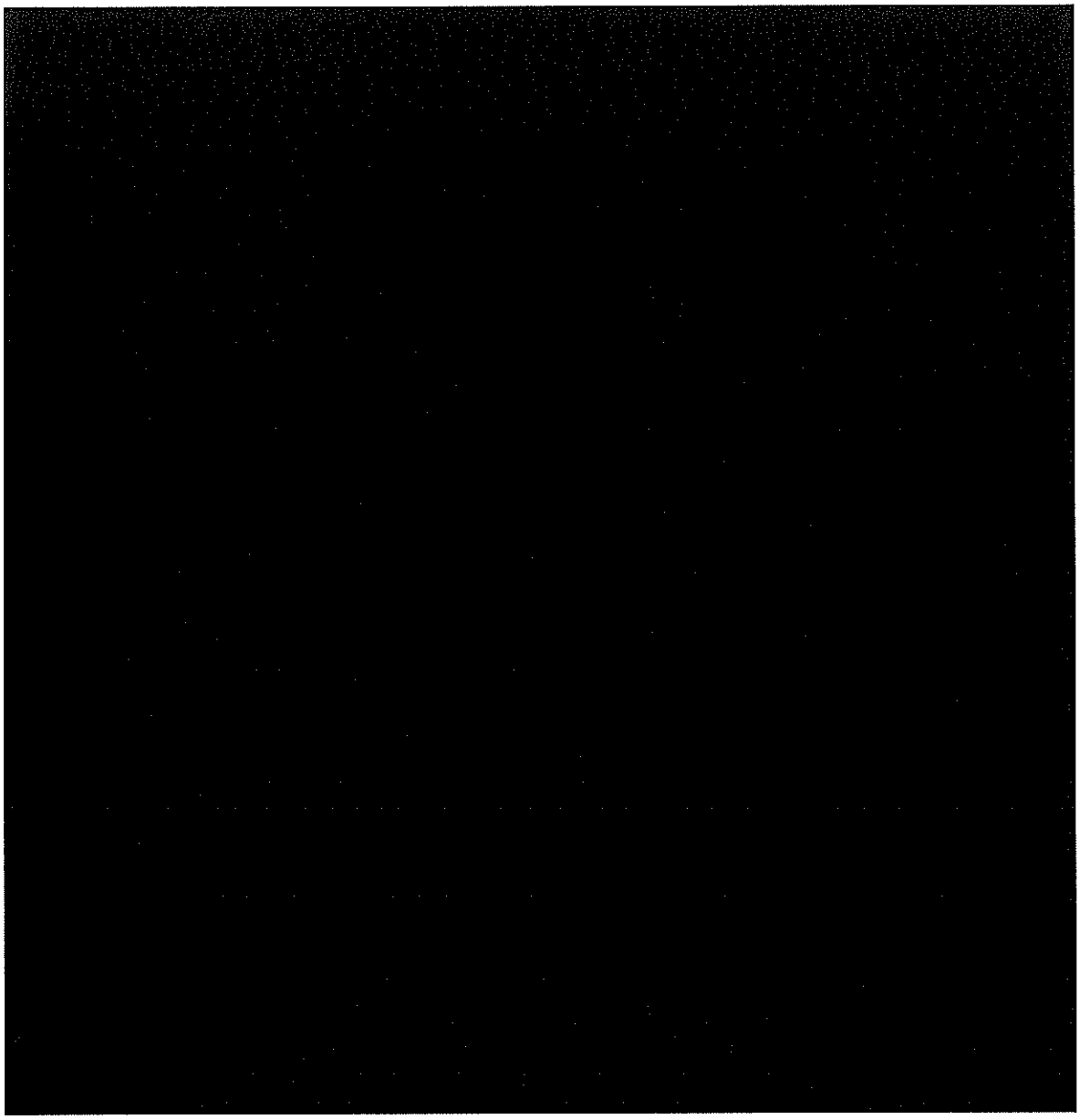
Cockpit Seats

Cockpit Doors



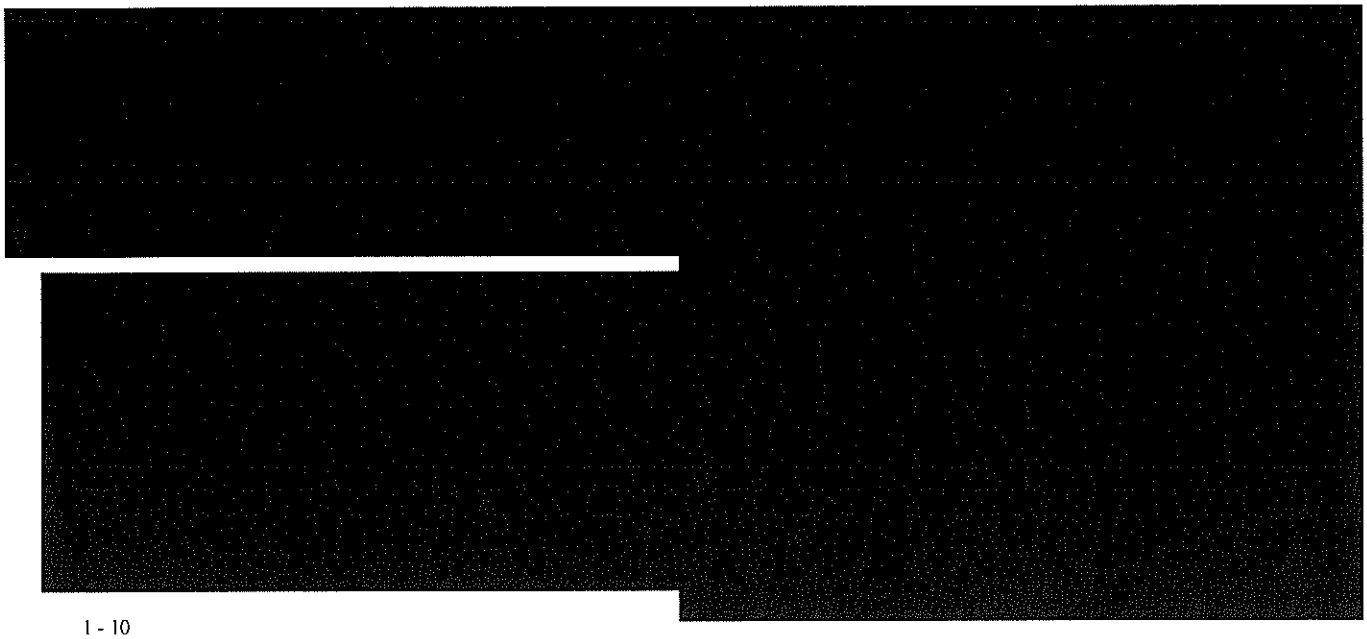


1 - 10 Fig 16 Cockpit Doors



1 - 10 Fig 17 Cabin Doors

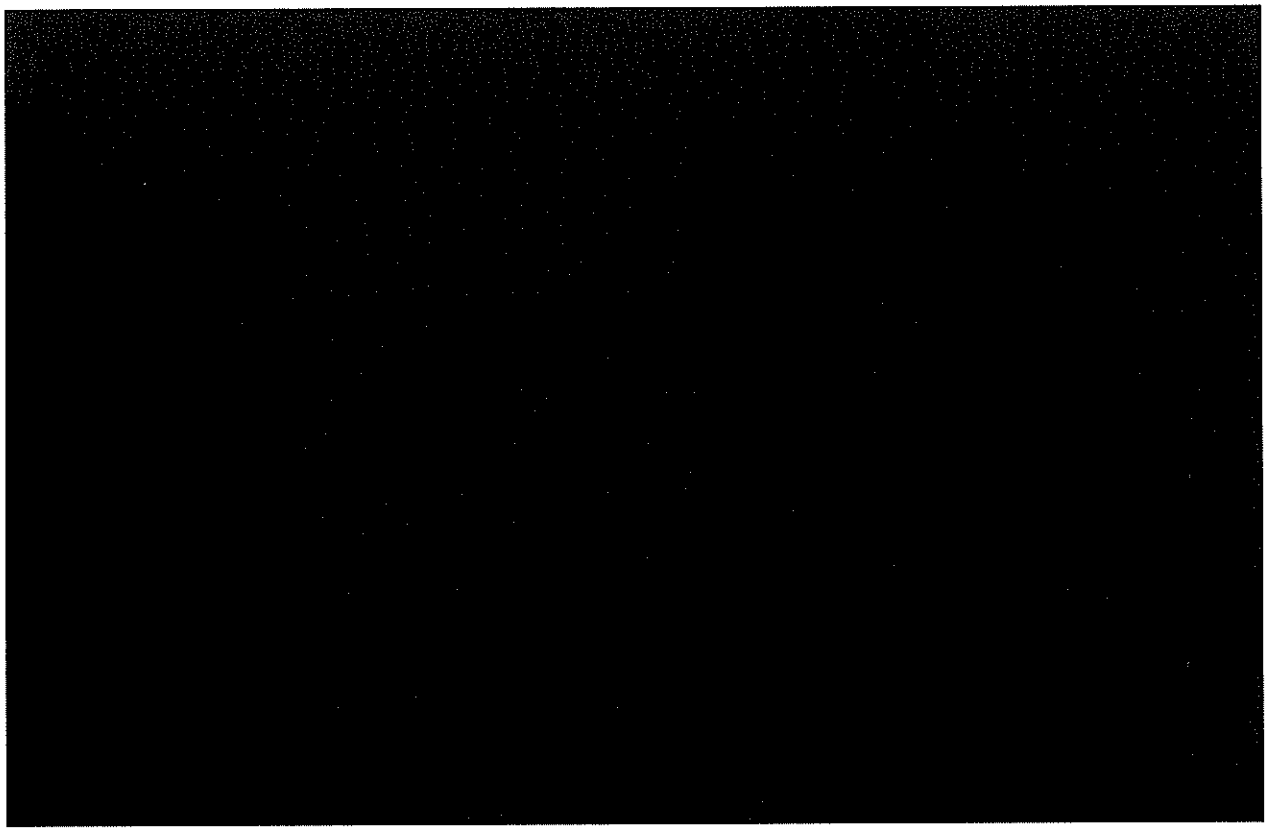
Cabin Doors **Heating and Ventilation**



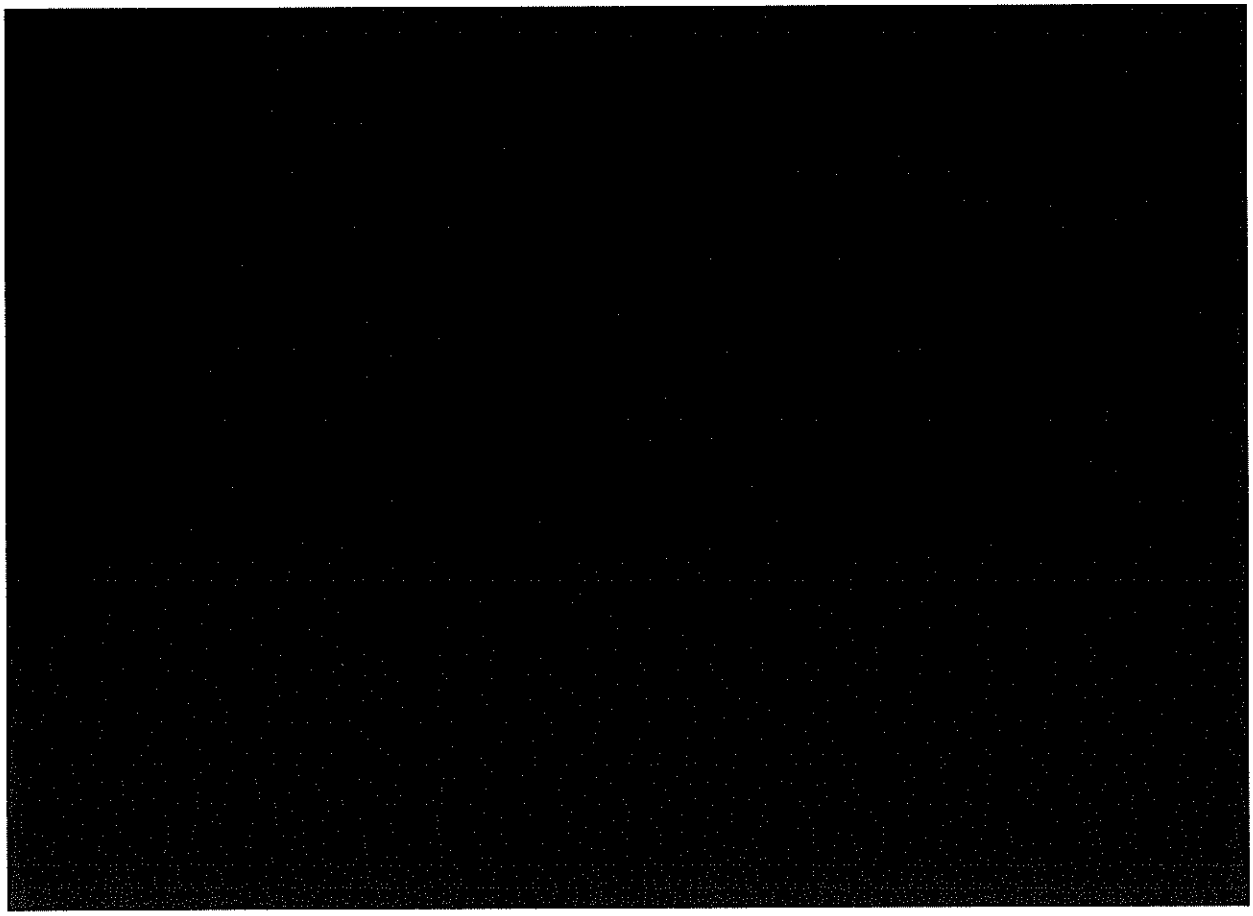
Casualty Bag Sockets

Blade Tracking and General Purpose DC Supply Sockets

Stowages



1 - 10 Fig 18 Heating and Ventilation System



1 - 10 Fig 19 Stowages and Emergency Equipment

AVSR

[redacted]

[redacted]

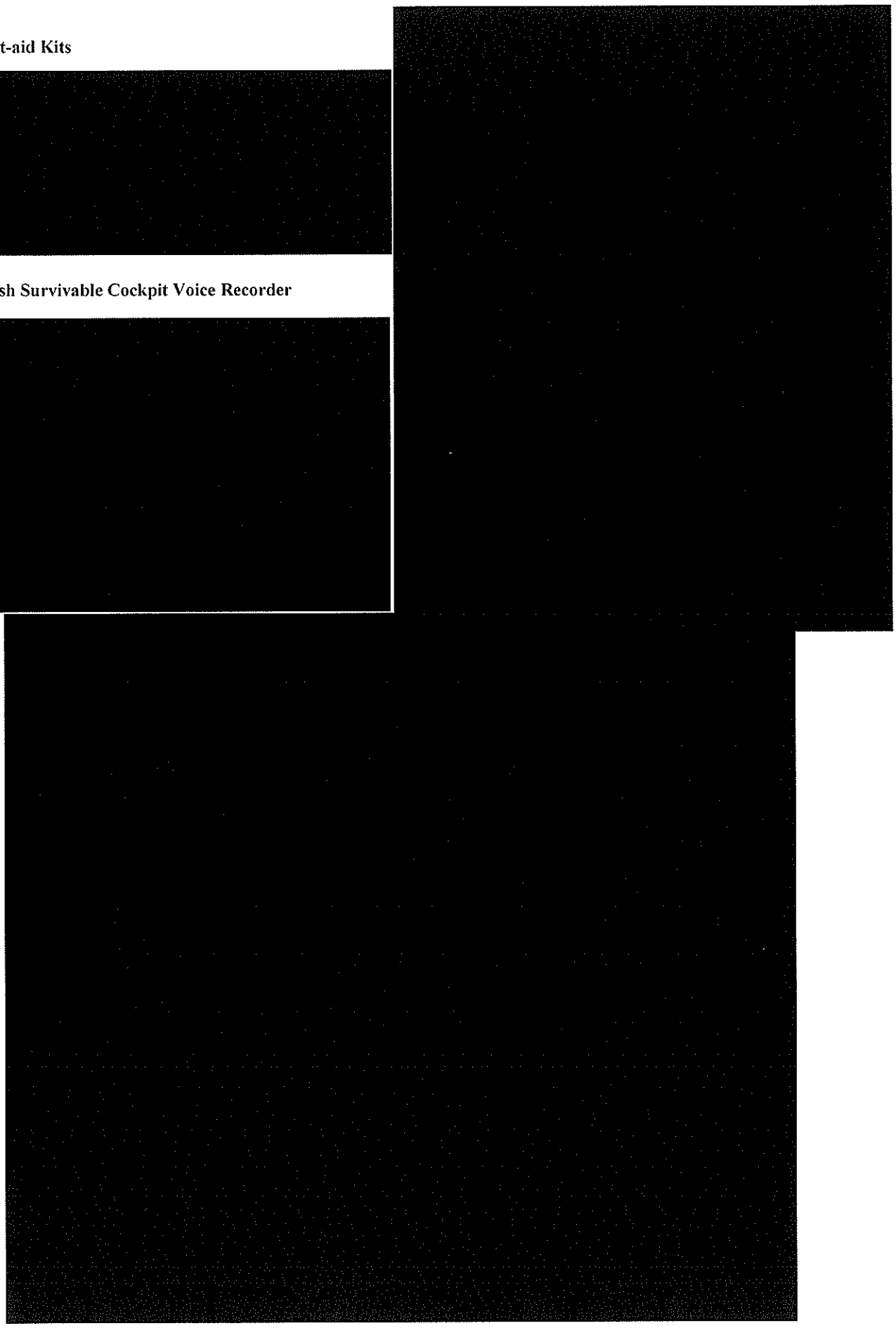
EMERGENCY EQUIPMENT

Fire Extinguisher

[redacted]

