

**GAS TRAC NGX-6 COMBUSTIBLE GAS DETECTOR
DESCRIPTION AND USE**

1. GENERAL

- 1.001 This section is a cover sheet for the J and N Enterprises, Incorporated GAS TRAC NGX-6 Combustible Gas Detector. This section is reproduced with permission of J and N Enterprises, Incorporated and U-TECK Company.
- 1.002 This section is being issued to incorporate the description and use of the GAS TRAC NGX-6 Combustible Gas Detector. Whenever this section is reissued the reason(s) for reissue will be listed in this paragraph.
- 1.003 The GAS TRAC NGX-6 Combustible Gas Detector is designed and built for quick atmospheric testing of areas such as manholes, cable vaults and excavations.
- 1.004 If corrections are required in the attached document, use Form E-3973 as described in Section 000-010-015.
- 1.005 If equipment design and/or manufacturing problems should occur, Engineering Complaints are to be submitted on Form E0143 following the process in GR-230-CORE.

2. ORDERING PROCEDURE

- 2.001 The GAS TRAC NGX-6 Combustible Gas Detector may be ordered for Southwestern Bell via the Procurement Order Entry System (PROES) of the Southwestern Inventory Management System (SWIMS) or the Procurement Order Management System (POMS). Pacific and Nevada Bell may order via the NOVA System and Southern New England Telecommunications may order via the Materials Accounting Control System (MACS) using the PID number listed in the practice.
- 2.002 To order additional copies of this practice, use JNES 081-700-800MP as the section number.

3. REPAIR/RETURN

- 3.001 Paragraph 6.6 describes the J and N Enterprises, Incorporated repair/return policy.

Attachment: J and N Enterprises, Incorporated
GAS TRAC NGX-6 Combustible Gas Detector
Description and Use

PROPRIETARY

This information contained herein is for use by authorized employees of SBC Companies only and is not for general distribution within or outside their respective companies.

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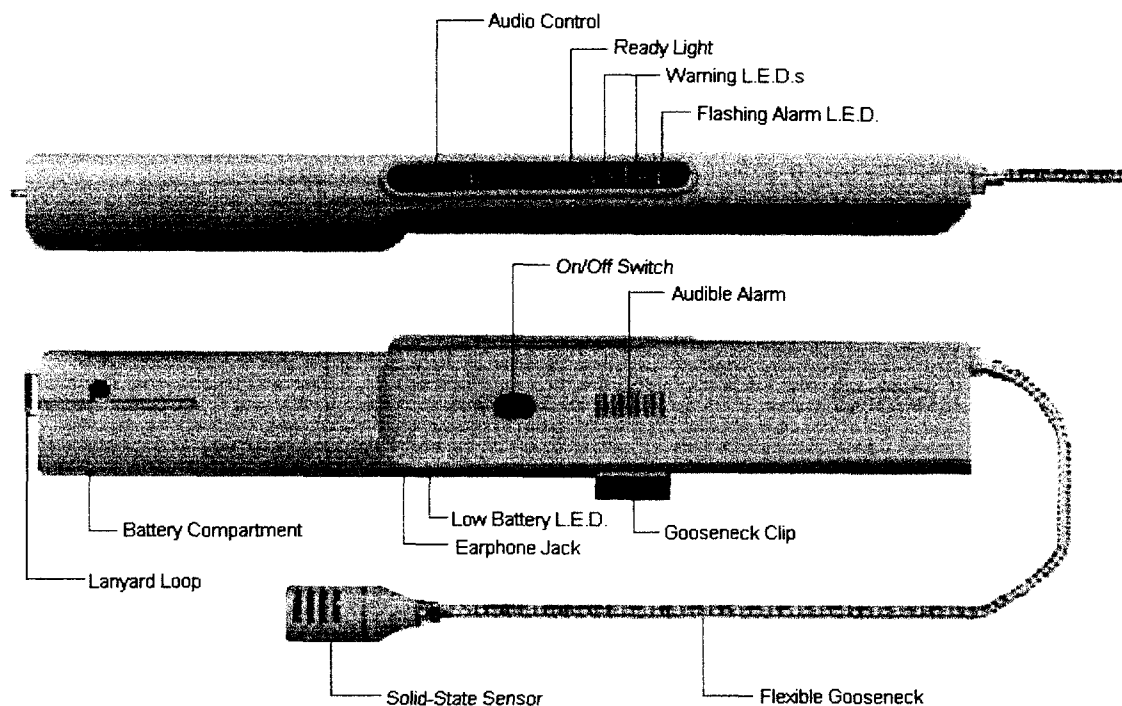
1.0 GENERAL

The GAS●TRAC NGX-6 Combustible Gas Detector (Figure 1).

