

Classification cancelled / changed to *UNCLASS*

By authority of *AVRS*

CF-105 SERVICE DATA

Signature: *TSgt B Bully*
Oxygen System

Unit / Rank / Appointment *AVRS 5*

ANALYZED **CONFIDENTIAL** **FILE IN VAULT**

CF-105 SERVICE DATA

ANALYZED

OXYGEN SYSTEM

Section 22

TABLE OF CONTENTS

TITLE	PAGE
SYSTEM SERVICE DATA	
DESCRIPTION	
General	3
Liquid Oxygen Converter	3
Composite Leads Disconnect	3
Regulator	4
Emergency Supply	4
FUNCTION TESTING	(To be issued later)
INSPECTION	(To be issued later)
COMPONENT SERVICE DATA	
Converter - Liquid Oxygen	5
Tray - Liquid Oxygen Converter Mounting	7
Disconnect - Composite Leads	9
Valve - Double Non-return	11
Gauge - Quantity, Liquid Oxygen	13
Cylinder - Emergency Oxygen	15
Valve - Emergency Oxygen Starting	17
Gauge - Emergency Oxygen Pressure	19
Valve - Emergency Oxygen Charging	21

LIST OF ILLUSTRATIONS

FIGURE	TITLE	PAGE
1	Oxygen System - Schematic	2

CF-105 SERVICE DATA

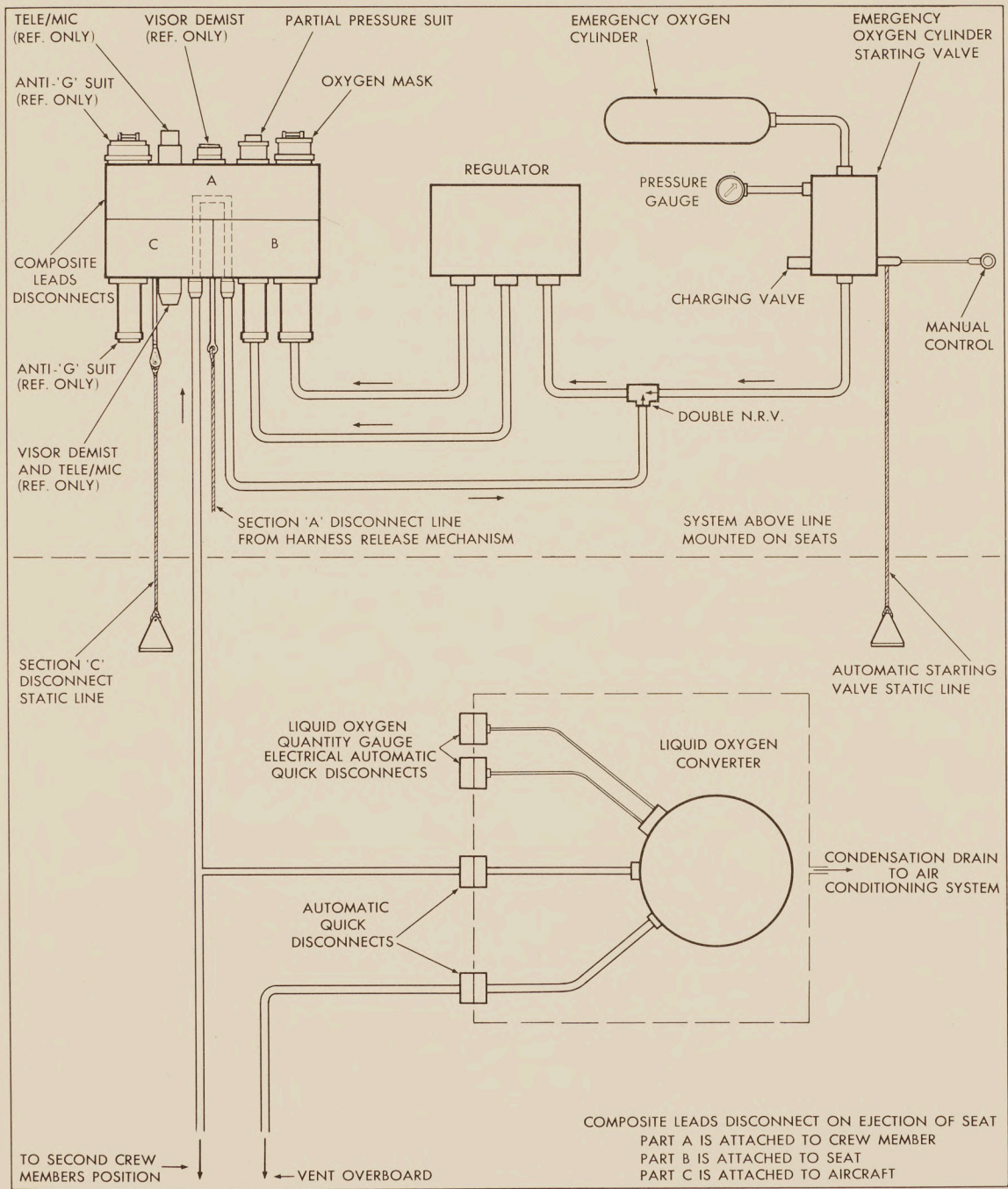


FIG. 1 OXYGEN SYSTEM - SCHEMATIC

7M1-3701-1

7M1-3413-2-2

CF-105 SERVICE DATA
SYSTEM DATA SHEET

SYSTEM	SUB-SYSTEM	AIRCRAFT EFF'TY	REF. NO.
OXYGEN		25201	21
<p>DESCRIPTION</p> <p>General</p> <p>1. Oxygen is supplied by a liquid oxygen converter to the crew members pressure breathing masks and partial pressure suits. An emergency system, consisting of a high pressure cylinder and starting valve, is fitted on each seat for use while descending following ejection at high altitude, or in case of failure of the normal supply.</p> <p>Liquid Oxygen Converter</p> <p>2. The liquid oxygen converter is a self-contained quick-detachable unit mounted on a tray. The converter tray slides onto a mounting tray fitted in the aircraft and is held in position by two locating and two quick-release pins. On sliding into position, automatic quick-disconnect couplings connect the pressure supply, relief valve vent and electrical quantity gauge leads to the aircraft system. The oxygen supply quick-disconnect coupling is self-sealing on both the aircraft and the converter sides of the coupling. Condensation from the converter is drained into the air conditioning system.