TECHNICAL MANUAL

OPERATOR'S, AVIATION UNIT AND INTERMEDIATE MAINTENANCE MANUAL FOR OXYGEN SERVICING UNIT PART NO. AA1730-1315 NSN 1730-00-435-7817

This copy is a reprint which includes current pages from Changes 1 and 2.

HEADQUARTERS, DEPARTMENT OF THE ARMY

28 APRIL 1980

TM 55-1730-226-13
C 2

CHANGE NO. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 13 June 1988

Operator's, Aviation Unit and
Intermediate Maintenance Manual

OXYGEN SERVICING UNIT
PART NO. AA1730-1315
NSN 1730-00-435-7817

TM 55-1730-226-13, 28 April 1980, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature-pointing hand.

Remove pages	Insert pages
iii/iv	iii/iv
5-3 through 5-7/5-8	5-3 through 5-7/5-8
A-1/A-2	A-1/A-2
B-3 and B-4	B-3 and B-4

2. Retain this sheet in front of manual for reference purposes.

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:

R. L. DILWORTH
Brigadier General, United States Army
The Adjutant General

DISTRIBUTION:
To be distributed in accordance with DA Form 12-31, -10 & CL Maintenance requirements for All Fixed and Rotor Wing Aircraft.

URGENT

TM 55-1730-226-13
C 1

CHANGE NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 19 November 1984

Operator's, Aviation Unit and
Intermediate Maintenance Manual

OXYGEN SERVICING UNIT
PART NO. AA1730-1315
NSN 1730-00-435-7817

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1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

Remove pages	Insert pages
a/b	a/b
i thru iii/iv	i thru iii/iv
4-1 and 4-2	4-1 and 4-2
5-3 and 5-4	5-3 and 5-4
C-1/C-2	C-1/C-2

2. Retain this sheet in front of manual for reference purposes.

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
Major General, United States Army
The Adjutant General

DISTRIBUTION:
To be distributed in accordance with DA Form 12-31, Operator, Organizational, and Direct Support Maintenance requirements for All Fixed and Rotor Wing Aircraft.

URGENT

For artifical respiration and other first aid data, refer to FM-21-11.

SPECIAL PRECAUTIONS WHEN HANDLING OXYGEN.

WARNING

Oxygen may cause violent explosions when in contact with any type of combustible material, particularly hydrocarbons. Such explosions could cause death or injury to personnel and/or damage to equipment.

1. Personnel operating or repairing the Oxygen Servicing Unit must be familiar with safety regulation regarding the handling of oxygen.

2. No smoking is allowed within 50 feet of the Oxygen Servicing Unit.

3. All parts which are used as replacement of parts that come into contact with oxygen must be certified "CLEANED FOR OXYGEN SERVICE."

WARNING

Trichloroethane is toxic and must be used with caution. Use in a well ventilated area and avoid inhalation and repeated contact with the skin. Approved gloves should be worn.

WARNING

Do not disconnect any plumbing without first bleeding all pressure from the line(s). Pressurized oxygen emanating from the open end could injure personnel if so directed.

Do not release oxygen pressure when the service line is not connected to the equipment being serviced or otherwise firmly secured. A sudden increase in pressure within the service line could cause it to whip and the uncontrolled gyrations could hit and injure personnel or damage equipment.

TECHNICAL MANUAL
No. 55-1730-226-13

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC., 28 April 1980

OPERATOR, AVIATION UNIT AND INTERMEDIATE MAINTENANCE MANUAL FOR OXYGEN SERVICING UNIT PART NO. AA1730-1315 NSN 1730-00-435-7817

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedure, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Aviation Systems Command, ATTN: AMSAV-MPSD, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished directly to you.

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GENERAL INFORMATION

MAINTENANCE FORMS, RECORDS, AND REPORTS. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-751, Functional Users Manual for the Army Maintenance Management System - Aviation (TAMMS-A).

DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE. Procedures for destroying Army materiel to prevent enemy use are listed in TM 750-244-1-3.

ADMINISTRATIVE STORAGE OF EQUIPMENT. Refer to TM 740-90-1 for administrative storage of equipment instructions.

EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR). EIR can and must be submitted by anyone who is aware of an unsatisfactory condition with the equipment design or use. It is not necessary to show a new design or list a better way to do a procedure; just simply tell why the design is unfavorable or why a procedure is difficult. EIR may be submitted on SF 368 (Quality Deficiency Report). Mail directly to Commander, US Army Aviation Systems Command, ATTN: AMSAV-MPSD, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished to you.

NOTE

This manual has not been prepared according to military specifications; but, despite the limitations of its content, the publication does provide the essential data needed to operate and maintain the equipment.

SECTION I

INTRODUCTION AND DESCRIPTION

1.1 INTRODUCTION.

1.1.1 This manual provides the operation and maintenance instructions for the Oxygen Servicing Unit, P/N AA1730-1315, for use in servicing aircraft and other equipment requiring pressurized oxygen. An illustrated parts breakdown is included to facilitate any repair or maintenance.

1.1.2 The function of the Oxygen Servicing Unit is to provide a means of carrying standard high-pressure oxygen bottles and of interconnecting them to provide a regulated single output which can be adjusted for pressure.

1.2 DESCRIPTION. (Refer to Figure 5-1)

1.2.1 General. The Oxygen Servicing Unit consists of eight cylindrical tubes (17, figure 5-1), each of which can house a standard high-pressure oxygen bottle lying on its side. The bottles are firmly secured near the forward end of the Oxygen Servicing Unit by means of a large cap nut (22) which interfaces with the cap threads on the oxygen bottles. Pigtails (46, 47, and 48) and a manifold (32) are used to interconnect the oxygen bottles to provide a single output. Each pigtail is connected to a check valve (37) to prevent backflow and, therefore, loss of oxygen or pressure in the event that a bottle is not connected. to each line or one or more of the oxygen bottles are empty or of low pressure. A manual control valve (31), connected to the manifold, is used to supply the oxygen directly from the oxygen bottle(s) to the receiving equipment. In addition, the manual control valve can be used to bleed the manifold. An adjustable, dual-indicator regulator (26) controls the oxygen output at the desired pressure. One indicator provides an indication of the bottle(s) pressure and the