- 1.1 This practice describes how to use and maintain the NGX-6 GAS●TRAC combustible gas detector. This tool is designed and built for the protection of personnel against hazardous environments.
- 1.2 The GAS●TRAC Instrument is a Factory Mutual approved device which, if used as outlined by this practice, cannot cause an explosion in itself.
- 1.3 When calibrated as per the instruction manual of the manufacturer using factory approved test gasses, Factory Mutual certifies the instruments accuracy.
- 1.4 The United States Government Mine Safety and Health Administration approves the instrument as being intrinsically safe.
- 1.5 Other safety related features.
 - 1.5.1 Ease of operation – only two controls – an on/off switch and tick rate control wheel.
 - 1.5.2 Fast warm up time – generally less than 60 seconds.
 - 1.5.3 Extremely fast reaction time – less than one second from green ready light to red alarm.
 - 1.5.4 Visual and audible alarms.
 - 1.5.5 User friendly.
 - 1.5.6 High gas concentrations will not poison sensor.
 - 1.5.7 Automatic battery saving 15 minute shut off.
 - 1.5.8 Extremely rugged, water resistant case and components.
 - 1.5.9 Low battery warning system.
 - 1.5.10 Easily obtained batteries anywhere.
- 1.6 Principal of Operation.
 - 1.6.1 The GAS●TRAC Instrument is a state of the art instrument with 100% solid state sensor and circuitry.
 - 1.6.2 The Sensor is actually placed into the environment to be tested rather than the environment being taken to sensor. ie: a pump or aspirator bulb. Very accurate responses are possible using this technology.
 - 1.6.3 Information obtained from the sensor is sent to integrated circuitry designed to change that information in to meaningful information, such as changing the audio and visual systems in proportion to the gas being sensed.

GAS●TRAC® Instruments are the registered trademark of Northern Illinois Gas Company.

Technical Data



Specifications

Power Supply: Two D-size and two AA-size alkaline batteries

Sensitivity: 100 ppm Methane

Warm-Up Time: Approximately 1 minute

Sensor: Solid-State

Alarm: Visual and audio at approximately 50% of L.E.L. for methane. Can be calibrated for other gases.

Dimensions: 1-5/8" x 2-1/2" x 14-5/8"

Duty Cycle: Continuous:
Unit automatically shuts off after 15 minutes but may be turned back on immediately.

Battery Life: Approximately 8 hrs.

Weight: 2 lbs.

Probe Length: 16 in.

Response Time: Instantaneous

Operating Environment
Temperature 32-100°F
Humidity: 10%-90% R.H.

FIGURE 1

RELATIVE SENSITIVITY CHART
(Including Limits of Flamability for Those Listed)

For The
GAS•TRAC INSTRUMENT

General Purpose Combustible, Hazardous Gas and Vapor Detector

Date: August 20, 1986

Date: August 20, 1988

Gas or Vapor	Indicator Response Levels			Limits of Flamability of Gases and Vapor % in Air (2)	
	Audible	Visual - LED			
	Tick rate	First Amber	Red	Lower	Upper
	(ppm) (1)	(ppm)	%		
Acetylene	10	750	2.0	2.5	81.0
Ammonia	10	1,000	1.0	15.5	26.6
Butane	10	850	.8	1.9	8.5
Carbon Monoxide	50	20,000	--	12.5	74.0
Chlorine	--	--	No Response	--	--
Ethanol	10	750		.4	4.7
Ethylene Oxide	5	500	.3	3.0	100.0
Freon 12	100	1,500	--	--	--
Freon 22	10	500	.07	--	--
Freon 500	10	500	.07	--	--
Freon 502	5	250	.2	--	--
Gasoline (leaded)	10	750	.4	1.4	7.5
Gasoline (unleaded)	10	900	.5	1.5	7.5
Halon 1301	700	50,000 Non-Flammable		--	--
Hydrogen	5	250	.3	4.0	75.0
Hydrogen Sulfide	1	50	.05	4.3	45.5
Jet Fuel (JP-4)	5	350	.1	1.16	6.0
(4) Methane	10	1,000	2.0	5.3	14.0
Methonal	10	850	.4	7.3	36.0
Methylene Chloride	10	600	.2	--	--
Propane	10	750	.8	2.2	9.5
Trichloroethylene	5	100	.07	--	--

Notes

1. This is the sensitivity level at which perceptible change in tick occurs.
2. The data relating to limits of flamability represent the finding of the scientific community. All other data represents the typical performance of the GAS•TRAC INSTRUMENT.
3. The above chart reflects the detector's response when calibrated to specific methane standards. As noted (4)
4. Factory Calibration setting

FIGURE 2

- 1.7 The GAS●TRAC instrument has no tubes to connect, no bulbs to squeeze, and needs no purging before, or after use. It's convenience and simplicity make it the tool of choice for anyone who must quickly test the atmosphere in manholes, cable vaults, buildings and excavations.
- 1.8 The GAS●TRAC instrument is sensitive to a large number of combustible gases, toxic gases, solvents, vapors, smoke or refrigerants. Figure 2.

Note: The GAS●TRAC instrument will react to the listed materials singly or in combination.