</p> <p>3. The converter is filled before being fitted to the aircraft, and requires approximately ten minutes after filling before gaseous oxygen is supplied at the required pressure.</p> <p>4. A quantity gauge, electrically actuated through a transmitter from a sensing element in the converter, indicates the volume of liquid in the converter as a percentage of the maximum.</p> <p>Composite Leads Disconnect</p> <p>5. From the converter, oxygen is fed to a composite leads disconnect fitted on the right hand side of each seat. This component consists of three quick-disconnect sections and performs the following functions:</p> <p>(a) Forms a common point for connecting to the aircraft, all services required by the crew members. These services include the pressure breathing masks and partial pressure suit, which are supplied from the oxygen system, also the visor de-mist, tele/mic leads and low pressure air to the anti-g suit.</p> <p>(b) On ejection of the seat from the aircraft, automatically disconnects all services except emergency oxygen to the crew member. This is accomplished by a static line attached to the aircraft structure which disconnects the "C" section of the composite leads disconnect.</p> <p>(c) On separation of the seat from the crew member during descent, after ejection, automatically disconnects the emergency oxygen. This is accomplished by a control line from the ejection seat harness release mechanism disconnecting the remaining two sections of the composite leads disconnect.</p>			
ISSUE	1		
DATE	27 Nov 56		

Regulator

6. From the composite leads disconnect, oxygen is fed through a double non-return valve to the oxygen regulator. The regulator regulates supply pressures for the breathing mask and partial pressure suit from the oxygen converter and also from the emergency supply.

Emergency Supply

7. An emergency supply system consisting of an oxygen cylinder and a starting valve is fitted to the back of each seat. The emergency oxygen is fed to the regulator through the double non-return valve and may be started manually by a manual control on the seat. The starting valve is operated automatically on ejection of the seat, by a static line connected to the aircraft structure.

