



# MultiRAE USAF Wing-Tank Entry Gas Monitor Set

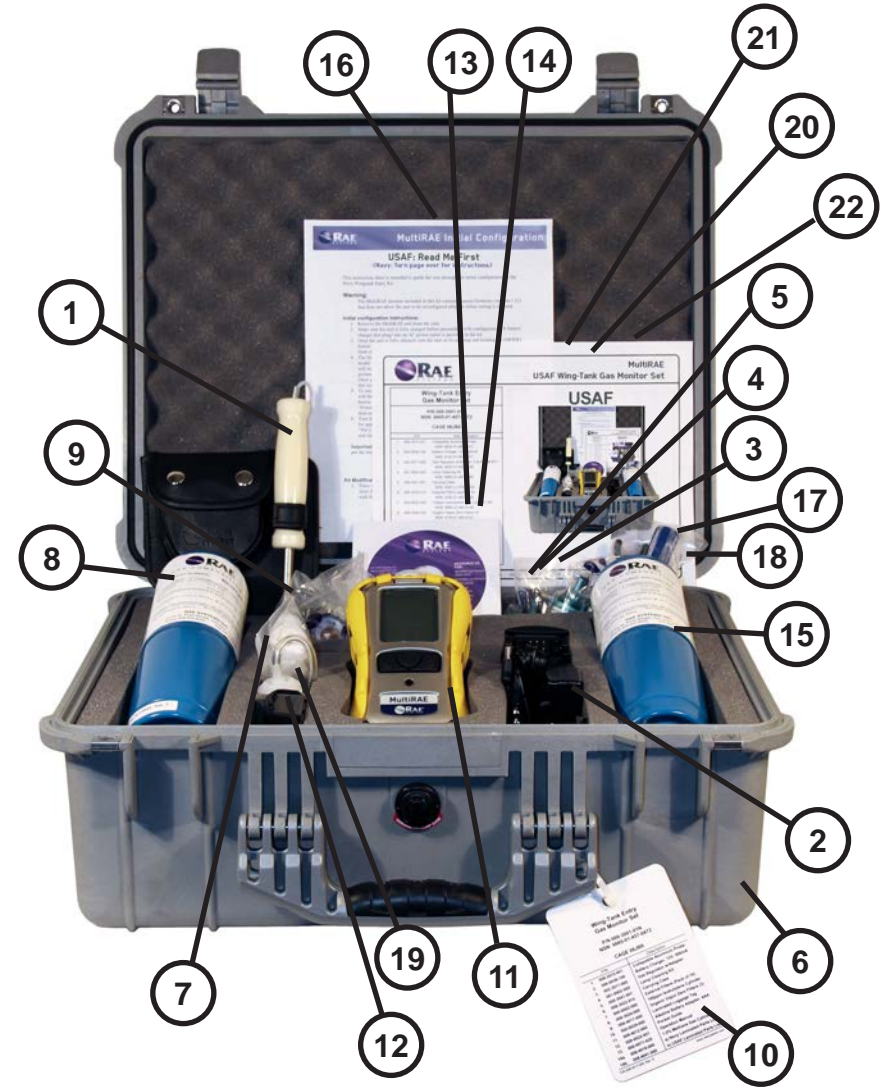
## Wing-Tank Entry Gas Monitor Set

P/N GVMBB3-A1C1E00-WT1

CAGE 06JB6

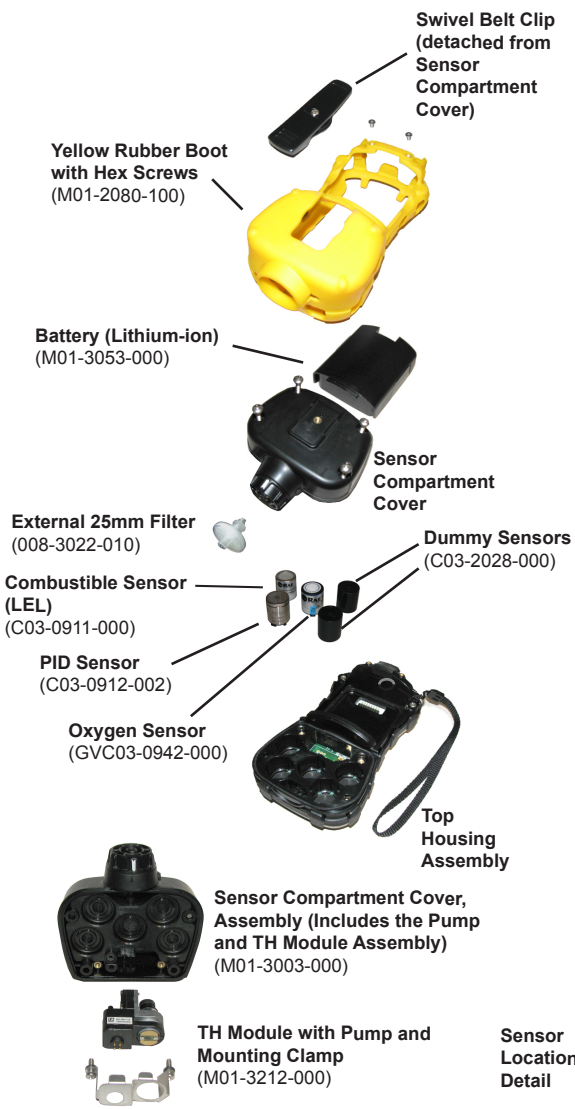
| P/N               | Part Description   |
|-------------------|--|
| 1. 008-3015-001   | Collapsible aluminum Probe<br>NSN: 6625-01-462-2231            |
| 2. 500-0036-100   | Battery charger<br>NSN: 6140-01-462-2231                       |
| 3. M01-3021-000   | Travel Charger<br>NSN: 6130-01-6101123                         |
| 4. GVC-2000-000   | Gas regulator, w/adaptor<br>NSN: 4820-01-462-1861              |
| 5. 081-0002-000   | Lamp cleaning kit<br>NSN: 6665-01-462-2469                     |
| 6. 701-0001-000   | Carrying case<br>NSN: 0000-LL-F00-G534                         |
| 7. 008-3022-010   | External filters (pack of 10)<br>NSN: 4330-01-462-2259         |
| 8. 600-0002-000   | 100 ppm isobutylene cylinder<br>NSN: 3655-01-460-0148          |
| 9. GVC-2200-000   | Organic vapor zero filter (pack of 3)<br>NSN: 4730-01-462-0741 |
| 10. M01-4031-000  | Laminated luggage tag  |
| 11. --            | MultiRAE gas monitor   |
| 12. M01-3054-000  | Alkaline battery adapter, 4 AA<br>NSN: 6130-01-6092991         |
| 13. M01-4005-000  | CD, MultiRAE Series  |
| 14. 000-5007-001  | CD, ProRAE Studio II   |
| 15. 600-1001-000  | 2-Mix, CH <sub>4</sub> 1% / O <sub>2</sub> 18% cylinder        |
| 16. M01-4029-000  | "Read Me First" Sheet  |
| 17. 081-0016-000  | Tool Kit   |
| 18. 410-0203-000  | Cable, USB 2.0   |
| 19. M01-3011-000  | Calibration cap  |
| 20. M01-4015-000  | Laminated Operation Guide                                      |
| 21. 840-2106-P00  | TN-106, Poster   |
| 22a. M01-4030-000 | Navy laminated parts list                                      |
| 22b. M01-4030-001 | USAF laminated parts list                                      |

# USAF





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### MULTIRAE ALARM SUMMARY

When the MultiRAE detects levels that are potentially dangerous it provides both audible and visible alarms that increase in frequency with the severity of the situation and will automatically turn off when the levels return to normal.

#### Oxygen

- Low alarm: beeps 2x per second when the oxygen concentration falls below 19.50%. The operator should immediately leave the wing tank.
- High alarm: beeps 3x per second when the oxygen concentration increases above 23.00%. The operator should immediately leave the wing tank.