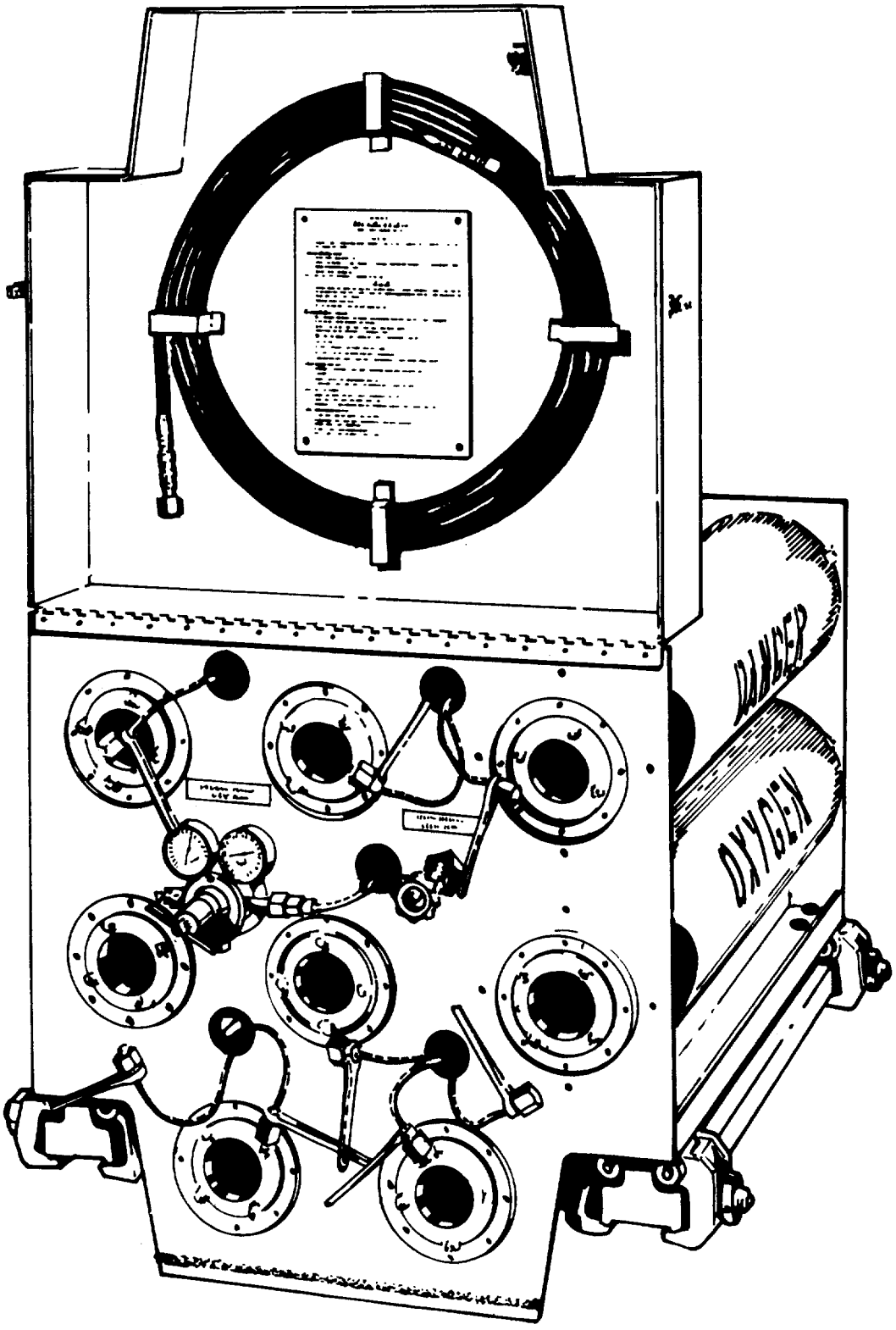

Figure 1-1. Oxygen Servicing Unit

other provides an indication of the output pressure. The supply is transferred through a 25-foot flexible output service hose (11) (filler line). The filler line is coupled to the using facility by means of an oxygen service fitting (40) which is screwed into the fitting on the end of the filler line. The oxygen service fitting is included with the Oxygen Servicing Unit and is stored in a hinged front end cover (1) which also provides the means for stowing (by coiling) the long filler line. Leading particulars of the Oxygen Servicing Unit are included in Table 1-1.

1.2.1.1 Four roller assemblies (49) are mounted on the Oxygen Servicing Unit to facilitate handling and transportation by means of the existing specialized airfield trailer and pallet system or with a standard forklift truck.

1.2.2 Storage. When the pigtails are not connected to the oxygen bottles, the open ends should be covered with plastic protectors (dust caps) to avoid moisture, dust or other contaminants. The filler line connectors should be protected in the same manner when not in use. In addition, when not in use, the filler line and the oxygen service fitting should be stowed in the stowage cover in the places provided therein.

TABLE 1-1.

LEADING PARTICULARS

Weight:	
Empty	330 pounds
With Loaded Bottles	1450 pounds
Dimensions:	
Height	32 5/8 ± 1 inches
Width	42 5/8 ± 1 inches
Depth	57 5/8 ± 1 inches
Power/Utility Requirements:	None
Bottles (Ref):	
Size	1A
Volume	224 cf (each)
Pressure:	
Input (Bottle Output)	to 2500 psig
Output (at Regulator)	0 to 3000 psig
Flow Capacity (of Regulator)	1500 scfh at 2300 psig delivered
Safety Devices:	
Regulator	Adjustable Self-Seating Safety Valve with Burst Pressure 4X rating
Manifold Valve	Burst Disc: 3000 psig
Operating Temperature:	- 40°F to + 160°F
Special Tools & Test Equipment:	None
Lubrication:	None
Track Width of Roller Assemblies:	32 inches

SECTION II

SAFETY PRECAUTIONS

2.1 GENERAL.

2. 1.1 This section contains the precautions necessary to prevent hazards or injuries to personnel during installation, operation or maintenance of the Oxygen Servicing Unit.

2.2 SPECIAL PRECAUTIONS WHEN HANDLING OXYGEN.

WARNING

Oxygen may cause violent explosions when in contact with any type of combustible material, particularly hydrocarbons. Such explosions could cause death or injury to personnel and/or damage to equipment.

1. Personnel operating or repairing the Oxygen Servicing Unit must be familiar with safety regulations regarding the handling of oxygen.

2. No smoking is allowed within 50 feet of the Oxygen Servicing Unit.

3. All parts which are used as replacement of parts that come into contact with oxygen must be certified "CLEANED FOR OXYGEN SERVICE."

4. All open connectors must be protected with plastic protectors (dust covers).

SECTION III

OPERATION

3.1 GENERAL.

3.1.1 This section contains the operating instructions required for use of the Oxygen Servicing Unit.

3.2 SET-UP.

3.2.1 Installation of Oxygen Bottles (Refer to Figure 5-1) To install the oxygen bottles, proceed as follows:

WARNING

No smoking within 50 feet of the Oxygen Servicing Unit. In addition, parts which come into contact with oxygen must be "CLEANED FOR OXYGEN SERVICE." Personnel using the Oxygen Servicing Unit must be familiar with safety regulations regarding the handling of oxygen. Oxygen may cause violent explosions when ignited by fire or sparks or when in contact with any type of combustible material, particularly hydrocarbons. Such explosions could cause death or injury to personnel and/or damage to equipment.

WARNING

Do not release any oxygen pressure when the service line is not connected to the equipment being serviced or otherwise Firmly secured. A sudden increase in pressure within the service line could cause it to whip and the uncontrolled gyrations could hit and

injure personnel or damage equipment. In addition, pressurized oxygen emanating from the open end could injure personnel if so directed.

CAUTION

Moisture, dust or other contaminants must be kept from input and output connections. These contaminants could cause rust, clogging, or other damage to components of either the Oxygen Servicing Unit or the unit being serviced.

1. Lift lower edge of stowage cover (1) outward and upward to obtain access to inside of unit.

2. Lift oxygen bottle to horizontal position and, from rear of unit, slide it top first into cylindrical tube until it contacts the cap nut (22) on the forward plate.

3. Engage the cap nut onto the cap threads of the oxygen bottle until the bottle is snug in place.

4. Connect appropriate oxygen pigtail to oxygen bottle.

5. Repeat Steps 2, 3 and 4 for other seven bottles.

6. Perform a leak check per Paragraph 4.11.

3.2.2 Preoperational Check. Prior to connecting the Oxygen Servicing Unit to any receiving equipment, perform a preoperational check as follows:

WARNING

Refer to WARNINGS specified in Paragraph 3.2.1.

CAUTION

Refer to CAUTION specfied in Paragraph 3.2.1.

1. Verify that the REGULATOR PRESSURE OUTLET VALVE (26) is fully closed by turning the T-handle in a counterclockwise direction.

2. Verify that the BOTTLE PRESSURE OUTLET VALVE (31) is fully closed by turning the knob in a clockwise direction.

3. Unwind the filler hose (11) from its stowage place in the stowage cover, remove the plastic protectors (dust covers), and connect one end to either the fitting on the BOTTLE PRESSURE OUTLET VALVE or the fitting on the REGULATOR PRESSURE OUTLET VALVE, as deisred.

4. Attach the oxygen service fitting (40), which is stored in the stowage cover, to the open end of the filler hose.

3.3 OPERATION.

3.3.1 The Oxygen Servicing Unit is operated as follows:

CAUTION

Do not suddenly release the oxygen. Extremes of pressure differentials could damage equipment.

1. Connect the valve on the desired oxygen bottle(s) by turning the knob in a counterclockwise direction until fully open.

NOTE

Perform either Step 2 or 3, as desired, depending upon whether or not pressure regulation is required.

2. Open the BOTTLE PRESSURE OUTLET VALVE (31) by turning the knob in a counterclockwise direction.

3. While observing the output indicator on the REGULATOR PRESSURE OUTLET VALVE (26), open the valve to the desired amount of pressure by turning the T-handle in a clockwise direction. When the desired amount of oxygen has been transferred to the unit being serviced, or when the oxygen bottle is empty, close the valve by turning the T-handle in a counterclockwise direction until fully closed.

4. Open receiving vessel input valve by turning the valve control in a counterclockwise direction. When the desired amount of oxygen has been transferred to the unit being serviced, or when the oxygen bottle is empty, close the valve by turning the valve control in a clockwise direction until fully closed.

3.4 SHUTDOWN.

3.4.1 Shutdown and disconnection of the Oxygen Servicing Unit is performed as follows:

1. Close the receiving vessel input valve by turning the valve control in a clockwise direction.

2. If the bottle pressure outlet valve was used, close by turning the valve control in a clockwise direction until fully closed. If the regulator pressure outlet pressure valve was used, close by turning the valve control in a counterclockwise direction until fully closed.

