



RHEINMETALL DEFENCE ELECTRONICS
COMPONENT MAINTENANCE MANUAL

COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

POWER CONTROL UNIT

Part Number
0025001-801

Rheinmetall Defence Electronics GmbH
Technical Publications Department
Brueggeweg 54
D-28309 BREMEN
GERMANY

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TRANSMITTAL SHEET

The basic issue, dated Feb 28/06 is attached and covers all components held by every operator.

FILING INSTRUCTIONS

– Affected pages are listed on the 'LIST OF EFFECTIVE PAGES' and designated as:

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HIGHLIGHTS

Revision No.0 - Jul 01/06

Pages which have been added, revised or deleted are outlined below together with the Highlights of the Revision.

LOCATIONS	DESIGNATION	DESCRIPTION OF CHANGE



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Number	Rev	Date	Rev	



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INTRODUCTION

TASK 25-51-42-99F-806-A01

1. General

- A. This manual is written to the iSpec 2200 and in ASD Simplified Technical English (STE). The international SI units of measurement are used in this manual, with Imperial Units in parentheses.
- B. The manual contains data about maintenance on the component in a workshop. It does not contain data about maintenance on the component when it is installed in the aircraft.
- C. Only approved persons with the necessary skills are permitted to do the maintenance procedures in this manual.
- D. Maintenance Task Oriented Support System (MTOSS) task and subtask identification is used in this manual. The maintenance tasks and other data have special MTOSS numbers for the use of Electronic Data Processing (EDP). The user of the manual can ignore the MTOSS numbers.
- E. This manual contains:
 - Technical data for the component
 - Maintenance and repair procedures about the component
 - An Illustrated Parts List (IPL) with data for the component parts. Parts are identified in all sections of the manual by the IPL-Figure and item number.
- F. We verified the TESTING, DISASSEMBLY and ASSEMBLY procedures by simulation.

TASK 25-51-42-99F-803-A01

2. How to use the Manual

- A. Make sure that the manual contains the information applicable to your component. Look on the Title Page for the part number.
- B. If you need to identify a part or find a part number, refer to the ILLUSTRATED PARTS LIST (IPL) which has an Introduction to show the procedure.
- C. The instructions in this manual must be used for all the component maintenance. Read all the applicable WARNINGS and CAUTIONS before you do the work on the component.



TASK 25-51-42-99F-804-A01

3. Manufacturing

A. The Power Control Unit (PCU) is manufactured and product supported by:

Rheinmetall Defence Electronics GmbH
Brueggeweg 54
D-28309 Bremen

Phone: +49 (0) 421 457 1016
Fax : +49 (0) 421 457 1030
AOG Tel.: +49 (0) 421 457 1019
SITA: BRESBCR
Email: product-support@rheinmetall-de.com

TASK 25-51-42-99F-805-A01

4. List of Abbreviations

AECMA	European Association of Aerospace Industries
ANSI	American National Standards Institute
AR	As Required
ATA	Air Transport Association of America
PCU	Power Control Unit
CMM	Component Maintenance Manual
DCB	Door Area Control Box
EDP	Electronic Data Processing
FCP	20 Foot Control Panel
FLCP	20 foot Local Control Panel
IPL	Illustrated Parts List
ISO	International Standards Organization
LCP	Local Control Panel
LCP29	Local Control Panel 29
LEP	List of Effective Pages
LH	Left Hand
LOM	List Of Materials
LRU	Line Replaceable Unit
MCP	Master Control Panel



MPN	Manufacturers Part Number
MTOSS	Maintenance Task Orientated Support System
NCP	Nose Control Panel
NHA	Next Higher Assembly
NI/ALPH	Numeric Index/Alphabetical
NO	Number
OCP	Outside Control Panel
OVLGTH	Overlength
PCB	Printed Circuit Board
PDU	Power Drive Unit
PDP	Power Distribution Panel
PMS	Process and Materials Specification
PN	Part Number
RCP	Remote Control Panel
RH	Right Hand
ROR	Record Of Revisions
RTR	Record of Temporary Revisions
SB	Service Bulletin
SBL	Service Bulletin List
SPC	Spare Part Classification
TID	Tool Identifier
TOC	Table of Contents
TU	Turn Unit
ULD	Unit Load Devices



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DESCRIPTION AND OPERATION

TASK 25-51-42-870-801-A01

1. Power Control Unit Description
(Refer to Figure 1)

A. General

- (1) The Power Control Unit (referred in the following as the PCU) is a component of the cargo load/unload control system of the B747-400SF main deck.
- (2) The PCU is used on the ground only during the loading and unloading of the Unit Load Devices (ULD) on and from the aircraft. It controls the operation of the Power Drive Units (PDU) installed in the cargo compartments. To do this, it operates together with the joystick on the control panels and with the Power Control Unit (PCU), the MCP and the RCP.
- (3) The PCU can only switch the four lines AC to the PDUs if the hatch door, installed in the floor from the lower to the main deck, is closed and locked. The switch position is constantly monitored and no PDU operation will be possible if the hatch door switch has NOT closed the circuit.

(4) Technical Data (approx.):

(a) Dimensions

Length	340.0 mm (13.386 in.)
Width	210.0 mm (8.268 in.)
Height	109.0 mm (4.295 in.)
Weight	4.95 kg (10.913 lb.)

