

INCH-POUND
MIL-PRF-7605F
20 November 1997
SUPERSEDING
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31 October 1980

PERFORMANCE SPECIFICATION

REGULATOR, OXYGEN, DEMAND, PRESSURE BREATHING, TYPE A-21

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers a portable, demand, pressure breathing, oxygen regulator designated Type A-21.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are cited in sections 3 and 4 of this specification. These lists do not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of these lists, document users are cautioned that they must meet the requirements specified in the documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications and standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the applicable issues of these documents are those listed in the specific issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

Beneficial comments (recommendations, additions, deletions) and any pertinent data that may be of use in improving this document should be addressed to: Oklahoma City Air Logistics Center/TICLA, 3001 Staff Drive, Suite 1AE1-101A, Tinker AFB, OK 73145-3036 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

MIL-PRF-7605F

SPECIFICATIONS
FEDERAL

- BB-A-1034 - Compressed Air, Breathing
- BB-N-411 - Nitrogen, Technical

STANDARDS

DEPARTMENT OF DEFENSE

- MS33649 - Bosses, Fluid Connection - Internal Straight Thread
- AN 6026 - Gage, Pressure, Dial Indicating
- AND10052 - Bosses, Standard Dimensions for External Pipe Thread

(Unless otherwise indicated, copies of the above specifications and standards are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2.2 Other Government drawings. The following other Government drawings form a part of this document to the extent specified herein. Unless otherwise specified, the applicable issues are those cited in the solicitation.

DRAWINGS

AIR FORCE

- 44A23824 - Seat-Oxygen Mask to Regulator Connector
- 52B3903 - Cover Assembly, Portable Demand And Pressure Demand Oxygen Regulator
- 7025042 - Filler Adapter, A-21 Oxygen Regulator

(Copies of the above drawings are available from Oklahoma City Air Logistics Center/LIIR, 3001 Staff Drive, Suite 1AH1-93A, Tinker AFB, OK 73145-3036.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the applicable issue of the documents which have been adopted by the DoD are those listed in the specific issue of the DoDISS cited in the solicitation. Unless otherwise specified, the documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

MIL-PRF-7605F

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

SAE AS 8010 - Aviator's Breathing Oxygen Purity Standard

(Application for copies should be addressed to Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096-0001.)

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B1.20.1 - Pipe Threads, General Purpose (Inch)(DoD adopted)

(Application for copies should be addressed to ASME, United Engineering Center, 345 East 47th St., New York, NY 12392.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus (DoD adopted)

(Application for copies should be addressed to American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

AMERICAN NATIONAL STANDARDS INSTITUTE/AMERICAN SOCIETY FOR QUALITY CONTROL (ANSI/ASQC)

ANSI/ASQC Z1.4 - Sampling Procedures and Tables for Inspection by Attributes (DoD adopted)

(Application for copies should be addressed to American Society for Quality Control, P.O. Box 3066, Milwaukee, WI 53201-3066, or to the American National Standards Institute, 11 West 42nd Street, 13th Floor, New York, NY 10036.)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Qualification. The regulators furnished under this specification shall be products that are authorized by the qualifying activity for listing on the applicable qualified products list before contract award (see 6.3).

MIL-PRF-7605F

3.2 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle cost.

3.3 Materials. All materials shall be corrosion resistant or suitably treated to resist corrosion due to electrolytic decomposition, salt spray, and any other atmospheric conditions that may be encountered during operational use or storage (see 6.5). The use of toxic chemicals, hazardous substances, or ozone depleting chemicals shall be avoided, whenever feasible.

3.3.1 Safety specific materials. All materials used shall be capable of operating safely in a pure oxygen environment without creating health or fire hazards (see 6.9). Cadmium shall not be used.