First-aid Kits

Crash Survivable Cockpit Voice Recorder

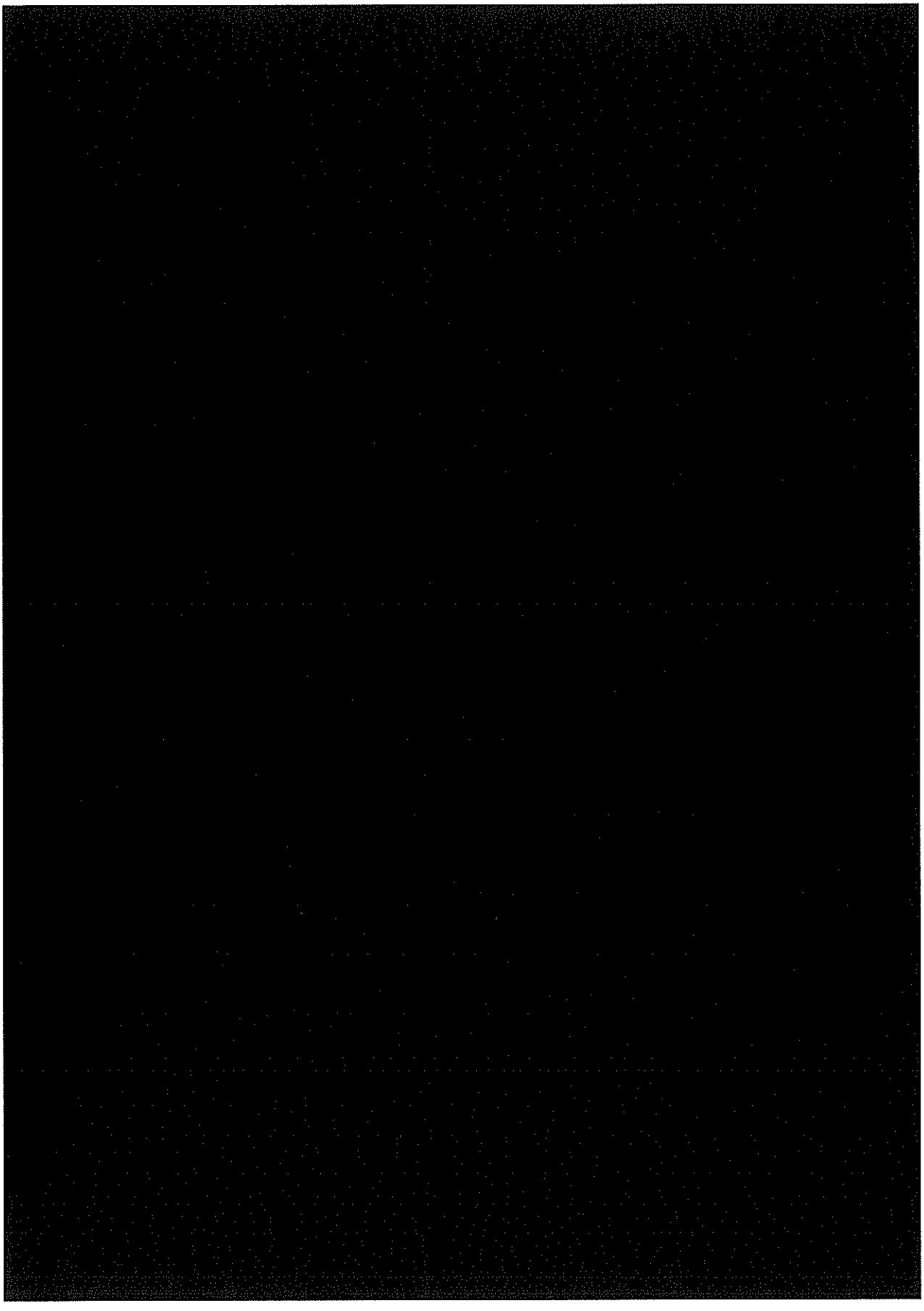


1 - 10 Fig 23 Microphone Box with Controls and Indicator

[redacted]

Flotation Gear

[redacted]



1 - 10 Fig 25 Flotation Gear Electrical System

[redacted]

Sonar Locator Beacon

[redacted]

Intentionally Blank

PART 1

CHAPTER 11 [redacted]

(Issued at AL 4)

Contents

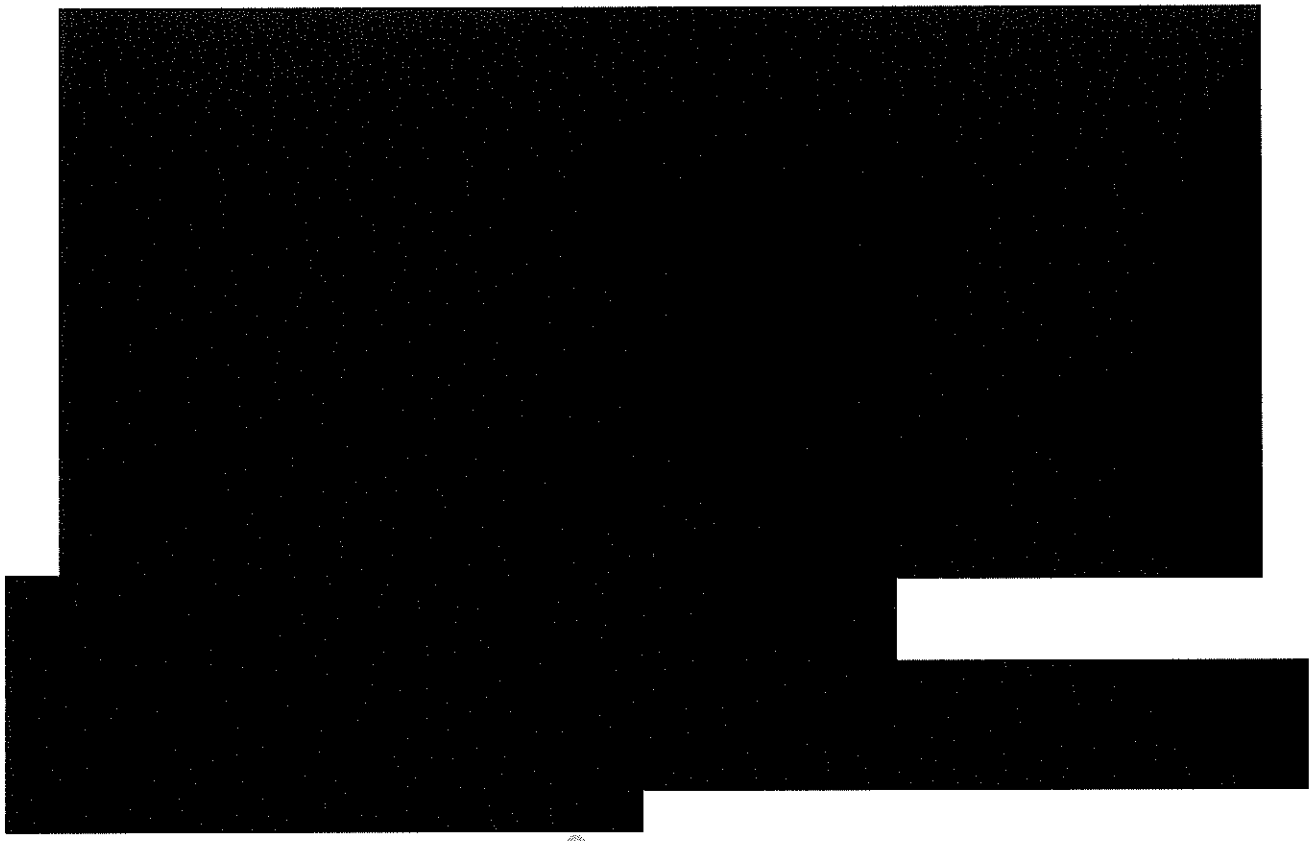
Description

[redacted]

[redacted]

Operation

[redacted]



[redacted]

[redacted]

Description

[redacted]

[redacted]

Numeric Identifier/ Control/Identifier	*Ma*	*ion*

[redacted]

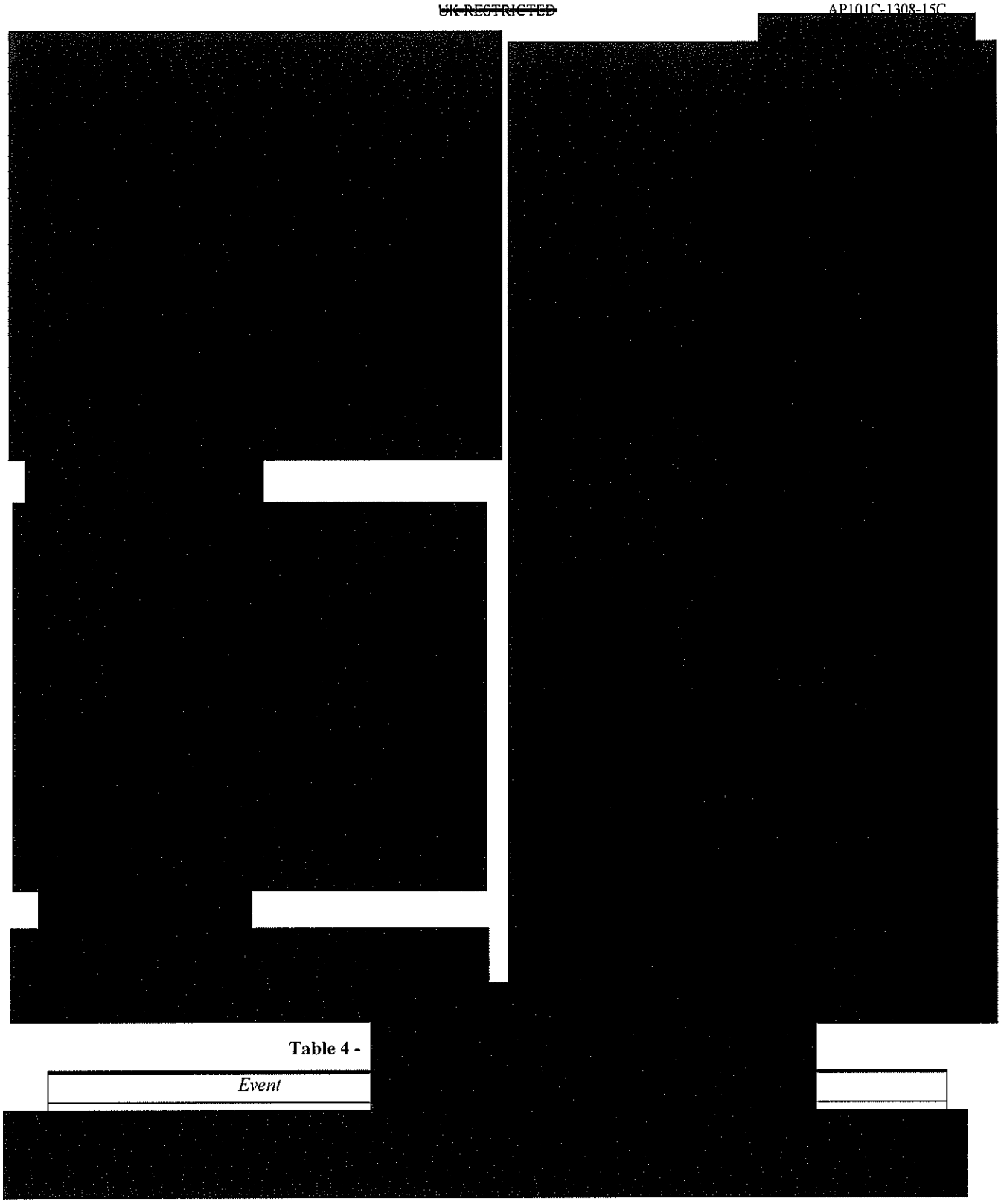
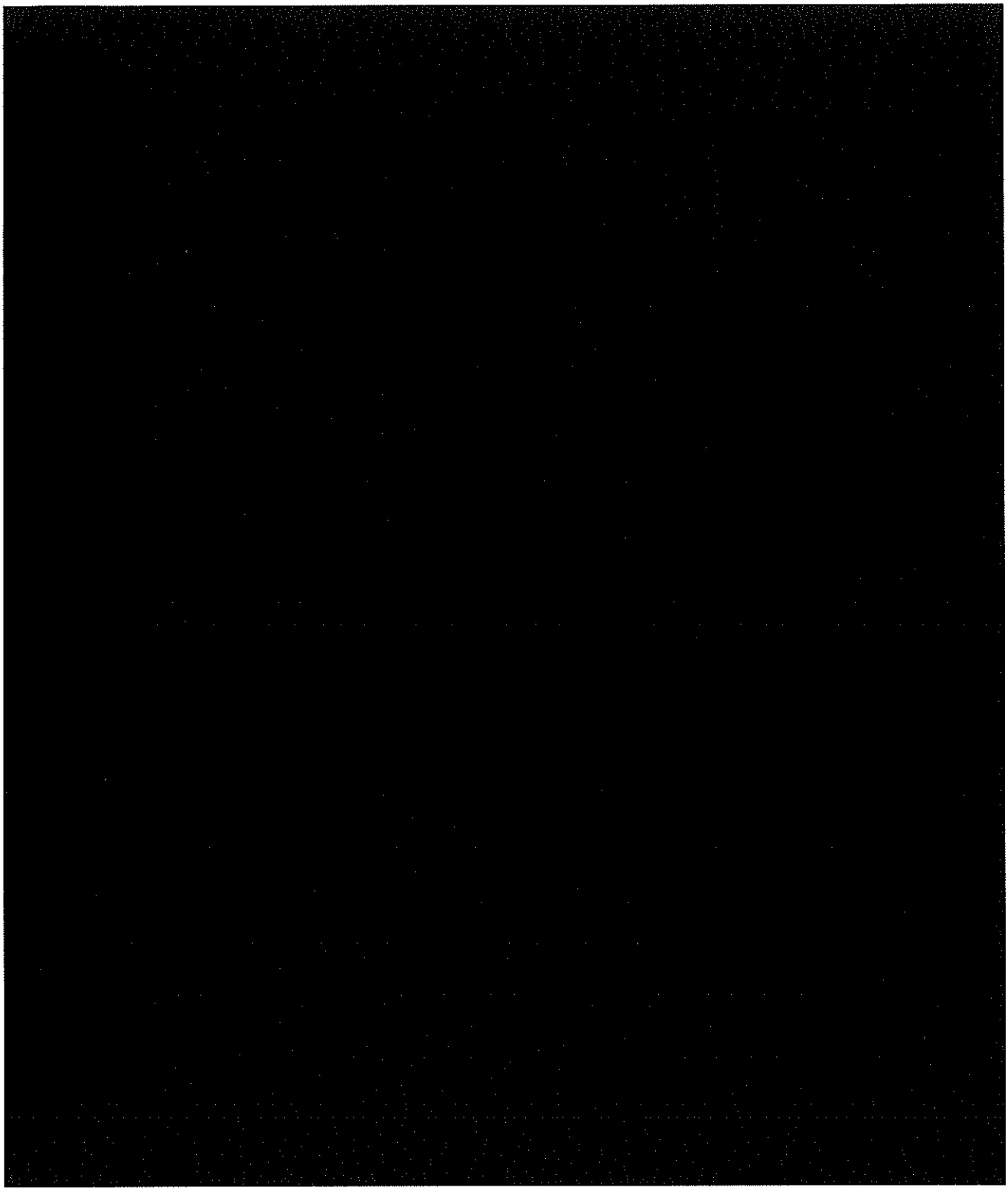
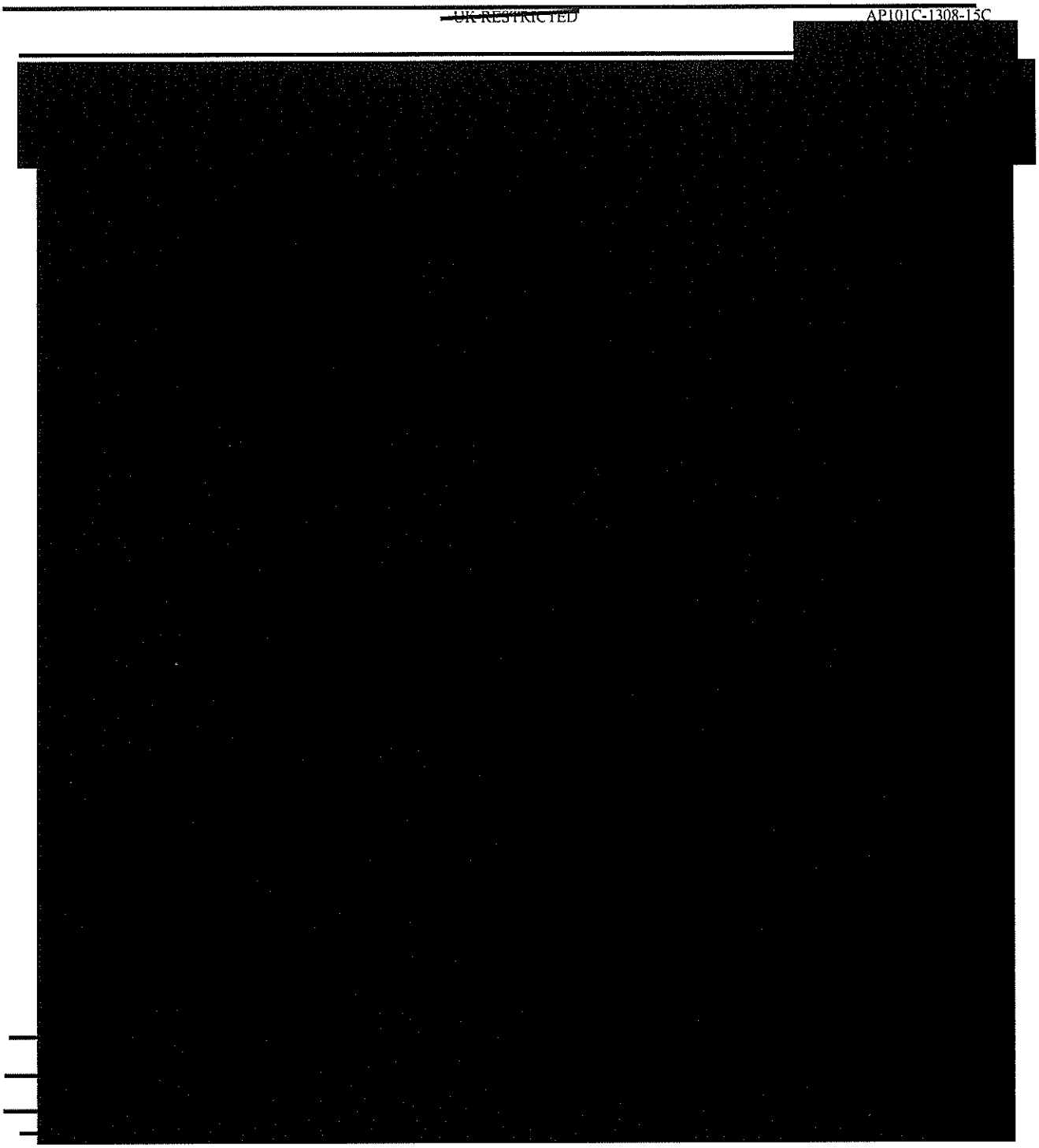
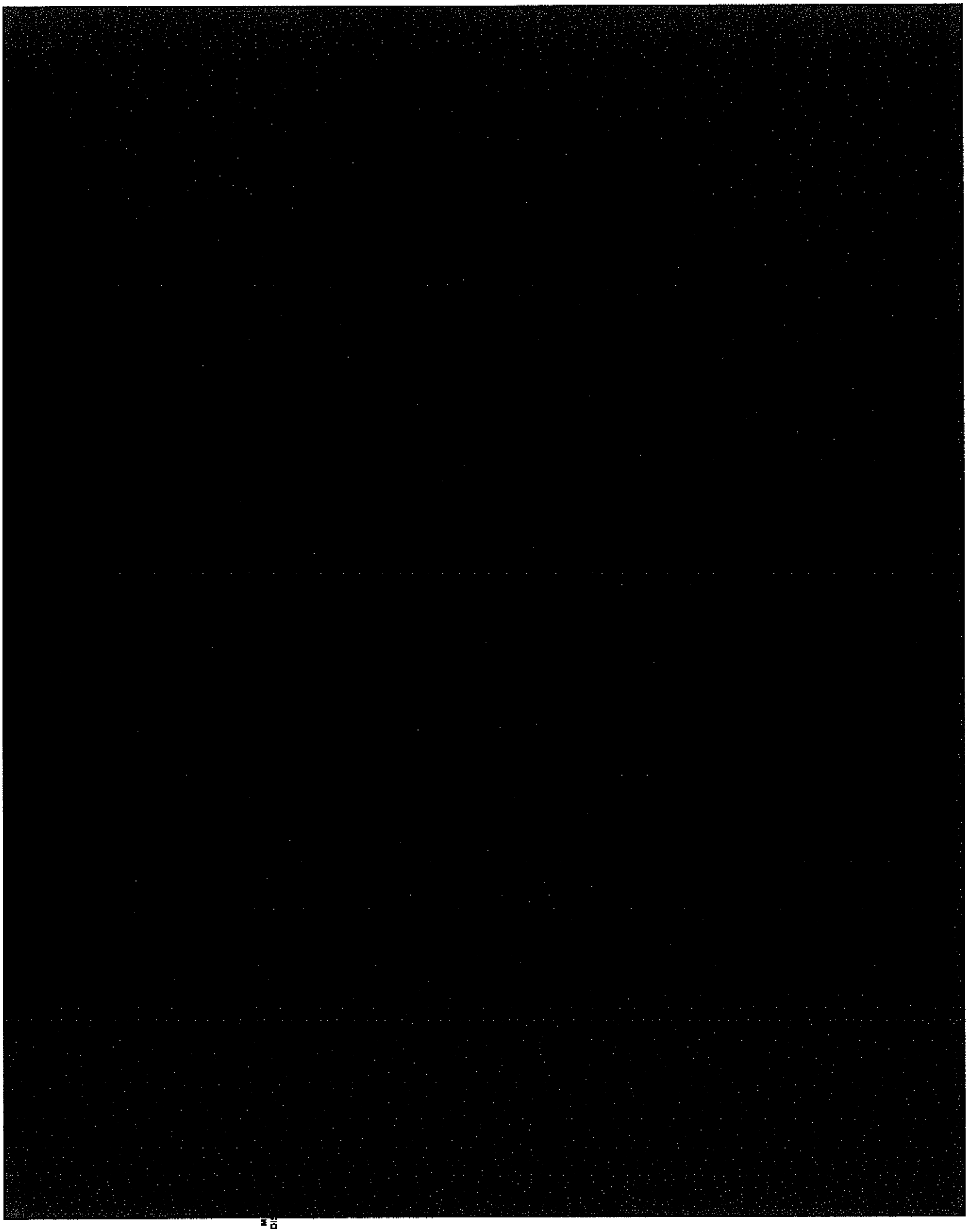