2.0 DESCRIPTION

- 2.1 The GAS●TRAC instrument Model NGX-6 Combustible gas detector is an advanced state-of-the-art tool. Figure 1.
- 2.2 It is a one-piece hand held unit with a rugged plastic case containing batteries, solid-state circuitry, controls and the audio/visual alarm system. An ultrasensitive solid-state Sensor is mounted at the end of a sixteen-inch flexible gooseneck that extends from one end of the case.
- 2.3 The GAS●TRAC instrument takes advantage of the principles of convection and diffusion to sample the air surrounding the Sensor. It makes precise measurement of changes in sensor resistivity caused by the presence of combustible gas and other contaminants. Slight changes cause the unit to generate audible and visual warnings or alarms.
- 2.4 The GAS●TRAC instrument is fitted with a slide switch that turns power on and off. If the switch is left "ON," the power will shut down automatically after fifteen minutes, stopping battery drain. Sliding the switch to "OFF," and then to "ON" once more, restarts the unit.
- 2.5 The GAS●TRAC instrument is calibrated to respond to specific amounts of methane gas in the air. It has four light-emitting diodes (LED) that light up when the GAS●TRAC instrument senses various concentrations of combustible gas or other contaminants. Two of the diodes indicate that air around the sensor is in a nonexplosive range: See "Relative Sensitivity Chart" (Figure 2) for GAS●TRAC instrument response to frequency encountered gases.

SATISFACTORY RANGE

Note: Due to the increased list of toxic/combustibles being produced by industry, any significant change of tick rate or any LED being lit should be cause for caution.

- 2.5.1 A **GREEN** “Ready” Light. When this LED is lit, it means the tool is ready for use, and the air in contact with the sensor is in a nonexplosive range.
- 2.5.2 An **AMBER** “Slight Warning” Light. The GAS~~TRAC~~ instrument is calibrated so that gas/air mixture of about ten per cent (10%) of the lower explosive limit (LEL) for methane causes the LED to light up. Even though it may light up because of gases or contaminants other than methane, the atmosphere around the Sensor is in a nonexplosive range, relating to gases listed on the “Relative Sensitivity Chart.” Figure 2.
- 2.5.3 The other two LEDs indicate that the air in contact with the GAS~~TRAC~~ instrument sensor is in an unsatisfactory range.

NOTE: The GAS~~TRAC~~ instrument cannot be used to determine oxygen levels.

UNSATISFACTORY RANGE – WARNING: DO NOT ENTER MANHOLE.

- 2.5.4 An **AMBER** “Medium Warning” Light. The GAS~~TRAC~~ instrument is calibrated so that a methane gas/air mixture at about twenty percent (20%) of the LEL for methane, causes this LED to come on.
 - 2.5.5 A **RED** “Alarm Warning” Light. The GAS~~TRAC~~ instrument is calibrated so that a methane gas/air mixture at (or exceeding) about forty percent (40%) of the LEL for methane causes this LED to flash on and off repeatedly. See “Relative Sensitivity Chart” (Figure 2) for other gases.
 - 2.5.6 Any gas-in-air or contaminant combination that causes either of these LEDS to light is potentially hazardous, for purposes of this practice. **DO NOT ENTER MANHOLE. CONTACT SUPERVISOR IMMEDIATELY.**
- 2.6 In addition to the warning lights, the GAS~~TRAC~~ instrument has an audio system that features an electronic ticking sound. The tick rate (number of ticks per second) is variable, and is regulated by means of a thumb-operated control wheel.
 - 2.7 In use, the tick rate is adjusted to tick about once a second. When the unit senses gases or other contaminants the tick rate speeds up rapidly. In fact, it only takes about 10 parts per million (PPM) of methane in the air to increase the tick rate. See “Relative Sensitivity Chart” (Figure 2) for other gases.

2.8 NOTE: Paragraph 2.8 is not recommended by SBC. If gas is detected evacuate the manhole.

Many companies use the GAS●TRAC instrument to pinpoint the location of a gas leak source by using the tick rate. This is accomplished by rotating the thumbwheel backward as the tick rate increases, as you move toward the leak source. If you move farther away from the source the tick rate will slow or stop.

- 2.9 When the concentration of gas (or other contaminant) is strong enough to activate the flashing red alarm warning LED, the GAS●TRAC instrument also emits an unmistakably loud warbling alarm signal. The tick rate can still be adjusted while the instrument is in the “alarm” position.
- 2.10 The speaker for the GAS●TRAC instrument NGX-6 audio system is located behind the louvers in the side of the case. The speaker can be made inoperative by turning the thumb-operated control wheel to the “Audio Off” position or by inserting the earphone plug in the jack on the lower side of the case.
- 2.11 The earphone lessens disturbance to other people, and makes it easier for the operator to hear signals where there are high levels of background noise.
- 2.12 The GAS●TRAC instrument NGX-6 is powered by two “D” size and two “AA” size alkaline batteries. A fresh set of batteries provides enough power for approximately eight hours of constant use. In an emergency batteries are readily available at any hardware, drug, or grocery store. Replace the batteries when the low battery (LED) comes on. For maximum reliability the unit will continue to operate for a short time after the low battery LED comes on.
- 2.13 An extension handle adapter is an GAS●TRAC instrument NGX-6 accessory fitting. This adapter engages grooves in the hand grip area and locks into the lanyard loop by means of a latching lever. The adapter will accept an accessory extension stick, which will then fit into a tree pruner handle.