3.3.2 Elastomers. Elastomers, if used, shall be silicone-based (see 6.6 and 6.7).

3.3.3 Finish. Unless otherwise specified, the surfaces of the regulator shall not be painted.

3.4 Interface.

3.4.1 Dimensions. The regulator shall conform to dimensions shown in figures 1 and 2.

3.4.2 Pipe threads. Pipe threads shall be in accordance with ASME B1.20.1.

3.4.3 Bosses. Bosses shall conform to AND10052 and MS33649-4, as applicable.

3.4.4 Regulator inlet. Access to other components of the regulator shall not require removal of the inlet fitting.

3.4.5 Pressure gage. The regulator shall be provided with a pressure gage conforming to AN6026-1B.

3.4.6 Cover assembly. The regulator shall be provided with an outlet cover assembly conforming to Air Force Drawing 52B3903.

3.4.7 Oxygen mask connector. The regulator shall be provided with an oxygen mask connector conforming to Air Force Drawing 44A23824.

3.4.8 Filler adapter. The regulator shall be provided with a filler adapter conforming to Air Force Drawing 7025042.

3.4.9 Pressure control knob. The markings on the pressure control knob shall be 1/8 inch in height conforming to figures 1 and 2. The markings shall be permanent and coated with luminescent material.

MIL-PRF-7605F

3.4.10 Position indicator. The pressure control knob position indicator shall conform to figures 1 and 2. The indicator shall be 11/64 inch in diameter, coated with a luminescent material, and flush with the case. The markings shall be permanent.

3.5 Performance.

3.5.1 Pressure regulator. The regulator shall be a pressure demand type, and shall operate with oxygen having a pressure range of 50 to 500 pounds per square inch (psi).

3.5.2 Weight. The complete regulator shall not exceed 2.2 pounds.

3.5.3 Identification. The regulator shall be permanently and legibly marked with the following data (see 6.2).

- a. Nomenclature
- b. Type A-21
- c. Serial number
- d. National stock number (NSN)
- e. Contract number
- f. Manufacturer's name or CAGE code
- g. Manufacturer's part number
- h. Date of manufacture

3.5.4 Filler filter. A replaceable 20 micron filter shall be provided in the filler inlet (see 6.10).

3.5.5 Inlet filter. A replaceable 20 micron filter shall be provided in the oxygen inlet (see 6.10).

3.5.6 Pressure control. The regulator shall have a four-position pressure control knob for selecting either demand operation (NORM position) or positive pressure operation (30M, 42M, and EMER positions). The pressure control knob shall not rotate between the NORM and EMER positions without progressive movement through the other positions. Stops shall be provided for each position.

3.5.7 Pressure relief device. A replaceable pressure relief device shall be incorporated to vent the final stage pressure through the case to the atmosphere. The pressure relief device shall vent 10 liters per minute (LPM) at a pressure no greater than 3 inches of mercury. The device leakage shall not exceed 0.01 LPM at 15 inches of water.

3.5.8 Flow suction characteristics. When in the demand operation mode (pressure control knob in NORM), the outlet suction required to obtain the specified outlet flow rate shall conform to table I (see 6.9).

MIL-PRF-7605F

TABLE I. Flow suction characteristics

Oxygen supply pressure (psi)	Outlet flow rate at sea level (LPM)	Maximum outlet suction (inches of water)
50 to 500	10	- 0.4
50 to 500	50	- 1.4
150 to 500	115	- 1.4

3.5.9 Pressure breathing characteristics. When in positive pressure mode (pressure control knob in 30M, 42M, or EMER), the outlet pressure flow characteristics for each pressure control setting shall conform to table II. The outlet pressure at each of the three flow rates listed in table II, column 3 may vary from the column 2 value up to the allowable pressure variation specified in the table. For example, with the pressure control knob at 30M and a 50 LPM flow rate, the outlet pressure shall be between 0.6 to 2.4 inches of water (see 6.9).

TABLE II. Pressure breathing characteristics

Pressure control setting	Outlet pressure at 10 LPM (inches of water)	Allowable outlet pressure variation (inches of water)		
		0 LPM	50 LPM	90 LPM
30M	2.0 ± 0.4	+ 1.0	- 1.0	- 1.0
42M	6.0 ± 0.5	+ 1.5	- 1.5	- 1.5
EMER	13.0 ± 1.0	+ 2.0	- 2.0	- 2.0

3.5.10 Overload. The regulator shall be capable of withstanding a suction of 24 inches of water applied at the outlet for 2 minutes.

