

MODEL 5701 AIRLINE
CARBON MONOXIDE/OXYGEN
MONITORING SYSTEM
SERVICE MANUAL

*"Save
Your
Breath
With* **NST**TM
MODERN SAFETY TECHNIQUES

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GENERAL OPERATION MANUAL

The MST MODEL 5701 Carbon Monoxide/Oxygen monitoring system is a system, designed to take a continuous air source sample and monitor for levels of Carbon Monoxide and Oxygen. If pre-set alarm levels are reached a visual and audible alarm will be energized.

The CO/O₂ Monitor is mounted in a corrosion/water resistant carrying case. The continuous air source sample introduced to the systems inlet will go through a filtered pressure regulator, a pre-set flow valve and finally to CO/O₂ Monitor detectors through a sampling tube. LCD displays will continually show the levels of CO (in PPM) and O₂ (in % of O₂). The monitor is powered by 115V AC and has a battery back-up system in case the 115V AC power source is lost.

GENERAL OPERATION (Refer To Figure No.1)

Initially, power the monitor system up by connecting the supplied 115V AC adapter power cord (A) to any 115V AC outlet. Note also that (2) 9-volt transistor type batteries can be installed in monitor at (B) to provide a back-up power system if 115V AC power fails. Air source to be monitored will enter through (C) where 1/8" NPT 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 monitors' detectors.

Setting the pressure regulator between 60-105 PSIG (G) will provide the correct air flow from the factory's pre-set flow valve (H) to the monitors' CO/O₂ detectors (I/J). Audible/visual and optional accessory jack will be energized when pre-set alarm levels have been reached(K).

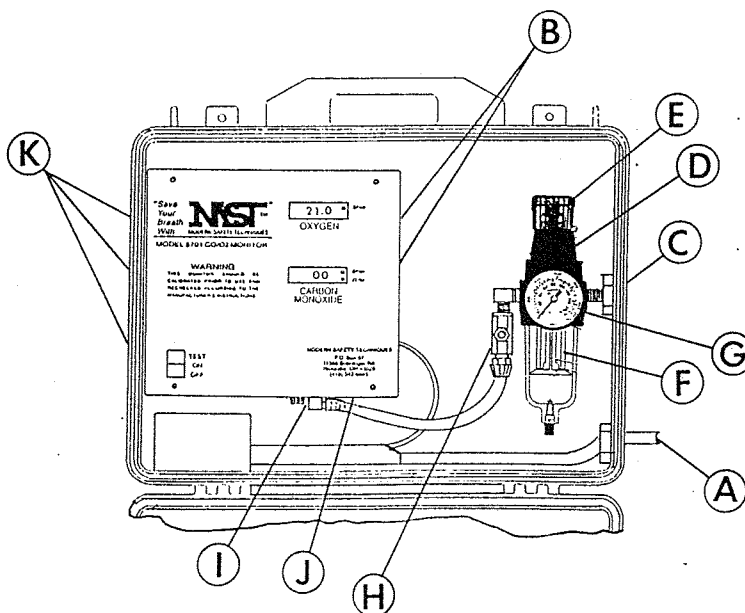


FIGURE NO. 1

START-UP PROCEDURE

After the power and air connections have been made to monitor system, and prior to monitoring the air source sample, the monitor should be calibrated. See monitor manual for details. If monitor is used on a continuous basis, the monitor should be calibrated on a monthly basis. If used only periodically, calibrate monitor prior to use.

After calibrating monitor, the monitor is ready for air source sample. Set pressure regulator between 60-105 PSIG. This will provide correct air flow to monitor detectors. Note: Regulator has a locking bonnet. To adjust pressure, pull bonnet up and rotate CW to increase pressure and CCW to decrease pressure. Under normal conditions the 5-micron filter element (housed in the pressure regulator) should last approximately 6 months before replacement is required (irregardless of time span, replace element if excessive pressure drop is noted across element). To remove water/oil from filter bowl, rotate manual drain at bowl bottom CCW to purge bowl of liquids. Close drain when pruge is completed.

REGULATOR FILTER ELEMENT REPLACEMENT

(See Figure No.2)

To remove the filter element: SHUT AIR LINE DOWN and exhaust the secondary pressure.

- A. Unscrew threaded bowl.
- B. Unscrew element holder and remove element and gaskets.
- C. Clean bowl and internal parts before reassembling.
- D. Replace element and gaskets(2).
- E. Attach element post assembly and tighten firmly.
- F. Replace bowl seal; lubricate seal to assist in retaining it in position. Use only mineral base oils or grease. DO NOT use synthetic oils such as esters, and DO NOT use silicones.
- G. Screw bowl into body.

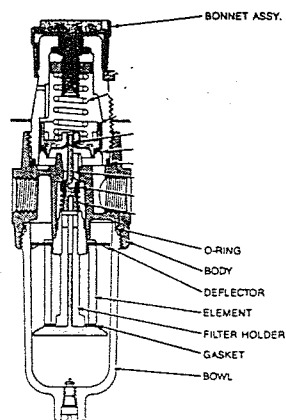


FIGURE NO. 2

MONITOR DETECTOR ASSEMBLY
(See Figure No.3)

In reference to MST monitor manual, Figure No. 3 below shows monitor detector holder assembly.