(b) Power Requirements

Power supply 3 lines 28 V DC and
4 lines with 3 phases 115/200 V/400 Hz AC

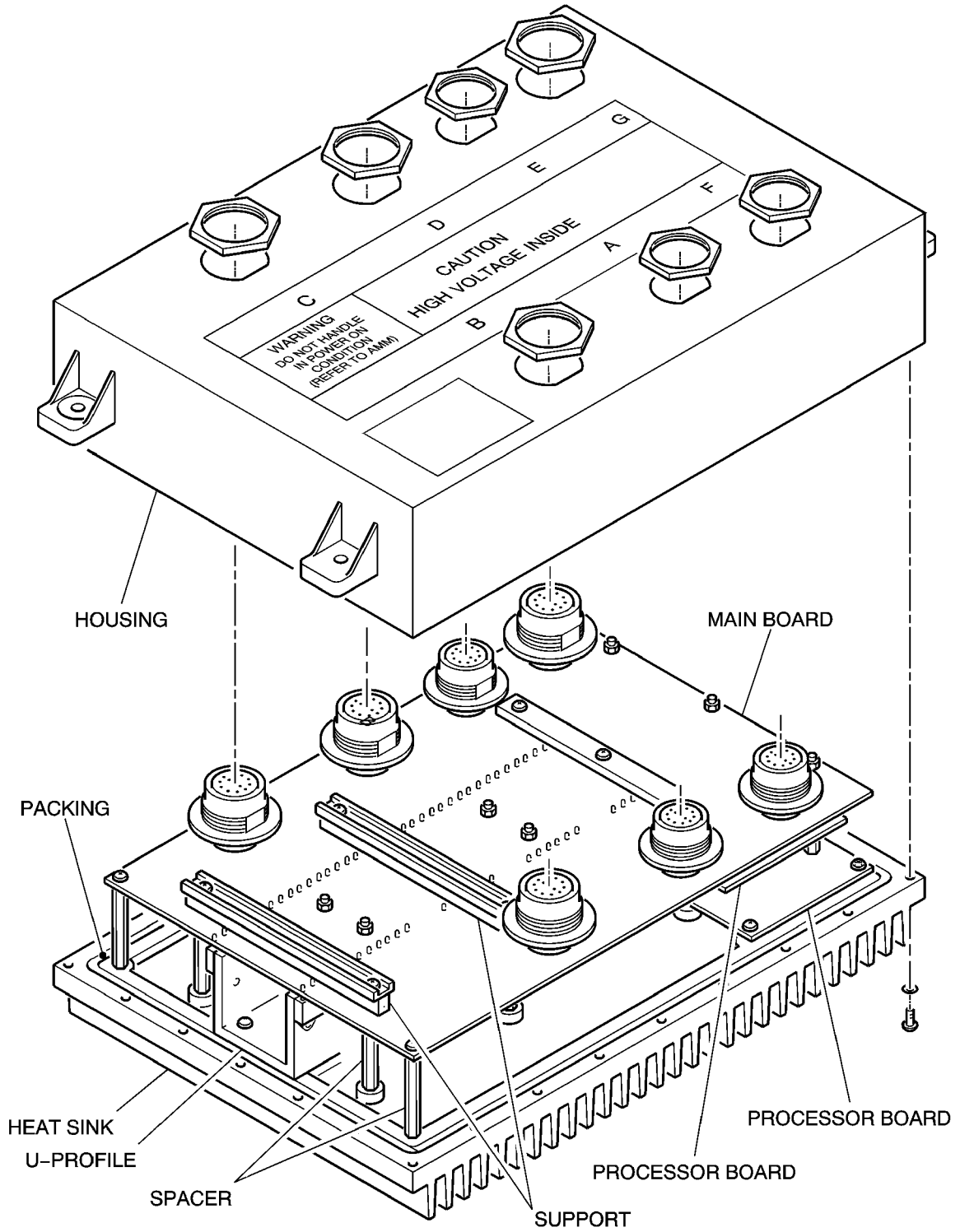
B. Description

(Refer to Figure 1)

- (1) The PCU consists of the following main components:
 - the Electronic Module, with:
 - The Heatsink
 - Three Printed Circuit Boards (PCBs) (one Mainboard and two Processor Boards) and
 - the Housing.
- (a) The heatsink of the electronic module with the cooling ribs has a milled groove, which contains the packing.



- (b) The mainboard has a U-profile. The U-profile attaches the thermistors of the mainboard and transmits the heat to the heatsink. For the outer connections, the mainboard contains seven connector jam nut-receptacle plugs, which are identified as A, B, C, D, E and F on the housing.
- (c) The PCBs are attached at the heat sink with spacers and bolts. They are interconnected by electrical module connectors.
- (d) The removable housing, with the identification plate and the warning and caution label, is installed on the PCU.



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Power Control Unit
Figure 1/GRAPHIC 25-51-42-99B-005-A01



C. Operation

- (1) The PCU is electrically connected and is the link between the joystick, the power switch on the MCP and RCP and the PDUs in the cargo compartment and the CUs and the MU.
- (2) The PCU receives these commands from momentary action switches (toggle switches) of the Nose Control Panel (NCP) :
 - Lateral LH
 - Lateral RH
 - Local Drive FWD
 - Local Drive AFT.

When you set one of these positions, a related switching device supplies a signal (DC ground) to the PCU.

- (3) The PCU is responsible for the PDUs at the positions 1, 2 and 3.
- (4) The logic of the PCU receives signals from the NCP and monitors and compares them with the related transport direction data. The logic also measures the current passing through the PCU. When the current exceeds the software based limit, the PCU operates a cut-off signal to open the circuit of the corresponding AC lines.
- (5) The logic of the PCU monitors the AC current. Different limits are given:
 - (a) AC line limit
 - Maximal limits at each line
 - Maximal current unbalanced between phases.
 - (b) AC line summary limit RH, AC line summary limit LH.
 - (c) AC power consumption limit of cargo compartment, summary of all lines.
- (6) When the temperature is more than the software based limits, the unit or one of the switches that follow stops the operation:
 - The PCU
 - The Power ON switch on the MCP
 - The Power OFF switch on the MCP
 - The Power OFF switch on the RCP.
- (7) The PCU has an overload protection. If an overload occurs, one of the switches that follow stops the PDU drive command outputs:
 - The Power ON switch on the MCP
 - The Power OFF switch on the MCP
 - The Power OFF switch on the RCP.



- (8) The PCU controls the safety switches to stop the AC power of:
- The hatch door control
 - The safety net (optional)
 - The center of gravity (optional)



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TESTING AND FAULT ISOLATION

TASK 25-51-42-700-801-A01

1. PCU Test

A. General

- (1) This topic details the test you must do after an overhaul or a repair of the PCU.

B. Reason for the Job

- (1) Self Explanatory

C. Job Set-up Information

- (1) Tools, Fixtures and Equipment

NOTE: It is possible to use equivalent alternatives for the given items.

NOTE: Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES for full details of special tools in this list.

REFERENCE	QTY	NAME
No specific	1	Power Supply 5 - 28 V DC variable
No specific	1	Insulation Tester
No specific	1	Multimeter
0008302-803	1	CLS Station

D. Job Set-up

- (1) Not applicable



E. Procedure

SUBTASK 25-51-42-750-001-A01

(1) Insulation Resistance

CAUTION: INCREASE AND DECREASE THE VOLTAGE IN THE SMALLEST POSSIBLE STEPS.

- (a) Make sure that the insulation resistance between a pin and the bonding point is not less than 100 MΩ on all of the item of equipment (Refer to Table 1001).

NOTE: The voltage values are decreased to match with the PCU internal protection devices.

Insulation Resistance Test
Table 1001/TABLE 25-51-42-99A-004-A01

CONNECTOR	POLARITY	PINS	TEST VOLTAGE
A	+ to bonding point	U, V.	35V DC
A	+ to bonding point	A, B, C, D, E, F, Y, Z, a, b.	10V DC
A	- to bonding point	G, H, J, K, L, M, N, P, R, S, T, W, X.	35V DC
B	+ to bonding point	A, B, C, D, E, F, G, H, J, K, L, M	35V DC
C	+ to bonding point	A, B, C, D, E, F.	35 V DC
C	+ to bonding point	G, J, K.	35V DC
C	- to bonding point	---	---
D	+ to bonding point	A, B, C, D, E, F.	35V DC
D	+ to bonding point	G, J, K.	35V DC
D	- to bonding point	---	---
E	+ to bonding point	---	---
E	- to bonding point	A, B, C, D, E, F, G, H, b, c.	35V DC
F	+ to bonding point	---	---
F	- to bonding point	A, B, C, D, E, F, G, H, J, K, L, M, N, P, R, S, T, U, V, W.	35V DC
G	+ to bonding point	---	---
G	- to bonding point	A, B, C, D, E, F, G, H, J, K, L, M, N, P, R, S, T, U.	35V DC



SUBTASK 25-51-42-750-002-A01

(2) Bonding Resistance

- (a) Make sure that the bonding resistance between the test points A and B is not more than 20 mΩ (Refer to Table 1002).

Bonding Resistance Test
Table 1002/TABLE 25-51-42-99A-006-A01

TEST STEP	TEST POINT	
	A	B
1	Connector B, Pin R	Bonding point of PCU
2	Connector B, Pin S	Bonding point of PCU
3	Cover Screw	Bonding point of PCU

SUBTASK 25-51-42-750-003-A01

(3) Test the PCU

- (a) Connect the PCU to the CLS test station as given in the operating manual Doc. No. 0008302-803-BDA.
- (b) Obey the test instructions given in the operating manual for the CLS test station.