**VOC:** the Volatile Organic Compound (VOC) sensor is the primary sensor to be used for making combustible gas (LEL) decisions in wing tank entries where jet fuel and other organic fuels and solvents are to be encountered.

**Low alarm:** beeps 2x per second when the VOC concentration exceeds 600 ppm, this is the same as 10% of LEL JP8 measured in ppm. The operator should immediately leave (non-foamed) wing tanks.

**High alarm:** beeps 3x per second when the VOC concentration exceeds 1200 ppm, this is the same as 20% of LEL JP8 measured in ppm. When working in a foamed wing tank, operations can take place in concentrations over 10% of LEL (or 600 ppm) but below 20% of LEL or 1200 ppm. In the area between 600 ppm and 1199 ppm the MultiRAE will alarm 2x per second. When it reaches 1200 ppm, the alarm will start beeping 3x per second and operations within the foamed tank should cease and operators exit until the concentration has decreased below the high alarm limit.

**LEL:** the VOC channel is to be used as the primary alarm for combustible vapor levels and the LEL sensor is included for backup purposes. The LEL sensor alarms have been set to high levels that effectively disable them for this application.

### BATTERY USAGE

Note: As per manual, this instrument will slowly discharge both alkaline and rechargeable batteries. If batteries are completely dead, the oxygen sensor may take up to 1.5 hours to stabilize once batteries are replaced. Note that the rechargeable battery can be indefinitely placed on recharge without ill effect. If the MultiRAE is to be stored more than 2 weeks off the charger, it is recommended to remove the Li-ion battery to prevent permanent damage to the battery.

### JP-5 & JP-8 RESPONSE TIMES

The gas monitor, when sampling JP-5 and JP-8 jet fuel vapors, will take at least 60 seconds to get an accurate response for both the LEL and ppm ranges. Note that readings may still slowly rise for another minute before stabilizing. The initial one-minute readings are accurate, but readings taken afterwards may be the same or higher. If checking several different locations, sample fresh air to clear the sensors. This may prevent high readings at the next sampling location.

### ORGANIC FILTER ZERO CALIBRATION ADAPTER

During fresh air calibration, the monitor will measure "fresh air" at 0 ppm, regardless of whether there are organic compounds present, and reset itself incorrectly to 0 ppm. This filter removes the organic compounds (e.g., fuel or solvents) that may be present in ambient air during fresh air calibration allowing for an accurate zeroing. Use of this filter is unnecessary if "fresh air" (free of organic vapors) is available. Mark filter housing once per every use. Filters may be used 20 times before discarding.