3. Close the valve of the oxygen bottle by turning the knob in a clockwise direction until fully closed.

WARNING

Moisture, dust, or other contaminants must be kept from input and output connections which will come into contact with oxygen.

Oxygen may cause violent explosions when in contact with any type of combustible material, particularly hydrocarbons. Such explosions could cause death or injury to personnel and/or damage to equipment. Other contaminants could cause rust, clogging, or other damage to components of either the Oxygen Servicing Unit or the unit being serviced.

4. Disconnect the filler line (11) from the equipment being serviced.

5. Disconnect the oxygen service fitting (40) from the connector of the filler line.

6. Cover oxygen service fitting and both connectors on the filler line with protective covers.

7. Stow the filler line and oxygen service fitting into the stowage cover.

3.5 UNLOADING OF OXYGEN BOTTLES.

3.5.1 To unload the oxygen bottles, proceed as follows:

1. Verify that the valves on the oxygen bottles are closed by turning the knob in a clockwise direction.

2. Disconnect the pigtail from the oxygen bottle to be removed.

3. Unscrew the cap nut from the cap threads of the oxygen bottle.

4. While supporting the oxygen bottle, slide it out from the rear end of the cylindrical tube and stand the oxygen bottle upright.

5. Repeat all steps for each oxygen bottle to be removed.

SECTION IV

MAINTENANCE

4.1 GENERAL.

4.1.1 This section contains the preventive and corrective maintenance requirements for the Oxygen Servicing Unit.

4.2 PREVENTIVE MAINTENANCE.

4.2.1 Preventive maintenance is limited to cleaning the unit on an as-used basis. Prior to use, the unit should be cleaned, as necessary, to prevent accumulated dust, dirt and moisture from contaminating areas which may come into contact with oxygen, particularly the input and output connectors. Required cleaning shall be performed as follows:

WARNING

Trichloroethane is toxic and must be used with caution. Use in a well ventilated area and avoid inhalation and repeated contact with the skin.

1. Wipe surface dust and dirt off with a clean, dry cheesecloth.
2. Contaminants requiring decreasing for removal should be removed with a clean cheesecloth dampened with trichloroethane, item 1, App C. Approved gloves, item 2, App C, should be worn to handle components and the solvent-soaked cheesecloth. Wipe twice, using fresh solvent and clean cloth for the second cleaning.

4.3 AVIATION UNIT MAINTENANCE (Refer to Figure 5-1).

4.3.1 Aviation unit maintenance is limited to the following, when necessary.

WARNING

No smoking within 50 feet of the Oxygen Servicing Unit. In addition, parts which come into contact with oxygen must be "CLEANED FOR OXYGEN SERVICE." Personnel using the Oxygen Servicing Unit must be familiar with safety regulations regarding the handling of oxygen. Oxygen may cause violent explosions when ignited by fire or sparks or when in contact with any type of combustible material, particularly hydrocarbons. Such explosions could cause death or injury to personnel and/or damage to equipment.

WARNING

Do not disconnect any plumbing without first bleeding all pressure from the line(s) per paragraph 4.4. Pressurized oxygen emanating from the open end could injure personnel if so directed.

1. Replacement of oxygen pigtail (46, 47 or 48) per paragraph 4.5.

2. Replacement of manifold (32) per paragraph 4.6.

3. Replacement of BOTTLE PRESSURE OUTLET VALVE (31) per paragraph 4.7.

4. Replacement of REGULATOR PRESSURE OUTLET VALVE (26) per paragraph 4.8.

5. Replacement of output service line (11) per paragraph 4.9.

6. Replacement of roller assembly (49) per paragraph 4.10.

7. Performing a leak check per paragraph 4.11.

4.4 PRESSURE BLEEDING (See Figure 5-1).

4.4.1 Bleeding of pressure in the Oxygen Servicing Unit is performed as follows:

WARNING

Refer to WARNINGS specified in paragraph 3.2.1.

CAUTION

Refer to CAUTION specified in paragraph 3.2.1.

1. Verify that the valve of any oxygen bottle which is connected to the unit manifold has been closed by turning the knob in a clockwise direction.

2. Remove the plastic protector (dust cover) from the filler line (11).

3. Slowly open the BOTTLE PRESSURE OUTLET VALVE (31) by turning the knob in a counterclockwise direction.

4. Slowly open the REGULATOR PRESSURE OUTLET VALVE (26) by turning the T-handle in a clockwise direction.

NOTE

After performing the above four steps and when there is no sound of escaping air emanating from the equipment, the pressure bleeding is complete. When this is completed, recover the end of the output service connector and close both valves.

4.5 REPLACEMENT OF OXYGEN PIGTAIL (46, 47 or 48).

4.5.1 To replace the oxygen pigtails, proceed as follows:

1. Bleed pressure from the Oxygen Servicing Unit per paragraph 4.4.

2. If necessary for access, remove one or both removable tubes (17) and oxygen bottles, paragraphs 3.5 and 4.6.1.2.

3. Disconnect and remove the appropriate oxygen pigtail.

4. Install new "CLEANED FOR OXYGEN SERVICE" oxygen pigtail.

5. Connect the input end of the oxygen pigtail to a pressure source and perform a leak check per paragraph 4.11.

6. Reinstall any oxygen bottles and removable tubes which were removed per paragraphs 3.2.1 and 4.6.1.9.

4.6 REPLACEMENT OF MANIFOLD (32).

4.6.1 To replace the manifold, proceed as follows:

1. Perform steps of paragraph 4.4.

2. If removable tubes have oxygen bottles in them, unload oxygen bottles per paragraph 3.5.

3. To remove the two removable oxygen bottle tubes, remove four each screws, nuts and washers (18, 19 and 20) at the forward end and three screws (21) at the aft end in each of the two removable tubes (17) on the right side of the unit, and remove the tubes.

4. Disconnect the nine oxygen pigtails (46, 47 and 48) and cover the open ends with plastic protectors.

5. Disconnect and remove the manifold (32) by removing the manifold valve (31) and nut (39).

6. Install a new "CLEANED FOR OXYGEN SERVICE" manifold.

7. Reconnect the nine oxygen pigtails.

8. Connect the input end of each oxygen pigtail, in turn, to a pressure source and perform a leak check per paragraph 4.11.

9. Reinstall the two tubes with (18, 19 and 20) (4 places each) in the forward end and (21) (3 places each) in the aft end.

10. If oxygen bottles were removed from the two removable tubes (paragraph 4.6.1. 2), reinstall them per paragraph 3.2.1.

4.7 REPLACEMENT OF BOTTLE PRESSURE OUTLET VALVE (31).

4.7.1 To replace the BOTTLE PRESSURE OUTLET VALVE, proceed as follows:

1. Bleed pressure from the Oxygen Servicing Unit per paragraph 4.4.

2. Disconnect and remove the valve from the manifold (32).

3. Install new "CLEANED FOR OXYGEN SERVICE" valve.

4. If not already connected to one, connect any oxygen pigtail to a pressure source and perform a leak check per paragraph 4.11.

4.8 REPLACEMENT OF REGULATOR PRESSURE OUTLET VALVE (26).

4.8.1 To replace the REGULATOR PRESSURE OUTLET VALVE, proceed as follows:

1. Bleed pressure from the Oxygen Servicing Unit per paragraph 4.4.

2. Disconnect and remove the valve.

3. Remove the outlet connection from the valve.

4. Install the outlet connection into a new "CLEANED FOR OXYGEN SERVICE" valve.

5. Install the new valve and reconnect the input line.

6. If not already connected to one, connect any oxygen pigtail to a pressure source and perform a leak check per paragraph 4.11.

4.9 REPLACEMENT OF THE FILLER LINE (11).

4.9.1 To replace the filler line, proceed as follows:

1. Bleed pressure from the Oxygen Servicing Unit per paragraph 4.4.

2. Disconnect and remove the output service line.

3. Install new output service line.

4. If not already connected to one, connect any oxygen pigtail to a pressure source. and perform a leak check per paragraph 4.11.

4.10 REPLACEMENT OF ROLLER ASSEMBLY (49).

4.10.1 To replace the roller assembly, proceed as follows:

1. Remove two mounting screws (51) holding roller assembly in place.

2. Replace roller assembly.

3. Using torque wrench, replace the two mounting screws and torque to 60 lb- ft.

4.11 LEAK CHECK.

4.11.1 To perform a leak check proceed as follows:

1. If a pressure source is not already connected to the Oxygen Servicing Unit, connect a bottle of clean, dry, oil-free filtered nitrogen gas (Federal Specification BB-N-411), item 3, App C, pressurized to approximately 3000 psig, to the appropriate oxygen pigtail(s).