Table 4 -

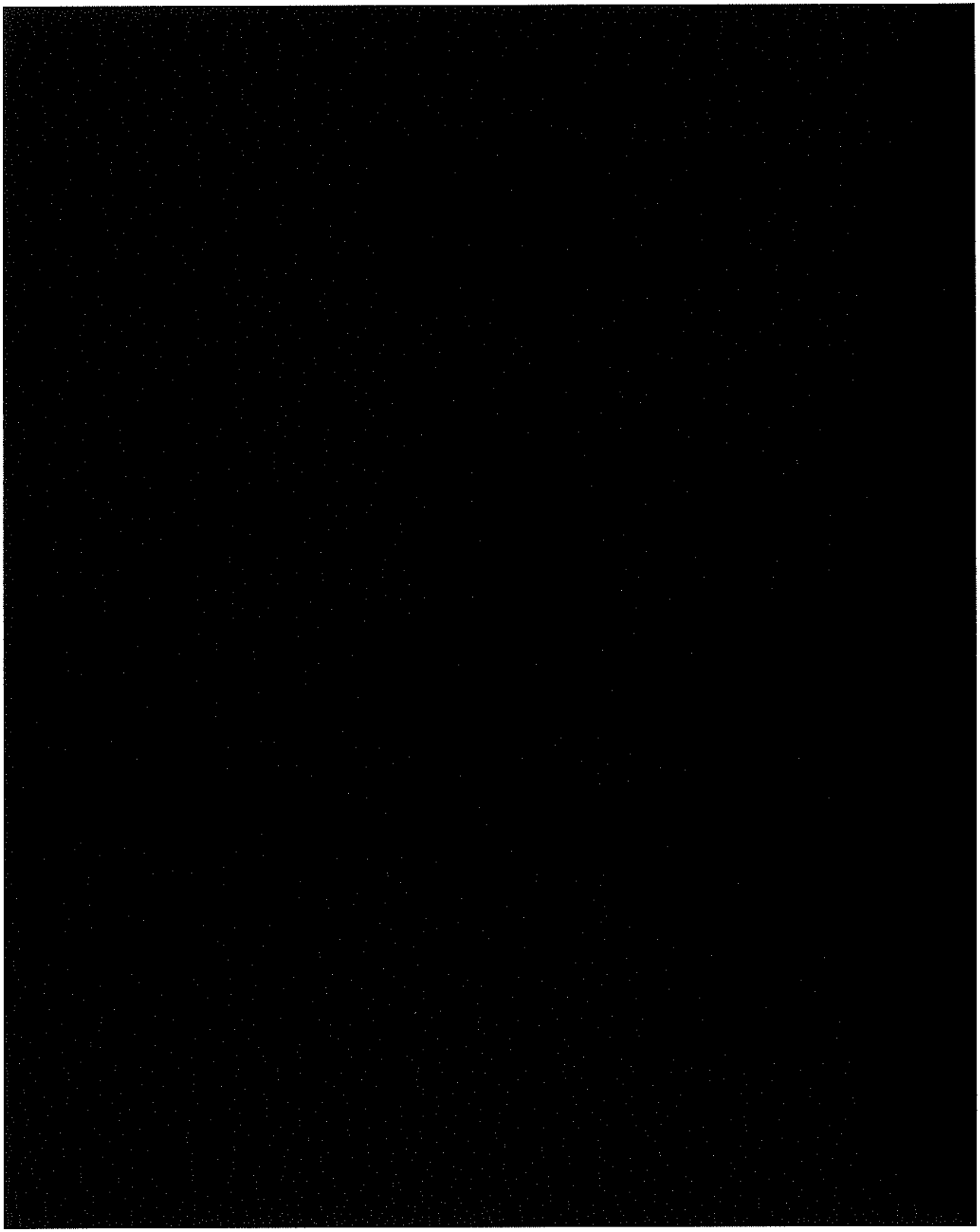
Event	



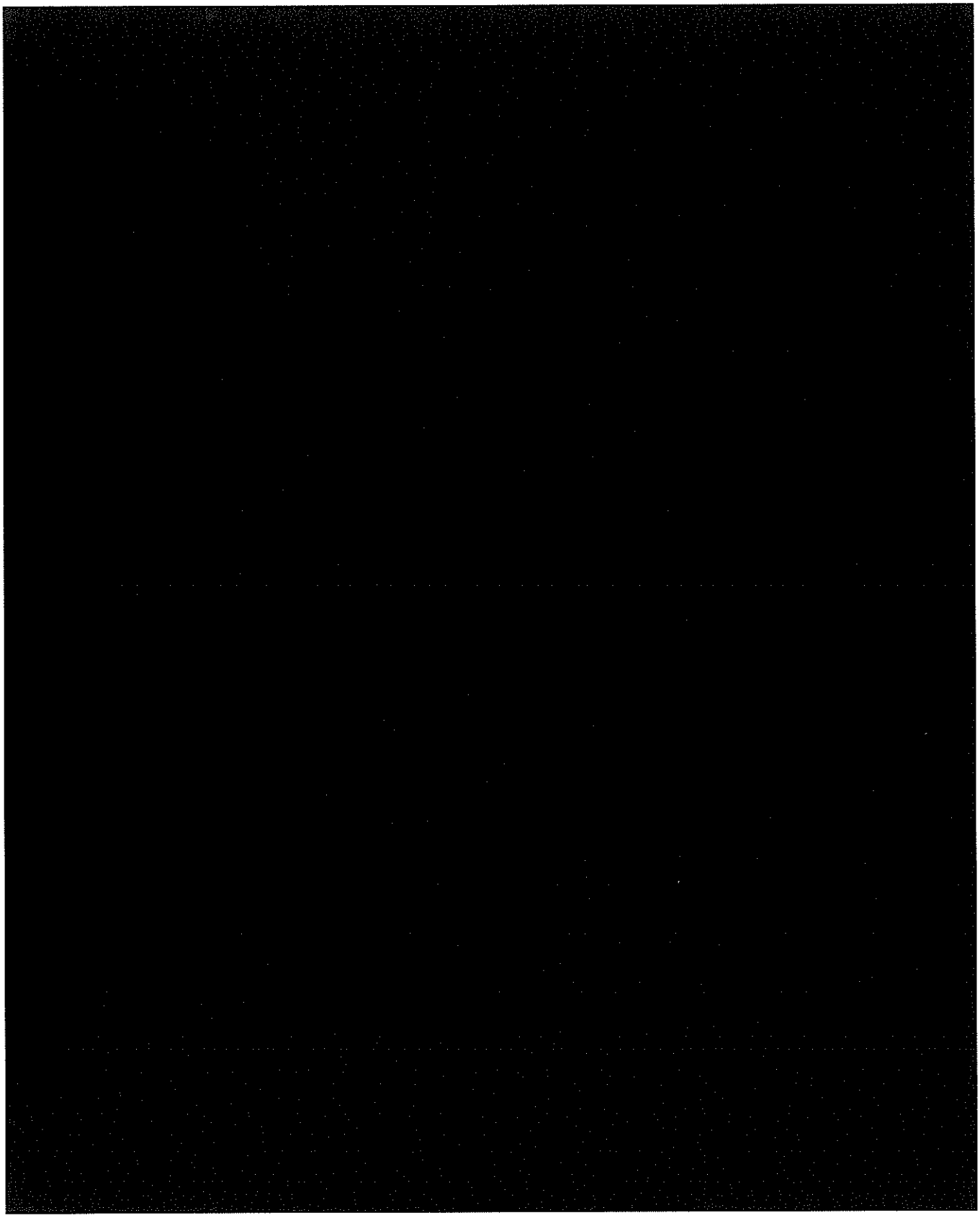




(side view)



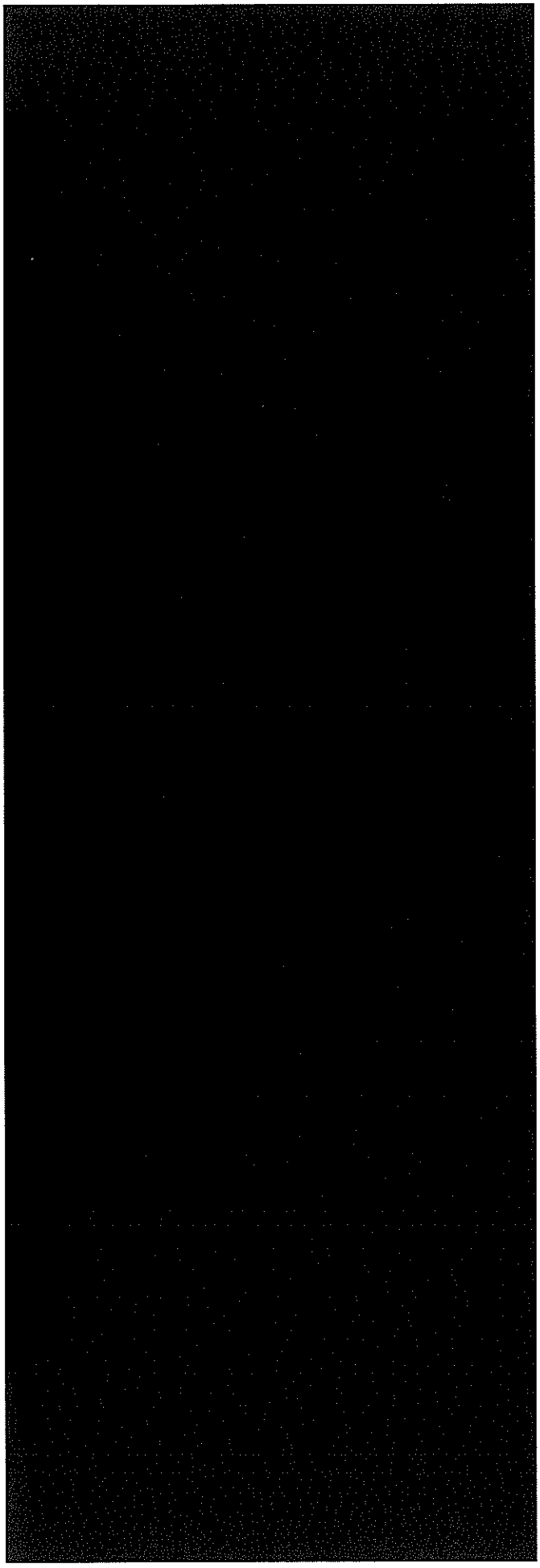
1 - 11 Fig

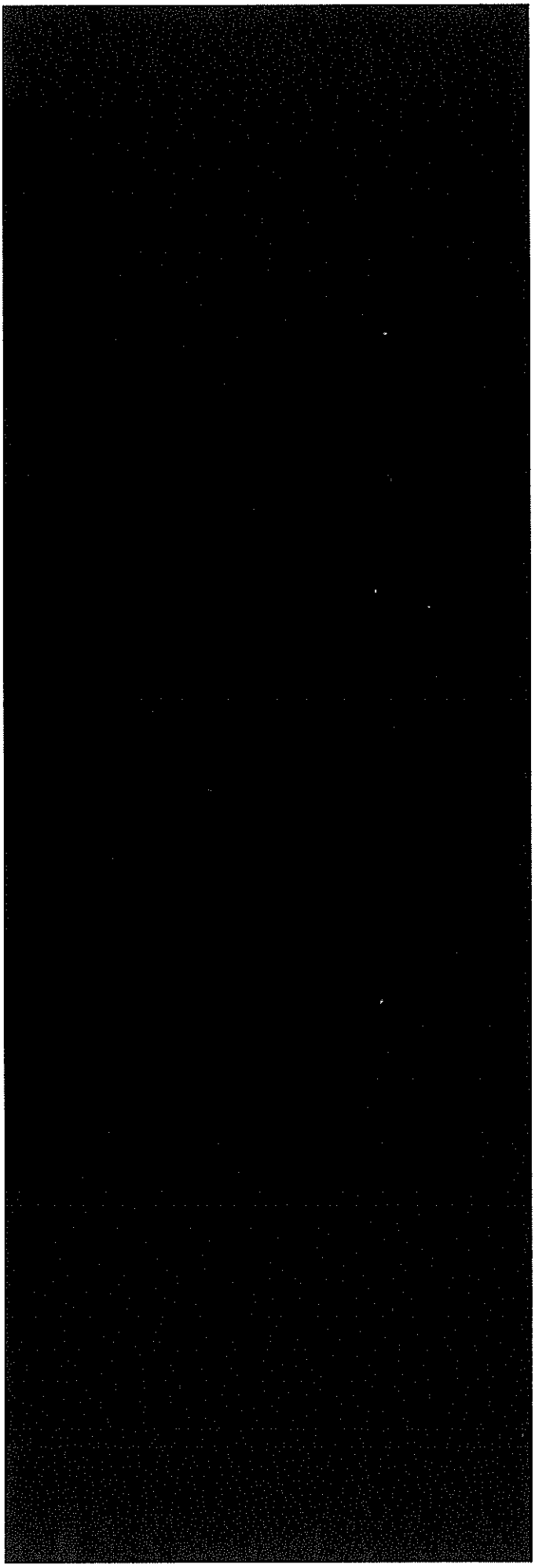


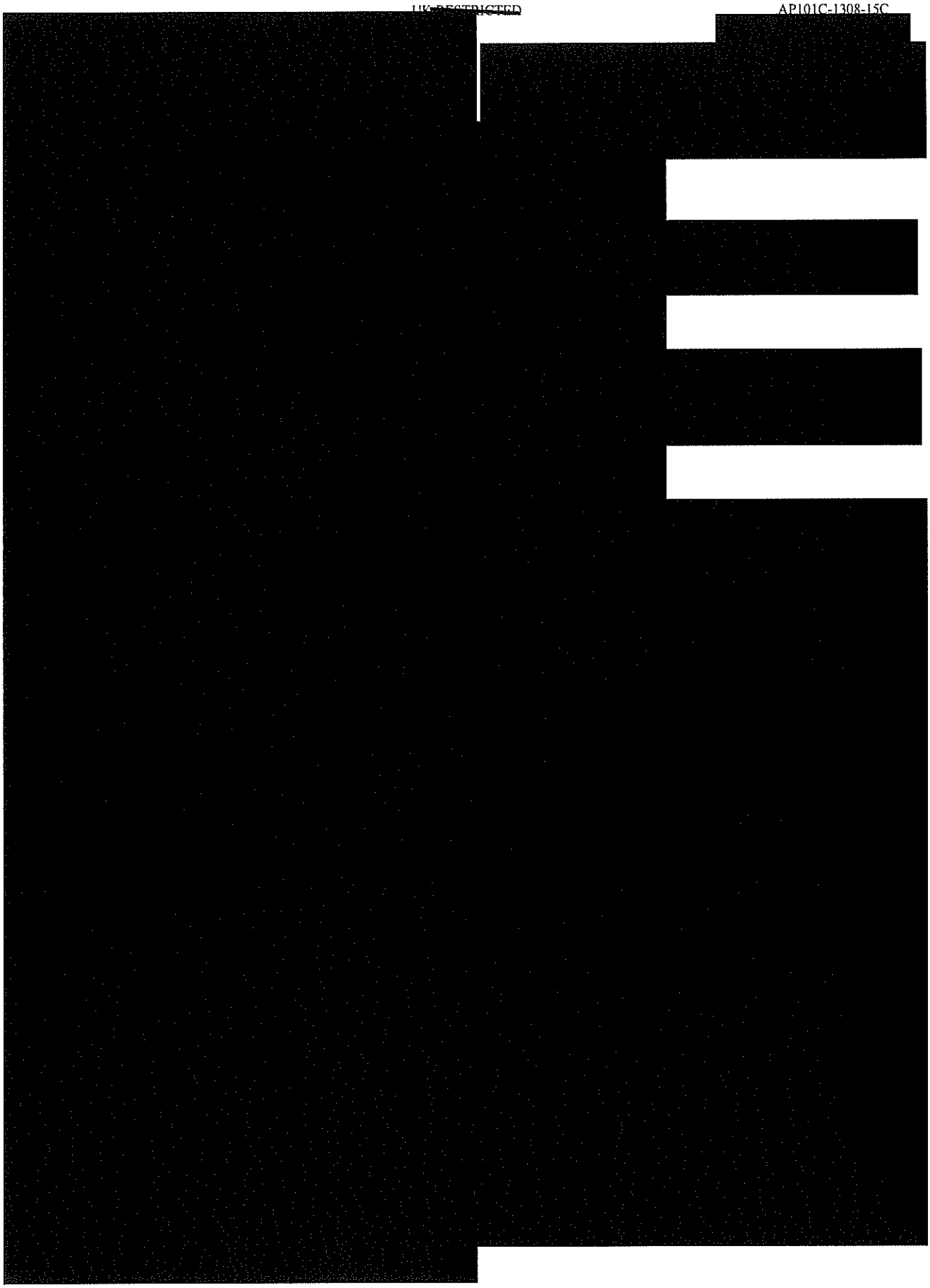
[redacted]