3.5.11 Outward leakage. With any pressure in the range of 0 to 17 inches of water at the outlet and the inlet plugged, the leakage through the regulator shall not exceed 0.01 LPM with the pressure relief device capped. The leakage through the regulator with the pressure relief device uncapped shall not exceed 0.02 LPM.

3.5.12 Case leakage. The case, threads, and connections shall not leak.

3.5.13 Outlet leakage. With no demand applied at the outlet, the regulator outlet flow shall not exceed 0.01 LPM.

3.5.14 Filler adapter leakage. The filler adapter shall not leak more than 0.001 LPM with an applied pressure of 500 psi.

3.5.15 Orientation. The regulator shall meet all performance requirements while mounted in any position.

3.5.16 Internal vibration and noise. The regulator shall be free from internal vibration or noise.

MIL-PRF-7605F

3.5.17 Reliability. The mean (breathing) cycles between failures (MCBF) shall be 300,000 cycles (see 6.9).

3.5.18 Operating life span. The regulator shall have an operating life span of 800,000 cycles (see 6.9).

3.6 Interchangeability. All parts having the same manufacturer's part number shall be functionally and dimensionally interchangeable.

3.7 Environmental conditions.

a. Operating temperature range -65° to 160 °F

b. Non-operating temperature range -80° to 160 °F

3.8 Cleanliness. All surfaces shall be free of visible particulates (50 microns and larger), free of visible fluorinated lubricants, and free of hydrocarbon contamination to a level not greater than 3 milligrams per square foot (mg/ft²)(see 6.8).

4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

a. Qualification (see 4.2)

b. Conformance (see 4.3)

4.2 Qualification inspection. Unless otherwise specified in the acquisition documents (see 6.2), qualification inspection shall be performed on three regulators. The qualification inspection shall consist of the tests in 4.6. Three regulators shall be subjected to the reliability test in 4.6.17. Two regulators shall be subjected to the life cycle test in 4.6.18.

4.3 Conformance inspection. Conformance inspection shall include the individual tests in 4.3.1 and the sampling tests in 4.3.2.

4.3.1 Individual tests. The regulator shall be subjected to the following tests:

a. Examination (see 4.6.1).

b. Cleanliness (see 4.6.2).

c. Flow suction characteristics (see 4.6.3).

d. Pressure breathing characteristics (see 4.6.4).

MIL-PRF-7605F

- e. Outward leakage (see 4.6.5).
- f. Case leakage (see 4.6.6).
- g. Outlet leakage (see 4.6.7).
- h. Filler adapter leakage (see 4.6.8).
- i. Pressure relief device (see 4.6.9).

4.3.2 Sampling tests. Sampling tests shall be performed in accordance with the guidance in ANSI/ASQC Z1.4 at the normal inspection level. The sampling tests are:

- a. Overload (see 4.6.10).
- b. High temperature operation (see 4.6.11).
- c. Low temperature operation (see 4.6.12).
- d. Orientation (see 4.6.13).
- e. High temperature exposure (see 4.6.14).
- f. Low temperature exposure (see 4.6.15).
- g. Reliability test (see 4.6.17). Samples shall be subjected to the test conditions of the reliability test for 9,000 cycles. The regulator shall be subjected to flow suction characteristics and pressure breathing characteristics tests.

4.4 Test conditions. Unless otherwise specified in the acquisition documents (see 6.2), all inspections shall be performed in accordance with the test conditions in this document. Unless otherwise specified in the test description, tests shall be conducted at:

- a. Ambient atmospheric conditions.
- b. Inlet gas pressure shall be 500 psi.
- c. The diaphragm of the regulator shall be in the vertical plane.
- d. The regulator shall not be subjected to vibration or tapping.
- e. The test gas shall be oxygen conforming to Type I of SAE AS 8010, water-pumped nitrogen conforming to Type I, Class I, Grade B of BB-N-411, or water-pumped air conforming to BB-A-1034.

4.5 Requirements cross-reference matrix. Table III provides a cross-reference matrix of the section 3 requirements tested or verified in the paragraphs below.