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DISASSEMBLY

TASK 25-51-42-000-801-A01

1. Disassembly of the PCU

A. General

- (1) Refer to TESTING AND FAULT ISOLATION to find the condition of the PCU or the most probable cause of malfunction.

B. Reason for the Job

- (1) Self Explanatory

C. Job Set-up Information

- (1) Not applicable

D. Job Set-up

SUBTASK 25-51-42-210-001-A01

- (1) Check of the history or record card
 - (a) Do a check of the history or record card, if there is one, to find defective areas which you must examine.
 - (b) The procedures that follow are the removal of components from the PCU. Complete disassembly is not recommended and should be limited to the parts, necessary to repair the PCU.
 - (c) You must do the disassembly on a clean support.

E. Procedure

SUBTASK 25-51-42-040-001-A01

- (1) Disassembly of the PCU
(Refer to IPL Figure 1)
 - (a) Removal of the Housing Assy (210)
 - 1 Cut, remove and discard the lockwire and remove the hexagon nuts of the electrical connectors A thru G.
 - 2 Remove the bolts (240), the washers (250) and the spring washers (260) and remove the housing assembly (210) from the heatsink assembly (150).

NOTE: Do not remove the bush (230) from the cover (220) unless a replacement is necessary (Refer to REPAIR).

NOTE: Do not remove the self-adhesive warning label (280), the caution label (300) and the identification plate (290) from the cover (220) unless a replacement is necessary (Refer to REPAIR).
 - (b) Disassembly of the Electronic Module (10)



- 1 Remove the mainboard (90) and the processor boards (100, 110).
 - a Remove the bolts (40) and the spring washers (50) and remove the supports (20, 30) from the mainboard (90).
 - b Remove the screws (70), the bolts (140), the nuts (60) and the spring washers (50) and remove the mainboard (90) and the heatsink (160).
 - c Remove the nuts (60), the spring washers (50) and the spacers (120, 130) and remove the processor board (100).
 - d Remove the spacers (120), the bolts (80) and the spring washers (50) and remove the processor board (110).
 - e Remove the spacers (170, 180, 190) from the heatsink (160).
 - f Remove the setscrews (200) from the spacers (190).
- 2 Remove and discard the packing (270) from the heatsink (160).



CLEANING

TASK 25-51-42-100-801-A01

1. Cleaning of the PCU

A. General

WARNING: BE CAREFUL WHEN YOU USE SOLVENTS/CLEANING AGENTS, SEALANTS AND OTHER MATERIALS. OBEY THE MATERIAL MANUFACTURER’S INSTRUCTIONS AND THE LOCAL REGULATIONS.

MAKE SURE THAT THERE IS A GOOD FLOW OF AIR THROUGH THE WORK AREA. DO NOT BREATHE THE FUMES.

DO NOT SMOKE.

DO NOT USE THESE MATERIALS NEAR A FLAME, SPARKS OR SOURCES OF HEAT. USE PROTECTIVE CLOTHING, GOGGLES AND GLOVES. IF YOU GET ONE OF THESE MATERIALS:

- ON YOUR SKIN OR IN YOUR EYES, FLUSH IT AWAY WITH A FLOW OF CLEAN WATER.

- IN YOUR MOUTH, GET IMMEDIATE MEDICAL AID.

IN GENERAL, THESE MATERIALS ARE POISONOUS, FLAMMABLE AND SKIN IRRITANTS.

CAUTION: USE ONLY THE SPECIFIED CLEANING AGENTS. CLEANING AGENTS WHICH ARE NOT SPECIFIED CAN CAUSE DAMAGE.

(1) The above WARNING and CAUTION are applicable to the page block CLEANING.

B. Reason for the Job

(1) This section gives the procedure for the cleaning of the components and subassemblies of the PCU.

C. Job Set-up Information

(1) Fixtures, tools, test and support equipment

REFERENCE	QTY	NAME
No specific	AR	Brush, soft bristled
No specific	AR	Cloth, lint-free
No specific	1	Air Jet



(2) Consumable materials

NOTE: Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES for the specification of the consumable materials.

REFERENCE	NAME
No specific	Mild Soap Solution
Cleaning Agent 1	METHYL-ETHYL-KETONE
Cleaning Agent 2	ISOPROPYL ALCOHOL

D. Job Set-up

- (1) Not applicable

E. Procedure

SUBTASK 25-51-42-160-003-A01

- (1) Cleaning of the Printed Circuit Board Assemblies

NOTE: When you use the air jet, you must use a hand-operated air nozzle supplied with clean, dry, compressed air at a maximum pressure of 28 psi (2 bar).

CAUTION: DO NOT COME TOO NEAR WITH THE AIR JET NOZZLE TO THE PARTS. BE CAREFUL WHEN YOU BRUSH PARTS WHICH CAN BE EASILY DAMAGED.

- (a) Remove the dust and the dirt from all surfaces, parts and wiring with a soft-bristled brush and an air jet.
- (b) Clean the surfaces with a clean lint-free cotton cloth, moist with a mild soap solution, and dry these surfaces immediately with a clean lint-free cotton cloth.

NOTE: You must be careful not to remove the color coding of the resistors when you dry them.

SUBTASK 25-51-42-160-001-A01

- (2) Cleaning of the Connectors

- (a) Remove the dust and the dirt from the bodies and the shells with a clean lint-free cotton cloth moist with a mild soap solution.
- (b) Dry with a clean lint-free cotton cloth.

WARNING: BE CAREFUL WHEN YOU USE THE ISOPROPYL ALCOHOL (CLEANING AGENT 2). OBEY THE MANUFACTURER'S INSTRUCTIONS.

- (c) Remove the dirt from the insulation and contacts with the ISOPROPYL ALCOHOL (Cleaning Agent 2) applied with a small soft-bristled brush.



- (d) Carefully dry the cleaned parts with an air jet.

SUBTASK 25-51-42-160-002-A01

(3) Metal Parts

- (a) Carefully remove the dust from the surfaces, holes and recesses with an air jet.

WARNING: BE CAREFUL WHEN YOU USE THE METHYL-ETHYL-KETONE (CLEANING AGENT 1). OBEY THE MATERIAL MANUFACTURER'S INSTRUCTIONS.

- (b) Clean the not painted parts of the housing and the heatsink assembly with a clean lint-free cotton cloth soaked in the METHYL-ETHYL-KETONE (Cleaning Agent 1).
- (c) Dry with a clean lint-free cotton cloth. Use an air jet to remove the cleaning agent from the holes or the recesses.

WARNING: BE CAREFUL WHEN YOU USE THE ISOPROPYL ALCOHOL (CLEANING AGENT 2). OBEY THE MANUFACTURER'S INSTRUCTIONS.

- (d) Clean all painted metal surfaces with the ISOPROPYL ALCOHOL (Cleaning Agent 2). Dry with a clean lint-free cotton cloth and an air jet.



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INSPECTION/CHECK

TASK 25-51-42-210-801-A01

1. Visual Inspection

A. Reason for the Job

- (1) Self Explanatory

B. Job Set-up Information

- (1) Fixtures, tools, test and support equipment

NOTE: Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES for full details of the special tools in this list.

REFERENCE	QTY	NAME
No specific	AR	Magnifying glass, X10

C. Job Set-up

- (1) Job Set-up

D. General

- (1) The given check procedures are necessary to make sure that the repaired equipment agrees with the equipment standards of operation. They include a full check for too much wear or deterioration and for damage or other defects which you can see.
- (2) Do not retain a part of the assembly which is too much worn and not in the permitted service limits.
- (3) If you are not sure if the part is serviceable, replace the part.