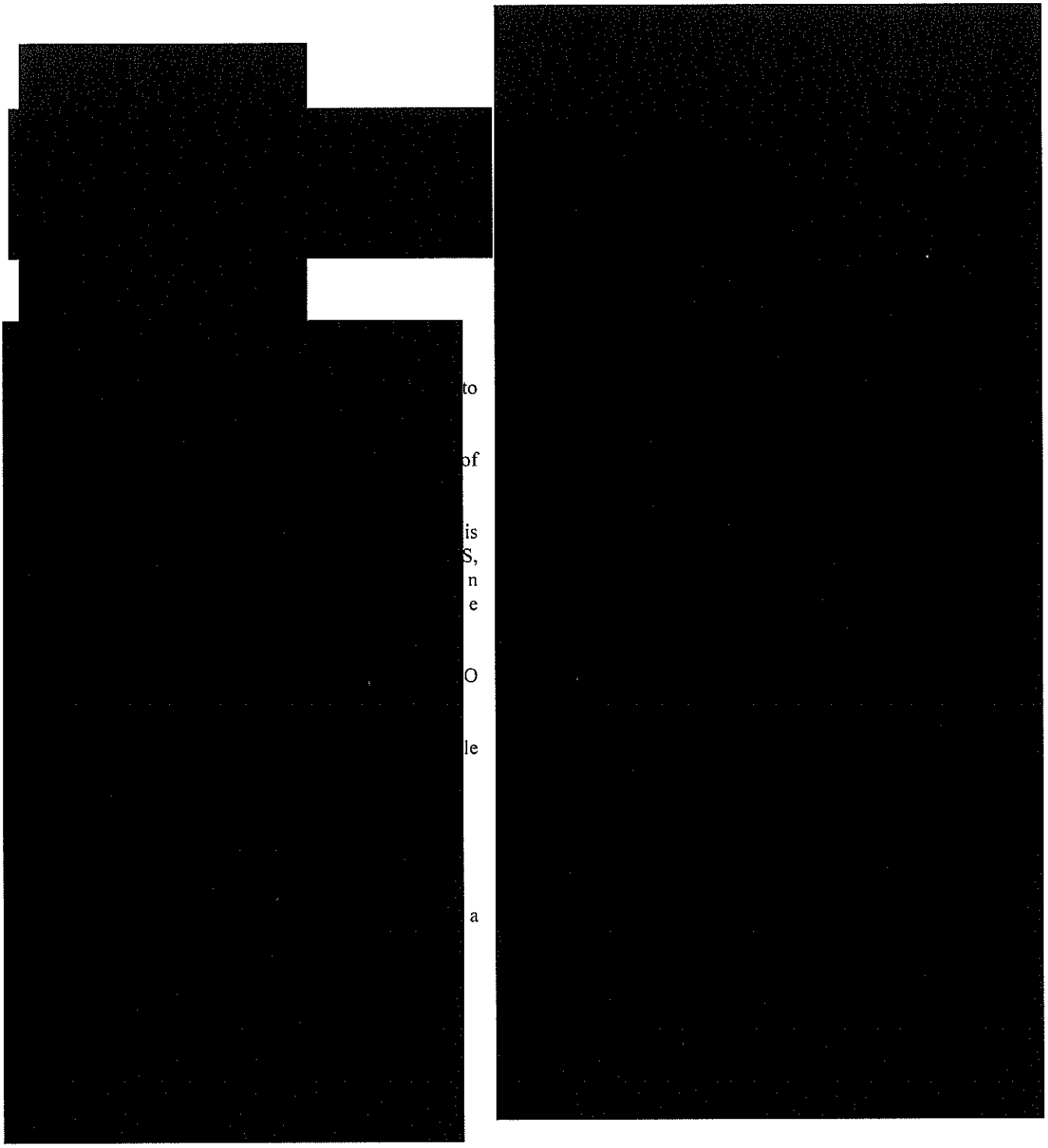
Description

[redacted]







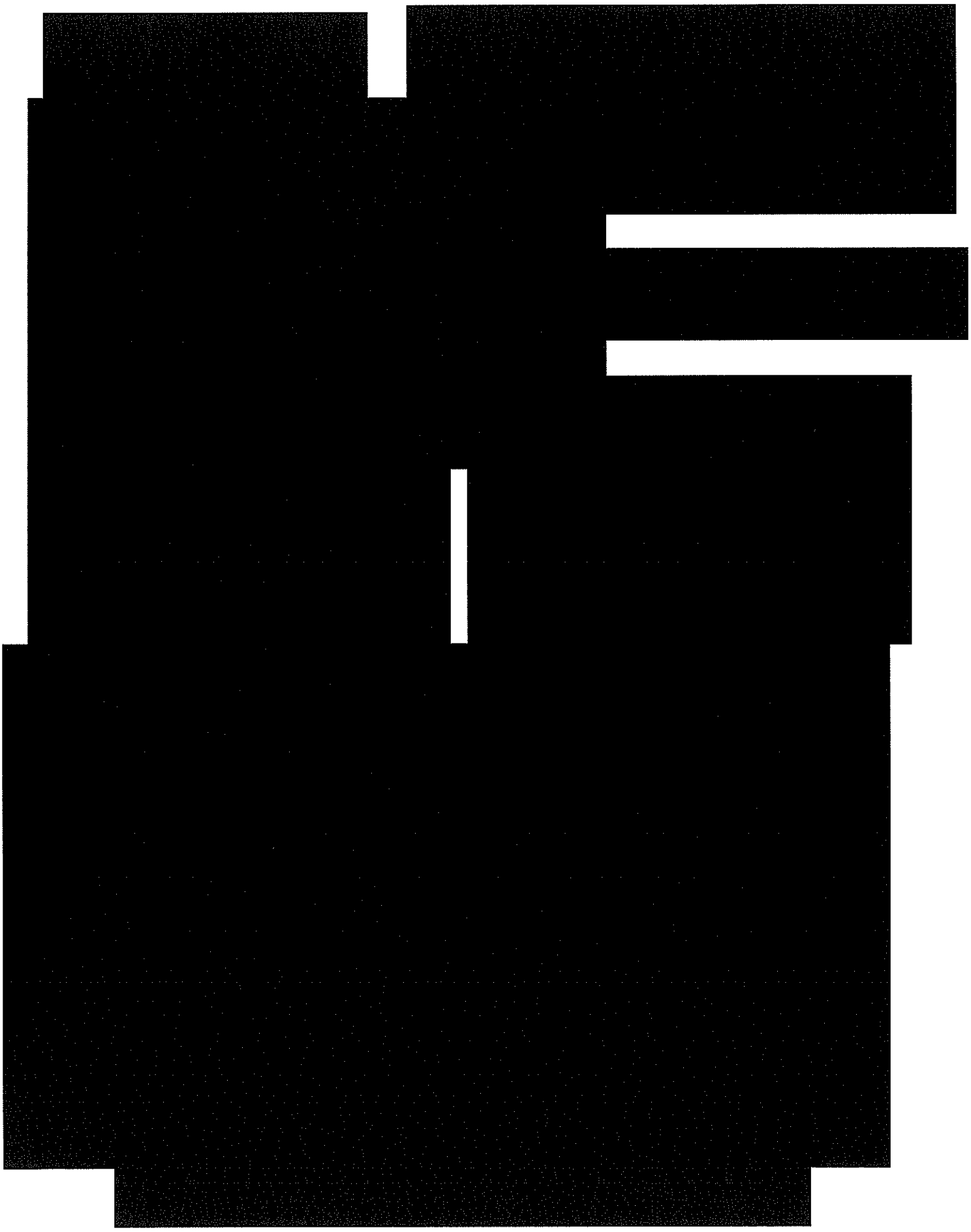


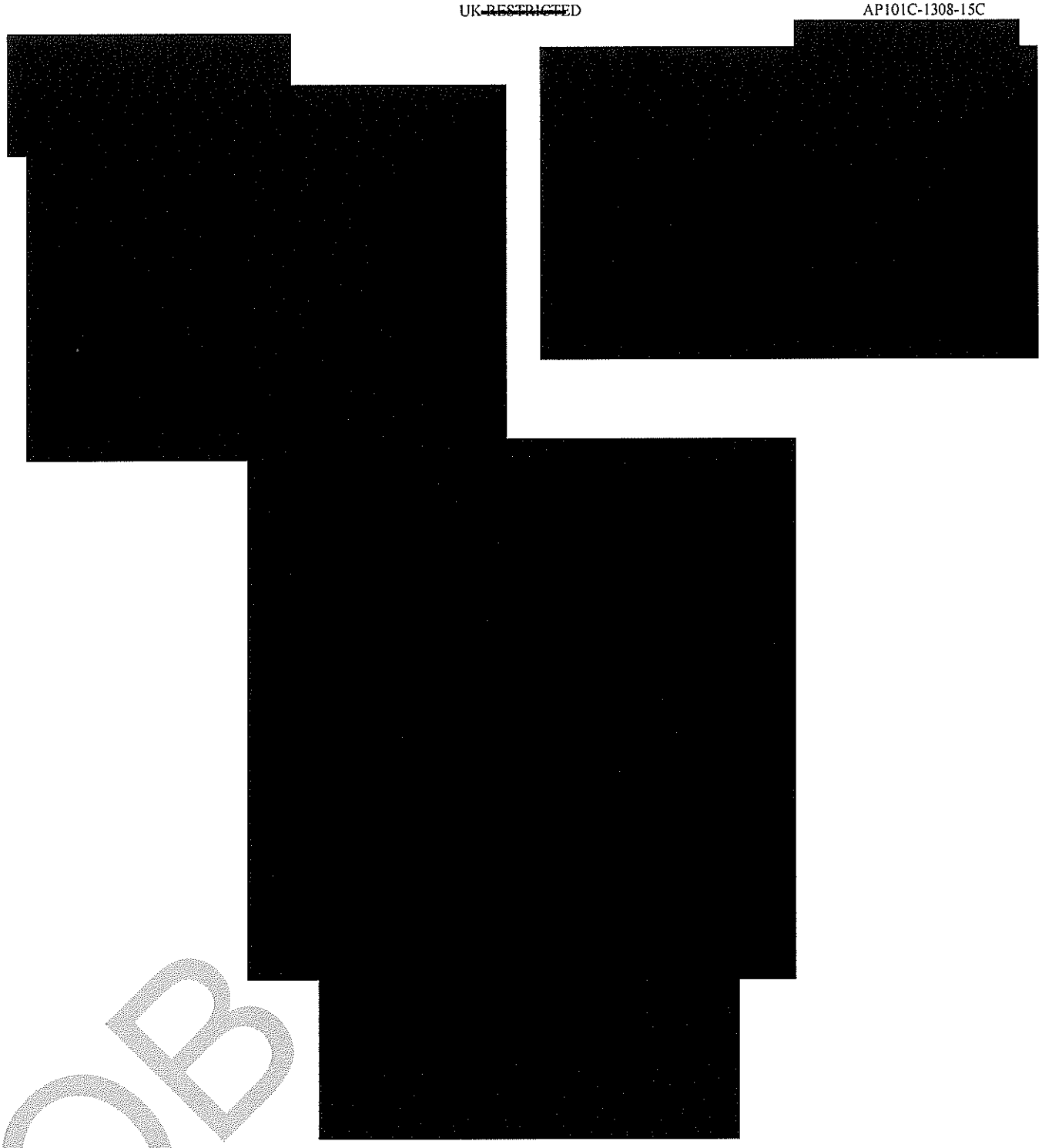
[redacted]

[redacted]

LWF18188D-01

[redacted]





Intentionally Blank

PART 2

List of Chapters

PART 2

CHAPTER 1 - AIRCRAFT LIMITATIONS

Refer to the Lynx HMA Mk 8 Release-to-Service for information on aircraft limitations.

Intentionally Blank

PART 2

CHAPTER 2 - ENGINE, TRANSMISSION AND ROTOR LIMITATIONS

Refer to the Lynx HMA Mk 8 Release-to-Service for information on engine, transmission and rotor limitations.

Intentionally Blank

PART 2

CHAPTER 3 - SYSTEMS LIMITATIONS

Refer to the Lynx HMA Mk 8 Release-to-Service for information on systems limitations.

Intentionally Blank

PART 2

CHAPTER 4 - AVIONICS AND ROLE EQUIPMENT LIMITATIONS

Refer to the Lynx HMA Mk 8 Release-to-Service for information on role equipment limitations.

><

Intentionally Blank

PART 2

CHAPTER 5 - CENTRAL TACTICAL SYSTEM LIMITATIONS

Refer to the Lynx HMA Mk 8 Release-to-Service for information on central tactical system limitations.

Intentionally Blank

PART 3

List of Chapters

PART 3

CHAPTER 1 - PREPARATION FOR FLIGHT

Contents

GENERAL

General

1. The checks referred to in this Part are listed in the FRC and are annotated in **bold print.**

CAUTION: When moving to and from the cockpit, take care not to foul the switches on the roof panel with the helmet or visor.

Night Signals

2. The signals to be used when operating at night are shown in Table 1.

Table 1 - Night Signals

System/Store	*Specification*	*Torch*	*Anti-coll Light*
[redacted]			

Pre-start Checks

[redacted]

Normal Starting Sequence

[redacted]

Starting No 1 Engine

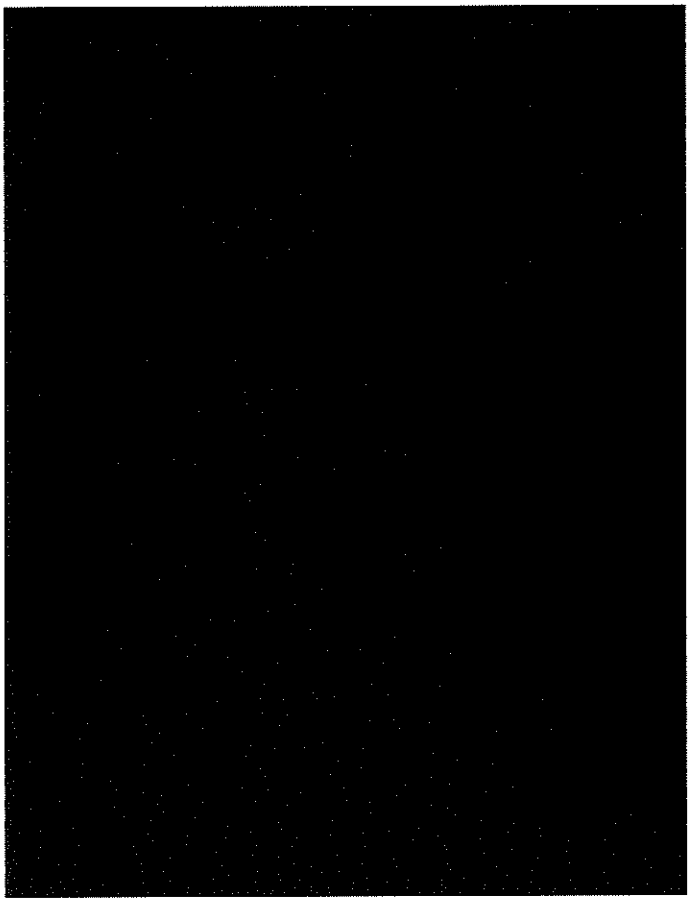
[redacted]

Starting with Dieso Fuel

[redacted]