MIL-PRF-7605F

TABLE III. Requirements cross-reference matrix

Requirement	Verification	Requirement	Verification
3.1	4.2	3.5.9	4.6.4
3.3	4.6.1, 4.6.16	3.5.10	4.6.10
3.3.1	4.6.1, 4.6.3, 4.6.4, 4.6.9, 4.6.10	3.5.11	4.6.5
3.3.2	4.6.1	3.5.12	4.6.6
3.3.3	4.6.1	3.5.13	4.6.7
3.4	4.6.1	3.5.14	4.6.8
3.5.1	4.6.3, 4.6.4	3.5.15	4.6.13
3.5.2	4.6.1	3.5.16	4.6.3, 4.6.4
3.5.3	4.6.1	3.5.17	4.6.17
3.5.4	4.6.1	3.5.18	4.6.18
3.5.5	4.6.1	3.6	4.6.1
3.5.6	4.6.1	3.7	4.6.11, 4.6.12, 4.6.14, 4.6.15
3.5.7	4.6.9	3.8	4.6.1, 4.6.2
3.5.8	4.6.3		

4.6 Tests.

4.6.1 Examination. The regulator shall be examined to determine that the materials, interface, weight, identification, filters, controls, interchangeability, and cleanliness conform to this specification.

4.6.2 Cleanliness. All surfaces shall be free of visible particulates (50 microns and larger), free of visible fluorinated lubricants, and free of hydrocarbon contamination to a level not greater than 3 mg/ft² (see 6.8). Cleanliness of the surfaces shall be demonstrated by industrially accepted methods and these cleaning and verification methods shall be identified (see 6.2 and 6.8).

4.6.3 Flow suction characteristics. With the control in the NORM position, the regulator shall be tested to the conditions identified in table I. The suction required to produce the specified outlet flows shall not exceed the maximum values listed in the table. After the suction is reduced to 0 inches of water, the outlet leakage shall not exceed 0.01 LPM.

4.6.4 Pressure breathing characteristics. The positive pressure flow characteristics shall be determined for each pressure control setting in table II and inlet pressures of 50, 150, and 500 psi. A flow between 0 and 10 LPM shall be initially established and maintained at 150 psi input pressure. At 150 psi and then at 500 psi, the outlet pressures shall be determined at 10, 90, and then 0 LPM. At 50 psi, the outlet pressures shall be determined at 10, 50, and then 0 LPM. The characteristics shall conform to table II.

4.6.5 Outward leakage. With the inlet of the regulator plugged and the pressure relief device capped, a pressure of 17 inches of water shall be maintained at the outlet and the flow through the regulator shall not exceed 0.01 LPM. With pressure relief device uncapped, the flow through the regulator shall not exceed 0.02 LPM.

MIL-PRF-7605F

4.6.6 Case leakage. With 500 psi applied to the regulator inlet, there shall be no leaks from connections, fittings, and threads.

4.6.7 Outlet leakage. With 500 psi applied to the regulator inlet and no suction on the outlet, the flow through the outlet shall not exceed 0.01 LPM.

4.6.8 Filler adapter leakage. With 500 psi applied to the regulator inlet, the filler adapter leakage shall not exceed 0.001 LPM.

4.6.9 Pressure relief device. A pressure of 3 inches of mercury shall be applied to the outlet of the regulator and the pressure relief device shall vent 10 LPM or more. When the pressure is reduced to 15 inches of water, the leakage through the pressure relief device shall not exceed 0.01 LPM.

4.6.10 Overload. With the inlet plugged, a pressure of 24 inches of water and then a suction of 24 inches of water shall be applied at the regulator outlet for 2 minutes each. Venting of the pressure relief device during the pressure phase is permissible. The regulator shall then be subjected to the flow suction characteristics, pressure breathing characteristics, and pressure relief device tests.

4.6.11 High temperature operation. The regulator shall be subjected to an inlet pressure of 150 psi and shall be stabilized at a temperature of 160°F. While the temperature is maintained, the regulator shall be subjected to cyclic operation for a period of 2 minutes. The cyclic operation shall consist of 10 cycles per minute (cpm), each cycle consisting of a flow from 0 to 70 LPM, and back to 0 LPM. Following the cyclic operation and while still at 160°F, the regulator shall be subjected to the flow suction and pressure breathing tests.

