

**PRODUCT INFORMATION****SAFETY CONCERNS REGARDING  
USED PRESSURE GAUGE REPAIR & RECONDITIONING**

Many users of Bourbon tube pressure gauges have their used gauges repaired or reconditioned by in-house personnel, or by independent repair shops. While the history of safety with respect to the use of pressure gauges has been excellent, the major cause for failure has been misapplications. The following highlights the potential dangers, to both personnel and facilities, of gauge repair.

The specific dangers include the following:

1. **Bourbon Tube Failures:** The process of repairing and reconditioning used gauges can extend the operating life of a gauge past the intended life of a Bourbon tube. This over-fatiguing of the Bourbon tube will eventually cause a rupture of the Bourbon tube, resulting in possible environmental contamination and possible harm to nearby facilities personnel.
2. **Process Media Compatibility:** A gauge removed from operation with one process media can be placed into service with a second media that is incompatible with the first media. This can cause unwanted chemical reactions, resulting in contamination of the process media, or a catastrophic explosion.

Similarly, this media incompatibility can also cause corrosion of the Bourbon tube, thereby shortening its life. This can rupture the Bourbon tube and risk personnel, the environment and facilities.

Needless to say these concerns are serious in nature and should not be treated lightly. Bourbon tube based pressure gauges need to be engineered for their specific applications to ensure long life and safety for your people, facilities and the environment.

Accordingly, the following is an excerpt from the American Society of Mechanical Engineers National Standards Manual, ASME B40.1:

- 4.4 **Reuse of Pressure Gauges:** It is not recommended that pressure gauges be moved from one application to another. Should it be necessary, however, the following must be considered:
  - 4.4.1 **Chemical Compatibility:** The consequences of incompatibility can range from contamination to explosive failure.
  - 4.4.2 **Partial Fatigue:** The first installation may involve pressure pulsation that has expended most of the gauge life, resulting in early fatigue in the second installation.
  - 4.4.3 **Corrosion:** Corrosion of the pressure element assembly in the first installation may be sufficient to cause early failure in the second installation.
  - 4.4.4 **Other Considerations:** When reusing a gauge, all guidelines covered in the Standard (B40.1) relative to application of gauges should be followed in the same manner as when a new gauge is selected.

In summary, the economic benefits of gauge repair and reconditioning are minor in comparison to the potential risk of misapplications and the resulting potential harm to people, facilities and the environment. Gauge repair and reconditioning should only be pursued if the process is well controlled and properly managed in accordance with the above considerations.

Ashcroft Inc. is not responsible for the consequences of used pressure gauge repair and reconditioning. Accordingly, the misapplication of gauges that may result from these activities will void the manufacturer's warranty.

For reprints of the ASME B40.1, contact ASME at 345 East 47th Street, New York, NY 10017.