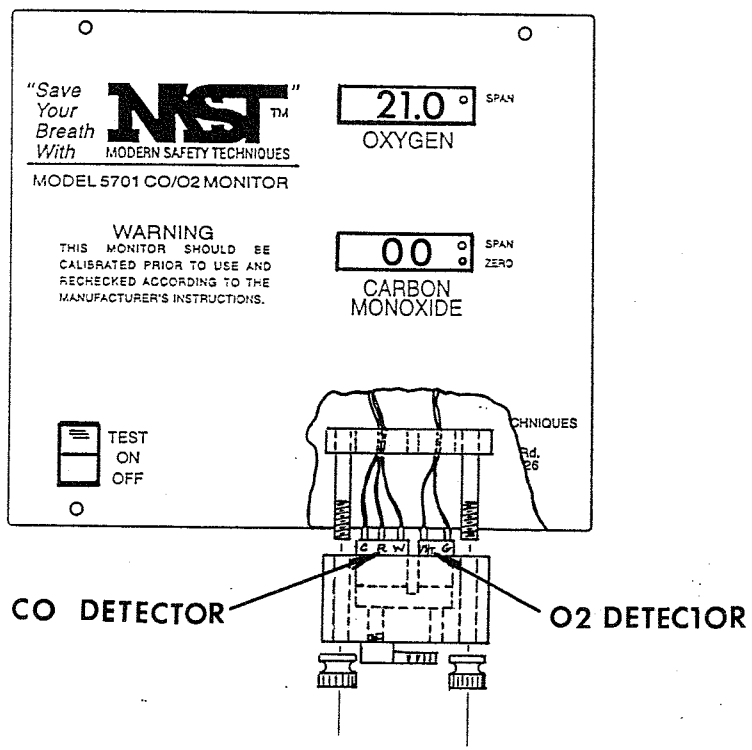


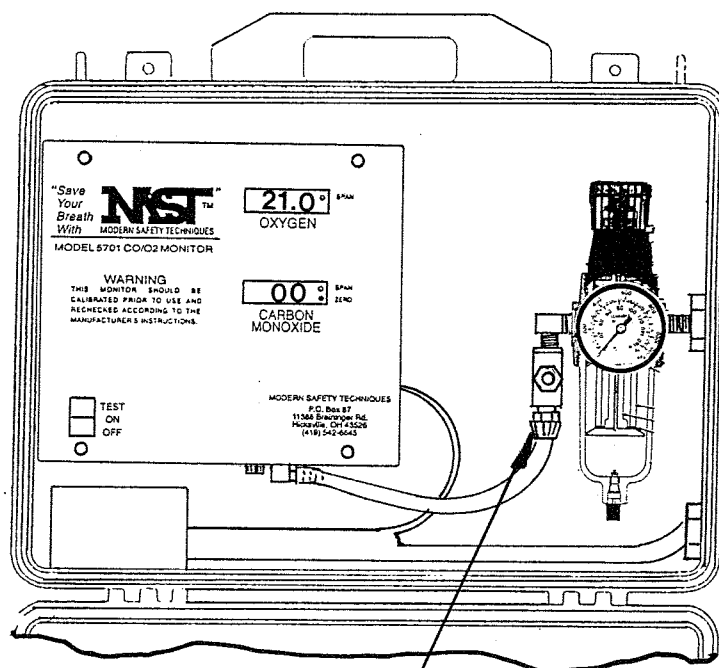
FIGURE NO. 3

WIRING CODE

<u>CO DETECTOR</u>		<u>OXYGEN DETECTOR</u>	
<u>WIRE</u>	<u>DETECTOR TERMINAL</u>	<u>WIRE</u>	<u>DETECTOR TERMINAL</u>
BLACK	C	WHITE	+WHT
BLUE	R	GRAY	-GRY
RED	W		

MONITOR CALIBRATION
GENERAL SET-UP
 (See Figure No.4)

In reference to MST Monitor Manual, Figure 4 below shows General Calibration set-up.



Release monitor sampling from quick disconnect attached to pre-set flow valve. Pull lock tube down and pull tube from quick disconnect. Now connect calibration gas tubing to monitor's sample tube and calibrate. See Monitor Manual for calibration procedure.

FIGURE NO. 4

MST MODEL 5701 CO/O2 MONITORING SYSTEM'S SPECIFICATIONS

SIZE: 13.5"W X 12.87"H X 6"D

WEIGHT: 8 LBS.

POWER REQUIREMENTS: 115VAC/9VDC BATTERY BACK-UP SYSTEM SUPPLIED WITH 10 FOOT PIGTAIL POWER CORD.

OPERATING PRESSURE RANGE: 60-105 PSIG

SENSOR (DETECTOR) TYPE: ELECTROCHEMICAL

ACCURACY: CARBON MONOXIDE: +/- 5% OF READING
OXYGEN: +/- 2% OF READING

SCALE RANGE: CARBON MONOXIDE 0-199 PPM CO
OXYGEN 0-25% O2

ALARM TYPE: PIEZOELECTRIC 85dB (A) @ 1 FOOT

ALARM SETTINGS: USER ADJUSTABLE; FACTORY SETTINGS:
CO - 5 PPM
O2 - 19.5%

OTHER FEATURES: EXTERNAL REMOTE ALARM JACK
LOW-BATTERY INDICATOR
RED ALARM INDICATOR
GREEN "GO" INDICATOR
PIGGYBACK REGULATOR/FILTER/PRESSURE GAUGE ASSEMBLY
FILTERING OF INCOMING AIR - 5 MICRONS

WARRANTY: ONE YEAR

