"Save Your Breath With MST® MODERN SAFETY TECHNIQUES"

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MST MODEL 5700 - 3/4
AIRLINE "CO" MONITORING SYSTEM
MANUAL

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WARNING: Do not attempt to operate this equipment without first reading and understanding the service manual enclosed with this device.

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SPECIFICATIONS
MST AIRLINE "CO" MONITORING SYSTEM
MST MODEL 5700 - 3/4
MST MODEL 5700-3 (110 VAC)
MST MODEL 5700-4 (12 VDC)

SIZE:	13.5"W X 12.87"H X 6"D (343mm X 327mm X 152mm)
WEIGHT:	LESS THAN 8 LBS (3.7 KG)
OPERATING PRESSURE	30 - 120 PSIG
MAXIMUM INLET PRESSURE	150 PSI STATIC
SENSOR TYPE:	ELECTROCHEMICAL
RANGE:	0-199 PPM CO
ACCURACY:	+/-5% OF READING
ALARM-TYPE:	PIEZOELECTRIC - 85 dB(A) AT (1) FT. (OPTIONAL 119 dB (A) AT (10) FT.)
ALARM LEVEL SETTING:	USER ADJUSTABLE FACTORY SETTING: 10PPM (5 PPM IF SPECIFIED)
WARRANTY:	ONE YEAR
AMBIENT OPERATING TEMPERATURE RANGE:	32 - 104° F (0 - 40 ° C)
OTHER FEATURES:	PROTECTIVE ENCLOSURE EXTERNAL REMOTE ALARM JACK LOW-BATTERY INDICATOR RED LED ALARM INDICATOR GREEN LED "GO" INDICATOR 9 VDC BATTERY BACK-UP PIGGYBACK REGULATOR/FILTER FILTERING OF INCOMING AIR - 5 MICRONS

GENERAL DESCRIPTION

The MST Airline Carbon Monoxide Monitoring System is designed to take a continuous air source sample and monitor for levels of Carbon Monoxide. If pre-set alarm level is reached, a visual and audible alarm will be energized. The system is housed in a corrosion/water resistant carrying case.

GENERAL OPERATION

(Refer to Figure No. 1)

Initially power the monitor system by connecting the supplied 110 VAC or 12 VDC Adapter **(A)** to power source. Note that (2) 9-volt transistor-type batteries can be installed in monitor at **(B)** to provide a back-up power source if the main power source fails. The regulated air source to be monitored will enter through **(C)** where 1/8" MPT female threads are provided for the connection. The source air will flow to the filtered pressure regulator **(D)** where the air pressure will be set **(E)** and filtered **(F)** through a 5-micron filter element. The filter element will remove any excess water/oil from air source that could contaminate the monitor's detector. Setting the pressure regulator between 30-120 PSIG **(G)** will provide the correct air flow from the factory's pre-set flow orifice**(H)** to the monitors' CO detector **(I)**. Audible/visual and optional accessory jack will be energized when pre-set alarm level has been reached **(K).**

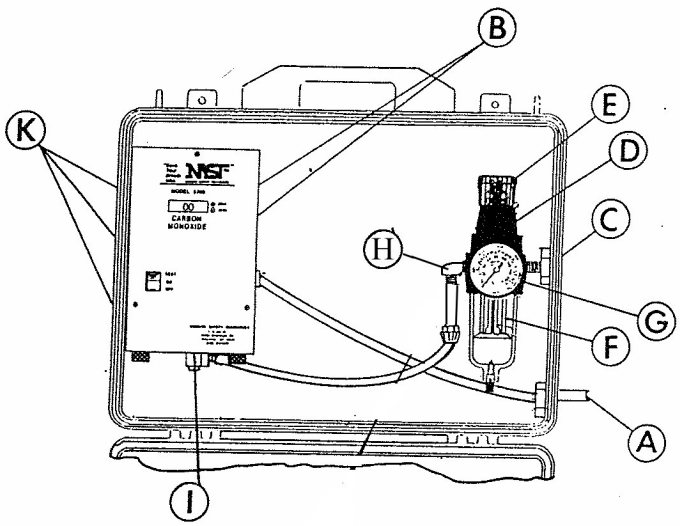

FIGURE NO. 1

GENERAL OPERATION

MST, Inc. strongly recommends that a complete safety program be instated to ensure that the respiratory air is in compliance with all OSHA/CSA standard and other applicable laws regulating the use of supplied air respiratory systems. MST, Inc. recommends that the air quality be tested upon installation and periodically re-tested to ensure that the minimum requirements for breathing air are maintained.