2. Verify that the regulator pressure outlet valve is closed by turning the T-handle in a counterclockwise direction until firmly seated. Verify that the bottle pressure outlet valve is closed by turning the control knob in a clockwise direction until firmly seated.

3. Open all pigtail valves to the oxygen bottles.

4. While observing the input indicator on the REGULATOR PRESSURE OUTLET VALVE, slowly open the control valve of the pressure source by turning the valve control in a counterclockwise direction until the regulator dial indicates 2500 ± 100 psig. Observe and record the pressure reading and the temperature reading.

5. Close control valve of the pressure source and allow the Oxygen Servicing Unit to remain under pressure for at least 24 hours at constant temperature.

6. Again observe and record the pressure and temperature readings. Any reduction in pressure from the initial to the final pressure reading shall constitute failure.

NOTE

Should there be a change in temperature over the 24-hour hold period, the pressure. readings must be corrected to compensate for the change. The pressure will be di-

rectly proportional to the absolute temperature; substitute pressure and temperature values in the following equating and solve to obtain the corrected pressure.

$$P_c = P_f \frac{t_i + 460}{t_f + 460}$$

where

P_c = corrected pressure

P_f = observed final pressure reading (step 6)

t_i = initial temperature reading (step 4)

t_f = final temperature reading (step 6)

7. Slowly bleed pressure from the unit and remove pressure source. Close all valves.

4.12 SOURCES OF LEAKS.

4.12.1 Leaks may occur in valves, piping, tubing, or at any of several threaded and soldered joints used in connecting components, and the leak may not be audible for ready identification. Refer to Table 4-1, Troubleshooting.

4.13 TROUBLESHOOTING.

4.13.1 Provided that the unit is fitted with properly charged oxygen supply bottles and is properly clean, very few malfunctions can be expected. Refer to Table 4-1, Troubleshooting.

4.14 INSPECTION.

4.14.1 All maintenance personnel should be constantly aware of the extremely hazardous nature of pressurized oxygen, and of the precautionary measures explained in this manual. See Table 4-2, Inspection.

TABLE 4-1. TROUBLESHOOTING

Trouble	Probable Cause	Corrective Action(s)
1. Unit will not charge aircraft system.	a. Bottle(s) in use not fully charged.	a. Open alternative bottle(s) to manifold. Replace discharged bottle(s).
	b. Valve(s) clogged by exterior frost due to too rapid servicing.	b. Allow valve in use to thaw; reduce rate of flow.
	c. Leaks in servicing unit.	c. Refer to Trouble No. 2.
2. After component replacement to correct leak, leak continues.	2. Threaded joint damaged during replacement, or defective soldering.	a. Replace both male and female threaded components and components with soldered sleeve connections. Retest in accordance with paragraph 4.11.
3. Aircrew reports unpleasant or noxious odor.	a. Oxygen contaminated.	WARNING: Either probable cause involves great risk to life and property. Flight surgeon must be notified immediately through proper channels for analysis and identification of source of contamination.
	b. Aircraft system contaminated.	

TABLE 4-2. INSPECTION

Condition	Daily	Monthly	Requirement
Cleanliness	X	X	Wipe down all exterior surfaces with trichloro-ethylene paying particular attention to all fittings.
Pressure	X		Check bottle pressure upon attachment of pigtail to manifold.
Leaks	X	X	See paragraph 4-11 and Table 4-1.
Brakes		X	Correct adjustment for positive parking hold.

4.15 PREPARATION FOR SHIPMENT.

Preservation, packaging, packing, and marking requirements for reshipment of the oxygen servicing unit must be in accordance with the instructions contained in figure 4-1.

CONTINUATION SHEET (TSARCOM Reg 746-1 (J))	REF NO OF DOCUMENT BEING CONTINUED	PAGE	OF
	TM55-1730-226-13		

NAME OF OFFEROR OR CONTRACTOR

SECTION G - PRESERVATION/PACKAGING/PACKING

PREPARATION FOR DELIVERY *(OVERHAUL)*

All specifications and standards applicable to the requirements herein shall be the issue in effect on date of invitations for bids.

NOMENCLATURE	STOCK NUMBER
	1730-00-435-7817
OXYGEN SERVICING UNIT	PART NUMBER AA1730-1315

NET WEIGHT	SHIPPING DIMENSIONS	GROSS WEIGHT	CUBIC FEET
330 lbs	41" x 51" x 66"	400 lbs	3.4

1. PRESERVATION AND PACKAGING [x] LEVEL A [ ] LEVEL B

[x] PACKAGING SHALL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-116. THE FOLLOWING DETAILED REQUIREMENTS SHALL APPLY:

UNIT PKG QTY	METHOD	PRESERVATIVE	WRAP	DUNNAGE	CONTAINER
1	III	NONE	* MIL-B-121 Grade A	PPP-C-1120	SEE PACKING

[ ] a. ITEMS SHALL BE PRESERVED AND PACKAGED IN ACCORDANCE WITH MIL-STD-1188

[ ] b. OTHER * Cap all openings with plastic covers.

2. PACKING [X] LEVEL A [ ] LEVEL B

[ ] a. ITEMS, PRESERVED AND PACKAGED AS ABOVE, SHALL BE PACKED IN SNUG-FITTING FIBERBOARD CONTAINERS CONFORMING TO WEATHER-RESISTANT CLASS OF PPP-B-636.

[XX] b. ITEMS, PRESERVED AND PACKAGED AS ABOVE, SHALL BE PACKED IN SNUG-FITTING CONTAINERS CONFORMING TO PPP-B-601, STYLE I, OVERSEAS TYPE.

[ ] c. ITEMS, PRESERVED AND PACKAGED AS ABOVE, SHALL BE PACKED IN ACCORDANCE WITH MIL-STD-1188

[ ] d. NO PACKING REQUIRED (THE UNIT CONTAINER IS THE SHIPPING CONTAINER).

[ ] e. OTHER

3. MARKING

[XX] a. MARKING OF SHIPMENTS
THE CONTRACTOR SHALL MARK ALL SHIPMENTS UNDER THIS CONTRACT IN ACCORDANCE WITH THE EDITION OF MIL-STD-129, "MARKING FOR SHIPMENT AND STORAGE," IN EFFECT AS OF THE DATE OF THE SOLICITATION.

[ ] b. MARKING SHALL CONFORM TO REQUIREMENTS OF MIL-STD-1188

[XX] c. MATERIEL CONDITION MARKING SHALL BE APPLIED IN ACCORDANCE WITH MIL-STD-129. A MATERIEL CONDITION TAG OF THE APPLICABLE TYPE WILL BE SECURELY ATTACHED DIRECTLY TO ALL UNINSTALLED OR STORED AERONAUTICAL OR AIR DELIVERY ITEMS. WHEN SUCH ITEMS ARE PLACED OR STORED IN CARTONS, PACKAGES, CRATES OR METAL SHIPPING CONTAINERS, A DUPLICATE MATERIEL CONDITION TAG OR LABEL WILL BE SECURELY ATTACHED TO THE EXTERIOR OF THE PACKAGE OR CONTAINER IN SUCH A MANNER THAT WILL AFFORD MAXIMUM PROTECTION FROM HANDLING AND WEATHER. TAGS WILL BE COMPLETED EITHER BY TYPEWRITTEN OR PRINTED BLACK LEAD PENCIL ENTRIES. ITEMS OF A COMMON OR NONTECHNICAL NATURE *(i.e., common hardware, bulk materials, etc.)* THE SERVICEABILITY OF WHICH IS OBVIOUS, AND THE IDENTITY AND INSPECTION REQUIREMENTS ADEQUATELY INDICATED BY COMMERCIAL TAGS, LABELS OR MARKINGS, MAY BE RECEIVED, STORED, ISSUED OR SHIPPED WITHOUT MATERIEL CONDITION TAGS.

[ ] d. EXTERIOR SHIPPING CONTAINERS OF SIMS *(Selected Item Management System)* MATERIEL SHALL BE MARKED WITH SIM PROJECT CODE DISC LABELS IN ACCORDANCE WITH MIL-STD-129. THE CONTRACTING OFFICER WILL PROVIDE SIM PROJECT CODE LABELS ON REQUEST. THEY ARE AVAILABLE IN TWO SIZES, 3 X 3 AND 9 X 9. SPECIFY ON YOUR ORDER THE SIZE AND QUANTITY REQUIRED.