3.0 READYING AND TESTING GAS●TRAC INSTRUMENT

- 3.1 Each day, before putting the GAS●TRAC instrument NGX-6 into use, do the following things in a gas free area:

- 3.1.1 Take the GAS⁺TRAC instrument from its carrying pouch, unclip and unfold the gooseneck, and move the ON/OFF slide switch to “ON.” Check to make sure the SENSOR has no mud or other material stuck on it. If there is, remove and clean by wiping the sensor off and allow to dry. You may wash the cap and filter screen with soap and water, then allow it to dry also. Then use the quick check procedure as outlined in 3.2.

Caution: Use care in handling the gooseneck. When folding it for storage, don’t bend it so sharply that it breaks where it enters the case.

- 3.1.2 During initial warm-up it is normal (but not required) that the LEDs individually light in sequence, progressing from the green “READY” light to the amber LEDs, to the red “ALARM” LED, and then more slowly sequence back until the green “READY” light stays on. The time required for this could take up to one minute, depending on the length of time since the tool was last used and the temperature.

Note: If detectable gases are present in the area where the instrument is turned on, the green “READY” light may not come on at all. In such a case, move to a different location that is free of gas, and observe to see if the green “READY” light comes on.

- 3.1.3 If the LOW battery LED lights up, change the batteries.
- 3.1.4 Use the thumb-operated “Tick Rate” control wheel to adjust the tick rate to about one tick per second.
- 3.1.5 If the green “READY” light is on, and the tick rate is adjusted correctly, proceed to make the calibration quick check outlined in Part 3.2. Otherwise, return the unit for routine maintenance in accord with local procedure, if you cannot obtain the green “READY” light or adjust the tick rate.

3.2 Calibration Quick Check: NOTE: Do NOT use the gas regulator provided with the “B” or “C” test kit for testing GAS⁺TRAC instrument. Use only Calibration Flow Regulator.

- 3.2.1 Use the Calibration Quick Check Kit to verify that the unit is properly operating. Non approved test gas may cause damage to Gas⁺Trac or give false readings.

- 3.2.2 The calibration quick check kit consists of one small lightweight steel cylinder of 2.5% test gas, a valve to regulate gas flow, a hose with an adapter for applying gas to the GAS☛TRAC instrument sensor.
- 3.2.3 For the calibration quick check, use the special calibration gas cylinder labeled “2.5% Methane-Air mixture,” (two and one half percent) only.
- 3.2.4 Screw the valve from the Calibration Quick Check Kit onto the cylinder hand tight. Then open the valve and let the gas purge the hose and adapter for about one minute.
- 3.2.5 Next, hold the adapter in place over the GAS☛TRAC. Within twenty seconds the red “Alarm Warning” LED should start to flash and the alarm horn should sound a loud warbling signal.
- 3.2.6 Close the valve, remove the adapter from the Sensor and remove the valve from the cylinder to prevent leakage. As the gas dissipates, the alarms should cease, and the LED’s should sequence back to the normal green “READY” light and the tick rate should slow back to it’s original setting.
- 3.2.7 If the GAS☛TRAC instrument reacts to the test as described, it is ready for operation. If not, it is malfunctioning and must be returned for maintenance in accordance with local routine.

Caution: Do not check the operation of the gas detector by sampling the vapors from truck exhaust, gasoline, propane, a butane lighter, or acetylene, this will permanently damage the sensor and will effect it’s accuracy. Only the special gas in the Calibration Quick Check Kit is suited for this application.

4.0 OPERATION

- 4.1 Before entering a manhole, observe the precautions, and use the testing and ventilating procedures in accordance with local procedure.
- 4.2 Precautions and procedures related to Cable Entrance Facilities (CEF) and to Gas Venting Chambers are covered in the same section.
- 4.3 **REMEMBER: When using the GAS☛TRAC instrument to check the atmosphere in working environment, interpret its signals as follows:**

- 4.3.1 The air in the vicinity of the GAS-TRAC instrument is in a “NONEXPLOSIVE RANGE” when the green “Ready” LED or the amber “Slight Warning” LED is lit.
- 4.3.2 Air around the GAS-TRAC instrument is in the “UNSATISFACTORY RANGE” whenever the “Medium Warning” LED is lit or the red “Alarm Warning” LED is flashing.
- 4.4 Prepare the GAS-TRAC instrument as covered in Part 3. **Caution: If the ON/OFF slide switch was left in the “ON” position the last time the tool was used, or if the tool has been in constant use more than fifteen minutes, the GAS-TRAC instrument will have shut itself off to stop battery drain. In such a case, restart the unit by sliding the switch to “OFF” momentarily, and then back to “ON.”**
- 4.5 First test the air at the manhole opening. Using an extension (Figure 3) handle lower the GAS-TRAC instrument into the manhole and make an initial gas test near the level a worker’s head will be at in the manhole. If water is at head height, test the air one foot above the water. Use care, and keep the Sensor from getting wet. If the sensor accidentally gets wet, allow to dry completely then retest instrument according to Calibration Quick Check procedures. If unit will not self test, return for repair.