MST, Inc. will not assume any liability for accidents or personal injury resulting from the improper use of this equipment. Service on this equipment should only be performed by qualified personnel. This system is to be used only by trained qualified personnel in accordance with a respiratory program as outlined in OSHA Regulation 29 CFR 1910.134 (b).

CUSTOMER AIR SUPPLY (Refer to Figure No. 2)

1) SUPPLIED AIRLINE PRESSURE - The maximum air pressure at inlet of MST's Unit should not exceed 150 PSIG.

2) SUPPLIED AIR CONDITIONING - Remove excessive water/oil from supplied air to prevent premature contamination/clogging of MST's Flow orifice and "CO" Sensor.

3) AVOID INSTALLING MST UNIT AFTER DESICCANT DRYER - The Desiccant Dryer produces extremely dry air, (4% R. H. or less), which over a period of time will dry the "CO" sensor out and decrease its life substantially.

MST'S AIRLINE "CO" MONITORING SYSTEM INITIAL INSTALLATION AND START-UP (Refer to Figure No. 2)

1) SUPPLIED AIR HOOK-UP- MST Unit's inlet is supplied with 1/8" NPT female threads for customer hook-up. MST suggest the supplied air be regulated and free of large volumes of water/oil.

2) POWER MONITOR AND CALIBRATE - Connect MST's 110 VAC or 12 VDC Adapter to power source and let warm up for a minimum of (5) minutes. If battery back-up is required, install the 9-volt transistor-type batteries in monitor at this time. NOTE: The 9 volt batteries will power monitor for approximately (30-35) hours. After warm-up period, the "NORMAL GREEN LED" light will be on and the "ALARM RED LED" light will be faintly blinking. Monitor's calibration should be checked now. Refer to MST Monitor Manual.

3) CALIBRATION GAS REQUIREMENTS - Zero Gas: Nitrogen, free of "CO". Span Gas: 95 PPM of "CO" concentration in air. Calibration gas flow to monitor should be 1.0 SCFH (472 cc/minute).

4) EXTREME TEMPERATURE CHANGES: Avoid; MST Monitor best performs at an ambient temperature range of 32- 104° F (0-40° C). Always calibrate monitor after it has stabilized in the surrounding temperature where system is to be used.

5) AIR SAMPLE SOURCE MONITORING - After calibration, set Airline Monitoring System's pressure regulator between 30-120 PSIG, (this will provide correct air flow to monitor's "CO" detector). NOTE: Regulator has locking bonnet; to adjust pressure, pull bonnet up and rotate to desired pressure, then push bonnet down to lock in place.