8. The starting valve is fitted with a pressure gauge and a charging valve.

ISSUE	1							
DATE	27 Nov 56							

TW-1513-2-4

CF-105 SERVICE DATA
COMPONENT DATA SHEET

SYSTEM OXYGEN	SUB-SYSTEM	COMPONENT Converter - Liquid Oxygen	REF. NO. 21-1
AVRO PART NO. 7-2154-14	MANUFACTURER Aro Equipment Corp.	MAN'FR'S PART NO. 14280	AIRCRAFT EFFECTIVITY 25201
OVERHAUL LIFE: KNOWN-		ESTIMATED- 500 hours	
FUNCTION Storage of liquid oxygen and conversion to gaseous oxygen.			
LOCATION Aft of navigator's bulkhead top.			
ACCESS Open access door in dorsal fairing aft of navigator's bulkhead by unfastening six latches.			MEN X MINUTES
REPLACEMENT PROCEDURE Slide converter forward on mounting tray and fit two quick release pins. (Sliding converter forward will automatically connect electrical and oxygen lines).			MEN X MINUTES

781-3413-2-5

INSPECTION		MEN X MINUTES							
Check that quantity indicator shows that an adequate amount of liquid oxygen is in converter for next flight. Replace if necessary.									
FUNCTIONAL CHECKS		MEN X MINUTES							
GROUND HANDLING AND GROUND TEST EQUIPMENT Liquid oxygen recharging equipment. Electrical ground power unit. Cockpit access stand.									
SPECIAL TOOLS TO REMOVE OR SERVICE									
REMARKS									
ISSUE	1								
DATE	27 Nov 56								

CF-105 SERVICE DATA
COMPONENT DATA SHEET

SYSTEM OXYGEN	SUB-SYSTEM	COMPONENT Tray - Liquid Oxygen Converter Mounting	REF. NO. 21-2
AVRO PART NO. 7-2154-15	MANUFACTURER Aro Equipment Corp.	MAN'FR'S PART NO. SKD2362	AIRCRAFT EFFECTIVITY 25201
OVERHAUL LIFE: KNOWN-		ESTIMATED- 500 hours	
FUNCTION Support liquid oxygen converter.			
LOCATION Aft of navigator's bulkhead top.			
ACCESS Through access door in dorsal fairing aft of navigator's bulkhead by unfastening six latches.			MEN X MINUTES
REPLACEMENT PROCEDURE Place in position. Insert four mounting bolts. Connect two oxygen connections, one drain connection and electrical quantity gauge connections.			MEN X MINUTES

INSPECTION <p style="text-align: center;">Check security of tray when installing oxygen converter. Check security of electrical disconnects and oxygen disconnects.</p>	MEN X MINUTES <table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%;"></td> </tr> </table>																				
FUNCTIONAL CHECKS	MEN X MINUTES <table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%;"></td> </tr> </table>																				
GROUND HANDLING AND GROUND TEST EQUIPMENT <p style="text-align: center;">Cockpit access stand.</p>																					
SPECIAL TOOLS TO REMOVE OR SERVICE																					
REMARKS																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">ISSUE</td> <td style="width: 10%; text-align: center;">1</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td>DATE</td> <td>27 Nov 56</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	ISSUE	1									DATE	27 Nov 56									
ISSUE	1																				
DATE	27 Nov 56																				

TW-3613-2-6

CF-105 SERVICE DATA
COMPONENT DATA SHEET

SYSTEM OXYGEN		SUB-SYSTEM		COMPONENT Disconnect - Composite Leads		REF. NO. 21-3	
AVRO PART NO. 7-2152-11		MANUFACTURER Aviation Electric		MAN'FR'S PART NO.		AIRCRAFT EFFECTIVITY 25201	
OVERHAUL LIFE:		KNOWN-		ESTIMATED-		500 hours	
FUNCTION Quick disconnect of oxygen, visor de-mist, mic/tel and anti-g suit air supply to Pilot and Navigator on ejection of seat.							
LOCATION Right hand side of crew seats.							
ACCESS Accessible in cockpit on lower right hand side of crew seats.						MEN X MINUTES	
REPLACEMENT PROCEDURE Place in position. Insert four screws. Connect four oxygen connections, one low pressure air connection and one electrical connection. Connect disconnect static line and disconnect release.						MEN X MINUTES	

<p>INSPECTION</p> <p>With seat removed, check for cleanliness, damage and corrosion.</p>		<p>MEN X MINUTES</p>	
<p>FUNCTIONAL CHECKS</p>		<p>MEN X MINUTES</p>	
<p>GROUND HANDLING AND GROUND TEST EQUIPMENT</p> <p>Cockpit access stand.</p>			
<p>SPECIAL TOOLS TO REMOVE OR SERVICE</p>			
<p>REMARKS</p>			
<p>ISSUE</p>	<p>1</p>		
<p>DATE</p>	<p>27 Nov 56</p>		