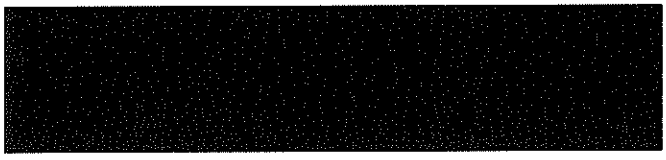
Running in Accessory Drive

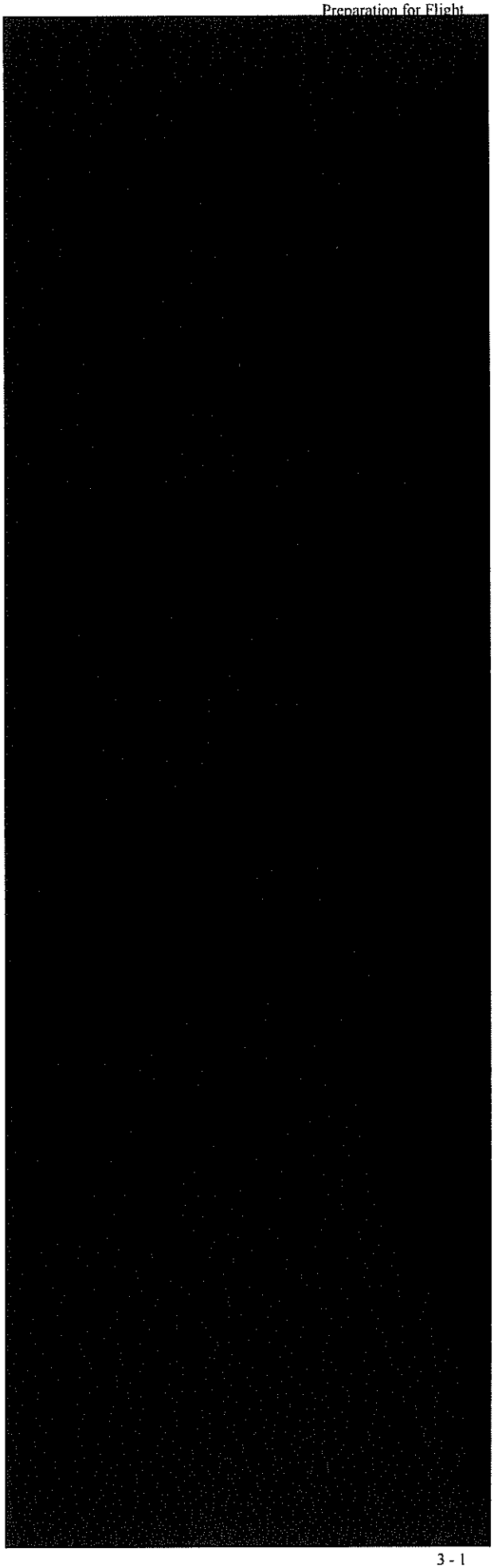
Starting No 2 Engine

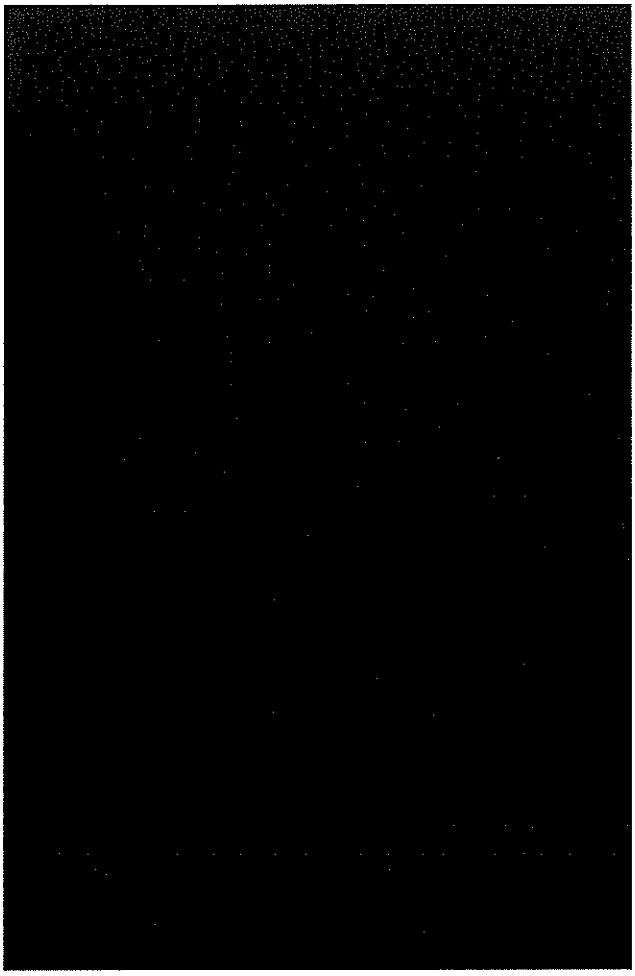


FCS Checks

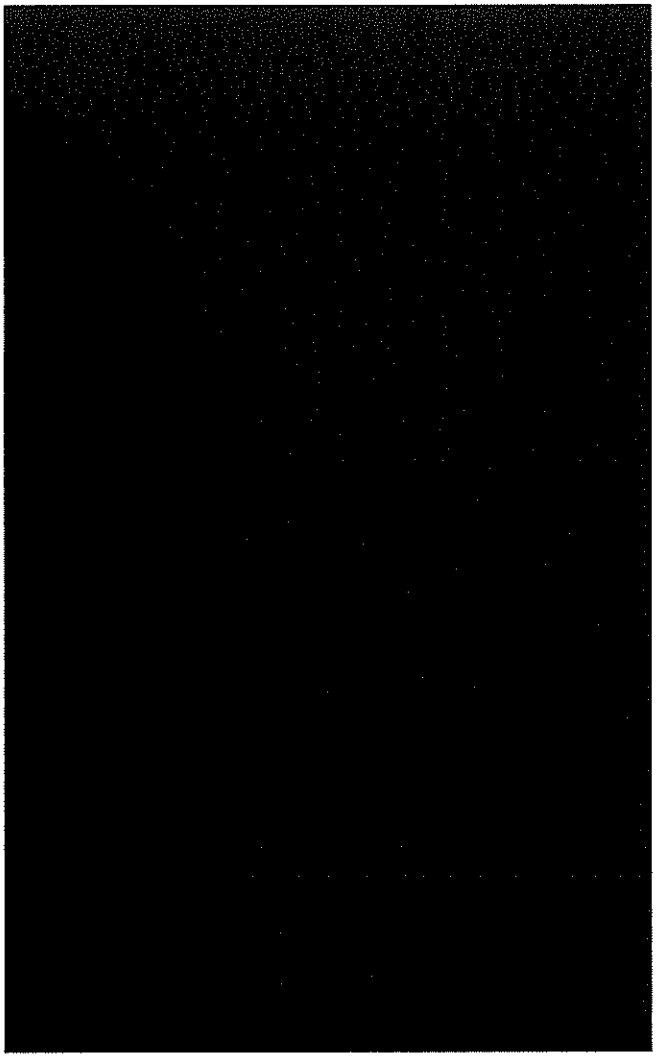
Starting the Rotor





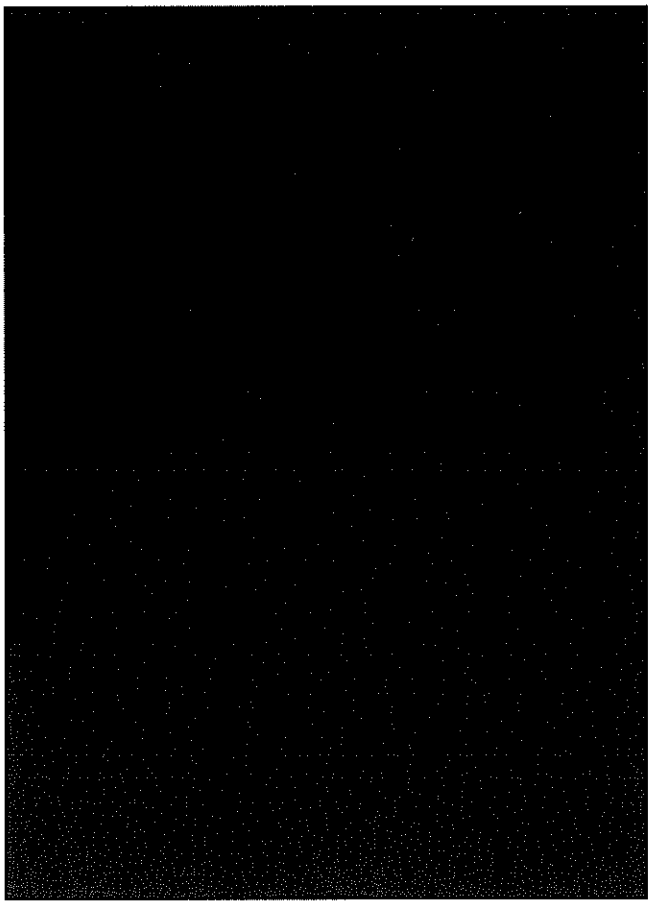


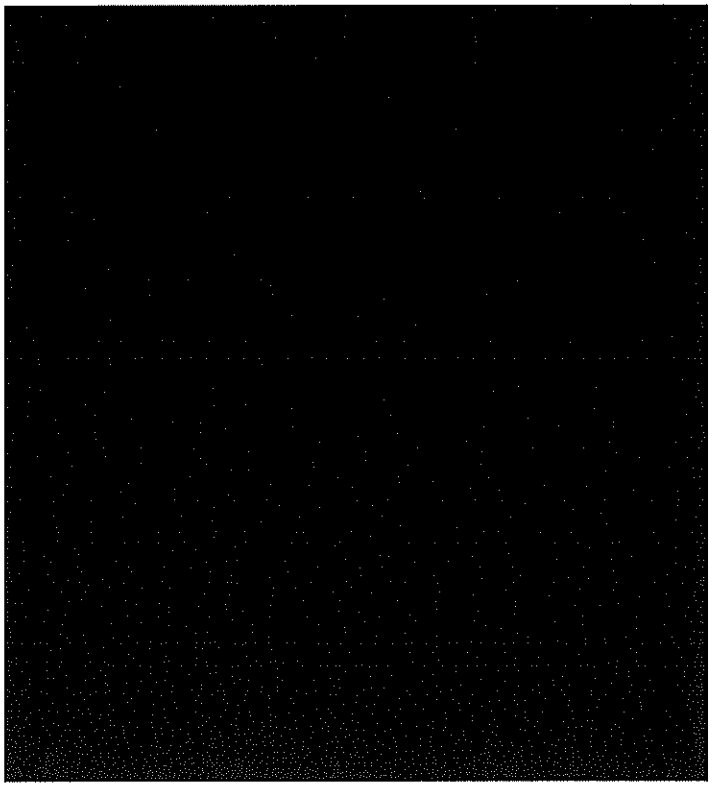
Engine Starting in Main Drive

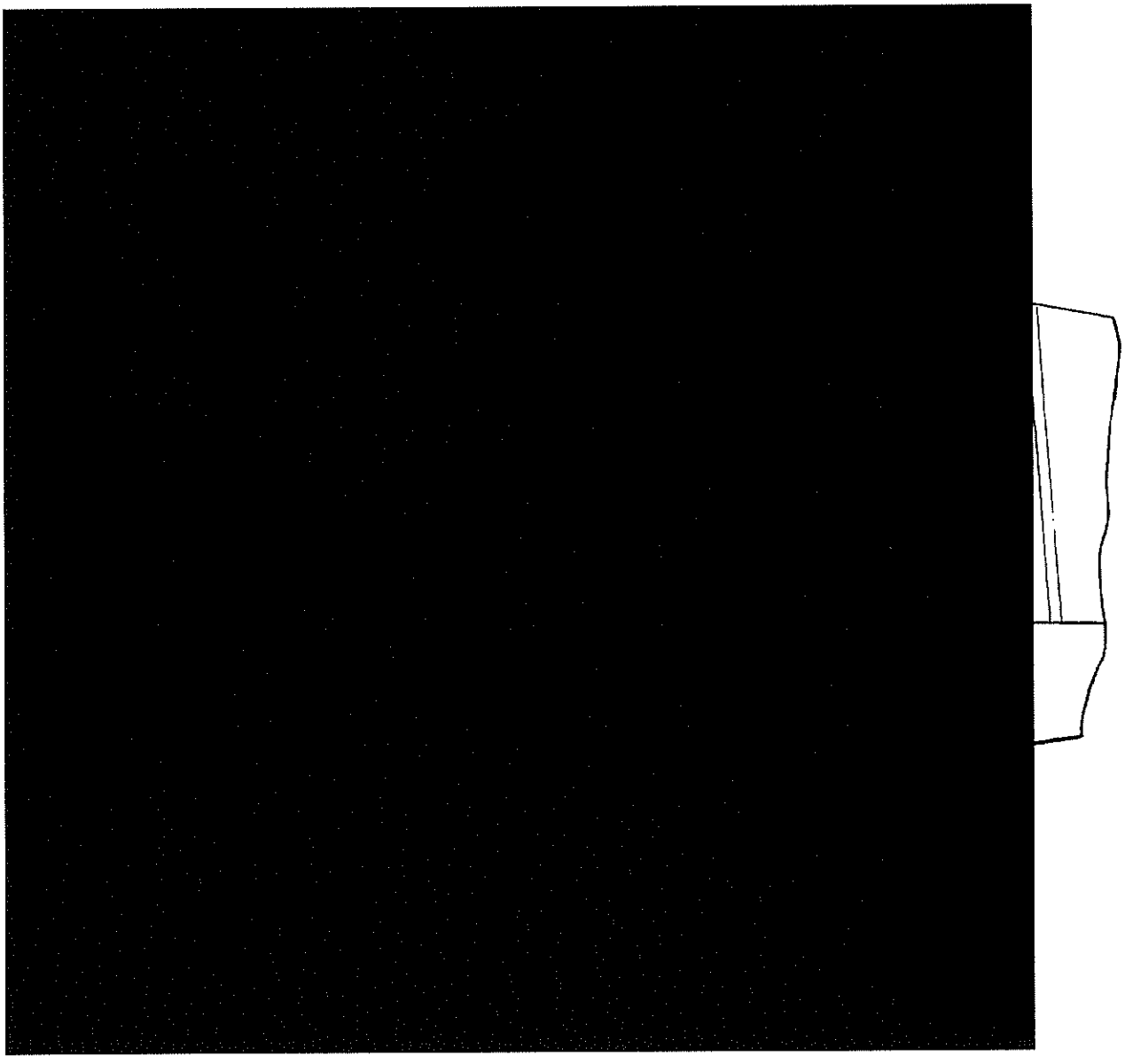


engine.

Engine and Rotor Starting in Low OAT







3 - 1 Fig 1 Cyclic Position Markings

Intentionally Blank

PART 3

CHAPTER 2 - HANDLING IN FLIGHT

Contents

GENERAL

General

[redacted]

[redacted]

Flying Controls

[redacted]

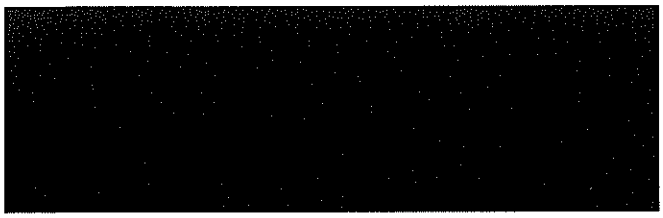
[redacted]

Take-Off

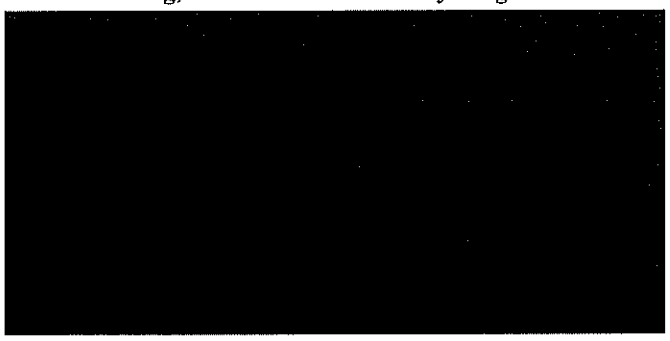
[redacted]

[redacted]

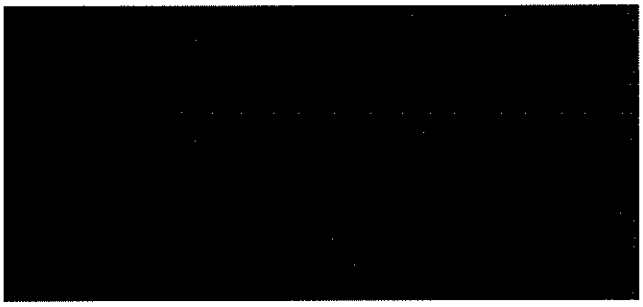
Hovering



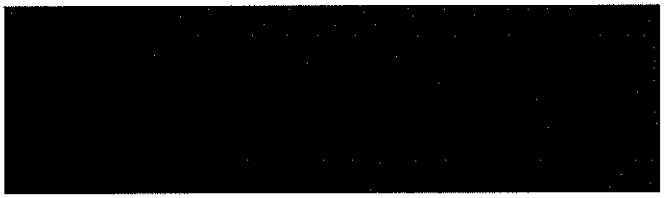
Hovering, Crosswind and Sideways Flight



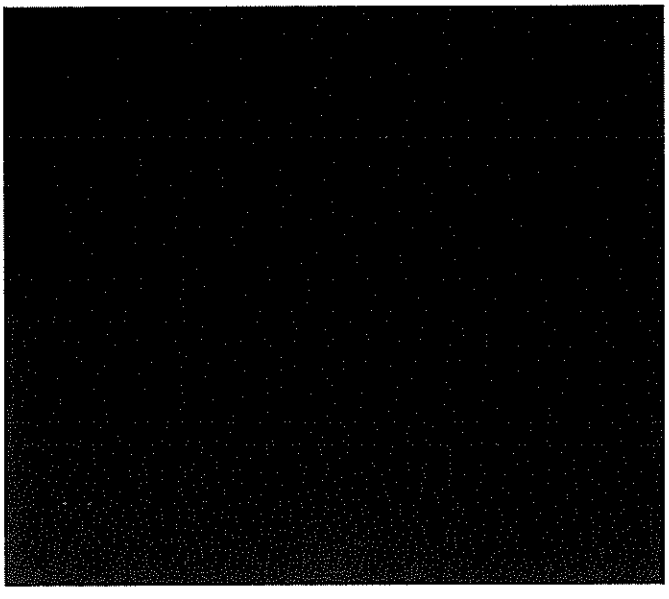
Climbing

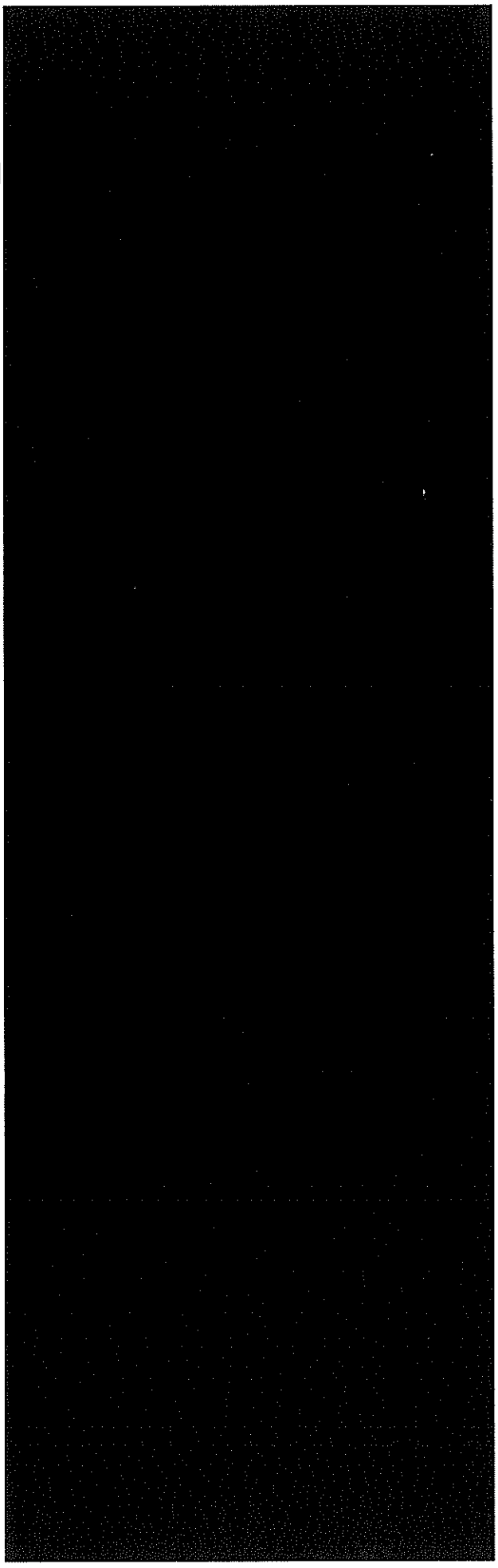


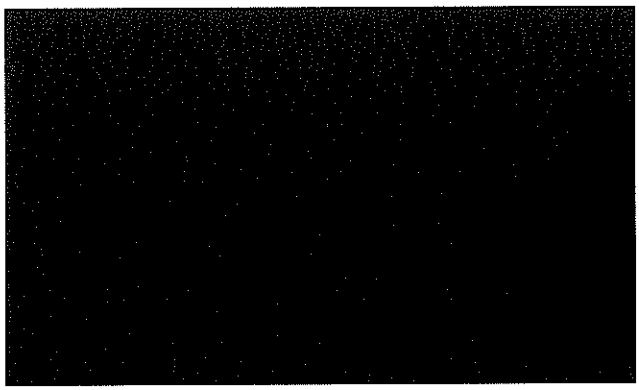
Engine Handling



General Handling

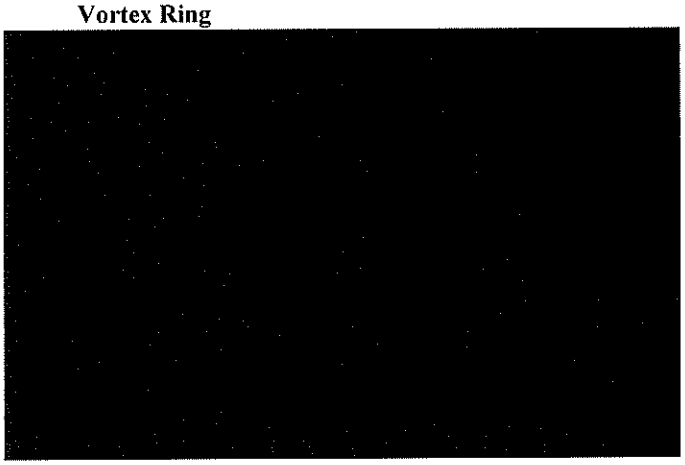




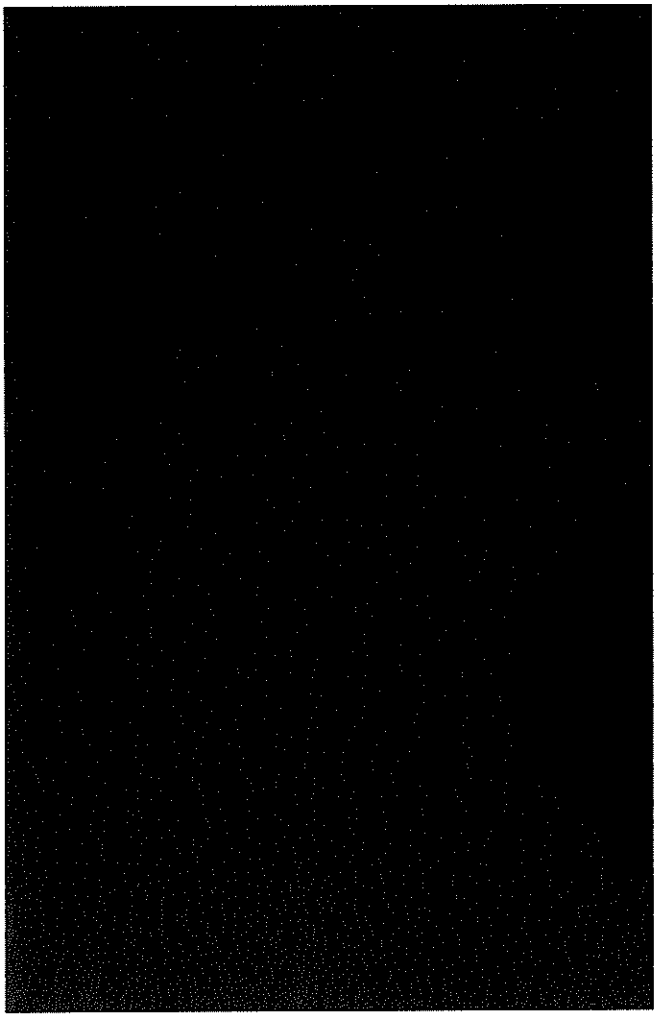


FCS Handling

Vortex Ring



Autorotation



[redacted]