4.6.12 Low temperature operation. The regulator shall be subjected to an inlet pressure of 150 psi and maintained at a temperature of -65°F for 3 hours. While at this temperature, the regulator shall be subjected to cyclic operation for a period of 2 minutes. The cyclic operation shall consist of 10 cpm, each cycle consisting of a flow from 0 to 70 LPM, and back to 0 LPM. The required suction shall not exceed the value specified in table I by more than 1 inch of water during this 2 minute cyclic operation period. Following the cyclic operation and while still at -65°F, the regulator shall be subjected to the flow suction and pressure breathing tests. The test gas shall be maintained at -65°F throughout this test.

4.6.13 Orientation. A regulator shall be subjected to the low temperature operation test with the diaphragm in the horizontal plane and with the pressure breathing mechanism facing downward. A regulator shall also be subjected to the low temperature operation test with the diaphragm in the horizontal plane and with the pressure breathing mechanism facing upward.

MIL-PRF-7605F

4.6.14 High temperature exposure. The regulator shall be subjected to a temperature of 160°F for a period of 7 hours while maintaining an inlet pressure of 500 psi. The regulator shall be allowed to return to room temperature and then shall be subjected to the individual tests in 4.3.1.

4.6.15 Low temperature exposure. The regulator shall be subjected to a temperature of -80°F for a period of 48 hours. The regulator shall be allowed to return to room temperature and then shall be subjected to the individual tests in 4.3.1.

4.6.16 Corrosion. The regulator, with the ports plugged, shall be subjected to a 50 hour salt fog test specified in ASTM B117. The regulator shall be examined for corrosion and internal contamination and subjected to the flow suction and pressure breathing tests in 4.6.4 and 4.6.5.

4.6.17 Reliability test. The reliability test shall consist of simulated breathing cycles with oxygen conforming to SAE AS 8010 while the regulator is subjected to vibration (see 6.9). For 50% of the breathing cycles, the regulator pressure control knob shall be set in the NORM position and the suction shall be such that a peak delivery rate is 30 LPM. For the remaining 50%, the knob shall be set to EMER and the peak delivery rate shall be 70 LPM. The vibration shall be at a double amplitude or total displacement of 0.018 to 0.020 inch. The frequency of vibration shall vary from 300 to 3,000 cpm and back to 300 cpm at constant rate of change. The regulators shall be subjected to the flow suction and pressure breathing characteristics tests every 300,000 cycles. The MCBF shall be 300,000 cycles with a single-tailed confidence level of 0.90.

4.6.18 Operating life span test. Two regulators shall be operated using the reliability test method for 800,000 cycles making repairs as required. The regulators shall be subjected to the flow suction and pressure breathing characteristics tests every 300,000 cycles (see 6.9).

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department or Defense Agency automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

MIL-PRF-7605F

6. NOTES

(This section contains information of a general or explanatory nature which may be helpful, but is not mandatory.)

6.1 Intended use. The Type A-21 oxygen regulator is intended for use at altitudes up to 43,000 feet by moderately active individuals and up to 45,000 feet in extreme emergency situations for short duration.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Issue of the DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2 and 2.3).
- c. Nomenclature, NSN, and contract number for item identification (see 3.5.3).
- d. Number of regulators required for qualification inspection (see 4.2).
- e. If the test conditions are different than specified (see 4.4).
- f. Packaging requirements (see 5.1).
- g. The requirement for the vendor to identify proposed cleaning and verification methods (see 4.6.2).
- h. Data required.

6.3 Qualification. The attention of the contractors is called to the requirements with respect to products requiring qualification. Awards will be made only for products which are, at the time of award of contract, qualified for inclusion in the Qualified Products List (QPL No. 7605) whether or not such products have actually been listed by that date. In order that the manufacturers may be eligible to be awarded contracts or purchase orders for the products covered by this specification, they are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification. Information pertaining to qualification of products may be obtained from Oklahoma City Air Logistics Center/TICLA, 3001 Staff Drive, Suite 1AE1-101A, Tinker AFB, OK 73145-3036.