Extension Adapter:

1. Slide the extension adapter firmly into the grooves in the handle of the Instrument. The slot on the extension adapter must fit over the lanyard loop.
2. Rotate the lever to lock the extension adapter onto the lanyard loop.
3. A paint-roller type of extension handle or a broom handle can now be screwed into the extension adapter. Be sure the handle fits firmly into the extension adapter before using the Instrument.

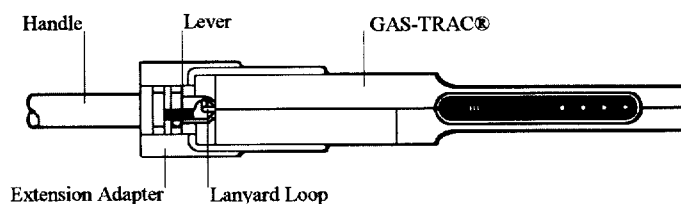
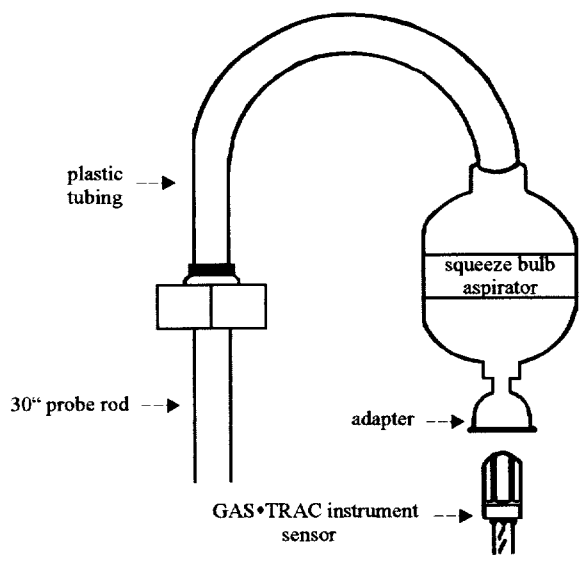


FIGURE 3

- 4.6 Purge the manhole atmosphere with a power blower, and make the additional tests described in local procedure.
- 4.7 If testing from above ground gives results in a “SATISFACTORY RANGE” take the GAS●TRAC instrument into the manhole to check for pockets of gas in all corners, high and low, and at all duct entrances, while properly power ventilating.
- 4.8 At any CEF requiring testing prior to entry, prepare the GAS●TRAC instrument and check around the edges of the vault doorway. If signals indicate a safe atmosphere, open the door just enough to insert the gooseneck. Check high and low. If signals indicate that the air inside is safe, enter and make a general sweep of the CEF, paying particular attention to corners and to the cable entrances.
- 4.9 If the GAS●TRAC instrument signals “Medium Warning” or “Alarm Warning,” exit the CEF immediately and follow the measures described in local procedures.
- 4.10 Sometimes gas sampling tubes are permanently installed in a very small number of manholes and CEFs. These tubes permit remote initial sampling of air drawn from the interior of a manhole or CEF by means of a squeeze-bulb aspirator. These tubes are most often found in manholes with a very deep neck or an offset access passageway.
- 4.11 A special adapter/aspirator bulb combination (Figure 4) is an accessory item to be used with the GAS●TRAC instrument to sample the air at these special installations. The procedure is as follows:
 - 4.11.1 Pump out any water in the manhole to a level at least one foot below the end of the gas sampling tube.
 - 4.11.2 Blow air through the tube to clear it of water.
 - 4.11.3 Test the accessory aspirator bulb and its short length of tubing for proper operation. Hold one finger tightly over the end of the tubing, then squeeze and release the bulb. If it inflates in less than ten seconds, replace the bulb and repeat the test.
 - 4.11.4 Connect the tube from the squeeze bulb aspirator to the upper end of the manhole gas sampling tube. Ready the GAS●TRAC instrument for use, and hold its sensor into the adapter.

FIGURE 4



- 4.11.5 Draw a sample of the manhole atmosphere to the GAS•TRAC instrument sensor by squeezing and releasing the aspirator bulb at least five times plus one squeeze for each five feet of tubing.
- 4.11.6 If the GAS•TRAC instrument indicates that this initial sample is in a “SATISFACTORY RANGE,” make additional tests specified in local procedures and as outlined in section 4.6, 4.7, 4.8, and 4.9.
- 4.11.7 The special adapter/aspirator bulb combination fitted onto the GAS•TRAC instrument makes it suitable for testing gas venting chambers, following the procedures called out in local procedures.