Dutch Roll

[redacted]

Night Flying

[redacted]

Instrument Flying

[redacted]

Single-Engine Flying

[redacted]

[redacted]

Flight in Turbulence

[redacted]

Flight in Low OAT

[redacted]

Flight in Snow Conditions

[redacted]

[redacted]

Flight in Icing Conditions

[redacted]

Flight in Sandy Conditions

[redacted]

Operation in High OAT

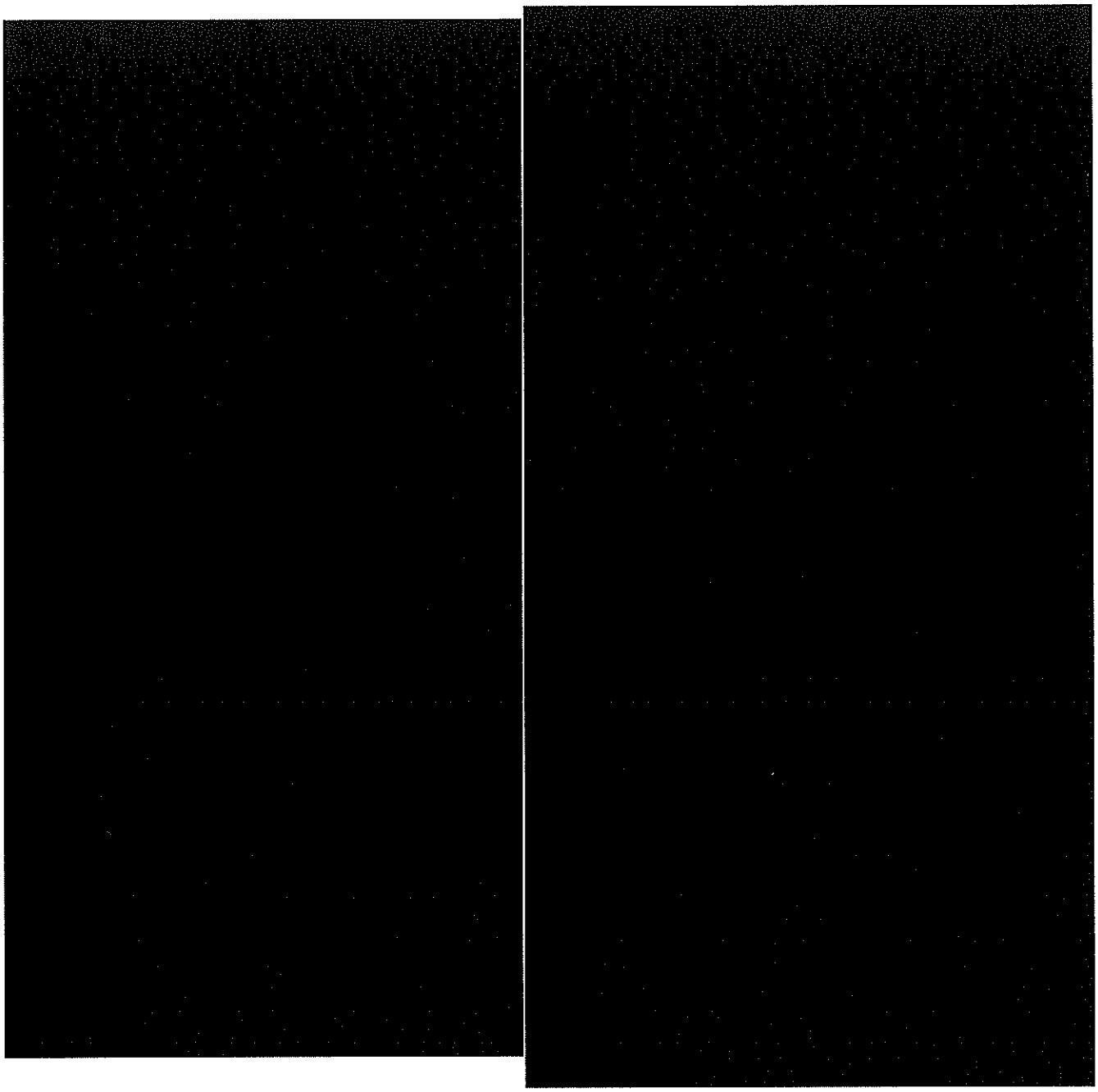
[redacted]

Deck Operations

[redacted]

Approach and Landing

[redacted]



PART 3

CHAPTER 3 - SHUTTING DOWN

Contents

GENERAL

Stopping the Rotor with Engines Running

[redacted]

[redacted]

Shutdown

[redacted]

Intentionally Blank

PART 4

List of Chapters

PART 4

CHAPTER 1 - ANALYSIS OF FAILURES

(Completely revised at AL 2)

Contents

General

[redacted]

Table 1 - Locations of Malfunctioning Procedures

System	*Chapter*
Electrical:	
Single generator failure.	1
Double generator failure.	1
Single alternator failure.	1
Double alternator failure.	1
Battery contactor failure.	1
Fuel:	
Transfer pump management.	3
Double transfer pump failure.	3
Fuel low pressure warning.	3
Flight Control System:	
Flight control system.	6
Hydraulics:	
Hydraulic system failures.	7
Main servo valve seizure.	7
FCS actuator seizure.	7
FCS spool valve seizure.	7
Tail servo unit failures.	7
Radio and Radar.	
Search radar malfunctions.	Book 2
Successor IFF/SSR faults.	Book 2
Navigation Equipment:	
Doppler unlock.	Book 2
Doppler failure.	Book 2

Engine Bay or Airframe Fire

[redacted]

[redacted]

4. **Engine Bay Fire in Flight.**

[redacted]

[redacted]

Single Engine Failures

[redacted]

Single Engine Landing (Ashore)

[redacted]

Single Engine Landing (Deck)

[redacted]

[redacted]

Single Engine Failure Over the Deck

[redacted]

[redacted]

Engine Oil Pressure Low

[redacted]

Double Engine Failure

[redacted]

[redacted]

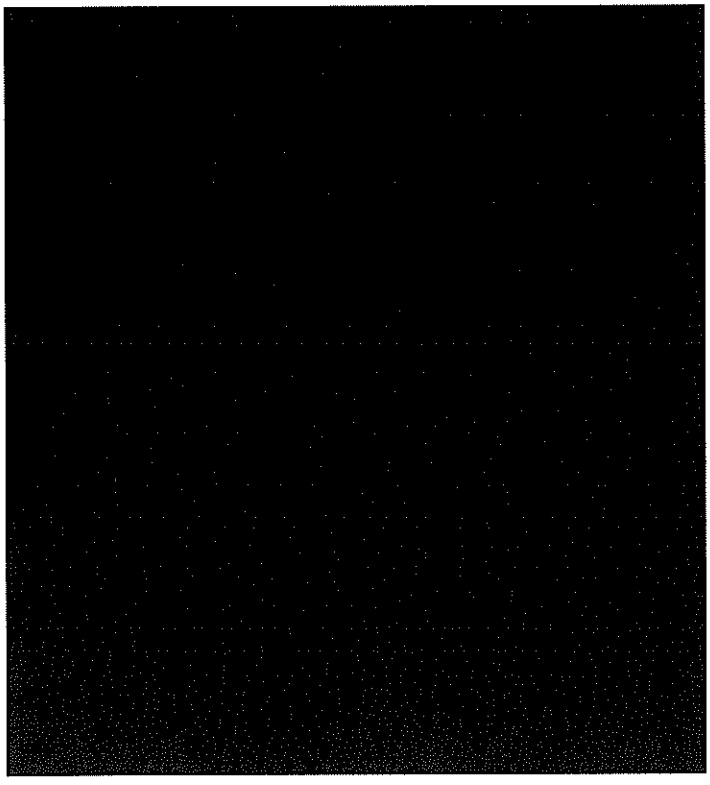
Engine Drive Shaft Failure

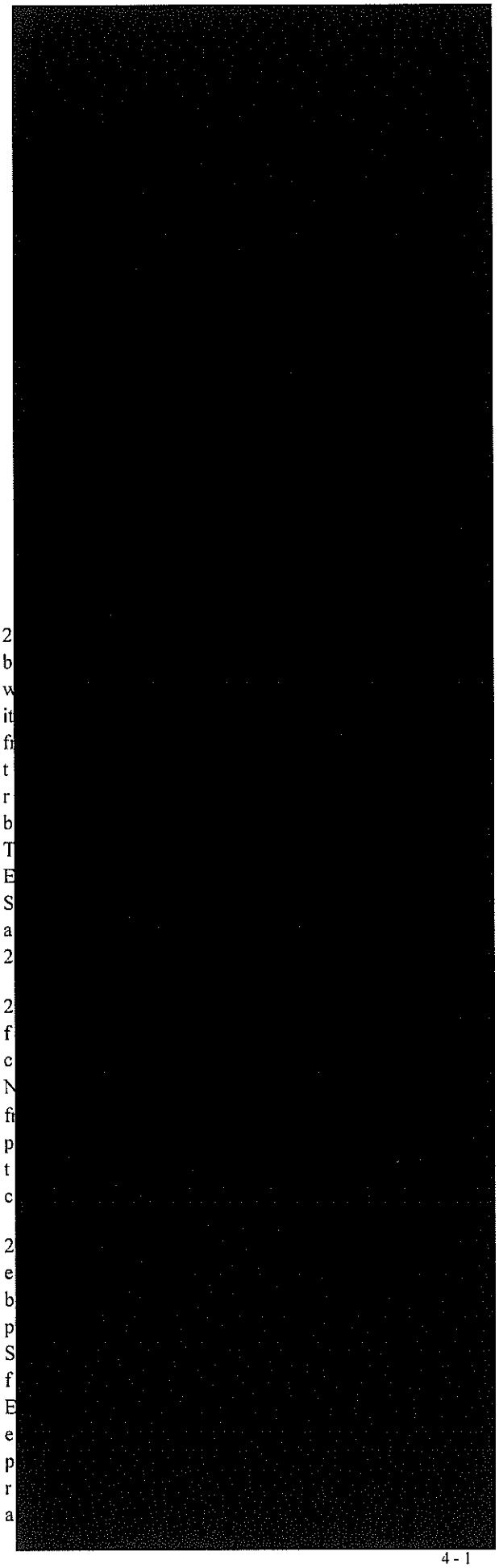
[redacted]

Engine Governor Malfunctions

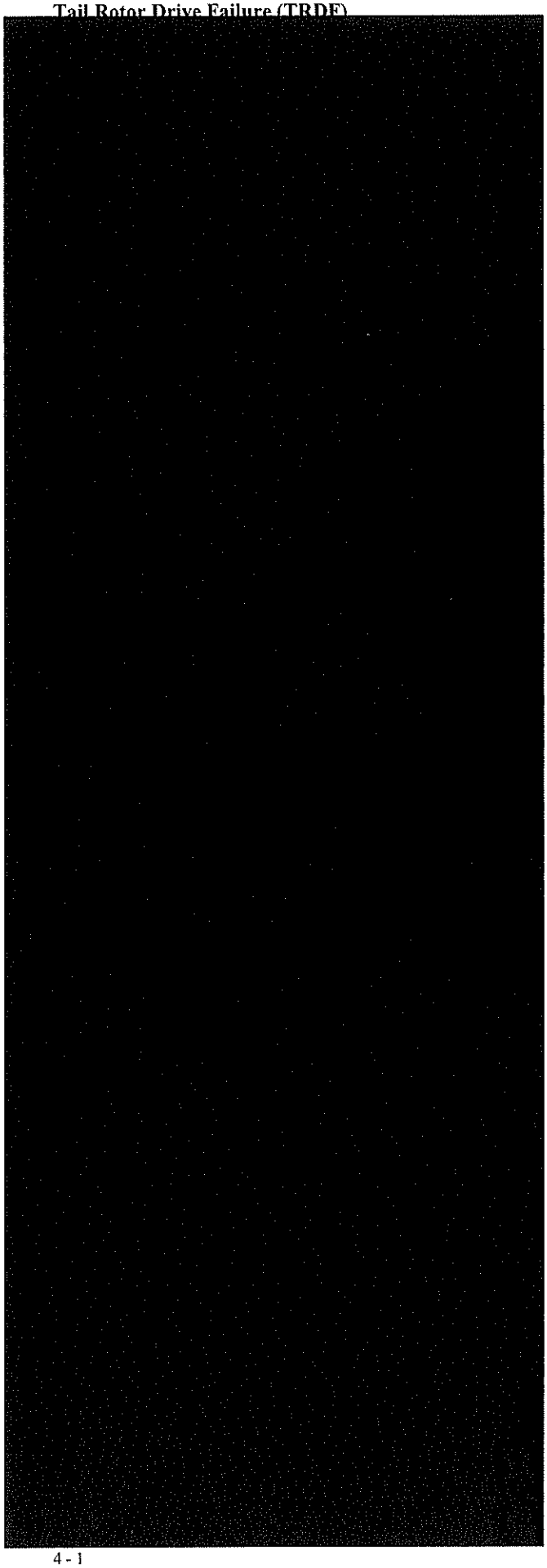
[redacted]

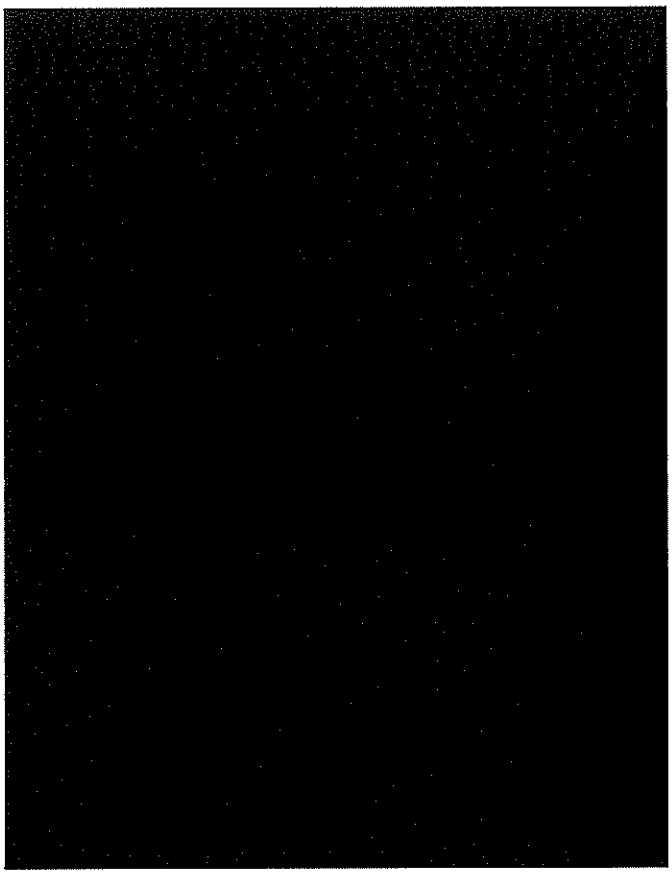
Unstable Governing



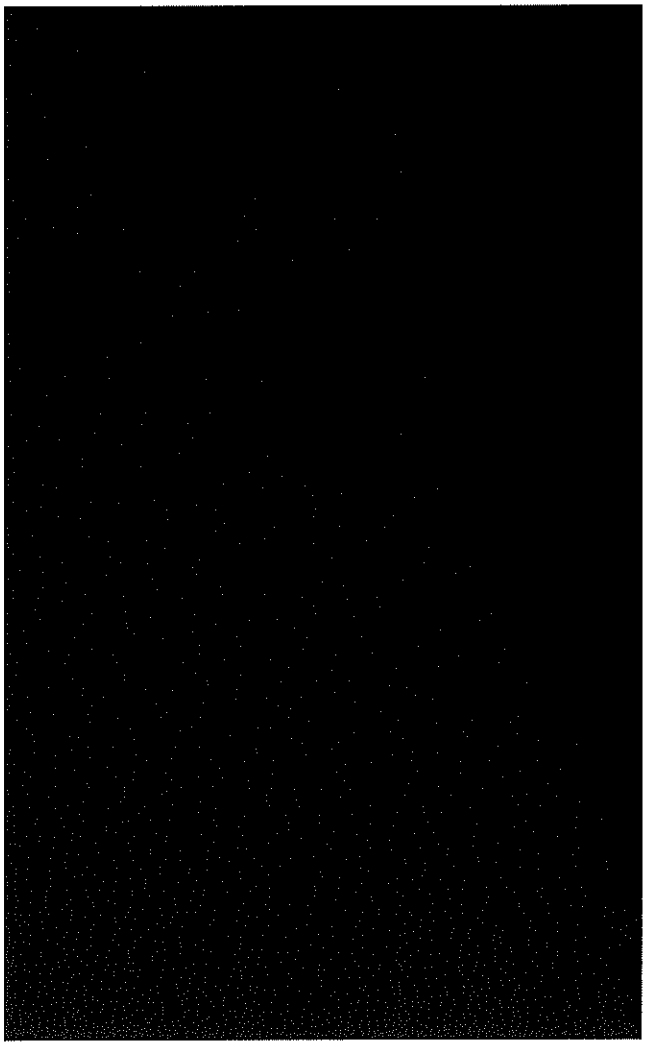


Tail Rotor Drive Failure (TRDF)





Tail Rotor Control Failure (TRCF)