E. Procedure

CAUTION: THE VISUAL CHECK OF THE COMPONENTS MUST BE DONE BEFORE YOU ASSEMBLE THE UNIT.

SUBTASK 25-51-42-220-001-A01

(1) Visual Examination of the PCU

- (a) Visually examine all parts for cracks, marks and corrosion. Use sufficient light and a magnifying glass.
 - 1 Cracks are not permitted.
 - a Replace the component parts which have cracks.
 - b Remove the marks and the corrosion as given in REPAIR.
- (b) Visually examine all threaded surfaces for cross threads, stripping, chips or unwanted material.



- 1 Remove the cross thread and tighten loose nuts and bolts.
 - 2 Remove the chips or the unwanted material.
- (c) Make sure that you can read the identification plate, warning label and the caution label easily.
- 1 For the replacement of the self-adhesive identification plate and the labels refer to REPAIR.

SUBTASK 25-51-42-220-002-A01

(2) Electrical Examination of the PCU

- (a) Visually examine the electrical components for damaged attachment parts, chafe marks and other damage.
- 1 Chafe marks, damaged attachment parts or other damage are not permitted.
 - 2 Refer to DISASSEMBLY and ASSEMBLY for the replacement of the damaged electrical components.



REPAIR

TASK 25-51-42-300-801-A01

1. Repair of the PCU

A. General

WARNING: BE CAREFUL WHEN YOU USE SOLVENTS/CLEANING AGENTS, SEALANTS AND OTHER MATERIALS. OBEY THE MATERIAL MANUFACTURER'S INSTRUCTIONS AND THE LOCAL REGULATIONS.

MAKE SURE THAT THERE IS A GOOD FLOW OF AIR THROUGH THE WORK AREA. DO NOT BREATHE THE FUMES.

DO NOT SMOKE.

DO NOT USE THESE MATERIALS NEAR A FLAME, SPARKS OR SOURCES OF HEAT. USE PROTECTIVE CLOTHING, GOGGLES AND GLOVES. IF YOU GET ONE OF THESE MATERIALS:

- ON YOUR SKIN OR IN YOUR EYES, FLUSH IT AWAY WITH A FLOW OF CLEAN WATER.

- IN YOUR MOUTH, GET IMMEDIATE MEDICAL AID.

IN GENERAL, THESE MATERIALS ARE POISONOUS, FLAMMABLE AND SKIN IRRITANTS.

CAUTION: USE ONLY THE SPECIFIED MATERIALS. MATERIALS WHICH ARE NOT SPECIFIED CAN CAUSE DAMAGE.

CAUTION: AFTER THE REMOVAL OF THE DAMAGE THE COMPONENT PARTS MUST BE IN THE LIMITS. REFER TO INSPECTION/CHECK FOR THE LIMITS.

(1) The above WARNING and CAUTIONS are applicable for all the page block REPAIR.

B. Reason for the Job

(1) The REPAIR procedure gives you the instructions to repair surface damages and to replace parts.



C. Job Set-up Information

- (1) Fixtures, tools, test and support equipment

NOTE: It is possible to use equivalent alternatives for the given items.

REFERENCE	QTY	NAME
No specific	AR	Brush
No specific	AR	Paint Spraying Equipment
No specific	1	Scraper, non-metallic
No specific	AR	Abrasive Paper, fine grit

- (2) Consumable materials

NOTE: Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES for the specifications of the consumable materials.

REFERENCE	NAME
Cleaning Agent 1	METHYL-ETHYL-KETONE
Cleaning Agent 2	ISOPROPYL ALCOHOL
Surface Protection 1	POLYURETHANE PRIMER
Surface Protection 2	PAINT, MATT BLACK, RAL9005

D. Job Set-up

- (1) Not applicable

E. Procedure

SUBTASK 25-51-42-350-001-A01

- (1) Repair of the damaged Paint

- (a) Remove the damaged paint with an abrasive cloth, grade as necessary.

WARNING: BE CAREFUL WHEN YOU USE THE ISOPROPYL ALCOHOL (CLEANING AGENT 2). OBEY THE MATERIAL MANUFACTURER’S INSTRUCTIONS.

- (b) Clean the repair area with clean lint-free cotton cloth and the ISOPROPYL ALCOHOL (Cleaning Agent 2).

- (c) Remove minor scoring or scratches with fine grit abrasive paper or crocus paper.

WARNING: BE CAREFUL WHEN YOU USE THE ISOPROPYL ALCOHOL (CLEANING AGENT 2). OBEY THE MATERIAL MANUFACTURER’S INSTRUCTIONS.

- (d) Clean the repair area with clean lint-free cotton cloth and the ISOPROPYL ALCOHOL (Cleaning Agent 2).



WARNING: BE CAREFUL WHEN YOU USE THE POLYURETHANE PRIMER (SURFACE PROTECTION 1). OBEY THE MATERIAL MANUFACTURER'S INSTRUCTIONS.

- (e) Apply the POLYURETHANE PRIMER (Surface Protection 1) and let it dry.

WARNING: BE CAREFUL WHEN YOU USE THE MATT BLACK PAINT (SURFACE PROTECTION 2). OBEY THE MATERIAL MANUFACTURER'S INSTRUCTIONS.

- (f) Apply the PAINT, MATT BLACK (Surface Protection 2) and let it dry.

SUBTASK 25-51-42-350-002-A01

- (2) Removal of the Marks and the Corrosion

- (a) Remove the protective treatment from the damaged area with an abrasive cloth, grade as necessary.

CAUTION: MAKE SURE THAT YOU REMOVE ALL MARKS AND CORROSION. REMAINING DAMAGE CAN CAUSE NEW CORROSION.

- (b) Removal of the marks and the corrosion.

1 Use an abrasive cloth (grade as necessary) to fully remove the marks and the corrosion.

2 Remove the material to make a repair with a smooth shape and the minimum possible depth and area.

- (c) Polish the repair area.

WARNING: BE CAREFUL WHEN YOU USE METHYL-ETHYL-KETONE. (CLEANING AGENT 1) OBEY THE MATERIAL MANUFACTURER'S INSTRUCTIONS.

- (d) Clean the repair area with a clean lint-free cotton cloth and the METHYL-ETHYL-KETONE (Cleaning Agent 1).

- (e) See the Subtask 25-51-42-350-001-A01 for the repair of the protective treatment.

SUBTASK 25-51-42-350-001-A01

- (3) Replacement of Parts
(Refer to IPL Figure 1)

- (a) Replacement of the Pressed-in Bush (230)

CAUTION: TAKE CARE NOT TO DAMAGE THE EDGES OF THE COMPONENT BORE.

1 Remove the bush (230) with a suitable tool.

WARNING: BE CAREFUL WHEN YOU USE THE METHYL-ETHYL-KETONE (CLEANING AGENT 1). OBEY THE MATERIAL MANUFACTURER'S INSTRUCTIONS.

2 Clean and degrease the bore in the component part and the new bush (230) with the METHYL-ETHYL-KETONE (Cleaning Agent 1) and let it dry.



- 3 Visually examine the bore for damage.
- 4 Put the bush (230) together with the installation tool under a suitable press.

NOTE: The correct position of the bush (230) in relation to the component bore is necessary for a satisfactory installation.

CAUTION: YOU MUST INSTALL THE BUSH (230) UNDER REGULAR PRESSURE AND WITHOUT JAMMING IN THE COMPONENT BORE.

