

1

2

3

4

REV	ECO	Release	Drawn	REVISION HISTORY
-3	2020-012	2020-06-04	SGO	Customer Drawing

A

A

High Pressure Adapter Fittings

This application note provides information about High Pressure Adapter Fittings available from Mountain High Equipment & Supply (MH) for use in aviation oxygen systems. Adapter Fittings provide a means of converting from one thread or interconnect standard to another and facilitate the incorporation of disparate equipment that is not otherwise directly compatible. The suite of Adapter Fittings offered by MH covers the most commonly encountered needs in the configuration and installation of aviation oxygen systems.

GENERAL SPECIFICATIONS

Material: (B) UNS C36000 (CDA-360) Brass
(SS) UNS S31600 (ASTM A479) Stainless Steel
(S) UNS G10450 (ASTM A576) Carbon Steel

Pressure Rating: 3300 PSI Standard Dynamic Pressure
Temp Range: -50°F to +130°F [-45°C to +55°C]
Clean: For Oxygen Service

B

B

See accompanying tables for weights, dimensions, and other individual parameters

Connection Options

For high-pressure oxygen connections, MH recommends Copper Tubing and Compression Tube Fittings. MH devices typically provide SAE J1926 ports with a high-pressure O-Ring seal. Copper Tubing, Compression Tube Fittings, and SAE J1926 adapters are available from MH.

JIC Fittings are another option for high-pressure oxygen connections. The MH Braided Flex Hose (with JIC fittings) offers the advantage of a flexible connection.

C

C

For low-pressure connections (15-60 PSI regulated oxygen output), MH provides a selection of polyurethane tubing and convenient "One-Touch" fittings.

Pipe Fittings are generally not recommended for aviation oxygen systems but may be employed as necessary in order to adapt to existing equipment or fittings.

References

For more information about hardware and accessories available from MH:

- 5SHDW-0100-00
High Pressure Copper Tubing and Compression Tube Fittings
- 5SHDW-0300-00
High Pressure NPT Pipe Fittings
- 5SHDW-0500-00
High Pressure Adapter Fittings

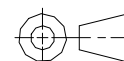
D

D

UNLESS OTHERWISE SPECIFIED,
DIMENSIONS
ARE IN INCHES. TOLERANCES ARE:
0.X ±.015 ANGLES ± 3°
0.XX ±.010 FRACTIONS ± 1/64
0.XXX ±.005

INTERPRET GD&T PER ASME 14.5 63

THIRD ANGLE
PROJECTION



DO NOT SCALE
DRAWING

DRAWN SGO
2017-05-11

CHECKED EAM
2017-05-19

ENGINEER TD
2017-05-19

APPROVED HBS
2017-05-19

MH MOUNTAIN HIGH E&S CO.
REDMOND, OR. USA

THIS DOCUMENT AND ALL TECHNICAL DATA HEREON DISCLOSED ARE PROPERTY OF MOUNTAIN HIGH E&S CO. AND SHALL NOT BE USED, RELEASED OR DISCLOSED IN WHOLE OR PART WITHOUT WRITTEN PERMISSION FROM MOUNTAIN HIGH E&S CO. THIS DOCUMENT MUST BE RETURNED TO MOUNTAIN HIGH E&S CO. IMMEDIATELY UPON REQUEST.

DWG TITLE High Pressure Adapter Fittings [SCD]

DWG NUMBER **5SHDW-0500-00** DWG REV. **-3**

CAD FILE 5SHDW-0500-00\$-3 INV. PART NUMBER 00HWD-xxxx-00 PROD. NAME

DWG FORMAT: ESR-002 Rev H [20] DWG SCALE DWG SHEET 1 OF 2 DWG SIZE A 8 1/2 x 11

1

2

3

Insert #: 5IHDW-0500-00

1

2

3

4

Handling

Fittings must be handled carefully in order to avoid contamination, or damage to threads which could interfere with proper sealing. Fittings supplied by MH are warranted as "cleaned for oxygen service" provided original shipping packaging is intact.

