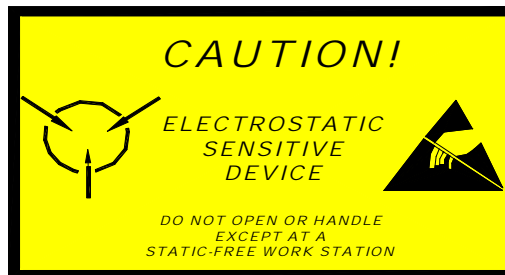




05-001B
2 May, 2007

CO2 MOTOR WITH PURGE REPLACEMENT KIT FOR A AND E SERIES INSTRUMENTS

- I. PURPOSE:**
To give the customer instructions on how to replace the CO2 motor with purge in their A or E series instrument..
- II. TOOLS:**
Phillips Head Screw Driver
Diagonal Cutters
- III. PARTS:**
KIT000216 - A SERIES INSTRUMENT
KIT000217 - E SERIES INSTRUMENT



The electronics used in T-API analyzers are sensitive to Electrostatic Discharge (ESD). When working on any T-API device, please ensure that you are properly grounded prior to handling or touching any electronic circuitry in the analyzers! For more information on how to protect sensitive components from ESD during handling, please contact T-API customer service and ask for the ESD Service note number 03-022A.

- IV. PROCEDURE:**
THIS SERVICE NOTE IS FOR THE REPLACEMENT OF THE CO2 PURGE MOTOR. PLEASE FOLLOW THE INSTRUCTIONS THAT PERTAIN TO YOUR A OR E SERIES INSTRUMENT

FOR "A" TYPE INSTRUMENTS ONLY

1. Power down the instrument, remove the AC power cord from the instrument and the wall outlet.
2. Remove the cover from the instrument.
3. Turn the instrument on its side, while holding the bench remove the (4) screws that hold the bench to the chassis. Turn the instrument back right side up.
4. Disconnect the connectors for the IR Source, Motor, Detector, Heater/Thermistors and also the ground strap on the bench. You may have to use diagonal cutters to cut some of the tie wraps in order to disconnect the connectors.

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5. Once all of the connectors have been disconnected remove the entire bench from the instrument, remove the (3) Phillips head screws that attach the heat sink to the bench. Shown in Figure 1.
6. Remove the motor, heat sink and dustcover as a whole piece from the side of the bench. You may have to remove the thermistor and heater on the side of the heat sink in order to remove the assembly.
7. Remove the orange gasket that resides between the bench and the black dust cover.
8. Separate the dust cover from the heat sink by pulling it apart and removing the gasket.
9. Note the position of the mask on the wheel. You will need to put the wheel on the same way with the mask facing the bench when installing the new motor.
10. Holding the wheel use the Phillips head screwdriver and remove the screw in the center of the wheel. Retain the outer hub, this will be used again.
11. Remove the wheel from the inner hub.
12. Remove the (4) screws that hold the heat sink on to the motor.
13. Remove the wheel heat sink from the motor.
14. Remove the final gasket from the motor.
15. Discard the motor and all the gaskets these will be replaced.



INSTALLATION PROCEDURE “A” TYPE INSTRUMENT

1. Take the motor assembly and gaskets out of the KIT.
2. Ensure that there is RTV covering the wires coming out of the motor. FIGURE 2. If there is no RTV on the wires then you must contact Teledyne API Customer Service for assistance.
3. Install the round gasket over the hub and press it on to the motor. Ensure that it is centered. See FIGURE 3 for gaskets.
4. Slide the heat sink over the hub and secure the (4) screws to the motor.
5. Put the wheel on to the Inner hub noting the position of the mask in step 9 above.
6. Install the washer and the screw on to the wheel.
7. Install the gasket # 2 from the kit. Ensure that it is seated properly on the heat sink.
8. Install the dustcover on to the gasket. Ensuring that the gasket does not fold over which could create a leak. At this point I would spin the wheel to see if it spins freely with no resistance.
9. Install gasket #3 on to the dustcover. Ensuring that it is seated properly.
10. If the thermistor and heater were removed install them back into the heat sink ensuring that you coat both the thermistor and heater with the thermal grease provided in the KIT.
11. Taking the entire motor assembly line up the 3 holes on the heat sink to the 3 holes on the bench and tighten the screws.
12. Install the bench into the instrument and reconnect all of the connectors and ground strap and tighten the bench to the chassis.