- 5 Push the bush (230) in the component bore.
- 6 Remove the installation tool.
- 7 Examine the bush (230) for correct installation.

(b) Replacement of the self-adhesive Identification Plate (290)

- 1 Write down the data of the old identification plate.
- 2 Write the data from the old identification plate on the new identification plate.
- 3 Remove the damaged or loose identification plate (290) with a non-metallic scraper.

WARNING: BE CAREFUL WHEN YOU USE THE METHYL-ETHYL-KETONE (CLEANING AGENT 1). OBEY THE MATERIAL MANUFACTURER'S INSTRUCTIONS.

- 4 Clean the bonding area with the METHYL-ETHYL-KETONE (Cleaning Agent 1).
- 5 Let the bonding area dry.

CAUTION: DO NOT TOUCH THE BONDING SURFACES. CONTAMINATION CAN CAUSE AN UNSATISFACTORY BOND.

- 6 Remove the protection foil from the new identification plate.
- 7 Align and attach the new identification plate (290) on the cleaned bonding surface.

(c) Replacement of the self-adhesive Warning Label (280) and Caution Label (300).

- 1 Remove the damaged or loose warning label (280) and/or caution label (300) with a non-metallic scraper.



WARNING: BE CAREFUL WHEN YOU USE THE METHYL-ETHYL-KETONE (CLEANING AGENT 1). OBEY THE MATERIAL MANUFACTURER'S INSTRUCTIONS.

- 2 Clean the bonding area with the METHYL-ETHYL-KETONE (Cleaning Agent 1).
- 3 Let the bonding area dry.

CAUTION: DO NOT TOUCH THE BONDING SURFACES. CONTAMINATION CAN CAUSE AN UNSATISFACTORY BOND.

- 4 Remove the protection foil from the new warning label (280) and/or caution label (300).
- 5 Align and attach the new warning label (280) and/or caution label (300) to the cleaned bonding area.



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ASSEMBLY

TASK 25-51-42-400-801-A01

1. Assembly of the PCU

A. General

WARNING: BE CAREFUL WHEN YOU USE SOLVENTS/CLEANING AGENTS, SEALANTS AND OTHER MATERIALS. OBEY THE MATERIAL MANUFACTURER'S INSTRUCTIONS AND THE LOCAL REGULATIONS.

MAKE SURE THAT THERE IS A GOOD FLOW OF AIR THROUGH THE WORK AREA. DO NOT BREATHE THE FUMES.

DO NOT SMOKE.

DO NOT USE THESE MATERIALS NEAR A FLAME, SPARKS OR SOURCES OF HEAT. USE PROTECTIVE CLOTHING, GOGGLES AND GLOVES. IF YOU GET ONE OF THESE MATERIALS:

- ON YOUR SKIN OR IN YOUR EYES, FLUSH IT AWAY WITH A FLOW OF CLEAN WATER.

- IN YOUR MOUTH, GET IMMEDIATE MEDICAL AID.

IN GENERAL, THESE MATERIALS ARE POISONOUS, FLAMMABLE AND SKIN IRRITANTS.

CAUTION: USE ONLY THE SPECIFIED MATERIALS. MATERIALS WHICH ARE NOT SPECIFIED CAN CAUSE DAMAGE.

- (1) The TESTING AND FAULT ISOLATION and REPAIR procedures of all components must be completed before you can do the ASSEMBLY procedure.

B. Reason for the Job

- (1) Self Explanatory

C. Job Set-up Information

- (1) Tools, Fixtures and Equipment

NOTE: It is possible to use equivalent alternatives for the given items.

REFERENCE	QTY	NAME
No specific	AR	Lockwire, corrosion resistant steel dia 0.63 mm (0.0248 in.)
No specific	AR	Torque Wrench up to 3.0 m.daN (265.5 lbf.in.)



(2) Consumable materials

NOTE: Refer to SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES for full details of the consumable materials in this list.

REFERENCE	NAME
Special Material 1	HEAT CONDUCTION PASTE, Thermalcote-I (249)
Adhesive 1	LOCTITE 243

D. Job Set-up

- (1) Not applicable

E. Procedure

SUBTASK 25-51-42-440-001-A01

- (1) Assembly of the PCU
(Refer to IPL Figure 1)

NOTE: You must do the assembly on a clean support.

WARNING: BE CAREFUL WHEN YOU USE THE LOCTITE 243 (ADHESIVE 1). OBEY THE MATERIAL MANUFACTURER’S INSTRUCTIONS.

- (a) Assembly of the Electronic Module (10)

NOTE: You must apply the LOCTITE 243 (Adhesive 1) to all threads of the spacers and associated screws and bolts before installation.

- 1 Install the processor boards (100,110) and the mainboard (90).
 - a Install the spacers (170,180,190) with the setscrews (200) at the heatsink (160).
 - b Put the processor board (110) in position and install the bolts (80) with the spring washers (50). Carefully tighten the bolts (80).
 - c Install and carefully tighten the spacers (120) on the setscrews (200) to safety the processor board (110).
 - d Put the processor board (100) in position on the spacers (120) and connect the terminal connectors of the processor boards (100,110).
 - e Install and carefully tighten the spacers (120,130) on the spacers (120) to safety the processor board (100).

WARNING: BE CAREFUL WHEN YOU USE THE HEAT CONDUCTION PASTE (SPECIAL MATERIAL 1). OBEY THE MATERIAL MANUFACTURER’S INSTRUCTIONS.

- f Apply the HEAT CONDUCTION PASTE (Special Material 1) to the mating surface of the U-profile of the mainboard (90).



- g Put the mainboard (90) in position on the spacers (120,130,170) and connect the terminal connectors of the processor board (100) and the mainboard (90).
- h Install the screws (70), the bolts (140) and the nuts (60) with the spring washers (50).
- i Carefully tighten the screws (70) and the nuts (60).
- j Remove the unwanted heat conduction paste with a clean, lint-free cotton cloth.
- k Install the supports (20,30) with the bolts (40) and the spring washers (50).
- l Tighten the bolts (40).
- m Install the packing (270) in the groove of the heatsink (160).

SUBTASK 25-51-42-440-002-A01

(2) Installation of the Housing Assembly (210)

- (a) Install the housing assembly (210) on the heat sink assembly (150) with the bolts (240), the washers (250) and the spring washers (260).
- (b) Tighten the bolts (240).
- (c) Install the hexagon nuts at the electrical connectors A thru G of the mainboard (90).
- (d) TORQUE the hexagon nuts as follows:
 - At connectors A, E and F to 1.6 m.daN (141.6 lbf.in.)
 - At connector B to 2.0 m.daN (177.0 lbf.in.)
 - At connectors C, D and G to 1.8 m.daN (159.3 lbf.in.).
- (e) Safety the hexagon nuts with lockwire.



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FITS AND CLEARANCES

TASK 25-51-42-94B-801-A01

1. Nonstandard Torque Value

A. Nonstandard Torque Value Table

Nonstandard Torque Value Table
Table 8001/TABLE 25-51-42-99A-016-A01

IPL FIG.	ITEM NO.	NAME	NONSTANDARD TORQUE VALUE	
			m.daN	lbf.in.
1	A, E, F	Nut	1.6	141.6
1	C, D, G	Nut	1.8	159.3
1	B	Nut	2.0	177.0



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SPECIAL TOOLS, FIXTURES, EQUIPMENT AND CONSUMABLES

TASK 25-51-42-94B-802-A01

1. Special Tools, Fixtures and Equipment

A. Tool List

NOTE: Equivalent alternatives can be used for the listed items.