781-3413-2-8

CF-105 SERVICE DATA
COMPONENT DATA SHEET

SYSTEM OXYGEN		SUB-SYSTEM		COMPONENT Valve - Double Non- return	REF. NO. 21-4
AVRO PART NO. 7-2152-21	MANUFACTURER	MAN'FR'S PART NO. AN6017-1	AIRCRAFT EFFECTIVITY 25201		
OVERHAUL LIFE: KNOWN-		ESTIMATED- 500 hours			
FUNCTION Provides connection from emergency system to normal system regulator and prevents flow between systems.					
LOCATION Underside of crew seats.					
ACCESS Accessible on underside of crew seats when seat is removed from aircraft.					MEN X MINUTES
REPLACEMENT PROCEDURE Place valve in position. Place securing clip in position. Insert two screws, to secure clip in position. Connect three pipelines.					MEN X MINUTES

INSPECTION		MEN X MINUTES							
Check for loose connections.									
FUNCTIONAL CHECKS		MEN X MINUTES							
GROUND HANDLING AND GROUND TEST EQUIPMENT									
Cockpit access stand.									
SPECIAL TOOLS TO REMOVE OR SERVICE									
REMARKS									
ISSUE	1								
DATE	27 Nov 56								

TW-3413-2-4

CF-105 SERVICE DATA
COMPONENT DATA SHEET

SYSTEM OXYGEN	SUB-SYSTEM	COMPONENT Gauge - Quantity, Liquid Oxygen	REF. NO. 21-5
AVRO PART NO. 7-2152-12	MANUFACTURER Aro Equipment Corp.	MAN'FR'S PART NO. 14745	AIRCRAFT EFFECTIVITY 25201
OVERHAUL LIFE: KNOWN-		ESTIMATED- 500 hours	
<p>FUNCTION</p> <p style="text-align: center;">Indicates quantity of liquid oxygen in liquid oxygen converter.</p>			
<p>LOCATION</p> <p style="text-align: center;">Pilot's cockpit - RH console panel.</p>			
<p>ACCESS</p> <p style="text-align: center;">Accessible in Pilot's cockpit, RH console panel.</p>			MEN X MINUTES
<p>REPLACEMENT PROCEDURE</p> <p style="text-align: center;">Place in position. Connect one electrical connection. Insert two holding screws.</p>			MEN X MINUTES

INSPECTION Check that indicator reads "Full" when full oxygen converter is installed.		MEN X MINUTES	
FUNCTIONAL CHECKS		MEN X MINUTES	
GROUND HANDLING AND GROUND TEST EQUIPMENT Electrical ground power unit. Cockpit access stand.			
SPECIAL TOOLS TO REMOVE OR SERVICE			
REMARKS			
ISSUE	1		
DATE	27 Nov 56		

7M1-3413-2-6

CF-105 SERVICE DATA
COMPONENT DATA SHEET

SYSTEM OXYGEN	SUB-SYSTEM	COMPONENT Cylinder - Emergency Oxygen	REF. NO. 21-6
AVRO PART NO. 7-0128-5	MANUFACTURER Walter Kidde	MAN'FR'S PART NO. 840287-AN6025AX53	AIRCRAFT EFFECTIVITY 25201
OVERHAUL LIFE: KNOWN-		ESTIMATED- 500 hours	
FUNCTION Emergency oxygen supply for each crew member.			
LOCATION Left rear of Pilot's and Navigator's seats.			
ACCESS Accessible on Pilot's and Navigator's seats when seats are out of aircraft.			MEN X MINUTES
REPLACEMENT PROCEDURE With ejection seat removed from aircraft and before installation of starting valve to seat: Screw cylinder onto starting valve. Place starting valve and cylinder in position on back of seat. Insert two mounting bolts in starting valve. Connect cylinder clamp bolt and tighten nut. Connect one pipe connection. Connect manual control. Connect static line on installation of seat in aircraft.			MEN X MINUTES