6.4 Reduced inspection level. A reduced inspection level for conformance sampling test is intended for vendors listed on the QPL which have been in continuous regulator production with not more than 12 months interruption between lots or contracts.

MIL-PRF-7605F

6.5 Metals and treatments. The following metals and treatments were successfully used for previous regulators. Aluminum castings were alloy A356 per QQ-A-596 or QQ-A-601. Castings exposed to greater than 40 inches of water pressure were class 2, grade B, per MIL-C-6021. Steel parts were coated with ion vapor deposited aluminum in accordance with MIL-C-83488, type I or II. QQ-A-596, QQ-A-601, and MIL-C-6021 have been canceled. A copy of these documents may be obtained from Oklahoma City Air Logistics Center/TICLA, 3001 Staff Drive, Suite 1AE1-101A, Tinker AFB, OK 73145-3036.

6.6 Silicone-based materials. Use of silicone-based materials provide stability with ozone, prevent ballooning, and limit aging in an oxygen environment. Elastomers should be free from contaminants and foreign agents which may cause odors.

6.7 Material certification. Material certification may be used to demonstrate compliance with requirements.

6.8 Cleaning. See MIL-STD-1330 and MIL-STD-1359 for guidance on proven cleaning methods and verifications. Visible inspections are typically conducted using white light and ultraviolet light to detect particulates and some types of hydrocarbons. The non-volatile residue (NVR) test in MIL-STD-1359 may be used to baseline the hydrocarbon verification at an acceptable contamination level, however, other cleaning and verification methods that do not contain class I and II ODC solvents should be used for production.

6.9 Definitions.

- a. Breathing cycle. A breathing cycle consists of a flow from 0 LPM to a peak delivery rate, and back to 0 LPM at a rate of 10 cycles per minute (cpm).
- b. Flow suction characteristics. Flow suction is a physiological term to denote regulator demand operations where the activation vacuum is created by inhalation (body).
- c. Health hazards. Materials such as cadmium, lead, and polyvinyl chloride can be susceptible to outgasing in the presence of pure oxygen and at elevated temperatures. Outgasing by these and many other materials when used in breathing oxygen equipment can cause potential health hazards.
- d. Operating life span. Operating life span is the period of time during which it is economical to repair the equipment and return it to the original operating condition.
- e. Pressure breathing characteristics. Pressure breathing denote regulator pressure operations where the physiological needs exceed 100% oxygen at ambient pressure.

6.10 Filters. See ASTM G 88-90, Standard Guide for Designing Systems for Oxygen Service, for guidance in the selection of material for filler and inlet filters.