PART NO.	DESCRIPTION	SUPPLIERS CODE OR NAME AND ADDRESS	PAGE BLOCK WHERE USED
No specific	Power Supply 5 - 28 V DC	Locally	1001
No specific	Insulation Tester	Locally	1001
No specific	Multimeter	Locally	1001
0008302-803	CLS Test Station	C2683	1001
No specific	Air Jet	Locally	4001
No specific	Magnifying Glass, X10	Locally	5001



TASK 25-51-42-94A-801-A01

2. Consumables

A. List of the Consumables

NOTE: Equivalent alternatives can be used for the listed items.

NOTE: For the Suppliers Name and Address refer to the Suppliers Name And Code List of the IPL INTRODUCTION.

MATERIAL NO.	DESIGNATION AND SPECIFICATION	SUPPLIERS CODE OR NAME AND ADDRESS	PAGE BLOCK WHERE USED
Adhesive 1	LOCTITE 243	D2617	7001
Cleaning Agent 1	METHYL-ETHYL-KETONE USA TT-M-261 C Z-23.117	Local Purchase F0107	4001, 6001
Cleaning Agent 2	ISOPROPYL ALCOHOL F AIR-3660 GB BS 1595:84 USA TT-I-735 GRADE A C Z-23.113	Local Purchase F1858 F3528 20638	4001, 6001
Surface Protection 1	POLYURETHANE PRIMER AERODUR PRIMER S-15/90-37214 +HARD S-66/22R OR S-66/8RE +THIN C-25-90S C Z-12.105	FA4T1 F0351 H0951 Z0123 98502	6001
Surface Protection 2	PAINT, MAT BLACK, RAL9005	D8357	6001
Special Material 1	HEAT CONDUCTION PASTE, THERMAL-COTE- (249)	S3668	7001



STORAGE (INCLUDING TRANSPORTATION)

TASK 25-51-42-550-801-A01

1. Storage Instructions

A. Reason for Job

- (1) Self Explanatory

B. Job Set-up Information

- (1) Not applicable

C. Job Set-up

- (1) Not applicable

D. Procedure

SUBTASK 25-51-42-620-001-A01

(1) Preservation

- (a) Make sure that you do the preservation procedure before you put the component in its packing. The preservation procedure is given in the MIL-P-116 and/or MIL-P-25690A Specifications.

SUBTASK 25-51-42-530-001-A01

(2) Packing

- (a) Put the component in its initial container. Use the initial material for the protection of the component.
- (b) If the initial container is not available:
 - 1 Refer to DESCRIPTION AND OPERATION for the dimensions and the weight of the component.
 - 2 Use only approved materials for the protection of the component.

SUBTASK 25-51-42-530-002-A01

(3) Identification Label

- (a) Put the identification labels on the component and on the outside of the container. Make sure that you can read the labels easily.
- (b) The identification label must have all the related data of the component.
- (c) The component is not approved for installation, if there is no identification label attached to it.



SUBTASK 25-51-42-550-001-A01

(4) Storage

CAUTION: DO NOT KEEP THE CONTAINER NEAR FLUIDS THAT CAN CAUSE CORROSION OR DAMAGE AND NOT NEAR SOURCES THAT MAKE OZONE OR HEAT.

CAUTION: MAKE SURE THAT THERE IS NOT TOO MUCH WEIGHT ON THE CONTAINER IF YOU USE THE STACK STORAGE METHOD. TOO MUCH WEIGHT ON THE CONTAINER CAN CAUSE DAMAGE TO THE COMPONENT.

(a) Keep the container in a clean, dry room with a good supply of air.

CAUTION: DO NOT KEEP THE COMPONENTS WITH RUBBER PARTS AT MORE THAN +20 DEG. C (+68 DEG. F).

(b) If components do not have rubber parts, keep the temperature of the room to between +18 and +28 deg. C (+64 and +82 deg. F). We recommend +18 deg. C (+64 deg. F).

(c) Keep the relative humidity to between 25 and 65 %.

(d) Put the containers where you can clearly read the identification label.

SUBTASK 25-51-42-550-002-A01

(5) Condition Check and Functional Test

(a) Examine the condition and function of the component at specified times.



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ILLUSTRATED PARTS LIST (IPL)

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TASK 25-51-42-99F-802-A01

1. Introduction of the ILLUSTRATED PARTS LIST

A. General

- (1) The methods recommended to find a part number, or details of a part are given in paragraph 2 of this introduction.
- (2) The Illustrated Parts List (IPL) contains:
 - Illustrations that show an exploded view of the assemblies
 - The related detailed parts list.

B. How to use the Illustrated Parts List

- (1) To find the illustration for a part when you know the part number:
 - Refer to the numerical index and find the part number
 - Refer to the detailed parts list and find the first figure and index number given in the numerical index.

If this figure does not show the part in the necessary section or system:

- Refer to the other figure numbers given in the numerical index.
- (2) To find a part number when you only know the assembly:
 - Find the illustration that shows the breakdown of the assembly
 - Find the index number on the detailed parts list page to know the description and the part number.

C. Plan of the IPL

- (1) Alpha and Numerical Indices (NI/ALPH, NI/NUM)
 - (a) The numerical index (NI) contains all the part numbers listed in the detailed parts list, in alphabetical and numerical order.
 - (b) Each part is given with all detailed parts list locations, and total quantities necessary for each component and location. The customer can add the airline part number when necessary.



(2) Indenture System of the Detailed Parts List

The indenture system shows the relationship of parts and assemblies to their next higher assemblies (NHA) as follows:

- 1234567
- Assembly
- Attaching parts for assembly
- .Detailed parts for assembly
- .Sub-Assembly
- .Attaching parts for sub-assembly
- ..Detailed parts for sub-assembly
- ..Sub-sub-assembly
- ..Attaching parts for sub-sub-assembly
- ...Detailed parts for sub-sub-assembly



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(3) Detailed Composition of an IPL-Page

FIG-ITEM	PART NUMBER	1234567	NOMENCLATURE	USAGE CODE	UNITS PER ASSY
1 - 1A	A4933000100000		VENTING EQUIPMENT (LH)		RF ← 4
- 1B	A4933000100200		VENTING EQUIPMENT (LH)		RF R
- 2A	A4933000100100		VENTING EQUIPMENT (RH)		RF R
- 2B	A4933000100300		VENTING EQUIPMENT (RH)		RF R
10A	A4933301500060		.VALVE INST-VENT DRAIN (NP) SEE 28-12-10-02 FOR DET		1 ← 8
20A	A4933101500000		.BOX-VENTING EQUIPMENT	1A	1 ← 3
20B	A4933101500200		.BOX-VENTING EQUIPMENT POST SB28-034	1B	1 R ← 9
30A	78152446012		..LEAD BONDING		AR ← 4
40A	A4933104599356		SEAL		2 ← 4
50A	NAS1303		..BOLT		2
60A	AN960-101		..WASHER		2
65A	A4933104500000		..WASHER		1
70A	NAS698A3		..NUT		1
80A	A4933105000200		..DOOR ASSY		1
90A	A4933105200000		...BOLT CAPTIVE		8
100A	A4933105000300		...SEAL		8
110A	A4933105000600		...DOOR		1
120A	A4933106000000		...COLLAR		1
130A	NAS1303-3		→ ATTACHING PARTS ..BOLT		8
140A	AN960-101		..WASHER		8
			* * *		
150A	A4933107000000		..VALVE-VENTING EQUIPMENT (LH)		1
160A	A4933107000100		..VALVE-VENTING EQUIPMENT (RH) POST SB28-034		1 R
170A	A4933108000000		...ELBOW ASSY (LH SIDE)	1A	1
170B	A4933108000200		...ELBOW ASSY (LH SIDE) POST SB28-034		1 R ← 6
180A	NAS1068A4	NUT	1A	2
180B	NAS1068A5	NUT POST SB28-034	1B	2 R ← 7
190A	A4933109000000		...ELBOW (LH)		1
200A	A4933109000100		...ELBOW (RH)		1 ← 5

Figure 10001/GRAPHIC 25-51-42-99B-004-A01



(4) Key to the IPL example

(a) Attaching Parts

The attaching parts are given after the assembly of the main part, under the same indenture number. They are preceded by the words 'Attaching Parts' and followed by three asterisks. The NHA is the major part, and therefore the quantity for each NHA is the quantity necessary to attach one assembly.