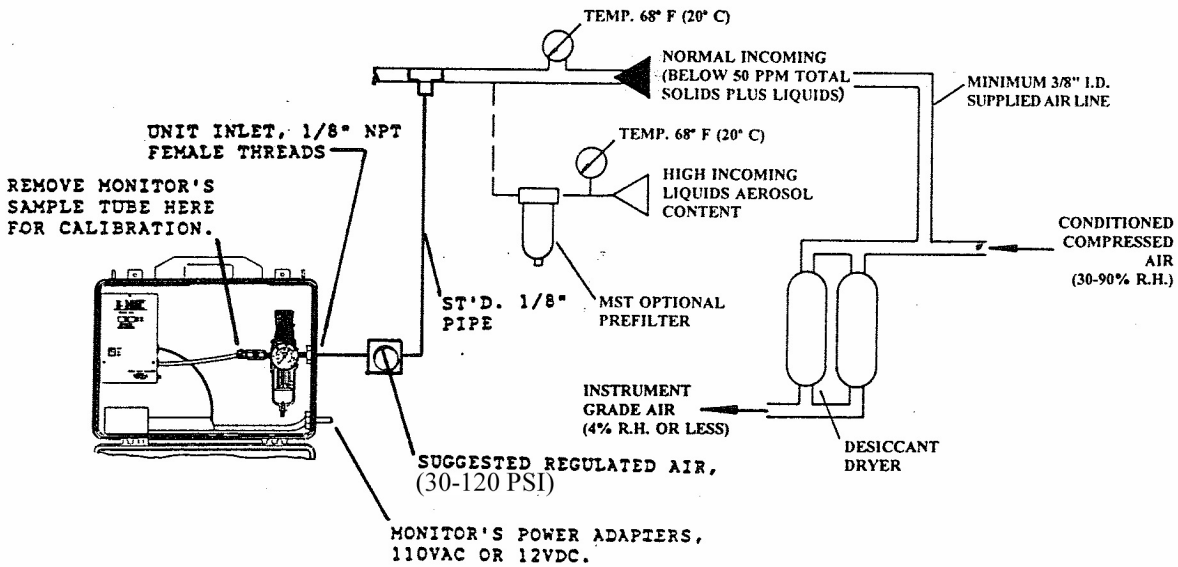

FIGURE NO. 2

MST AIRLINE "CO" MONITORING SYSTEM
GENERAL OPERATION AND MAINTENANCE

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WARNING: If the Monitor's alarm should sound, remove mask or hood immediately and move to a safe breathable atmosphere. Have a proper qualified personnel examine air system and make the appropriate corrections before using again.

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1) MONITOR ALARM CONDITION - The monitor will alarm due to one or more of the following conditions:

   a) Monitor is out of calibration. The Monitor should be calibrated monthly if used continuously and prior to use if used on a non-continuous basis. Calibrate Monitor as outlined in the MST Monitor Manual.

   b) If the Monitor can be and is calibrated, but the alarm still sounds, excessive CARBON MONOXIDE IS PRESENT IN YOUR AIR LINE. REMOVE MASK OR HOOD IMMEDIATELY AND MOVE TO A SAFE BREATHABLE ATMOSPHERE. CHECK AIR SYSTEM TO CORRECT PROBLEM BEFORE USING AGAIN.

   c) If the Monitor can not be calibrated, the Carbon Monoxide Sensor may require replacement. See MST MONITOR MANUAL for replacement instructions and other trouble shooting information. The MST MONITOR has a (1) year warranty. All warranty work must be performed at factory.

   d) If the Monitor was calibrated in a surrounding temperature other than where the system was being used and the temperature difference was 36° F (20° C) or greater, the Monitor may give a false alarm due to its characteristics. Always calibrate the Monitor in the temperature conditions where the monitor is to be used in. Monitor best performs at temperature range of 32 to 104° F (0 to 40° C).

2) MONITOR "NORMAL" MODE - The Monitor's "NORMAL GREEN LED" light will be on full bright from 0-9 PPM of carbon monoxide and the "ALARM RED LED" light will be faintly blinking while the "Low Battery Amber LED" is off.

3) MONITOR "LOW BATTERY" MODE - If the power source should fail and the battery back-up is below a preset voltage output, the "AMBER LOW BATTERY LED" will come on. Note: The 9-volt batteries in the battery back-up system will power Monitor continuously for approximately (30-35) hours.

4) MONITOR "ALARM" MODE - If carbon monoxide concentrations exceeds the alarm point (factory set at 10 PPM), the "ALARM RED LED" light will come on full bright, the "NORMAL GREEN LED" light will be off and the audible alarm will sound.