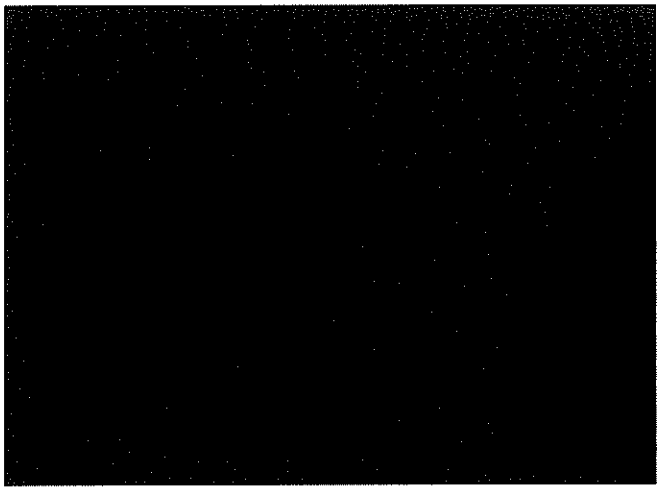
[redacted]

c. **Considerations:**

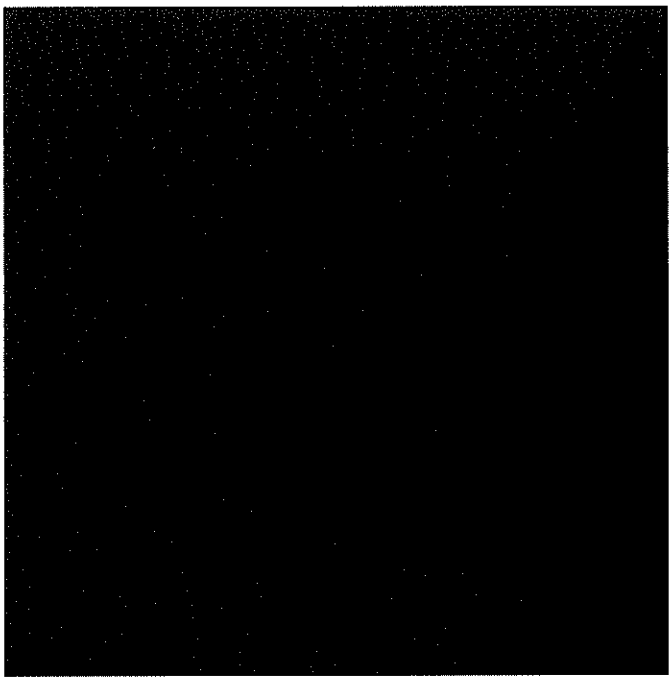
[redacted]

b. **Considerations:**

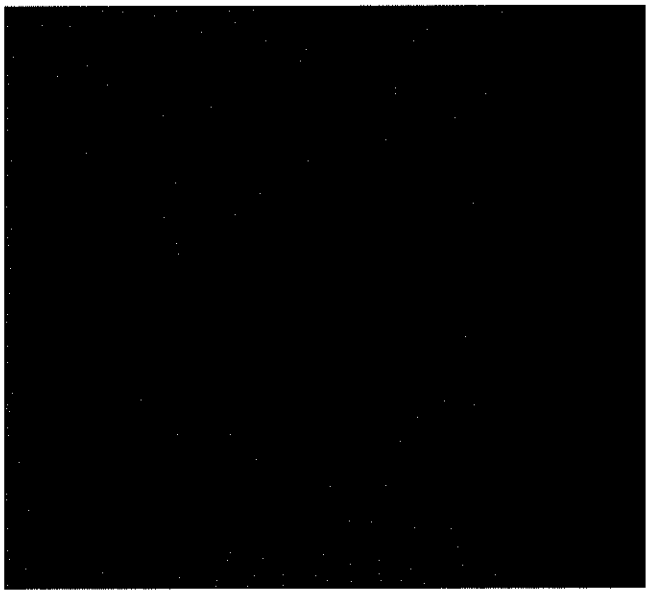
[redacted]



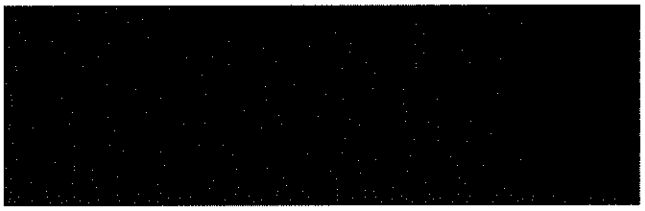
Ditching



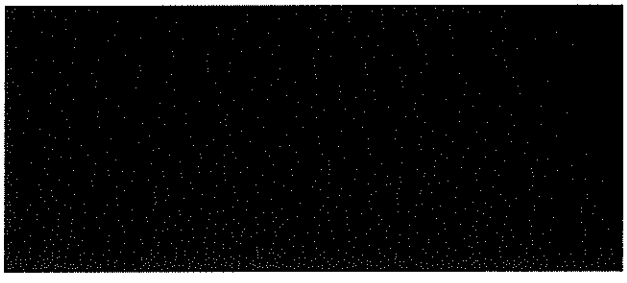
Double Generator Failure



Double Alternator Failure



Hydraulic System Failures



[redacted]

FCS Malfunctions

[redacted]

MGB Oil Pressure Low

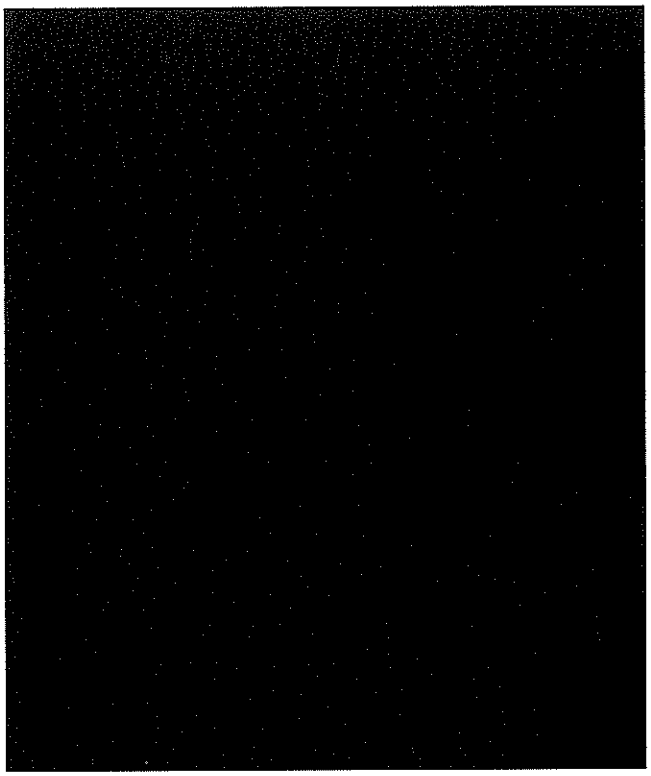
[redacted]

MGB Oil Temperature High

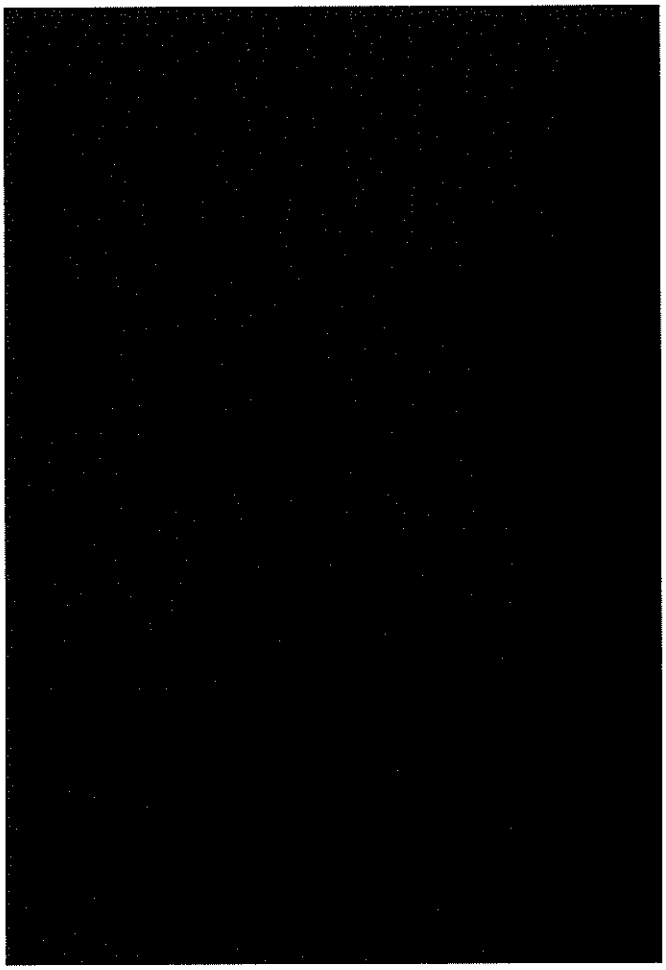
[redacted]

Main Rotor Servo Unit Failures

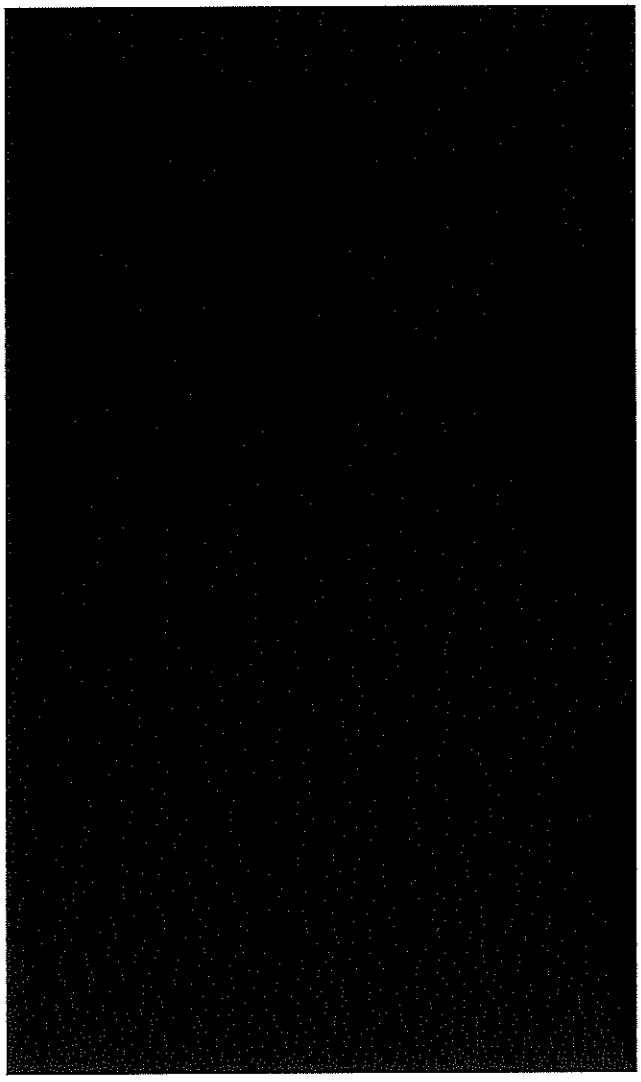
[redacted]



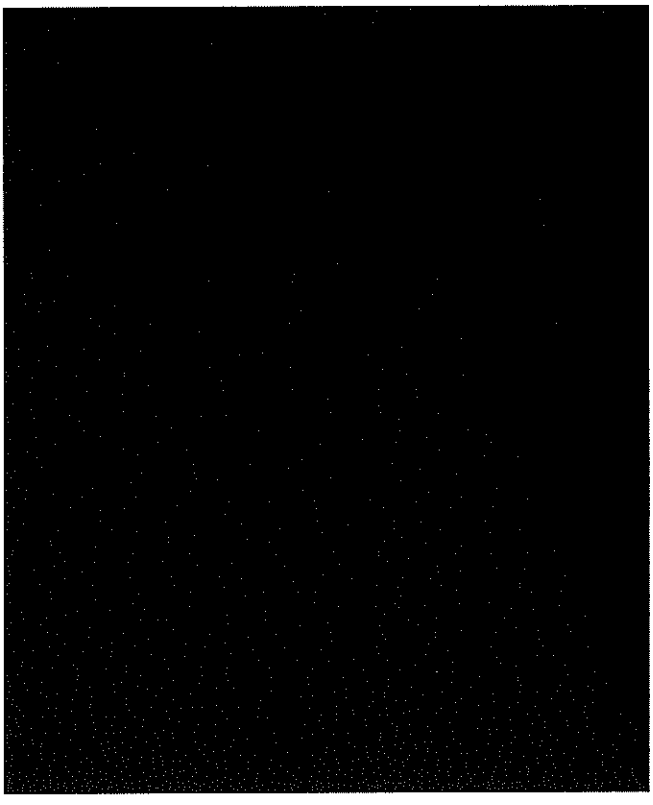
58. **FCS Spool Valve Seizure:**



57. **FCS Actuator Seizure:**



Feedback Failures



[redacted]

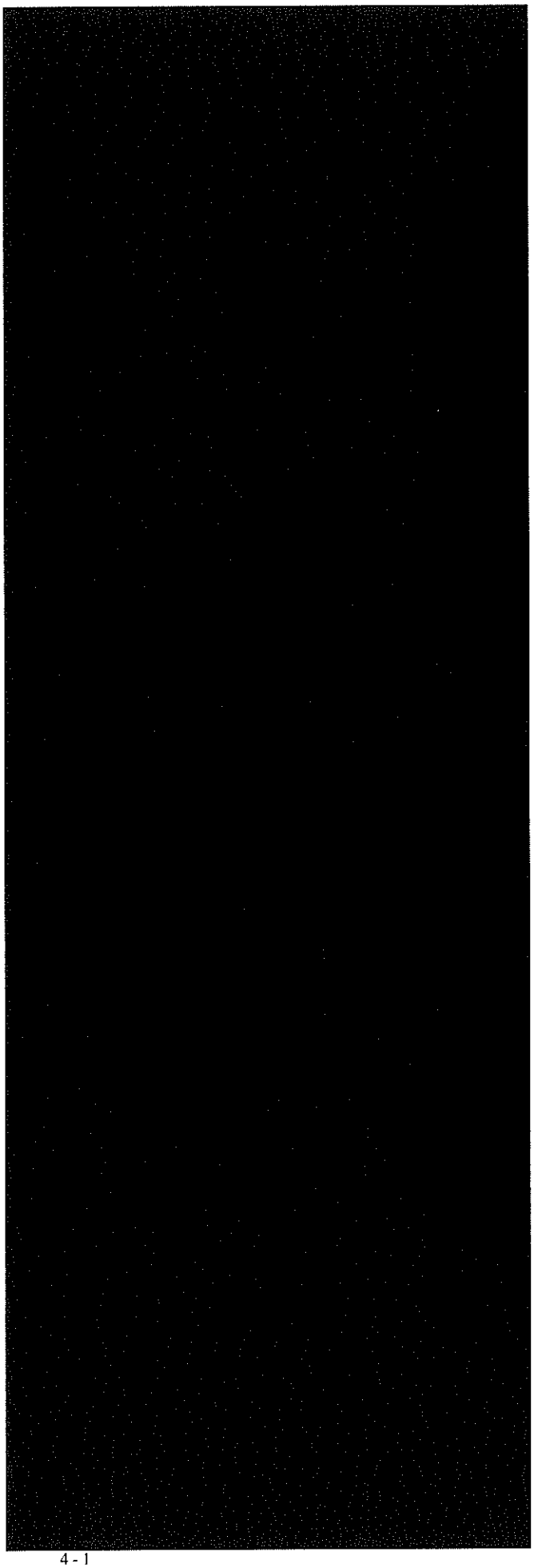
Hold Malfunction

[redacted]

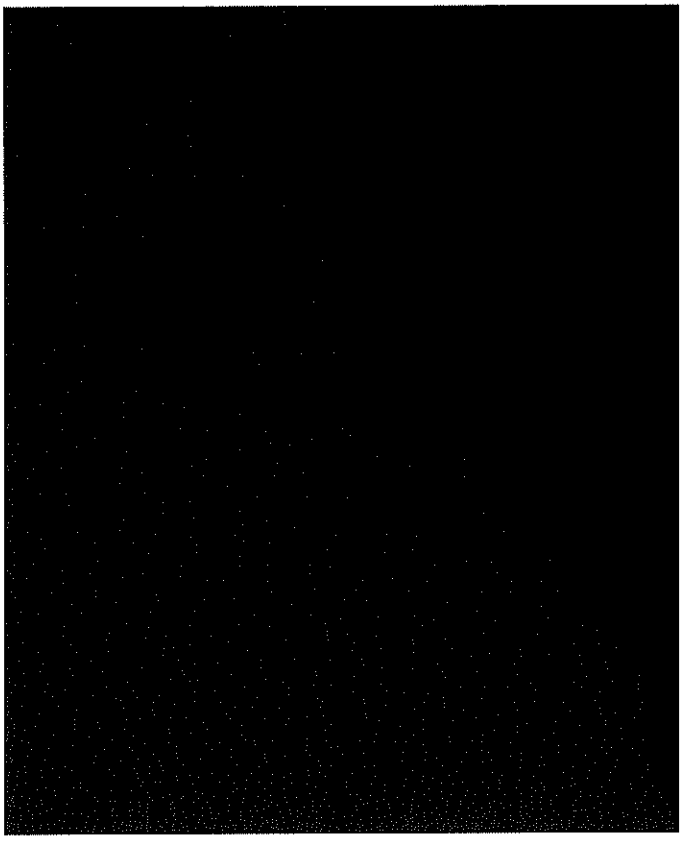
61. **Actions in response to a Feedback Failure in specific phases of flight.**

Power Failure

[redacted]



Low Fuel Pressure



Engine Anti-icing Failures

[redacted]

Cabin Overheating

[redacted]

Engine Intake Anti-icing Failure

[redacted]

Inadvertent Inflation of the Flotation Gear

[redacted]

Windscreen Overheating

[redacted]

Jettisoning

[redacted]

Intentionally Blank

PART 5

List of Chapters

PART 5

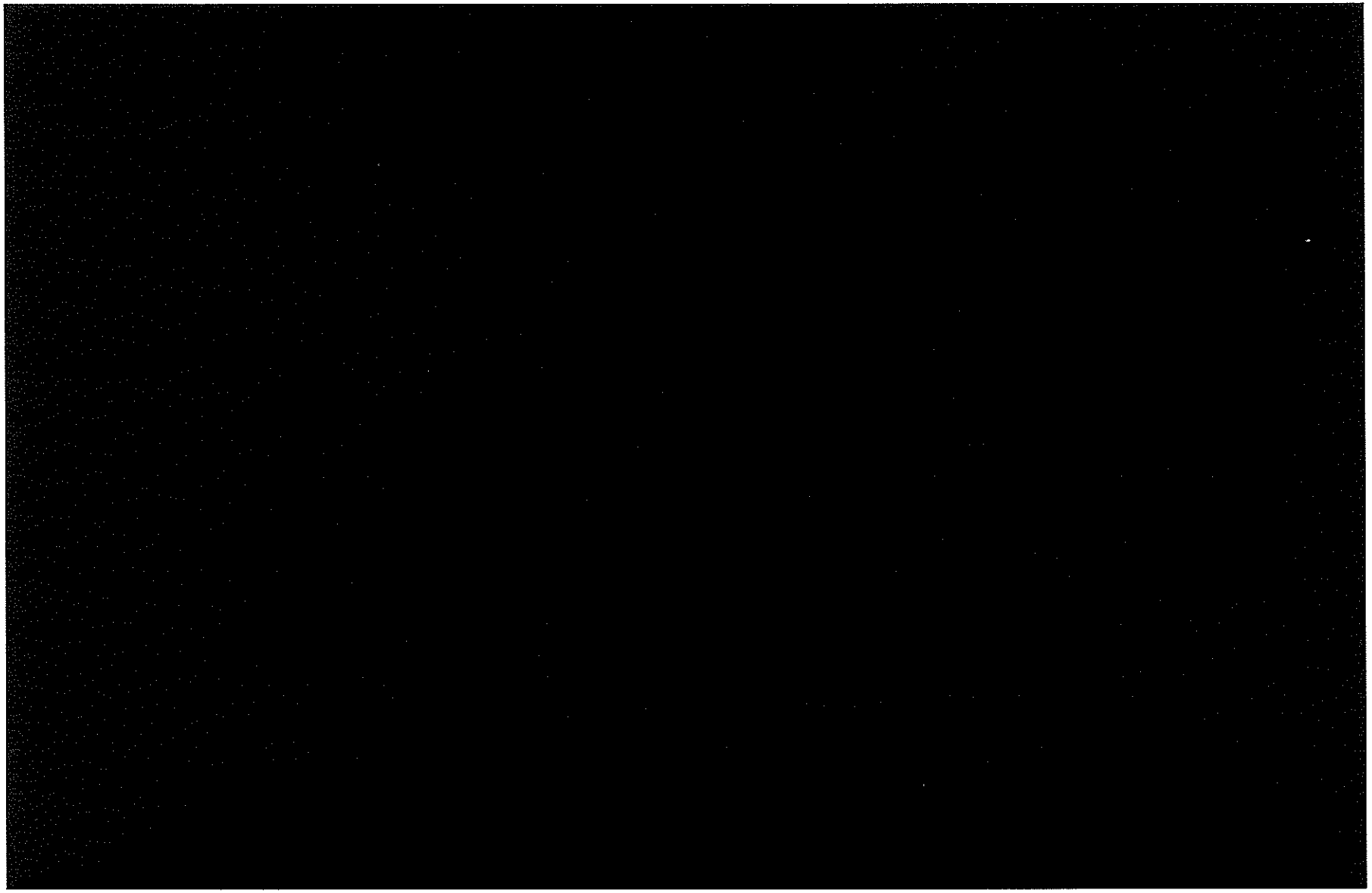
CHAPTER 1 - COCKPIT ILLUSTRATIONS

Illustrations Fig

Key to Fig 1 - Cockpit Controls and Indicators (1)

