*TB 5-4220-200-12-1

TECHNICAL BULLETIN

Operator an Unit Maintenance Instructions

F o r

OPEN CIRCUIT MILITARY SCUBA SYSTEM

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

***This manual supersedes TB 5-4220-200-10-1, dated 8 January 1979, including all changes.**

HEADQUARTERS, DEPARTMENT OF THE ARMY

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HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON D.C., 15 January 1993

OPERATOR AND UNIT MAINTENANCE INSTRUCTIONS FOR OPEN CIRCUIT MILITARY SCUBA SYSTEM

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 procedures, 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 and Troop Command, ATTN: AMSAT-I-MTS, 4300 Goodfellow Blvd., St. Louis, MO- 63120-01798. A reply will be furnished directly to you.

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Chapter 1 INTRODUCTION

Section I. GENERAL

1-1 SCOPE.

These instructions are for your use in operating and maintaining the open circuit Military SCUBA System (fig, 1-1), The instructions provide information on the theory of operation, pre-dive and post-dive checks and services, as well as periodic preventive maintenance services Also Included is unit maintenance of the equipment and descriptions of the components and their functions in relationship to other components.

1-2 MAINTENANCE RECORDS-AND DIVING RECORDS.

a. Maintenance Records will include periodic repairs of the regulator and tank block manifold assembly. semi annual or annual inspection of SCUBA tanks and periodic check of pressure gages against a master reference gage. DD Form 314 “Preventive Maintenance Schedule and Record” may be used at the discretion of the organizations commanding officer responsible for the conduct of diving operations TM 38-750 “The Army Maintenance Management System” describes the use of this form.

b. Diving Records will be maintained in accordance with procedures outlined in AR 611-75, “Section, Qualifications, Rating and Disrating of Marine Divers.” Each unit or activity authorized to conduct diving operations will maintain the “Diving Log” DA Form 1262-R. Each diver will maintain his “Diving Duty Summary Sheet” DA Form 3475-R.

1-3 EQUIPMENT SERVICE ABILITY CRITERIA (ESC).

This equipment is not covered by an ESC.

1-4 INSTRUCTION OF ARMY MATERIAL TO PREVENT ENEMY USE.

Procedures to be followed when capture or abandonment of the open circuit SCUBA System to an enemy is imminent are covered in TM 750-244-3. “Procedures for Destruction of Equipment to Prevent Enemy Use.”

1-5 ADMINISTRATIVE STORAGE.

Procedures to be followed will be found in TM 740 90 1 “Administrative Storage.”

Section II. DESCRIPTION AND DATA

1-6 DESCRIPTION AND PURPOSE.

a. Description. The open circuit Military SCUBA System is comprised of four major components as follows.

(1) Regulator, Air Pressure Demand: single hose, balanced first stage: conshelf XII or XIV (Arctic Explorer;) 3000 PSI operating pressure.

(2) Pressure Gauge. Divers regulator attachable: underwater adapted: 3000 PSI operating pressure.

(3) Tank Block, Divers: twin molychrome steel: galvanized exterior: reserve valve; and twin tank harness, 2475 PSI operating pressure. 71 2 AV cubic feet per tank.

(4) Gauge, Tank Pressure. Checks air supply before and after diving. 3000 PSI service with bleeder.

b. Purpose. This Divlng Equipment IS intended to be used in underwater Inspections. searching, clearing lines. minor repairs, recovery of cargo and reconnaissance.

1-7 DIFFERENCE MODELS.

All of the components of this open circuit SCUBA systems are manufactured by the U.S. Divers Company.

1-8 TABULATED DATA.

Tabulated Data is contained in Table 1-1

Table 1-1. TABULATED DATA

a. Pressure Demand Regulator.

(1) Model . . . . . Conshelf XII or XIV (Arctic Explorer) P/N 1088-00 or 1077-00

(2) NSN 4220-00-623-7280

(3) Operating Pressure . . . . . 3000 PSIG (Working)

(4) Intermediate Pressure . . . . . 130 ± 5 PSIG

b. Tank Block. Twin; Divers.