(b) Supplier Parts

Parts manufactured by companies other than Rheinmetall Defence Electronics GmbH (RDE) are identified by a related supplier code which follows the nomenclature. The supplier codes agree with the current issues of Federal Supply Codes for Manufacturer's Cataloging Handbooks H4-1 and H4-3. They are preceded by the letter 'V'.

– Standard parts such as AN, MS are not identified by a supplier code.

NOTE: All relevant Supplier Codes are given in the 'SUPPLIER'S NAME AND CODE LIST', which is a part of the IPL INTRO.

(c) See XX-XX-XX-XX for DET or NHA

Identifies respectively:

- the IPL location where the detailed breakdown of a sub-assembly is given,
- the IPL location where the NHA of the item is shown.

(d) Quantity

The number in the Units Per Assy column shows the quantity of parts used for each NHA or installation.

AR = as required

RF = reference (quantity shown in NHA).

(e) Symmetrical Parts

LH or RH identifies the left-hand or right-hand position of the part. If a part is used in one assembly only, its title is followed by (LH side) or (RH side).



(f) Effectivity Code

Part variations related to NHA are identified by a letter code (A, B, C, etc.) after the related Item Number. If there is no code, the part is common to all the variants of the NHA.

FIG -	ITEM	USAGE CODE
1	- 1A	
1	- 1B	
1	- 1C	
	10A	1A
	20A	1BC
	30A	

Figure 1 item 10A is used on assembly 1A
Figure 1 item 20B is used on assemblies 1B and 1C
Figure 1 item 30A is used on assemblies 1A, 1B, 1C

(g) Revision Indicator

Revised pages will show the letter 'R' in the right-hand margin against a changed or added line.

(h) Nonprocurable Item (NP)

Identifies a nonprocurable item.

(i) Additional Notes

– ORDER OVRLGTH MPN

Identifies a part number with more than fifteen characters that does not fit in the part number column.

– SB XX-XXX or AEB XXXX-XXX

Identifies the Service Bulletin or Airline Engineering Bulletin which changes or introduces the parts listed in the detailed parts list.

– SEL FROM

Identifies a part which you must select from a group of parts to meet the requirements of the basic part number.

– OVERSIZE/UNDERSIZE

Identifies an oversize or undersize part.

– OPT TO

Identifies an optional part that is functionally and physically interchangeable with the original part.



– ALT FROM PN XXXX

Identifies an alternate part number (defined as a part that is functionally and physically interchangeable with the original part after rework).

– BUY PN

Identifies the part that you should order as a replacement for the part given in the part number column.

– 'MADE FROM XXXXXXXXXXX' 'MADE BY XXXXX'

Identifies a part number of the bulk stock (e.g. for seals hinge strips, extrusion etc....) from which the part in the part number column is manufactured.

– 'XX X XXX'

Identifies the unit of measurement followed by the dimensions or quantity.

– SEE CMM or ACMM

Refer to the Component Maintenance Manual or Abbreviated Component Maintenance Manual for the part listed in the detailed parts list.

– USED ON MPN

Identifies the NHA for a part in the part number column. This is used when the NHA is not clear from the Usage Code (similar assemblies with dissimilar details but a single breakdown).



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SUPPLIERS NAME AND CODE LIST

CODE	NAME	ADDRESS
VC0882	ETTINGER GMBH	OTTOSTR. 5 D-85694 HOFOLDING GERMANY
VC2683	RHEINMETALL DEFENCE ELECTRONICS GMBH ZIVILE PRODUKTE	P.O.BOX. 44 84 44 D-28284 BREMEN GERMANY
VC7116	QUICK OHM GMBH	P. O. BOX 12 04 65 D-42334 WUPPERTAL GERMANY
VC7190	CHOMERICS GMBH	P. O. BOX 32 02 08 D-40417 DUESSELDORF GERMANY
VD2617	HENKEL LOCTITE DEUTSCHLAND GMBH	P.O. BOX 81 05 80 D-81905 MUENCHEN GERMANY
VD7177	RHEINMETALL DEFENCE ELECTRONICS GMGH MILITAERISCHE PROJEKTE	P.O. BOX 44 84 44 D-28284 BREMEN GERMANY
VD8286	DIN DEUTSCHES INSTITUT FUER NORMUNG EV	BURGGRAFENSTR. 6 D-10787 BERLIN GERMANY
VD8357	PPG INDUSTRIES LACKFABRIK GMBH	GESCHAEFTSBEREICH AUTOCOLOR DUESSELDORFER STR. 102 D-40721 HILDEN GERMANY
VF0107	RHODIA CHIMIE	26 QU ALPHONSE LE GALLO F-92100 BOULOGNE BILLANCOURT FRANCE
VF0351	AKZO NOBEL COATINGS SA	29 R JULES UHRY F-60160 THIVERNY FRANCE
VF1858	STE DES PETROLES SHELL	307 R ESTIENNE D ORVES F-92700 COCLOMBES FRANCE



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CODE	NAME	ADDRESS
VFA4T1	AKZO NOBEL AEROSPACE COATINGS (ANAC)	17 AV DIDIER DAURAT F-31700 BLAGNAC FRANCE
VF3528	ESSO SAF (SOCIETE ANONYME FRANCAISE)	2 R MARTINETS F-92500 RUEIL MALMAISON FRANCE
VH0951	AKZO NOBEL COATINGS B.V.	RIJKSSTRAATWEG 31 NL-2170 SASSENHEIM NEDERLAND
VS3668	OMNI RAY AG	DUFURSTRASSE 56 CH-8008 ZUERICH SWITZERLAND
VZ0123	AKZO CHEMICALS LTD	22 NEW ST 3015 SPOTSWOOD VIC AUSTRALIA
V20638	UNION CARBIDE CORP CHEMICALS AND PLASTICS DIV	STAMFORD CT 06900 U.S.A.
V98502	AKZO COATINGS INC AEROSPACE FINISHES DIV	434 W MEATS ST ORANGE CA 92665 U.S.A.