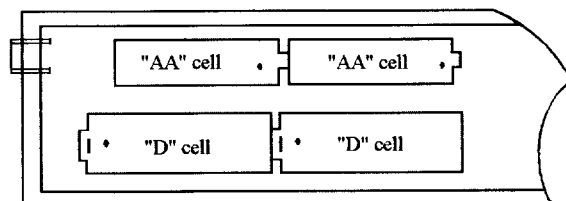
5.0 MAINTENANCE

- 5.1 The battery compartment is inside the GAS•TRAC instrument NGX-6 handgrip (Figure 3). To replace the batteries, loosen the compartment screw, and remove the cover. Replace the batteries with two fresh “D” size and two fresh “AA” size alkaline batteries. Be sure to install them so their polarity markings match those embossed on the case inside the battery compartment.

NOTE: DO NOT USE nickel cadmium batteries. To maintain FM and MSHA certifications only the following batteries may be used.

EVEREADY number E95 and E91

RAY-O-VAC number 813 and 815



Battery Polarity
FIGURE 5

5.2 The GAS⁺TRAC instrument combustible gas detector requires recalibration any time it fails the calibration quick check called for in Part 3.2. This instrument requires an annual recalibration.

5.2.1 Recalibration and all maintenance (except battery changes) should be performed by qualified persons assigned responsibility for such work. Field craft should not try to recalibrate the instrument.

5.3 Recalibration Procedure:

5.3.1 Power up the GAS⁺TRAC instrument and let it warm up for about ten (10) minutes.

5.3.2 Remove the tape seals covering the calibration Adjustment Ports (Refer to Figure 6).

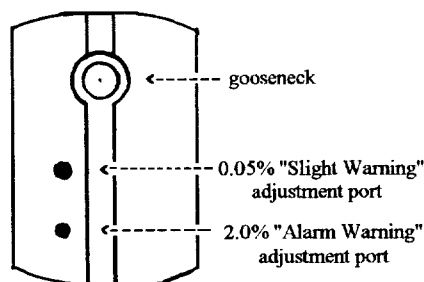


FIGURE 6

5.3.3 “Alarm Warning” Two per cent (2%) Adjustment:

Screw the valve from the Calibration Kit onto the cylinder of special calibration gas labeled “2.0% Methane-Air Mixture,” (two per cent methane in air), (Hand-tight is sufficient.) Open the valve and purge the hose with gas about one minute.

5.3.4 Hold the adapter in place over the GAS●TRAC instrument and apply gas to the Sensor.

5.3.5 Insert a jeweler’s screwdriver in the (two per cent) 2% “Alarm Warning” Adjustment Port. Slowly turn the adjustment screw counter-clockwise, or clockwise until the red “Alarm Warning” light just flashes on.

5.3.6 Close the valve on the calibration gas cylinder, disengage the sensor from the adapter, but do not turn off the GAS●TRAC instrument.

5.3.7 “SLIGHT WARNING” 0.05% Adjustment:

Next, screw the valve onto the cylinder of special calibration gas labeled “0.1% Methane-Air Mixture,” (one-tenth per cent methane in air) and open the valve to let the 0.05% gas purge the hose of the 2.0% gas residue. Wait about one minute to ensure a complete purge. Leave the GAS●TRAC instrument on during the purge.

5.3.8 Hold the adapter onto the sensor. Insert the screwdriver in the 0.05% (5000 PPM) adjustment port. Rotate the screwdriver counter-clockwise, or clockwise, until the amber “Slight Warning” LED just comes on. The GAS●TRAC instrument is now correctly calibrated, and can be shut off. Close the valve, disengage the Sensor and adapter, and remove the valve from the gas cylinder, to prevent leakage.

5.3.9 If calibration cannot be done satisfactorily, replace the Sensor and repeat steps 5.3.1 thru step 5.3.8.

NOTE: Replace the Sensor by rotating the sensor cap, one fourth turn counter clockwise, unplug the sensor and plug in a new sensor. Reinstall the Sensor Cap.

WARNING: Always make the 2% (two per cent) “Alarm Warning” adjustment BEFORE making the 0.05% (5000 PPM) “Slight Warning” adjustment.

5.3.10 Write the date of calibration and initials of the person who did the calibrating on an adhesive label, and use it to reseal the adjustment ports.

6.0 REPAIR / RETURN PROCEDURES.

- 6.1 Since the GAS~~TRAC~~ instrument NGX-6 is a Factory Mutual certified instrument it must be returned to a Factory Mutual authorized repair station. Failure to do so will void the certifications.
- 6.2 If the instrument does not operate properly after the calibration quick check test and authorized field calibration return the unit to:

For UPS Shipments send to:
U-Teck
1682 Middle River Loop
Fayetteville, NC 28301
ATTN: CUSTOMER SERVICE
DEPT.