APPROVED BY	ORGANIZATION	DATE
NATHAN SILVERMAN *Nathan Silverman*	DRSTS-SDP	4 Feb 1980

Figure 4-1. Preservation, Packaging, Packing, and Marking Requirements.

SECTION V

ILLUSTRATED PARTS BREAKDOWN

5.1 GENERAL.

5.1.1 This section contains the illustrated parts breakdown for the Oxygen Servicing Unit.

5.2 MANUFACTURER'S CODE.

5.2.1 If a part is purchased from a vendor other than Keco and a manufacturer's code has been assigned to the vendor, the vendor's name and address is provided in the following table with the code number in accordance with Federal Supply Code for Manufacturer Cataloging Handbook H4-1.

CODE	MANUFACTURER 'S NAME & ADDRESS
06023	Bastian Blessing Co. 4201 West Peterson Avenue Chicago, IL 60646
09523	Parker-Hannifin Corporation Accessories Division 17325 Euclid Avenue Cleveland, OH 44112
21714	Keco Industries, Inc. 17335 Daimler Street P. O. Box 11585 Santa Ana, CA 92711
30327	Imperial Division Imperial-Eastman Group I-T-E Imperial Corporation 630 W. Howard Street Chicago, IL 60648
63026	Victor Equipment Co. P. O. Drawer 1007 Denton, TX 76201

CODE	MANUFACTURER'S NAME & ADDRESS
70292	Sherwood-Selpac Corp. 120 Church Street Lockport, NY 14094
71041	Boston Gear Works Division of North American Rockwell Corp. 14 Hayward Quincy, MA 92171
71286	Camloc Division of Rex Chainbelt Inc. 22 Spring Valley Road Paramus, NJ 07652
81996	US Army Troop Support and Aviation Materiel Readiness Command 4300 Goodfellow Boulevard St. Louis, MO 63120
86768	Republic Manufacturing Co. 15655 Brookpark Road Cleveland, OH 44135
94833	Keco Industries, Inc. 2438 Beekman Street Cincinnati, OH 45214

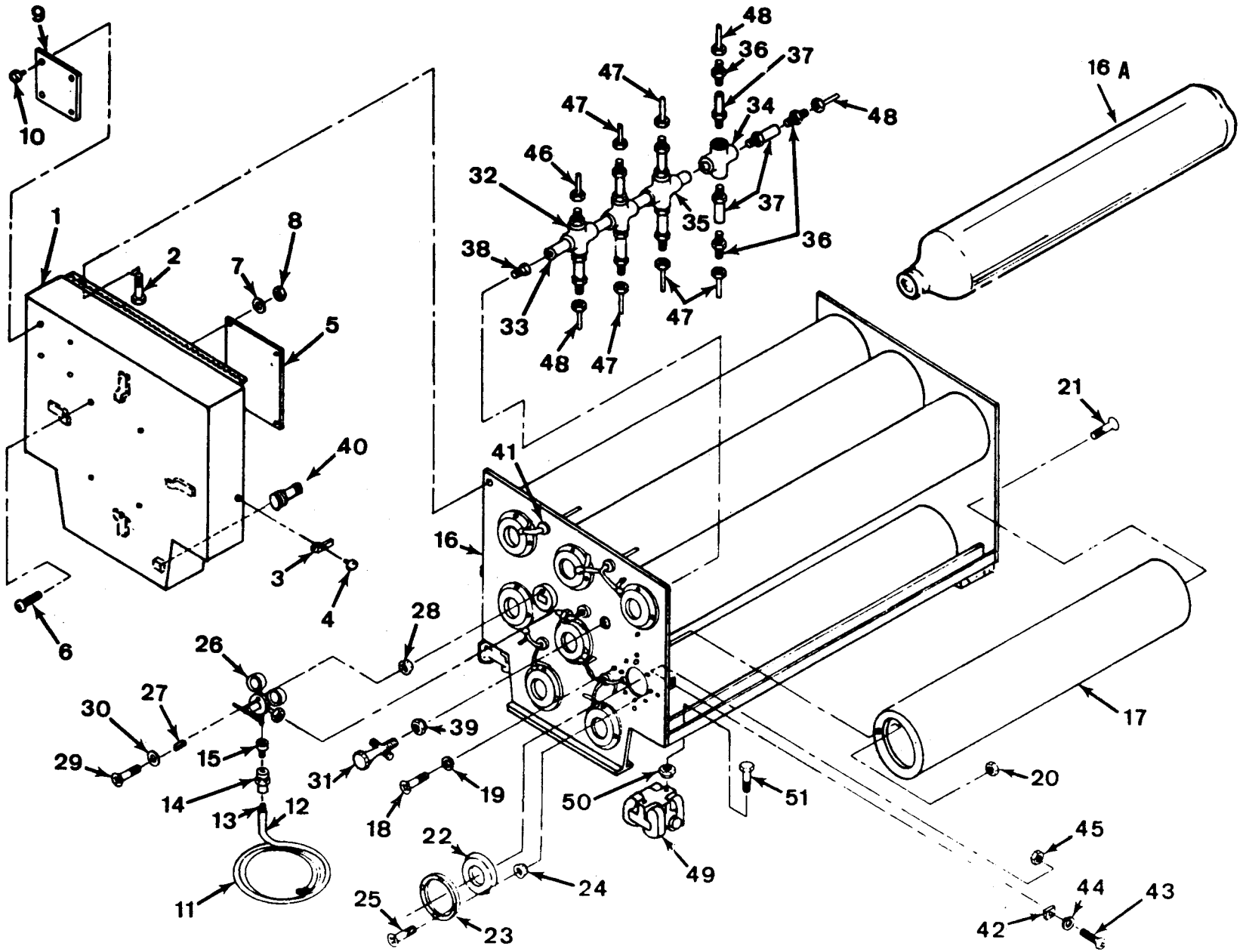

Figure 5-1. Oxygen Servicing Unit, Exploded View (Sheet 1 of 2)

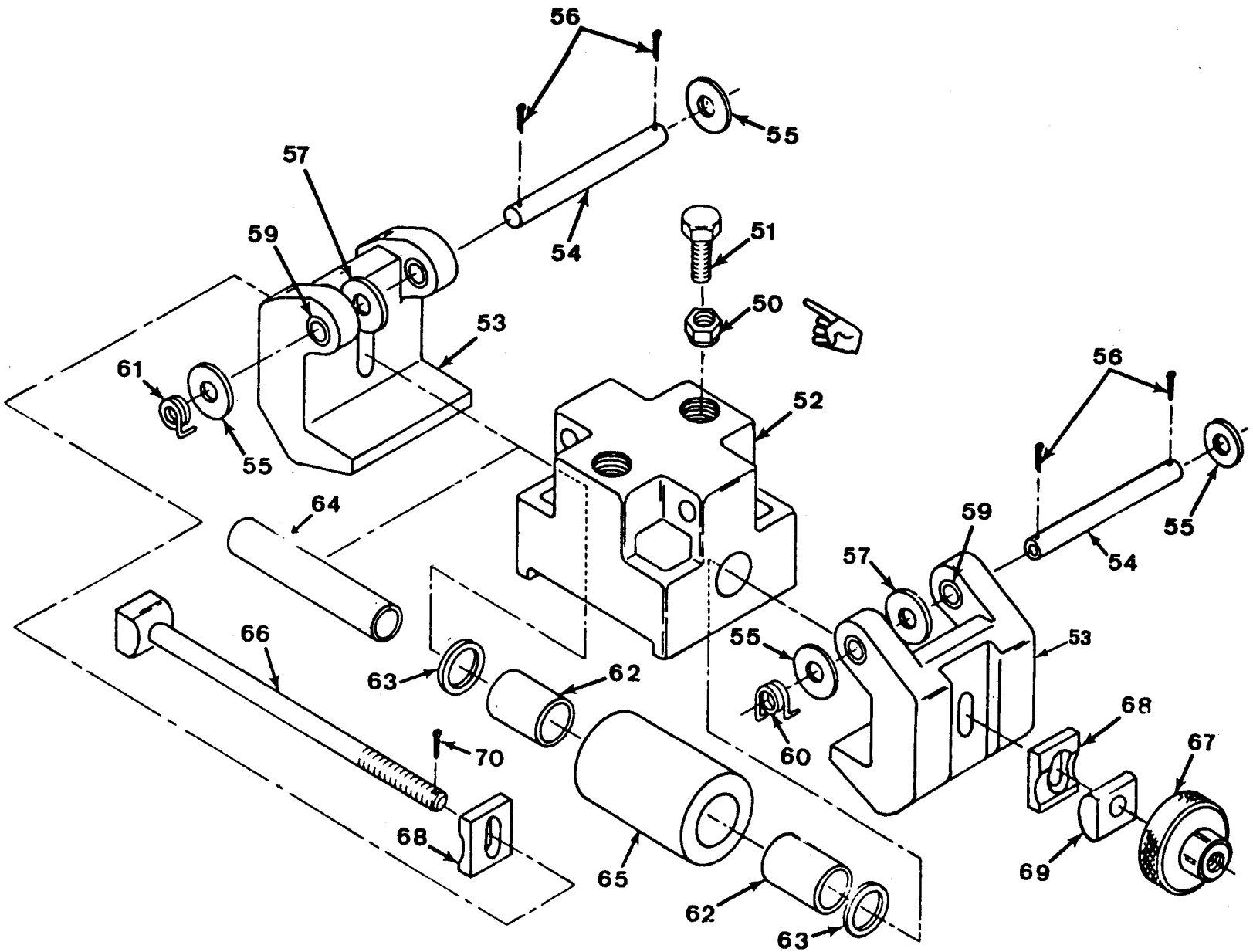

Figure 5-1. Oxygen Servicing Unit, Exploded View (Sheet 2 of 2)