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13. Hook N2 up to the purge and listen for any leaks. You should not have any major leaks. If so disassembly the assembly again and check the gaskets.
14. Power on the instrument.
15. Check all of the front panel test parameters and ensure that they fall within specifications.
16. The instrument is ready for use.

FIGURE 1

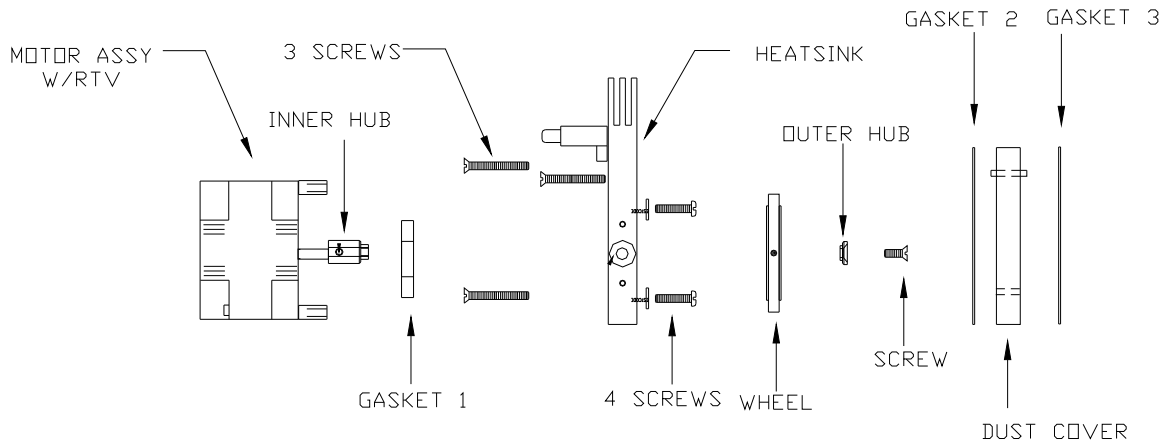
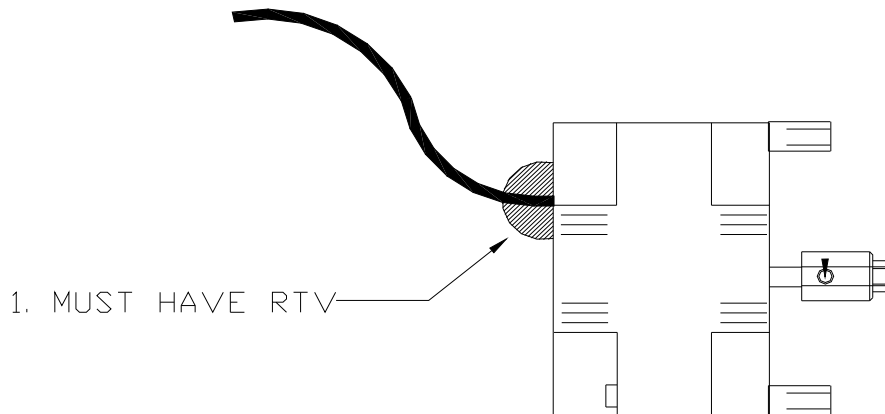