For Mail or Parcel Post send to:
U-Teck
P.O. Box 2484
Fayetteville, NC 28302
ATTN: CUSTOMER SERVICE
DEPT.

- 6.3 If you have questions please call U-Teck Customer Service Manager at 800-542-7011.
- 6.4 This Instrument is warranted for a period of two years from date of purchase and has been inspected numerous time, by the Factory, an outside inspection firm, J and N Enterprises, Inc., and U-Teck personnel. The GAS~~TRAC~~ instrument NGX-6 is sealed. Unauthorized tampering with the unit can cause the warranty to be voided.
- 6.5 A warranty statement is enclosed with each GAS~~TRAC~~ instrument NGX-6) in the instruction book.

6.6 WARRANTY STATEMENT

Warranty and Repair Policy: Your GAS~~TRAC~~ instrument NGX-6 is warranted by the manufacturer to be free from defects in material and workmanship for a period of two years after date of purchase (excluding calibration, sensors and batteries). If, within the Warranty period, your instrument should become inoperative from such defects, a no charge repair or replacement will be made to the original purchaser. This applies to all repairable instruments which have not been opened, tampered with or damaged. Repairable instrument out of Warranty will be repaired for a service charge. Replacement is at vendors option.

Return all instruments for Warranty or Repair Work postage prepaid and insured to:

For UPS Shipments send to:
U-Teck
1682 Middle River Loop
Fayetteville, NC 28301
ATTN: CUSTOMER SERVICE DEPT.

For Mail or Parcel Post send to:
U-Teck
P.O. Box 2484
Fayetteville, NC 28302
ATTN: CUSTOMER SERVICE DEPT.

PHONE: 1-800-542-7011

For Customer Service, Training, and Certification contact:

U-Teck
Customer Service Manager
P.O. Box 2484
Fayetteville, NC 28302

Phone – 800-542-7011
Fax – 910-483-0784

7.0 GAS DETECTOR and ACCESSORIES (Figure 9)

- 7.1 Set Test, GAS TRAC NGX-6 (SBC# 300128428 / SNET# 9517615)** – Used for detecting explosive gases in manholes and other confined spaces. For safe and proper test always use Set Test Quick Check Kit to verify accuracy of indicator according to company practices each time before entering a manhole. For proper usage the Set Test Quick Check Kit and Set Test Quick Check Kit Carry Bag is needed.
- * 7.2 Set Test, GAS TRAC NGX-6 Quick Check Kit (SBC# 300128436 / SNET# 9517813)** – For GAS TRAC NGX-6, should be used each time to check the NGX-6 before you enter the manhole according to practice. Should be ordered with GAS TRAC NGX-6 and Set Test Quick Check Kit Carry Bag.
- 7.3 Set Test, GAS TRAC Quick Check Replacement Gas 2.5% Methane (SBC# 300128444 / SNET# 9518019)** – Replacement 2.5% Gas for Quick Check Kit that is used to test the GAS TRAC NGX-6.
- 7.4 Set Test, GAS TRAC NGX-6 Regulator (SBC# 300128451 / SNET# 9518217)** – Replacement regulator for the GAS TRAC NGX-6, Calibration Kit or Quick Check Kit.
- 7.5 Set Test, GAS TRAC NGX-6 Calibration Kit Complete (SBC# 300128469 / SNET# 9518415)** – Used for calibration of the GAS TRAC NGX-6. Kit includes: hard carrying case, 1 full cylinder of 2% methane, 1 full cylinder of 5000 ppm methane, tubing, screw driver, and regulator.
- 7.6 Set Test, GAS TRAC Replacement Gas 0.5% (5000ppm) Methane (full) (SBC# 300128477 / SNET# 9518613)** – Replacement gas for Set Test calibration Kit.
- 7.7 Set Test, GAS TRAC Replacement Gas 2.0% Methane (full) (SBC# 300128485 / SNET# 9518811)**– Refill 2.0% methane gas for Set Test Calibration.
- 7.8 Set Test, GAS TRAC Probe Monitor 30" (SBC# 300128493 / SNET# 9519017)** – Non-conductive probe 30" to be used with the GAS TRAC NGX-6 for testing manholes. Should be used according to company practices before entering manhole to test through pull hole.

- 7.9 Set Test, GAS TRAC (Replacement) Sensor (SBC# 300128501 / SNET# 9519215)** – Replacement sensor for the GAS~~TRAC~~ NGX-6. Field replaceable according to company practice.
- 7.10 Set Test, GAS TRAC Extension Stick (SBC# 300128519 / SNET# 9519413)** – Used to lower the GAS~~TRAC~~ NGX-6 into manholes to test for explosive gases before entry.
- * 7.11 Set Test, GAS TRAC Quick Check Kit Carrying Bag (SBC# 300128527 / SNET#9519611)** – Protective bag to carry Set Test Quick Check Kit components.
- 7.12 Set Test, GAS TRAC Total Support System (SBC# 300128691 / SNET# 9561175)** – Yearly services for the GAS~~TRAC~~ NGX-6. Factory trained technician comes on site to check performance of unit, recalibrate (if necessary) and assures unit accuracy. Call for service one (1) year from date of last certification (1-800-542-7011).