MIL-PRF-7605F

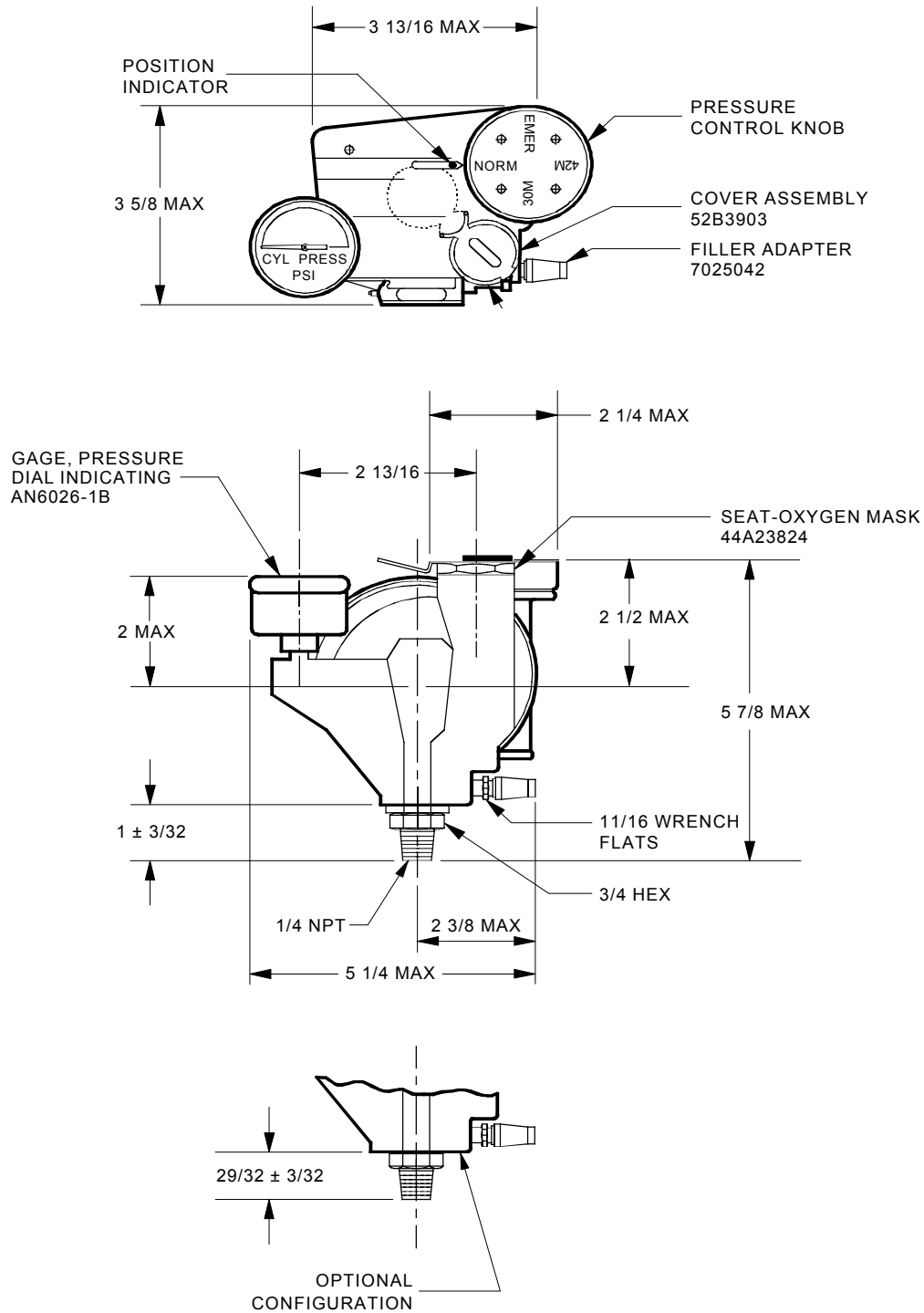
6.11 Subject term (key word) listing.