(1) Model . . . . . Part Number 0638 or 2800-00

(2) NSN 4220 00 033 6839

(3) Rated . . . . . 71.2 Cubic Feet @ 2475 PSI

(4) Diameter . . . . . 69 Inches

(5) Double Constant Reserve Valve . . . . . Part Number 0518-00

(6) Twin Tank Harness . . . . . Part Number 0812

C. Gauge Tank Pressure (Regulator Attachable)

(1) Model . . . . . Part Number 7036 or 28-074-00 (18181) or 7400-00 (94120)

(2) NSN 4220-01-003-2375

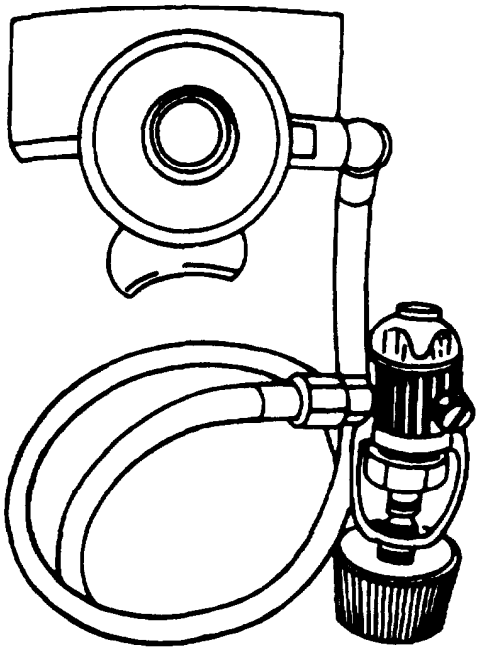
(3) High Pressure Gauge Accuracy . . . . . ± 50 PSI @ 500 PSIG ± 150 PSI @ 3000 PSIG

(4) Calibration Pressure . . . . . 03000 PSIG

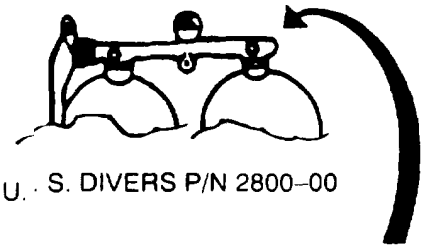
d. Pressure Gauge.

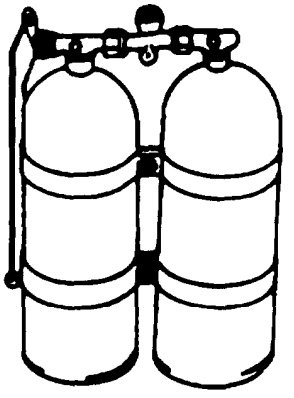
(1) Model . . . . . Part Number 7004

(2) NSN 4220-00-099-8024

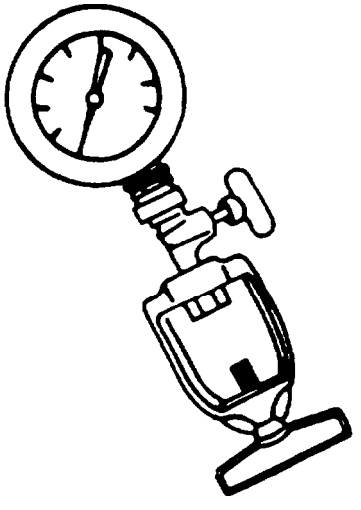


REGULATOR, SINGLE HOSE CONSHELF XII OR XIV ARCTIC EXPLORER P/N 1088-00 U. S. DIVERS

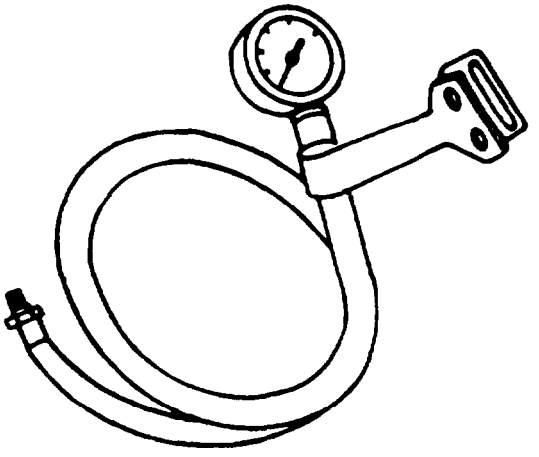




TANK BLOCK, DIVERS, GALVANIZED 2475 PSI. 71.2 CU. FT. EACH W/RESERVE VALVE. U. S P/N 0638-00



PRESSURE GAGE. 3.000 PSI U. S. DIVERS P/N 7004



GAGE TANK PRESS, UNDERWATER ADAPTED UNDER-SEA INDUSTRY P/N 132 OR U. S. DIVERS P/N 7036 OR 28-074-00/U.S. DIVERS 7400-00

Figure 1-1. Open Circuit Military SCUBA System