*** Denotes Mandatory Accessory to accompany the GAS~~TRAC~~ NGX-6.**

8.0 TROUBLE SHOOTING COMMON PROBLEMS

CONDITION EXISTING	REMEDY PROCEDURE
8.1 Instrument will not turn on.	*Check to see if low battery warning light is on. If it is, replace batteries. If batteries are completely dead the low battery warning light might not light. Replace batteries.
8.2 Instrument goes out/off on occasion.	Your GAS●TRAC Instrument has an automatic 15 minute time out. Turn switch to off position then back on. Always check the low battery light.
8.3 Green Ready light will not come on after warm-up.	You may be in a slightly contaminated area. Move to another area. The instrument may be out of calibration. Have unit calibrated according to 5.3.
8.4 Red Alarm will not light when Quick Check is performed.	Sensor could be dirty. Remove filter cap and clean cap with water. Only wipe sensor with clean dry cloth. Replace cap and retest. Unit could be out of calibration. Have calibrated according to 5.3. Unit is malfunctioning, return to repair station for repairs as outlined in 6.2.
8.5 Unit is extremely dirty from usage.	The case on your GAS●TRAC Instrument is very durable and can be cleaned using window cleaner and a soft rag. Never spray onto the unit itself. Wet the rag and wipe. WD-40 is also a good solvent for more stubborn marks. Do not spray cleaners onto sensor.
8.6 Call U-Teck Technical Services 1-800-542-7011 if you have any questions.	
8.7 Remember – do not open the instrument unless authorized to do so.	

* If Gas●Trac is not equipped with a filter assembly the sensor assembly should be updated.

***Note: When replacing batteries always use the proper batteries and be sure to observe the proper polarity. Placing batteries in the instrument incorrectly will not damage the electronics, however the GAS TRAC instrument NGX-6 will not work with improperly installed batteries.**

9.0 PARTS

9.1 There are a number of parts for the GAS TRAC Instrument NGX-6 and the accessories that can be ordered:

Part # SBC/SWBT/PAC/NV	Part # SNET	Item Description
300128428	9517615	Set Test, GAS TRAC NGX-6
300128436	9517813	Set Test, GAS TRAC NGX-6 Quick Check Kit
300128444	9518019	Set Test, GAS TRAC Quick Check Replacement Gas 2.5% Methane
300128451	9518217	Set Test, GAS TRAC NGX-6 Regulator
300128469	9518415	Set Test, GAS TRAC NGX-6 Calibration Kit Complete
300128477	9518613	Set Test, GAS TRAC Calibration Gas 0.5% (5000ppm) Methane (full)
300128485	9518811	Set Test, GAS TRAC Calibration Gas 2.0% Methane (full)
300128493	9519017	Set Test, GAS TRAC Probe Monitor 30"
300128501	9519215	Set Test, GAS TRAC Replacement Sensor
300128519	9519413	Set Test, GAS TRAC Extension Stick
300128527	9519611	Set Test, GAS TRAC Quick Check Kit Carrying Bag
300128691	9561175	Set Test, GAS TRAC Total Support System

These parts are available only from SBC catalog.

ACCESSORIES



Set Test Indicator, GAS-TRAC NGX-6

Part Numbers

SBC

300128428

SNET

9517615



Set Test Quick Check Kit

Part Numbers

SBC

300128436

SNET

9517813



Set Test Quick Check Replacement Gas 2.5% Methane

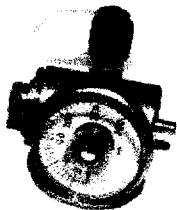
Part Numbers

SBC

300128436

SNET

951813



GAS-TRAC NGX-6 Regulator

Part Numbers

SBC

300128451

SNET

9518217



Set Test Calibration Kit Complete

Kit Includes:

Hard Carrying Case

1 full Cylinder of 2% Methane

1 full Cylinder of 5000 ppm (0.5%)

Tubing

Screw Driver

Regulator

Part Numbers

SBC

300128469

SNET

9518415



Set Test Replacement Gases
0.5% (5000ppm) Methane

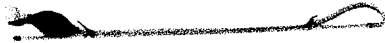
Part Numbers

SBC	SNET
300128477	9518613

2.0% Methane

Part Numbers

SBC	SNET
300128485	9518811



Set Test Probe Monitor 30"

Part Numbers

SBC	SNET
300128493	9519017



Sensor, Set Test Gas Monitor (Replacement)

Part Numbers

SBC	SNET
300128501	9519215



Set Test Gas Monitor Extension Stick

Part Numbers

SBC	SNET
300128519	9519413



Set Test Quick Check Kit Carrying Bag

Part Numbers

SBC	SNET
300128527	9519611

Total Support System "TSS"

Part Numbers

SBC	SNET
300128691	9561175