		Reference	
		Topic	*Chapter*
1	Cockpit fresh air control	15C	10
2	Adjustable louvre	15C	10
3	Observer's foot operated P to T switches	15D	5
4	Louvre control	15C	10
5	Punkah louvre	15C	10
6	Map stowage	15C	10
7	Not used	15D	5
8	OAT gauge	15C	8
9	Port door jettison handle	15C	10
10	Standby compass	15C	8
11	Stbd door jettison handle	15C	10
12	Signal cartridges	15C	10
13	Signal pistol	15C	10
14	Pilot's yaw pedal adjuster	15C	5
15	Map stowage	15C	10
16	Adjustable louvre	15C	10

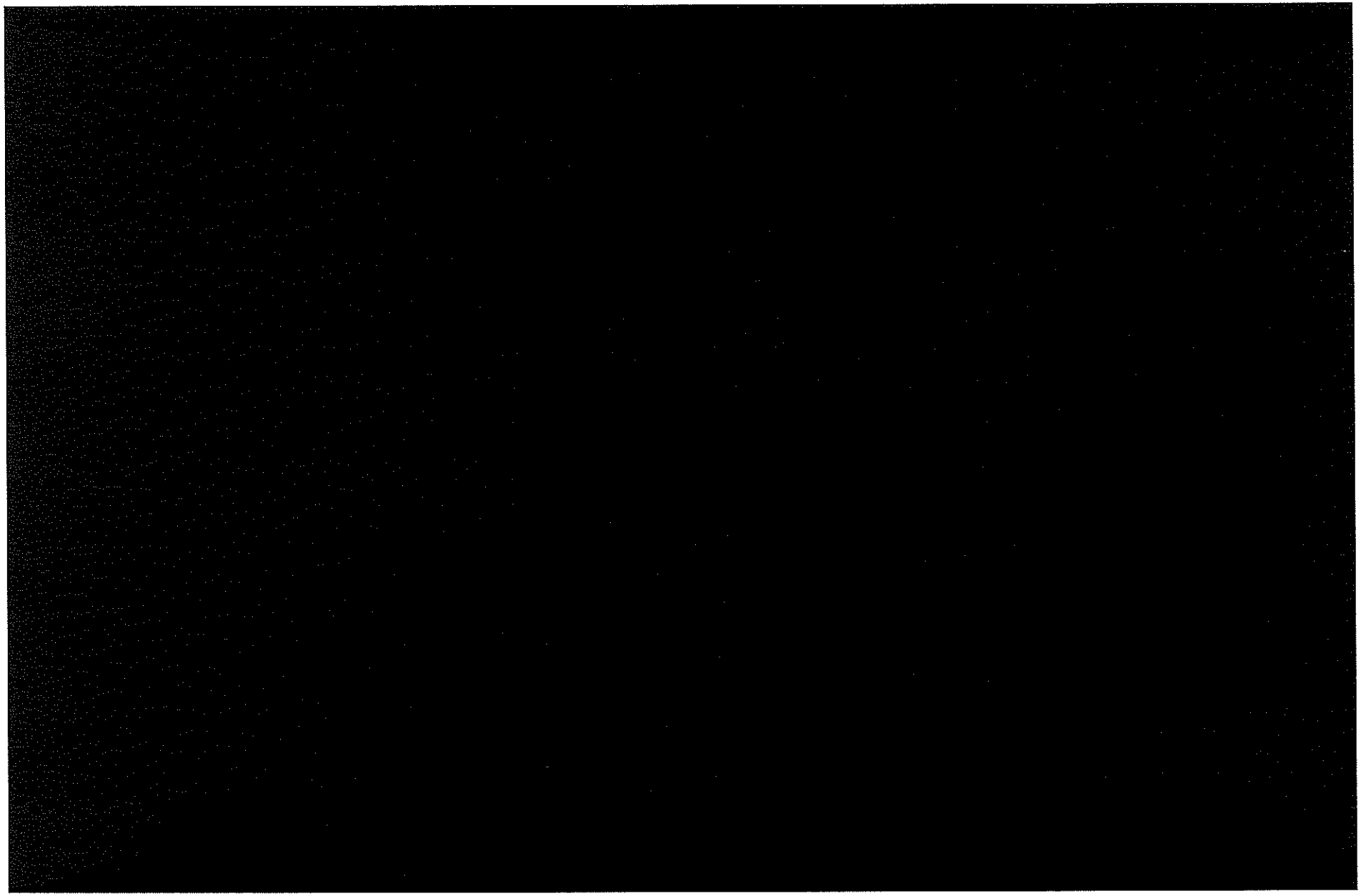
Details		Reference Figure
A	Cockpit instrument panel	2
B	Cyclic stick handgrip	2
C	Collective lever handgrip	2
D	Cockpit centre console	3
E	Cockpit roof panel	4
F	Engine control quadrant	4
G	Cold start switch panel	4
H	Ground servicing switch panel	4
I	Emergency services safety break	5
J	Control frame switch box	5
K	Blade tracking and general purpose DC supply sockets	5



5 - 1 Fig 1 Cockpit Controls and Indicators (1)

Key to Fig 2- Cockpit Controls and Indicators (2)

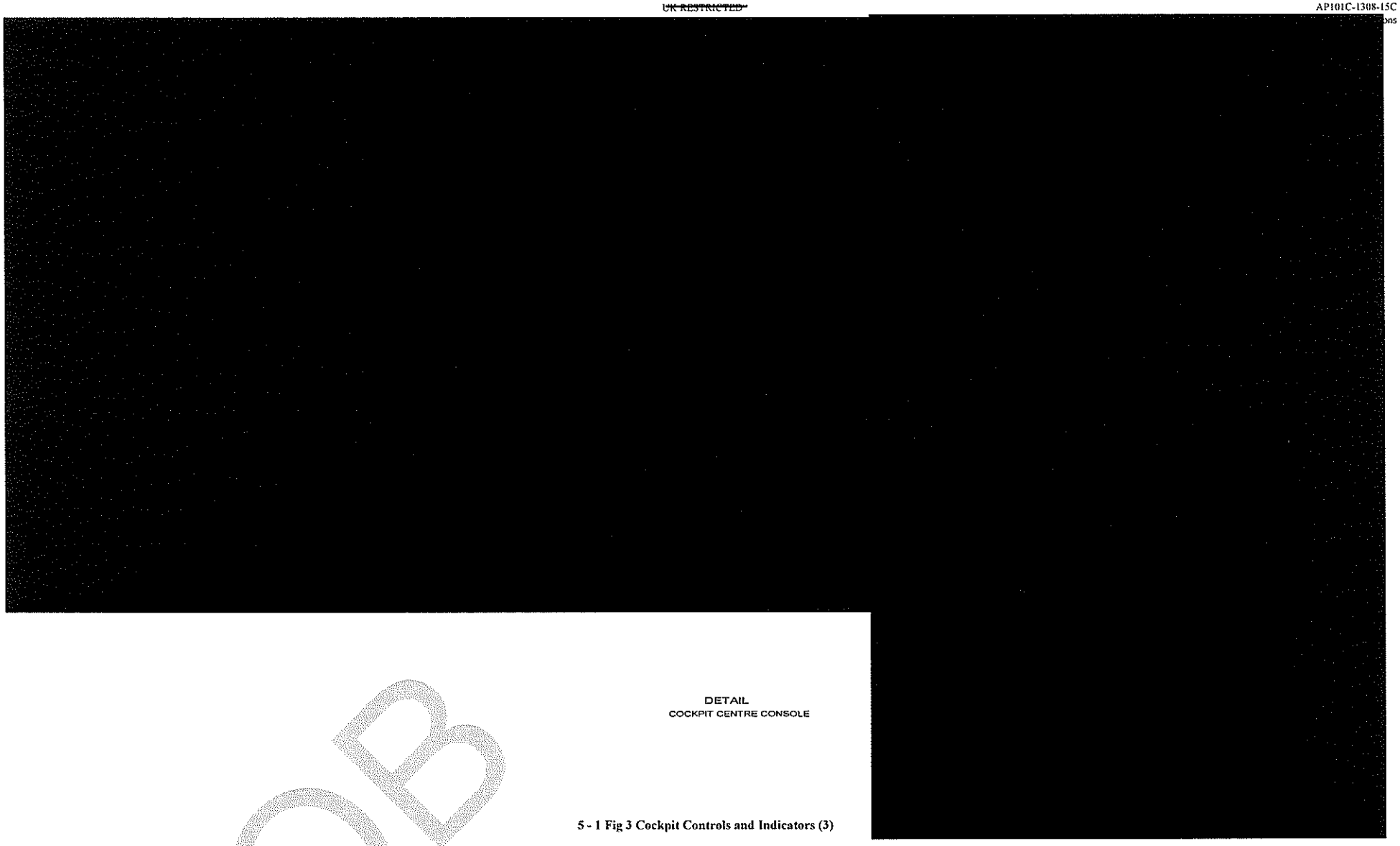
		Reference	
		Topic	*Chapter*
Detail A			
Observer's Instrument Panel			
1	Blank	-	-
2	Floodlight and dimmer	15C	8
3	Barometric altimeter	15C	8
4	Airspeed indicator	15C	8
5	Heading indicator	15C	8
6	Radar display and control indicator	15D	6
7	Blank	-	-
8	Blank	-	-
9	Display control unit	15D	2
Main Instrument Panel			
10	Not used	15D	2
11	Tactical situation display - graphics	15D	4
12	ESM control indicator	15D	7
13	Central warning panel	15C	2
14	Clock	15C	8
15	No 1 engine N_R tachometer	15C	4
16	No 2 engine N_R tachometer	15C	4
17	No 1 engine T6 indicator	15C	4
18	No 2 engine T6 indicator	15C	4
19	No 1 engine oil pressure	15C	4
20	No 2 engine oil pressure	15C	4
21	No 1 engine oil temperature	15C	4
22	No 2 engine oil temperature	15C	4
23	Fuel contents selector	15C	3
24	Fuel contents gauge	15C	3
25	Hydraulic pressure gauges (3 off)	15C	7
26	Master Armament Safety Switch (MASS)	15D	9
27	Transmission oil temperature	15C	5
28	Transmission oil pressure	15C	5
29	MGB oil cooler shutter override switch	15C	5
30	N_R and Nf triple tachometer	15C	4, 5
31	Red attention getter and cancel	15C	2
32	Airspeed indicator	15C	8
33	Torquemeter	15C	4
34	Standby attitude indicator	15C	8
35	Heading indicator	15C	8
36	Attitude indicator	15C	8
37	Amber attention getter and cancel	15C	2
38	Red attention getter and test	15C	2
39	Radar altimeter	15C	8
40	Barometric altimeter	15C	8
41	Vertical speed indicator	15C	8
42	Jettison mode selector	15C	9
43	Harpoon engaged light	15C	10
Detail B			
Cyclic Stick Handgrip			
44	External cargo release button (guarded)	15C	5, 9
45	Blank	-	-
46	CWP cancel button	15C	2, 5
47	CAC cutout button	15C	5, 6
48	AFCS cutout button	15C	5, 6
49	Press to transmit button	15C	5
50	Cyclic stick trim switch	15C	5
Detail C			
Pilot's Collective Lever Handgrip			
51	Jettison button (guarded)	15C	5, 9
52	Landing light switch	15C	5, 10
53	Landing light directional control	15C	5, 10
54	Harpoon engage button	15C	5, 10
55	Emergency flotation button (guarded)	15C	5, 10
56	Harpoon release button	15C	5
57	Press to mute button	15C	5
58	Collective channel release button	15C	5, 6
59	Rescue hoist control switch	15C	5, 9
60	Hydraulic servo selector switch	15C	5, 7



5 - 1 Fig 2 Cockpit Controls and Indicators (2)

Key to Fig 3 - Cockpit Controls and Indicators (3)

		Reference	
		Topic	*Chapter*
Detail D			
Cockpit Centre Console			
1	Observer's control display navigation unit	15D	2
2	Pilot's control display navigation unit	15D	2
3	Miscellaneous switch panel	15C	5, 9, 10
4	Ground speed and drift indicator	15D	8
5	Observer's communications control panel	15D	5
6	Observer's remote control unit	15D	5
7	Auxiliary control panel	15D	8
8	IFF/SSR control unit	15D	6
9	Data transfer device receptacle unit	15D	2
10	Master erase switch panel	15D	3
11	Compass controller	15C	8
12	Cockpit lighting control panel	15C	10
13	Pilot's communication control panel	15D	5
14	Pilot's remote control unit	15D	5
15	AFC engage controller	15C	6
16	AFC test controller	15C	6
17	Stores release panel	15D	2, 9



DETAIL
COCKPIT CENTRE CONSOLE

5 - 1 Fig 3 Cockpit Controls and Indicators (3)

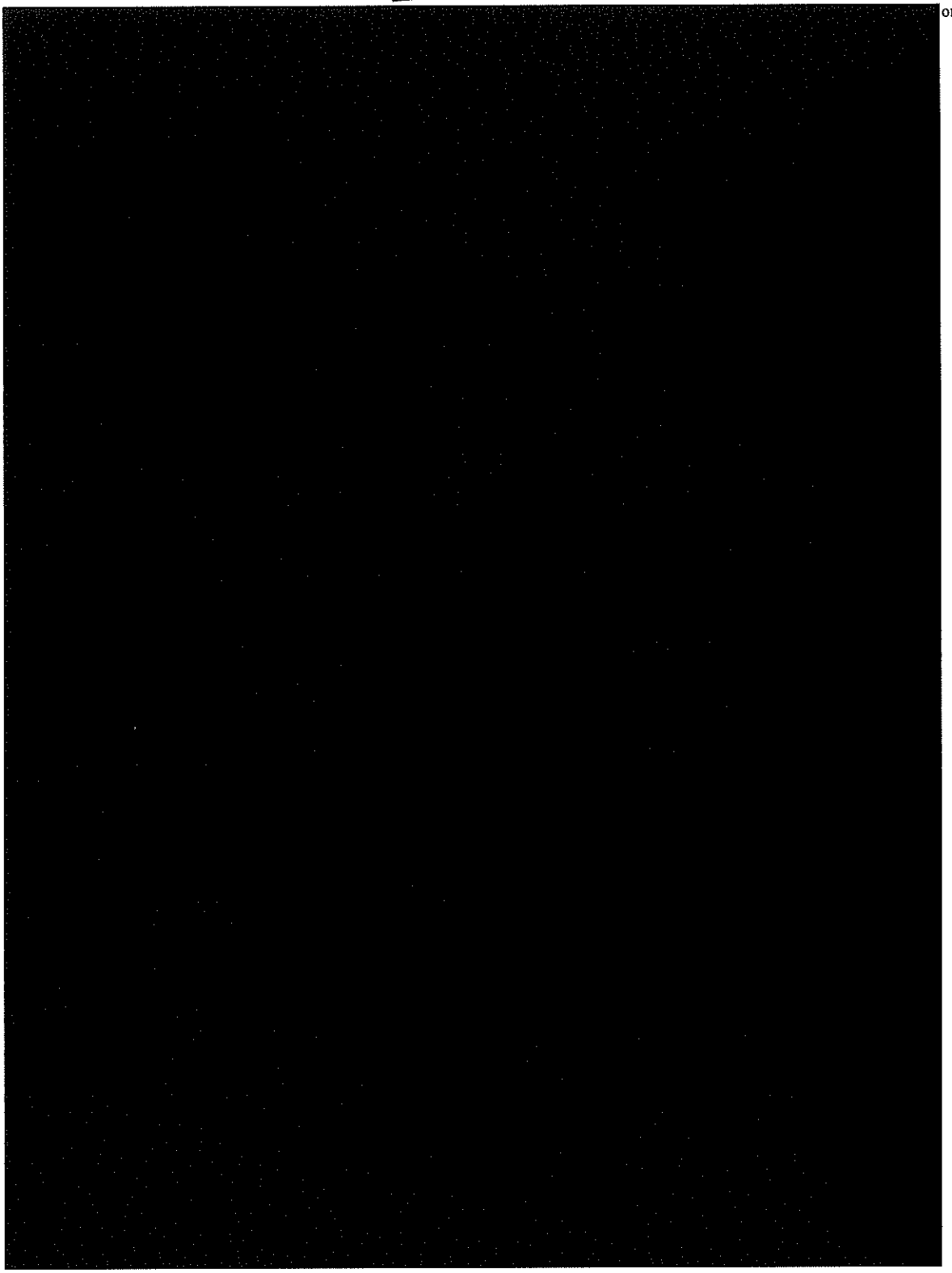
Key to Fig 4 - Cockpit Controls and Indicators (4)

		Reference	
		Topic	*Chapter*
Detail E			
Cockpit Roof Panel			
1	Miscellaneous switch panel	15C	8, 10
2	Engine anti-icing and lighting switches	15C	4
3	Engine control panel	15C	4
4	Fuel control panel	15C	3
5	AC control panel	15C	1
6	DC control panel	15C	1
Detail F			
Engine Control Quadrant		15C	4
7	Starting isolation microswitch	15C	4
8	Starting isolation microswitch	15C	4
9	Cabin air control lever	15C	10
10	PCU microswitch	15C	4
11	No 2 engine condition lever	15C	4
12	Starter button and fire warning light	15C	4
13	No 2 engine speed trimming knob	15C	4
14	Speed select lever	15C	4
15	PCU microswitch	15C	4
16	No 1 engine condition lever	15C	4
17	Starter button and fire warning light	15C	4
18	Rotor brake lever	15C	5
Detail G			
Cold Start Switch Panel		15C	4
Detail H			
Ground Servicing Switch Panel		15C	6, 8

5 - 1 Fig 4 Cockpit Controls and Indicators (4)

Key to Fig 5 - Cockpit Controls and Indicators (5)

	Reference	
	Topic	*Chapter*
Detail I		
Emergency Services Safety Break	15C	1, 9
Detail J		
Control Frame Switch Box	15C	3, 10
Detail K		
Blade Tracking and General Purpose DC Supply Sockets	15C	1, 10



5 - 1 Fig 5 Cockpit Controls and Indicators (5)

Intentionally Blank