INSPECTION		MEN X MINUTES							
Check that cylinder is "Full". Re-charge if necessary. Check for security and damage.									
FUNCTIONAL CHECKS		MEN X MINUTES							
GROUND HANDLING AND GROUND TEST EQUIPMENT High pressure oxygen charging unit. Cockpit access stand.									
SPECIAL TOOLS TO REMOVE OR SERVICE									
REMARKS									
ISSUE	1								
DATE	27 Nov 56								

TW-3433-2-4

CF-105 SERVICE DATA
COMPONENT DATA SHEET

SYSTEM OXYGEN	SUB-SYSTEM		COMPONENT Valve - Emergency Oxygen Starting	REF. NO. 21-7
AVRO PART NO. 7-2152-37	MANUFACTURER Aviation Electric Ltd.	MAN'FR'S PART NO.	AIRCRAFT EFFECTIVITY 25201	
OVERHAUL LIFE: KNOWN-		ESTIMATED- 500 hours		
FUNCTION To provide automatic and manual starting of emergency oxygen supply.				
LOCATION Cockpit, left rear of Pilot's and Navigator's seats.				
ACCESS Accessible on rear of Pilot's and Navigator's seats when seat is out of aircraft.				MEN X MINUTES
REPLACEMENT PROCEDURE With ejection seat removed from aircraft and before installation of emergency oxygen cylinder: Screw emergency oxygen cylinder onto valve. Screw pressure gauge into starting valve. Place starting valve and cylinder in position on rear of seat. Insert two mounting bolts in valve. Connect cylinder clamp bolt and tighten nut. Connect one pipe connection. Connect manual control. Connect static line on installation of seat in aircraft.				MEN X MINUTES

INSPECTION		MEN X MINUTES	
Check for security, damage and cleanliness. Check for security of static line.			
FUNCTIONAL CHECKS		MEN X MINUTES	
GROUND HANDLING AND GROUND TEST EQUIPMENT			
Cockpit access stand.			
SPECIAL TOOLS TO REMOVE OR SERVICE			
REMARKS			
ISSUE	1		
DATE	27 Nov 56		

TMI-3433-2-6

CF-105 SERVICE DATA
COMPONENT DATA SHEET

SYSTEM OXYGEN		SUB-SYSTEM		COMPONENT Gauge - Emergency Oxygen Pressure - Type L,2		REF. NO. 21-8	
AVRO PART NO.		MANUFACTURER Aviation Electric Ltd.		MAN'FR'S PART NO.		AIRCRAFT EFFECTIVITY 25201	
OVERHAUL LIFE :		KNOWN-		ESTIMATED-		500 hours	
FUNCTION To indicate oxygen pressure in emergency oxygen system.							
LOCATION Cockpit, left rear of Pilot's and Navigator's seats, attached to emergency oxygen starting valve.							
ACCESS Accessible on left side of Pilot's and Navigator's seats.						MEN X MINUTES	
REPLACEMENT PROCEDURE Screw clockwise into emergency oxygen starting valve until tight.						MEN X MINUTES	

INSPECTION							MEN X MINUTES		
Check that gauge reads "Full". Check for security and damage.									
FUNCTIONAL CHECKS							MEN X MINUTES		
GROUND HANDLING AND GROUND TEST EQUIPMENT									
Cockpit access stand.									
SPECIAL TOOLS TO REMOVE OR SERVICE									
REMARKS									
ISSUE	1								
DATE	27 Nov 56								

TW-3933-2-6

CF-105 SERVICE DATA
COMPONENT DATA SHEET

SYSTEM OXYGEN	SUB-SYSTEM		COMPONENT Valve - Emergency Oxygen Charging	REF. NO. 21-9
AVRO PART NO. 7-2152-18	MANUFACTURER Aviation Electric	MAN'FR'S PART NO.	AIRCRAFT EFFECTIVITY 25201	
OVERHAUL LIFE: KNOWN-		ESTIMATED- 500 hours		
FUNCTION Connection for charging crew's emergency oxygen cylinders from external oxygen supply.				
LOCATION Left side of Pilot's and Navigator's seats, attached to emergency oxygen starting valve.				
ACCESS Accessible on left side of Pilot's and Navigator's seats.			MEN X MINUTES	
REPLACEMENT PROCEDURE Place in position on emergency oxygen starting valve. Insert three screws.			MEN X MINUTES	

DUDEK PANG
NO. 1553
MADE IN U.S.A.