Breathing oxygen

Portable demand

6.12 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

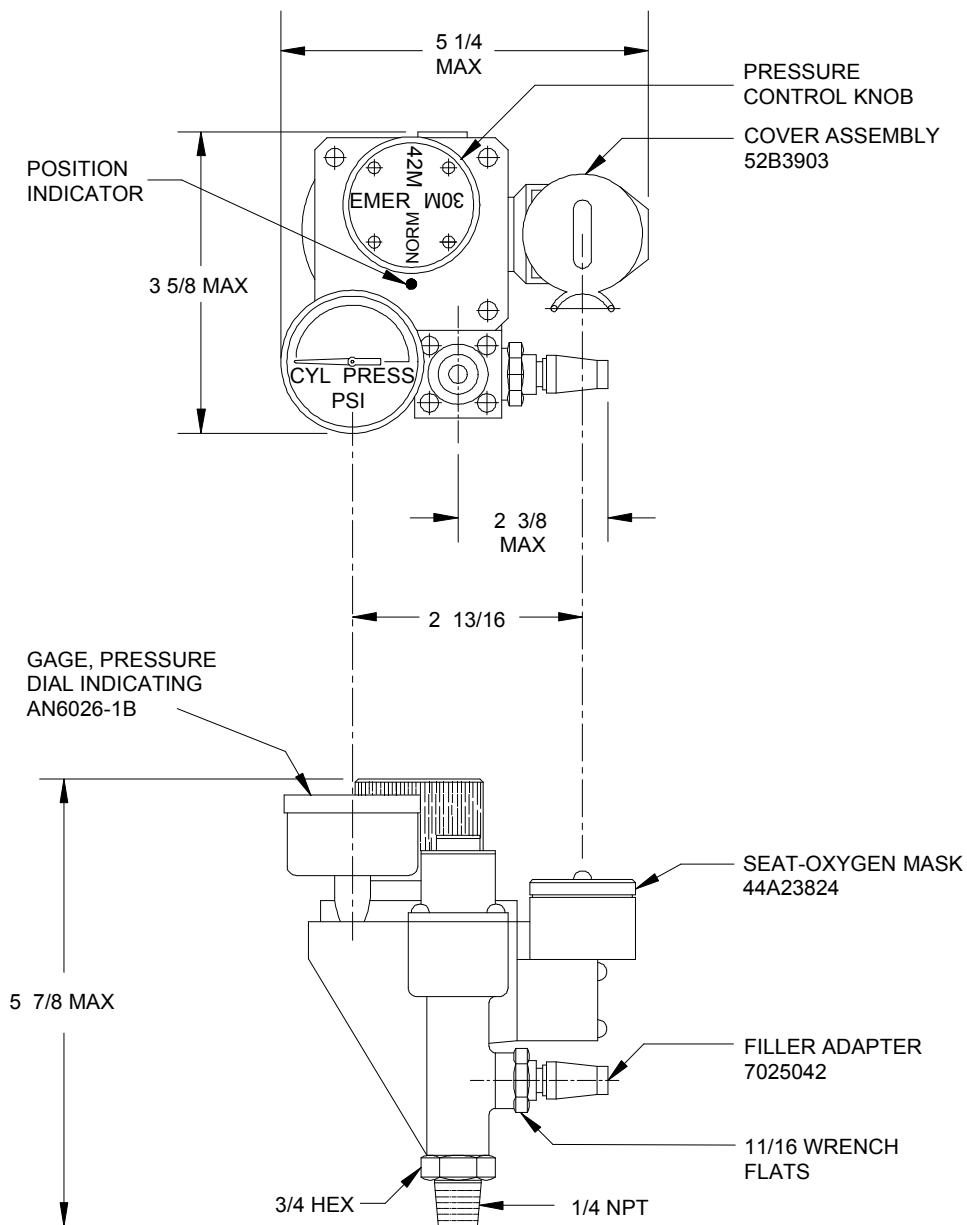
MIL-PRF-7605F



- Notes: 1. Dimensions in inches
 2. Unless otherwise specified, tolerances ±1/64
 3. Drawing not to scale

FIGURE 1. Oxygen regulator, type A-21

MIL-PRF-7605F



- Notes:
1. Dimensions in inches
 2. Unless otherwise specified, tolerances $\pm 1/64$
 3. Drawing not to scale.

FIGURE 2. Oxygen regulator, type A-21 (optional configuration)

MIL-PRF-7605F

Custodian:

Air Force - 99

Army - AV

Navy - AS

Preparing Activity:

Air Force - 71

(Project 1660-0759)

Reviewer:

Air Force - 11

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:

 1. DOCUMENT NUMBER
MIL-PRF-7605F

 2. DOCUMENT DATE (YYMMDD)
97/11/20

3. DOCUMENT TITLE

REGULATOR, OXYGEN, DEMAND, PRESSURE BREATHING, TYPE A-21

 4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

5. REASON FOR RECOMMENDATION

6. SUBMITTER

 a. NAME *(Last, First, Middle Initial)*

b. ORGANIZATION

 c. ADDRESS *(include Zip Code)*

 d. TELEPHONE *(Include Area Code)*

 e. DATE SUBMITTED
(YYMMDD)

(1) Commercial

 (2) AUTOVON
(If applicable)
8. PREPARING ACTIVITY

a. NAME

OC-ALC/TICLA

 b. TELEPHONE *(Include Area Code)*

(1) Commercial

(405) 736-5960

(2) AUTOVON

336-5960

 c. ADDRESS *(Include Zip Code)*

 3001 Staff Drive, Suite 1AE1-101A
Tinker AFB, OK 73145-3036

IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:

 Defense Quality and Standardization Office
5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466
Telephone (703) 756-2340 AUTOVON 289-2340