RHEINMETALL DEFENCE ELECTRONICS

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ALPHA/NUMERIC INDEX

PART NUMBER	AIRLINE STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER	TOTAL REQ'D
DI5M3X18		1	130A	3
DIN125A3-2A2-50		1	250A	28
DIN127B3-14310		1	260A	28
DIN137A3-14310		1	50A	22
DIN934M3A2-70		1	60A	3
GE8385G105		1	90A	1
0006485-001		1	160A	1
0006485-004		1	280A	1
0006485-401		1	150A	1
0006485-403		1	220A	1
0006485-404		1	210A	1
0006485-405		1	20A	2
0006485-406		1	30A	1
0008475-098		1	300A	1
0025001-010		1	290A	1
0025001-401		1	10A	1
0025001-450		1	100A	1
0025001-451		1	110A	1
0025001-801		1	1A	RF
022406999		1	40A	7
022407047		1	70A	4
022452001		1	80A	2
023354743		1	240A	28



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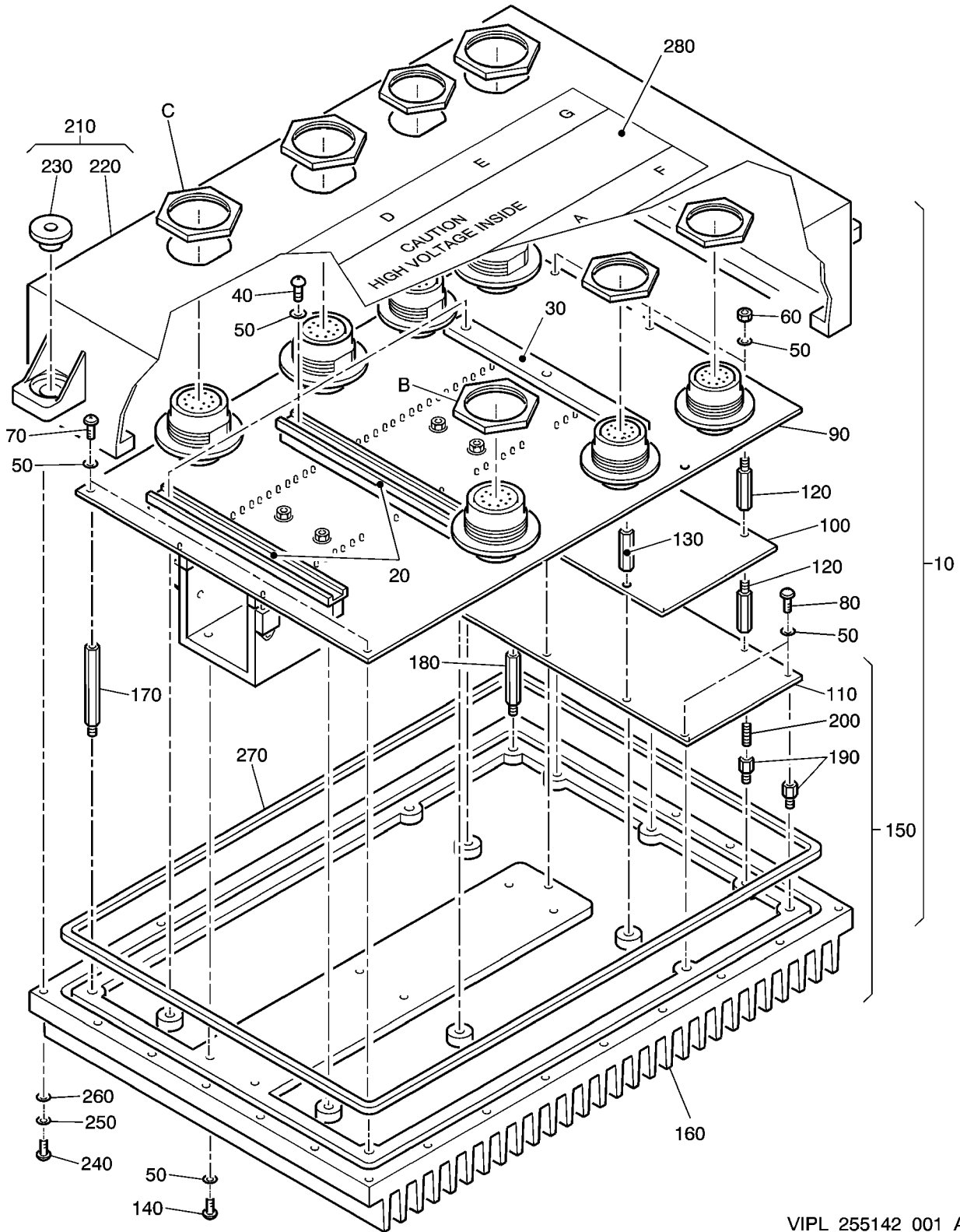
PART NUMBER	AIRLINE STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER	TOTAL REQ'D
025401509		1	140A	6
025413208		1	200A	6
0254412662		1	270A	1
40776-006		1	230A	1
513063		1	190A	8
513183		1	120A	9
513253		1	180A	1
513453		1	170A	6



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DETAILED PARTS LIST



VIPL_255142_001_A

COMPARTMENT CONTROL BOX
Figure 1/GRAPHIC 25-51-42-99B-006-A01



FIG. ITEM	PART NUMBER	AIRLINE STOCK NUMBER	NOMENCLATURE 1234567	EFFECT CODE	UNITS PER ASSY
1 - 1A	0025001-801		BOX-CONTROL, COMPARTMENT		RF
10A	0025001-401		. MODULE, ELECTRONIC		1
20A	0006485-405		.. SUPPORT		2
30A	0006485-406		.. SUPPORT		1
40A	022406999		.. BOLT ORDER OVERLGTH PN DIN7985M3X16A2-70H (VD8286)		7
50A	DIN137A3-14310		.. WASHER, SPRING (VD8286)		22
60A	DIN934M3A2-70		.. NUT (VD8286)		3
70A	022407047		.. SCREW ORDER OVERLGTH PN DIN7985M3X8A2-70H		4
80A	022452001		.. BOLT ORDER OVERLGTH PN DIN7985M3X6A2-70H (VD8286)		2
90A	GE8385G105		.. MAINBOARD		1
100A	0025001-450		.. BOARD, PROCESSOR (VD7177)		1
110A	0025001-451		.. BOARD, PROCESSOR		1
120A	513183		.. SPACER		9
130A	DI5M3X18		.. SPACER (VC7116)		3
140A	025401509		.. BOLT ORDER OVERLGTH PN DIN912M3X12A2-70 (VD8286)		6
150A	0006485-401		.. HEATSINK ASSEMBLY		1
160A	0006485-001		... HEATSINK		1

- ITEM NOT ILLUSTRATED



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FIG. ITEM	PART NUMBER	AIRLINE STOCK NUMBER	NOMENCLATURE 1234567	EFFECT CODE	UNITS PER ASSY
1 170A	513453		... SPACER (VC0882)		6
180A	513253		... SPACER (VC0882)		1
190A	513063		... SPACER (VC0882)		8
200A	025413208		... SETSCREW (VD8286) ORDER OVERLGTH PN DIN916M3X10-14305		6
210A	0006485-404		. HOUSING		1
220A	0006485-403		.. COVER		1
230A	40776-006		.. BUSH		1
240A	023354743		. BOLT (VD8286) ORDER OVERLGTH PN DIN7985M3X14A2-70H		28
250A	DIN125A3-2A2-50		. WASHER (VD8286)		28
260A	DIN127B3-14310		. WASHER, SPRING (VD8286)		28
270A	0254412662		. PACKING (VC7190)		1
280A	0006485-004		. LABEL, WARNING		1
- 290A	0025001-010		. PLATE, IDENTIFICATION		1
- 300A	0008475-098		. LABEL, CAUTION		1

- ITEM NOT ILLUSTRATED

25-51-42