INDEX NO.	PART NUMBER	1 2 3 4 5 6 7 DESCRIPTION	UNITS PER ASSY.	USABLE ON CODE
	AA1730-1315	OXYGEN SERVICING UNIT ASSEMBLY, MODEL 0800 (81996)	REF	
1	AA1730-1315-8	. COVER (81996)	1	
		(ATTACHING PARTS)		
2	MS35190-238	. SCREW, Machine, Flat Head (96906)	17	
3	69L4-1-3BA	. . LATCH, Tension, Camloc Fastener Corp., P/N 69 L4-1-3BA (Aluminum) (71286)	2	
		(ATTACHING PARTS)		
4	MS20470D3-5	. . RIVET, Solid, Universal Head (96906)	4	
5	C OMM	. . OPERATING INSTRUCTIONS, Clear Plastic Laminate, 1/32 x 9-1/2 x 12-1/2 in.	1	
		(ATTACHING PARTS)		
6	MS35206-227	. . SCREW, Machine, Pan Head Slotted (96906)	4	
7	AN960-6L	. . WASHER, Flat (88044)	4	
8	MS35649-262	. . NUT, Plain Hex (96906)	4	
9	MS63045-1	. . IDENTIFICATION PLATE (96906)	1	
		(ATTACHING PARTS)		
10	MS20470D5-5	. . RIVET, Solid, Universal (96906)	4	
11	AA1730-1315-10	. HOSE ASSEMBLY (81996)	1	
12	K404	. . HOSE, Style No. K4 Hytron, Cat. No. K404, Imperial-Eastman (30327)	1	
13	BT04-04MC	. . COUPLING, Style No. K4 (for Hytron Hose) Cat. No. BT04-04MC, Imperial-Eastman (30327)	2	
14	1/4BGB	. . CONNECTOR, Pipe, (30780)	2	
15	540 (FOR OXYGEN)	. . CONNECTOR, Regulator, Inlet Bastian Blessing (56028)	2	
16	AA1730-1315-1	. FRAME (81996)	1	
16A	MIL-0-27210	BOTTLE, OXYGEN, AVIATOR (FULL) (81349)	8	
17	AA1730-1315-2	. TUBE, Removable (81996)	2	
		(ATTACHING PARTS)		
18	MS35190-291	. SCREW, Machine, Flat Head (96906)	8	
19	MS35338-44	. WASHER, Lock (96906)	11	
20	MS35691-1	. NUT (96906)	8	
21	MS35190-287	. SCREW, Machine, Flat Head (96906)	6	
22	AA1730-1315-6	. NUT, Bronze Casting, 905 (81 996)	8	
		(ATTACHING PARTS)		

INDEX NO.	PART NUMBER	1 2 3 4 5 6 7 DESCRIPTION	UNITS PER ASSY.	USABLE ON CODE
23	AA1730-1315-3	• RING, Aluminum Alloy, 6061 -T6 (81996)	8	
		(ATTACHING PARTS)		
24	KNL 1024J	• INSERT, Threaded, Newton Insert Co., Los Angeles, CA P/N KNL 1024 (29372)	64	
25	MS35190-273	• SCREW, Machine, Flat Head (96906)	64	
26	SR3BJ-540	• REGULATOR, Model SR-3BJ540, 0-3000 PSI Outlet Pressure (63026)	1	
		(ATTACHING PARTS)		
27	AA1730-1315-4	• REGULATOR HOLDDOWN (81996)	3	
28	KNL 428	• INSERT, Threaded (29372)	3	
29	MS90727-15	• SCREW, Cap, Hex (96906)	3	
30	Deleted			
31	1100X17-540D	• VALVE, Manifold Station (assembled with Index No. 33 and both held in place with Index No. 39) Superior Valve Co., Cat. No. 5262 (58553)	1	
		or VALVE, Manifold Header, Sherwood, Type M, $\frac{1}{2}$-14 NPT inlet (56028)		
32	AA1730-1315-9	• MANIFOLD ASSEMBLY (assembled with Index No. 31 and both held in place with Index No. 39) (81996)	1	
33	MIL-T-20168	• • TUBE, brass, red, .840 O. D. x 0.148 wall x 12 in. long (81349)	1	
34	1225-4	• • CROSS, Bastian Blessing, P/N 1225-4 (06023)	1	
35	1225-3	• • CROSS, Bastian Blessing, P/N 1225-3 (06023)	3	
36	1870	• • UNION, Bastian Blessing, P/N 1870 (06023)	9	
37	452-1/2SS	• • VALVE, Check, Republic Manufacturing Co. (86768)	8	
38	AA1730-1315-5	• • ADAPTER, Tube (81 996)	1	
39	MS35691-96	• NUT, Hex, Jam (96906)	1	
40	AA1730-1315-7	• NUT, UNION (Screws into block in Index No. 1 for stowage (81 996)	1	
41	AA1730-1315-11	• GROMMET (81996)	5	
42	69 L19-1-1AA	• LATCH, Hook, Camloc Fastener Corp., P/N 69 L19-1-1AA (71286)	2	
		(ATTACHING PARTS)		

INDEX NO.	PART NUMBER	1 2 3 4 5 6 7 DESCRIPTION	UNITS PER ASSY.	USABLE ON CODE
43	MS35206-207	. SCREW, Machine, Pan Head (96906)	2	
44	MS35338-39	. WASHER, Lock (96906)	2	
45	MS35649-222	. NUT, Plain, Hex (96906)	2	
46	908X903-14	. PIGTAIL, Oxygen, Bastian Blessing, std. 3 feet with .903-14 male fitting on handle end and .908-14 female fitting opposite (56028)	1	
47	3X908-14	. PIGTAIL, Oxygen, Bastian Blessing, std. 3 feet with handle - .908-14 female fitting on both ends (56028)	5	
48	6X908-14	. PIGTAIL, Oxygen, Bastian Blessing, std. 6 feet with handle - .908-14 female fitting on both ends (56028)	3	
49	AA1730-1316	. ROLLER ADAPTER ASSEMBLY, MODEL RA700 (81996)	4	
		(ATTACHING PARTS)		
50	NAS1395-9L	. . INSERT, Heavy Duty, Self Locking (80205)	2	
51	MS90726-134	. . SCREW, Cap, Hex Head (96906)	2	
52	AA1730-1316-2	. . HOUSING (81996)	1	
53	AA1730-1316-1	. . ARM, Aluminum Alloy Casting, QQ-A-601 (81996)	2	
		(ATTACHING PARTS)		
54	AA1730-1316-11	. . SHAFT (81996)	2	
55	MS27183-17	. . WASHER (96906)	4	
56	MS24665-351	. . PIN, Cotter (96906)	4	
57	AA1730-1316-10	. . SHIM (81996)	2	
58	Deleted			
59	B79-5	. . . BUSHING, Boston Gear Works, P/N B79-5 (71041)	2	
60	AA1730-1316-9-1	. . SPRING (81996)	1	
61	AA1730-1316-9-2	. . SPRING (81996)	1	
62	B1620-11	. . BEARING, Sleeve, Boston Gear Works, P/N B1620-11(71041)	2	
63	TB-1624	. . BEARING, Thrust, Boston Gear Works, P/N TB-1624 (71041)	2	
64	AA1730-1316-7	. . SLEEVE (81996)	1	
65	AA1730-1316-8	. . ROLLER (81996)	1	
66	AA1730-1316-6	. . SHAFT (81996)	1	
67	AA1730-1316-3	. . NUT (81996)	1	
68	AA1730-1316-4	. . WASHER, Slotted (81 996)	2	
69	AA1730-1316-5	. . WASHER, Swivel (81996)	1	
70	MS39086-7	. . PIN, Spring (96906)	1	

APPENDIX A

REFERENCES

A-1. Dictionaries of Terms and Abbreviations

AR 310-25 . . . . . Dictionary of United States Army Terms
AR 310-50 . . . . . Authorized Abbreviations and Brevity Codes

A-2. Publication Indexes

DA PAM 25-30 . . . . . Consolidated Index of Army Publications and Blank Forms.