Cleaning

High pressure oxygen systems must be free of grease, oil or other unapproved lubricants or cleaning agents, as well as any metal particles. Such contaminants, aside from having the potential to clog or damage critical orifices or filters in the system, pose an **extreme safety hazard** with the potential of fire or explosion. Therefore, cleanliness in the preparation and assembly of oxygen system components is critical.

Fittings and other components used in oxygen systems must be examined internally just prior to final assembly and re-cleaned if necessary (NFPA 99). FAA Advisory Circular **AC 43.13-2B** also specifies the cleaning of oxygen lines and fittings that have not been previously cleaned and sealed and lists several approved methods for doing so (Paragraph 608d),

Fittings obtained from MH have been cleaned for oxygen service and should not need to be re-cleaned so long as proper hygiene has been maintained in the assembly process. Fittings or other hardware obtained elsewhere (even if the *same* part) may therefore not be suitable for use in oxygen systems unless it is known for certain that they have been properly cleaned.

Purging

Just prior to final assembly to any associated equipment, connections must be purged with air to remove any contaminants. Contaminants include not only metal particles generated in equipment preparation, but any cleaning fluid residue that may be present from previous cleaning procedures.

Use clean, dry compressed air to purge system connections as required. Introduce the air in such a way that any contaminants present are completely ejected from the system rather than displaced into adjacent components.

Caution: Conventional "Shop Air" systems may have lubricating oil introduced into the system and therefore would not be suitable for the purging of oxygen system components.

NPT Installation

Apply oxygen-compatible Teflon tape (e.g., MIL-SPEC T27730A) to the threads of NPT fittings prior to installation. Wrap the tape clockwise as viewed from the NPT threaded end of the fitting. Three wraps of tape are generally sufficient.

Do not allow the tape to extend beyond the inboard end of the threads. If any tape should become separated and enter the system it could obstruct internal filters or orifices. It would be better to leave the first thread exposed than to create a situation where a loose piece of tape could enter the oxygen system.

Check for leakage once installation is complete. Depressurize the line before disassembly. If a fitting is removed or loosened, the Teflon tape must be replaced.

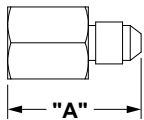


Fig 1

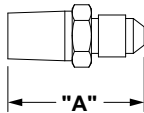


Fig 2

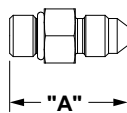


Fig 3

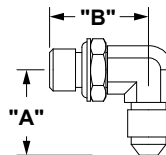


Fig 4

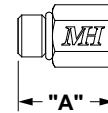


Fig 5

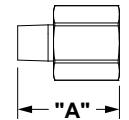


Fig 6

Fig.	MH p/n	Fitting	Mat'l	Thread 1	Thread2	Weight Oz. [g]	Dim "A" In. [mm]	Dim "B" In. [mm]	Wrench
1	00HDW-0317-00	Adapter	B	1/4-18 FNPT	JIC-4M	1.62 [46]	1.39 [35]		3/4
1	00HDW-0113-00	Adapter	B	1/8-27 FNPT	JIC-4M	.78 [22]	1.19 [30]		9/16
2	00HDW-0319-00	Adapter	B	1/4-18 MNPT	JIC-4M	1.06 [30]	1.42 [36]		9/16
2	00HDW-0321-00	Adapter	B	1/8-27 MNPT	JIC-4M	.63 [18]	1.22 [31]		1/2
3	00HDW-1381-01	Adapter	SS	SAE-4M	JIC-4M	.78 [22]	1.23 [31]		9/16
4	00HDW-1383-02	Adapter Elbow	S	SAE-4M	JIC-4M	1.06 [30]	.89 [23]	1.03 [26]	7/16
5	00HDW-0113-05	Adapter	B	SAE-4M	1/8-27 FNPT	.75 [21]	1.00 [25]		9/16
6	00HDW-0315-00	Adapter	B	1/8-MNPT	SAE-4F	1.06 [30]	1.06 [27]		11/16

Spare/Replacement O-Ring for SAE-4M Port-Adapter Fittings

MH Part Number	Description
09001-0904-75	O-ring, Viton, 3-904 (SAE-4), V75

DWG
NUMBER**5SHDW-0500-00**DWG
REV. **-3**DWG
SHEET **2 OF 2**

1

2

3

Insert #: 5IHDW-0500-00