

### TROUBLE-SHOOTING

The P290M Pneumatic-to-Current Transmitter was designed to operate for ten years or more. These devices undergo temperature cycling and many hours of burn-in before shipping.

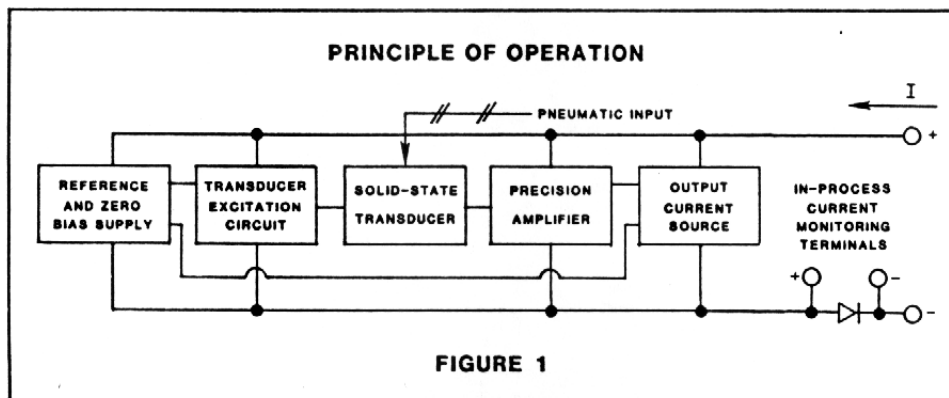
Due to the minimum number of active components, it is unlikely that your P290M Transmitter will malfunction. In the event, however, that problems do occur, the P290M may be returned to the factory for warranty repair if the warranty period has not expired. Other factory repair work can be arranged as well. See warranty information on back page. Although field repair is not advised, it may be performed through judicious use of the P390M Schematic provided.

If it were necessary to replace a component, the most likely devices would be IC1, Q1, Q2, Q3, Z1, Z2 and D3. The semiconductor strain gage is prey only to over-pressure conditions of greater than four (4) times rated full scale and to corrosive air. Otherwise, this transducer element is capable of billions of normal pressure cycles with negligible degradation and should function indefinitely. A connector for IC1 is provided to facilitate replacement of the integrated circuit.

If replacement of the semiconductor strain gage is indicated, the entire P290M must be returned to the factory. Transducer replacement requires extensive and subtle temperature compensation procedures which should only be performed at the factory.

Although inexpensive, industrial-standard components are used extensively in the P290M, the user should obtain replacement parts from the factory. Major semiconductor components within the P290M are selected for various important parameters. An "off-the-shelf" replacement, having the same generic part number, might not necessarily provide the rated performance when substituted in your P290M.

See Figures 4 and 5 for schematic and component of P290M circuit card. For P290 + P31 (Alarm option included on circuit card), see Supplement A to P290MS.



## TROUBLE-SHOOTING

The P290MV Pneumatic-to-Voltage Transmitter was designed to operate for ten years or more. These devices undergo temperature cycling and many hours of burn-in before shipping.

Due to the minimum number of active components, it is unlikely that your P290MV Transmitter will malfunction. In the event, however, that problems do occur, the P290MV may be returned to the factory for warranty repair if the warranty period has not expired. Other factory repair work can be arranged as well. Although field repair is not advised, it may be performed through judicious use of the P290MV schematic provided.

If it were necessary to replace a component, the most likely devices would be IC1, Q1, Q2, Q3, Z1, Z2 and D3. The semiconductor strain gage is prey only to overpressure conditions of greater than four (4) times rated full scale and to corrosive air. Otherwise, the transducer element is capable of billions of normal pressure cycles with negligible degradation and should function indefinitely. A connector for IC1 is provided to facilitate replacement of the integrated circuit.

If replacement of the semiconductor strain gage is indicated, the entire P290MV must be returned to the factory. Transducer replacement requires extensive and subtle temperature compensation procedures which should only be performed at the factory.

Although inexpensive, industrial-standard components are used extensively in the P290MV, the user should obtain replacement parts from the factory. Major semiconductor components within the P290MV are selected for various important parameters. An "off-the-shelf" replacement, having the same generic part number, might not necessarily provide the rated performance when substituted in your P290MV.