FIGURE 2

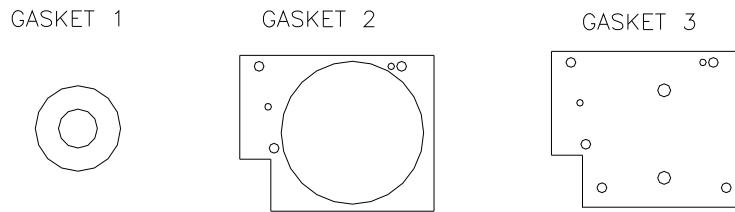


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FIGURE 3



REMOVAL “E” SERIES

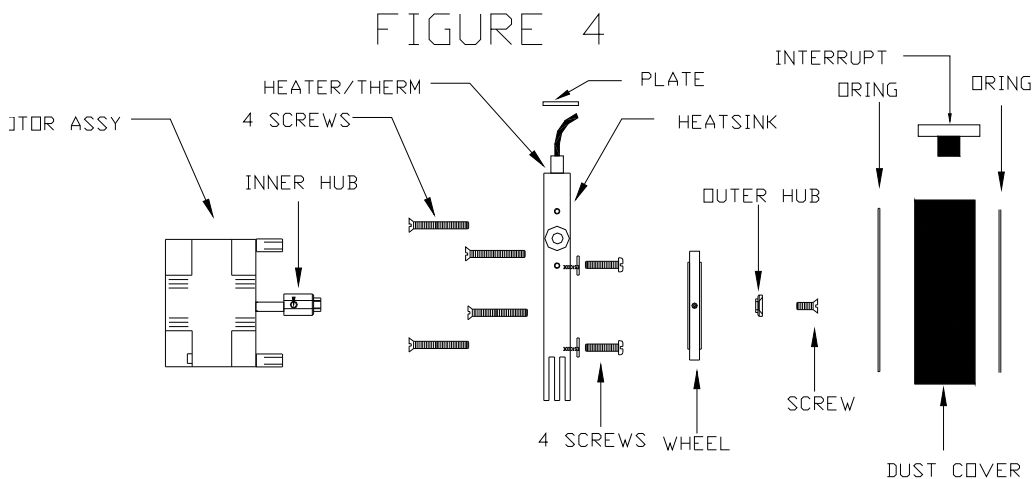
1. Power down the instrument, remove the AC power cord from the instrument and the wall outlet.
2. Remove the top cover.
3. Drop the front panel of the instrument so that you may access the screws for the interrupt board on the front of the bench.
4. Disconnect the power cable for the motor.
5. Disconnect the cable for the IR Source.
6. Disconnect the cable on the interrupt board on the board itself.
7. Disconnect the purge line from the regulator.
8. Remove the two screws that hold the interrupt board in place and remove the interrupt board from the instrument.
9. Remove the thermistor and heater from the heat sink.
10. Orient yourself so that you are facing the side of the bench with the motor.
11. Remove the 4 flat head screws from the heat sink and pull the motor assembly from the bench.
12. Separate the black dust cover from the heat sink. You will notice that there is an o-ring on each side of the black dust cover please retain the o-rings, you will need to re-install these after replacing the motor assembly
13. Orient the assembly so that the wheel and the mask are facing you.
14. Remove the screw from the center of the wheel. You may need to hold the wheel to keep it from turning when removing the screw.
15. Remove the outer hub that holds the wheel in place.
16. Separate the motor from the heat sink by removing 4 screws from the heat sink and remove it from the instrument. You may need to cut some tie wraps in order to remove the motor’s connector from the wiring harness.



INSTALLATION "E" SERIES

1. Take the motor assembly from the KIT.
2. Install the motor on to the heat sink. Fasten the 4 screws to hold the motor to the heat sink.
3. Install the wheel on to the inner hub on the motor shaft and place the outer hub on to the wheel. Use the screw removed in step 13 to tighten the wheel down. Hold the wheel to keep it from turning when tightening the screw.
4. Take the black dust cover and place one of the o-rings removed in step 11 above on to the side of the dust cover that goes to the heat sink.
5. Press the dust cover on to the heat sink ensuring the o-ring seats properly.
6. Install the interrupt board on to the dust cover and ensure that the wheel does not touch the interrupt sensors.
7. Install the remaining o-ring on to the dust cover and install the entire assembly on to the side of the bench, ensuring that the o-ring seats properly.
8. Take the 4 screws removed in step 10 above and fasten the assembly to the bench.
9. Take the thermal grease out of the KIT and apply a coat to both the heater and thermistor.
10. Re-install the heater and thermistor into the heat sink.
11. Reconnect the purge line from the regulator.
12. Reconnect the source and motor power cables.
13. Ensure that all of the connectors are connected and nothing is left hanging.
14. Turn on the instrument and connect the purge to CO2 free gas. Ensure that there are no major leaks.
15. Let the instrument run until it is up to operating temperature.
16. Check all of front panel test parameters and ensure that they are within specifications.
17. The instrument is ready for use.

If you experience any problems with this service note or have any questions please contact TAPI CUSTOMER SERVICE at api-customerservice@teledyne.com or call 858-657-9800.



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