A-3. Logistics and Storage

TM 740-90-1 . . . . . Administrative Storage of Equipment
TM 743-200-1 . . . . . Storage and Materials Handling

A-4. Maintenance of Supplies and Equipment

AR 750-1 . . . . . Army Material Maintenance Concepts and Policies
DA PAM 738-751 . . . . . Functional Users Manual for the Army Maintenance Management System - Aviation (TAMMS-A)
TM 43-0139 . . . . . Painting Operations Instructions for Field Use

A-5. Other Publications

AR 420-90 . . . . . Fire Prevention and Protection
AR 55-38 . . . . . Reporting of Transportation Discrepancies in Shipments
AR 700-58 . . . . . Packaging Improvement Report
DA PAM 310-13 . . . . . Military Publications Posting and Filing
FM-21-11 . . . . . First Aid for Soldiers
TB 43-180 . . . . . Calibration Requirements for the Maintenance of Army Materiel
TM 750-244-1-3 . . . . . Procedures for the Destruction of Aviation Ground Support Equipment (FSC 1700) to Prevent Enemy Use

APPENDIX B

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B-1. Maintenance Allocation Chart.

a. This Maintenance Allocation Chart (MAC) assigns maintenance functions in accordance with the Three Levels of Maintenance concept for army aircraft. These maintenance levels: Aviation Unit Maintenance (AVUM), Aviation Intermediate Maintenance (AVIM) and Depot Maintenance are depicted on the MAC as:

AVUM which corresponds to the O code in the Repair Parts and Special Tools List (RPSTL).

AVIM which corresponds to the F code in the Repair Parts and Special Tools List (RPSTL).

DEPOT which corresponds to the D code in the Repair Parts and Special Tools List (RPSTL).

b. The maintenance to be performed below depot and in the field is described as follows:

(1) Aviation Unit Maintenance (AVUM). AVUM activities will be staffed and equipped to perform high frequency "On-Equipment" maintenance tasks required to retain or return equipment to a serviceable condition. The maintenance capability of the AVUM will be governed by the MAC and limited by the amount and complexity of support equipment, facilities required, and number of spaces and critical skills available. The range and quantity of authorized space modules/components will be consistent with the mobility requirements dictated by the air mobility concept. (Assignment of maintenance tasks to divisional company size aviation units will consider the overall maintenance capability of the division, the requirement to conserve personnel and equipment resources and air mobility requirements).

(a) Company Size Aviation Units. Perform those tasks which consist primarily of preventive maintenance and maintenance repair and replacement functions associated with sustaining a high level of equipment operational readiness. Perform maintenance inspections and servicing to include daily, intermediate, periodic and special inspections as authorized by the MAC or higher headquarters. Identify the cause of equipment/system malfunctions using applicable technical manual troubleshooting instructions, Built-In-Test Equipment (BITE), installed instruments, or easy to use Test Measurement and Diagnostic Equipment (TMDE). Replace worn or damaged modules/components which do not require complex adjustments or system alignment and which can be removed/installed with available skills, tools and equipment. Perform operational and continuity checks and make minor repairs. Perform servicing, functional adjustments, and minor repair/replacement. Evacuate unserviceable modules/components and end items beyond the repair capability of AVUM to the supporting AVIM.

(b) Less than Company Size. Aviation Units. Aviation elements organic to brigade, group, battalion headquarters and detachment size units are normally small and have less than ten aircraft assigned. Maintenance tasks performed by the aircraft crew chief or assigned aircraft repairman will normally be limited

to preventive maintenance, inspections, servicing, spot painting, stop drilling, minor adjustments, module/component fault diagnosis and replacement of selected modules/components. Repair functions will normally be accomplished by the supporting AVIM unit.

(2) Aviation Intermediate Maintenance (AVIM). AVIM provides mobile, responsive "One Stop" maintenance support. (Maintenance functions which are not conducive to sustaining air mobility will be assigned to depot maintenance). Performs all maintenance functions authorized to be done at AVUM. Repair of equipment for return to user will emphasize support or operational readiness requirements. Authorized maintenance includes replacement and repair of modules/components and end items which can be accomplished efficiently with available skills, tools, and equipment. Establishes the Direct Exchange (DX) program for AVUM units be repairing selected items for return to stock when such repairs cannot be accomplished at the AVUM level. Inspects, troubleshoots, tests, diagnoses, repairs, adjusts, calibrates, and aligns system modules/components. Module/component disassembly and repair will support the DX program and will not normally be limited to tasks requiring cleaning and the replacement of seals, fittings and items of common hardware. Unserviceable reparable modules/components and end items which are beyond the capability of AVIM to repair will be evacuated to Depot Maintenance. This level will perform special inspections which exceed AVUM capability. Provides quick response maintenance support, on-the-job training, and technical assistance through the use of mobile maintenance contact teams. Maintains authorized operational readiness float. Provides collections and classification services for serviceable/unserviceable material. Operates a cannibalization activity in accordance with AR 750-50. (The aircraft maintenance company within the maintenance battalion of a division will perform AVIM functions consistent with air mobility requirements and conservation of personnel and equipment resources. Additional intermediate maintenance support will be provided by the supporting non-divisional AVIM unit).

B-2. Use of the Maintenance Allocation Chart.

a. The MAC assigns maintenance functions to the lowest level of maintenance based on past experience and the following consideration:

(1) Skills available.
(2) Time required.
(3) Tools and test equipment required and/or available.

b. Only the lowest level of maintenance authorized to perform a maintenance function is indicated. If the lowest level of maintenance cannot perform all tasks of any single maintenance function (e.g., test, repair), then the higher maintenance level(s) that can accomplish additional tasks will also be indicated.

c. A maintenance function assigned to a maintenance level will automatically be authorized to be performed at any higher maintenance level.

d. A maintenance function that cannot be performed at the assigned level of maintenance for any reason may be evacuated to the next higher maintenance organization. Higher maintenance levels will perform the maintenance functions of lower maintenance levels when required or directed by the appropriate commander.

e. The assignment of a maintenance function will not be construed as authorization to carry the associated repair parts in stock. Authority to requisition, stock, or otherwise secure necessary repair parts will be as specified in the repair parts and special tools list appendix.

f. Normally there will be no deviation from the assigned level of maintenance. In case of operational necessity, maintenance functions assigned to a maintenance level may, on a one-time basis and at the request of the lower maintenance level, be specifically authorized by the maintenance officer of the level of maintenance to which the function is assigned. The special tools, equipment, etc. required by the lower level of maintenance to perform this function will be furnished by the maintenance level to which the function is assigned. This transfer of a maintenance function to a lower maintenance level does not relieve the higher maintenance level of the responsibility of the function. The higher level of maintenance has the authority to determine:

(1) If the lower level is capable of performing the work.

(2) If the lower level will require assistance or technical supervision and on-site inspection.

(3) If the authorization will be granted.

g. Organizational through depot maintenance of the US Army Electronics Command equipment will be performed by designated US Army Electronics Command personnel.

h. Changes to the MAC will be bases on continuing evaluation and analysis by responsible technical personnel and on reports received from field activities.