5) CONTAMINATED AIR SUPPLY - If water and/or oil is visibly seen in the sample tube to MST Monitor, excess liquids in MST's regulator/filter should be drained and or filter element replaced. If filter bowl (manual drain) is drained frequently under normal conditions, the 5 micron filter element (housed in the pressure regulator lower body) should last approximately (6) months. Replace 5 micron element if excessive pressure drop (10 PSIG or greater) is seen on pressure gauge. If excess liquids enter the MST Airline Monitor System, a coarser oil/water separator may be required prior to inlet side hook-up to help prolong unit's filter element life.

FILTER ELEMENT REPLACEMENT

(Refer to Figure No. 3)

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WARNING: Always turn off air supply and bleed secondary air pressure before disassembling unit prior to element change or SERIOUS INJURY COULD RESULT.

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MST, Inc. recommends replacing 5 micron filter element every six months (if drained frequently) of use unless conditions warrant more or less frequent replacement.

1) Depressurize Monitor System and unscrew Threaded Bowl **(A)**.

2) Unscrew Element **(B)** and remove.

3) Clean Bowl and internal parts in warm soapy water and then dry.

4) Replace Element, (**B**) by threading up into housing.
Tighten Element (**B**) finger tight only. DO NOT OVERTIGHTEN!

5) Inspect O-Ring (**C**) and apply light film of petroleum jelly to top of Filter Housing (**A**).

6) Screw Threaded Bowl **(A)** onto regulator body hand tight.

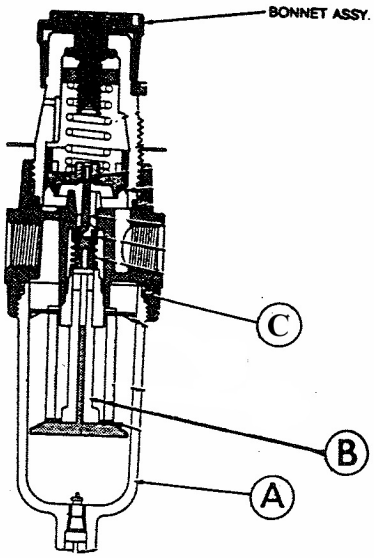

FIGURE NO.3

RECORD KEEPING

Record all periodical air quality checks, monitor calibration date and any other service performed on the MST "CO" Monitoring System.

MST, INC. SHALL NOT BE LIABLE FOR ANY INJURY LOSS OF DAMAGE, (DIRECT OR CONSEQUENTIAL), ARISING OUT OF THE USE

OF OR THE INABILITY TO USE THIS PRODUCT, BEYOND THE REPLACEMENT OF THE DEFECTIVE MATERIALS OR WORKMANSHIP. USER OF SUPPLIED AIR RESPIRATORS SHOULD EVALUATE THEIR OWN PARTICULAR APPLICATION AND PERFORM THEIR OWN TESTS FOR AIR QUALITY TO DETERMINE THE SUITABILITY FOR USE OF THIS PRODUCT.

For further information, or questions about service or maintenance care of this unit, contact your local distributor or MST, Inc. @ (800) 542-6646.

SERVICE RECORD
MST AIRLINE "CO" MONITORING SYSTEM
MODEL 5700 - 3/4

DATE OF SERVICE	SERVICE PERFORMED

MST "CO" AIRLINE MONITOR SYSTEM
MODEL 5700 - 3/4 PARTS

1) 80251, (1), CASE
2) 80210, (1), BRASS BULKHEAD ASSEMBLY
3) 80243, (1), PLASTIC BULKHEAD ASSEMBLY
4) S603-001, (2), $^{1}/_{8}$" CLOSE NIPPLE
5) 80314, (1) REGULATOR/FILTER ASSEMBLY
6) 80091, (1) 1 ½" DIA GAUGE, 0-160 PSIG
7) 80636, (1) FLOW RESTRICTOR ORIFICE
8) 80261, (1) SWIVEL ELBOW W/ LOCKING COLLAR
9) 80247, (1), 110 VAC ADAPTER FOR MODEL 5700-3
10) 80123. (1), 12 VDC ADAPTOR FOR MODEL 5700-4
11) 80127, (1), MST "CO" MONITOR, MODEL 5700
12) 80133, (1), "CO" SENSOR