B-3. Definitions.

a. Inspect. To determine serviceability of an item by comparing its physical, mechanical and electrical characteristics with established standards.

b. Test. To verify serviceability and detect incipient failure by measuring the mecchanial or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. To clean, to preserve, to change, and to add fuel, lubricants, cooling agents and air.

d. Adjust. To rectify to the extent necessary to bring into proper operating range.

e. Aline. To adjust specified variable elements of an item to bring to optimum performance.

f. Calibrate. To determine the corrections to be made in the readings of instuments or test equipment used in precise measurement. Consist of the comparison of two instruments, one of which is a cerified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the in strument or test equipment being compared with the certified standard.

g. Install. To set up for use in an operational environment such as an emplacement, site or vehicle.

h. Replace. To replace unserviceable items with serviceable assemblies, subassemblies or parts.

i. Repair. To restore an item to serviceable condition through correction of a specific failure or unserviceable condition. This includes, but is not limited to, inspection, cleaning, preserving, adjusting, replacing, welding, riveting, and strengthening.

j. Overhaul. To restore an item to a completely serviceable condition as prescribed by maintenance serviceability standards prepared and published for the specific item to be overhauled.

k. Rebuild. To restore an item to a standard as nearly possible to the original or new condition in appearance, performance, and life expectancy. This is accomplished through the maintenance technique of complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements (items) using original manufacturing tolerances and specifications, and subsequent reassembly of the item.

B-4. Functional Groups.

Standard functional groupings are not considered feasible for aviation ground support equipment due to variation and complexity. Therefore, variations to functional groupings may occur.

B-5 . Maintenance Categories and Work Times.

The maintenance categories (levels) AVUM, AVIM, and DEPOT are listed on the Maintenance Allocation Chart with individual columns that indicate the work times for maintenance functions at each maintenance level, Work time presentations such as 0.1. indicate the average time it requires a maintenance level to perform a specified maintenance function. If a work time has not been established, the columnar presentation shall indicate "-.-". Maintenance levels higher than the level of maintenance indicated are authorized to perform the indicated function.

B-6 . Tools and Test Equipment (Section III).

Common tool sets (not individual tools), special tools, test and support equipment required to perform maintenance functions are listed alphabetically with a reference number to permit cross-referencing to column 5 in the MAC. In addition, the maintenance category authorized to use the device is listed along with the item National Stock Number (NSN) and, if applicable, the tool number to aid in identifying the tool/device.

Section II.

MAINTENANCE ALLOCATION CHART
(AVSCOM Reg 310-10)

NOMENCLATURE OF END ITEMS

OXYGEN SERVICING UNIT NSN 1730-00-435-7817 AA1730-1315

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY			(5) TOOLS AND EQUIPMENT	(6) REMARKS
			AVUM	AVIM	DEPOT		
00	Oxygen Servicing Unit						
0001	Hose Assy	Inspect	.2				
		Service	.3				
		Replace	.5			102	
		Repair		.8			
0002	Regulator & Gages	Inspect	.2				
		Service	.3				
		Replace		.8		103	
0003	Frame & Tubes	Inspect	.4				
		Service	.5				
		Replace		1.0			
		Repair		2.0		117	
						120	
0004	Manifold Assy	Inspect	.3				
		Replace	1.5				
		Repair		1.0		102	
0005	Roller Adapter Assy	Inspect	.3				
		Service	.3				
		Replace	.5				
		Repair		1.0		102	

Section III.

TOOL AND TEST EQUIPMENT REQUIREMENTS

TOOL OR TEST EQUIPMENT REFERENCE CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NO.
100	O	Tool Set, AVUM, Set No. 1	4920-00-159-8727	
101	O	Tool Set, AVUM, Set No. 2	4920-00-567-0476	
102	O	Tool Kit, Aircraft Mechanics, General	5180-00-323-4692	
103	O	Tool Kit, Airframe Repairmans	5180-00-323-4876	
104	O	Tool Kit, Hydraulic Repairmans	5180-00-323-4891	
105	O	Tool Kit, Prop & Rotor Repairmans	5180-00-323-4909	
106	O	Tool Kit, Instrument Repairmans	5180-00-323-4913	
107	O	Tool Kit, Electrical Repairmans	5180-00-323-4915	
108	O	Tool Kit, Eng Repairmans	5180-00-323-4944	
109	O	Tool Kit, Power Train Repairmans	5180-00-003-5267	
110	F	Shop Set, AVIM, Electrical-Instrument	4920-00-165-1453	
111	F	Shop Set, AVIM, Hydraulic	4920-00-165-1454	
112	F	Shop Set, AVIM, Machine Shop	4920-00-405-9279	
113	F	Shop Set, AVIM, Powertrain	4920-00-001-4132	
114	F	Shop Set, AVIM, Propeller Suppl	4920-00-224-3681	
115	F	Shop Set, AVIM, Recip Eng,	4920-00-464-0222	
116	F	Shop Set, AVIM, Rotor Shop	4920-00-405-9270	

TOOL AND TEST EQUIPMENT REQUIREMENTS (CONT)

TOOL OR TEST EQUIPMENT REFERENCE CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NO.
117	F	Shop Set, AVIM, Sheet Metal	4920-00-166-5505	
118	F	Shop Set, AVIM, Tool Crib	4920-00-224-3684	
119	F	Shop Set, AVIM, Turbine Engine	4920-00-224-3684	
120	F	Shop Set, AVIM, Welding	4920-00-163-5093	

APPENDIX C

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

1. Scope.

This appendix lists expendable supplies and materials you will need to operate and maintain the oxygen servicing unit. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

2. Explanation of Columns.

a. Column 1 - Item number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use cleaning compound, item 5, APP. D").

b. Column 2 - Level. This column identifies the lowest level of maintenance that requires the listed item.

O	Aviation Unit Maintenance
F	Aviation Intermediate Maintenance
D	Depot

c. Column 3 - National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.

d. Column 4 - Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the part number followed by the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

e. Column 5 - Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	O	6810-00-664-0387	TRICHLOROETHANE Technical Inhibited	1 gal
2	O	8415-00-001-3298	GLOVES, CHEMICAL PROTECTIVE (13-36688)	pr
3	O	6830-00-656-1596	NITROGEN GAS, DRY, OIL-FREE FILTERED (FED SPC BB-N-411)	cyl 200 cu ft

By Order of the Secretary of the Army:

E. C. MEYER
General, United Staten Army
Chief of Staff

Official:

J. C. PENNINGTON
Major General, United States Army
The Adjutant General

DISTRIBUTION:

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RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL MANUALS

SOMETHING WRONG WITH THIS MANUAL?

THEN. . .JOT DOWN THE DOPE ABOUT IT ON THIS FORM, TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

FROM: (YOUR UNIT'S COMPLETE ADDRESS)
PFC JOHN DOE
COA, 3d ENGINEER BN
FT. LEONARD WOOD MO 63108

DATE

PUBLICATION NUMBER	DATE	TITLE
TM 55-1730-226-13	28 Apr 80	Oxygen Servicing Unit

BE EXACT. . .PIN-POINT WHERE IT IS

PAGE NO.	PARAGRAPH	FIGURE NO.	TABLE NO.	IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:
6	2-1 a			In line 6 of paragraph 2-1a the manual states the engine has 6 cylinders. The engine on my set only has 4 cylinders. Change the manual to show 4 cylinders.
81		4-3		Callout 16 on figure 4-3 is pointing at a bolt. In the key to fig. 4-3, item 16 is called a shim. Please correct one or the other.
125	line 20			I ordered a gasket, item 19 on figure B-16 by NSN 2910-00-762-3001. I got a gaskett but it doesn't fit. Supply says I got what I ordered, so the NSN is wrong. Please give me a good NSN.

SAMPLE

TYPED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER	SIGN HERE:
JOHN DOE, PFC (268) 317-7111	John Doe

DA FORM 1 AUG 74 2028-2

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR MANUAL "FIND," MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.
DRSTS-M Overprint 1, 1 Nov 78

TEAR ALONG DOTTED LINE

FILL IN YOUR UNIT'S ADDRESS

FOLD BACK

DEPARTMENT OF THE ARMY

OFFICIAL BUSINESS

Commander
US Army Troop Support and Aviation
Materiel Readiness Command
ATTN: DRSTS-MTPS
4300 Goodfellow Boulevard
St. Louis, MO 63120

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REVERSE OF DA FORM 2028-2

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL MANUALS

SOMETHING WRONG WITH THIS MANUAL?

THEN. . .JOT DOWN THE DOPE ABOUT IT ON THIS FORM, TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

FROM: (YOUR UNIT'S COMPLETE ADDRESS)

DATE

PUBLICATION NUMBER	DATE	TITLE
TM 55-1730-226-13	28 Apr 80	Operator, AVUM & AVIM for Oxygen Servicing Unit

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REVERSE OF DA FORM 2028-2

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = . 39 inch
1 decimenter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = . 15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigrams = . 035 ounce
1 dekagram = 10 grams = . 35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = . 34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 38.82 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = . 155 sq. inch
1 sq. decimenter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = . 386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = . 06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.365	metric tons	short tons	1.102
pound-inches	newton-meters	.11375			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C