

A.6.1 Reduced Pressure Principle Assembly (RP) - Five needle valve field test kit

Preliminary Steps

- Notify
- Identify
- Inspect
- Observe

Test No. 1-Relief Valve Opening Point

- 1a. Bleed test cocks.
- 1b. Install fittings.
- 1c. Attach high hose to test cock No. 2.
- 1d. Attach low hose to test cock No. 3.
- 1e. Open test cock No. 3, open low bleed needle valve and leave open.
- 1f. Open test cock No. 2, slowly.
- 1g. Open high bleed needle valve.
- 1h. Close No. 2 shutoff valve.
- 1i. Close high bleed needle valve, then close low bleed needle valve. Observe reading.
 - If reading drops to RV opening point, No. 1 check valve leaks. Go to 3b.
 - If RV does not open, reading is apparent reading across No. 1 check. Go to 1j.
- 1j. Open high control needle valve one turn and low control needle valve no more than 1/4 turn.
 - If reading drops, record opening point of RV when first drip is detected. Go to 1k.
 - If reading does not drop to RV opening point, close low control needle valve, go to T1.
 - If reading drops to 0.0 and RV does not open, record as such. Go to 1k.
- 1k. Close low control needle valve.

Test No. 2 -Tightness of No. 2 Check Valve

- 2a. Leave No. 2 shutoff valve closed.
- 2b. Open bypass control needle valve to bleed air and close bypass needle valve.
(High control needle valve remains open).
- 2c. Attach bypass hose to No. 4 test cock. Open No. 4 test cock.
- 2d. Open low bleed needle valve to raise reading above apparent, then close.
- 2e. Open bypass control needle valve.
 - If reading remains steady No. 2 check valve is OK Go to 3a.
 - If reading drops, but stabilizes above RV opening point, No. 2 check is OK Go to 3a.
 - If reading drops to RV opening point, bleed low (to raise reading above apparent reading), then close.
 - If reading stabilizes above RV opening point, No. 2 check is OK. Go to 3a.
 - If reading drops to RV opening point again, No. 2 check valve leaks. Go to 3b.
 - If reading drops to 0.0 and RV does not open, bleed low, then close.
 - If reading stabilizes above 0.0 and RV does not open, No. 2 check valve is OK Go to 3a.
 - If reading drops to 0.0 again and RV does not open, No. 2 check valve leaks. Go to 3b.
 - If reading increases, go to T2.

Test No. 3 -Tightness of No. 1 Check Valve

- 3a. Open low bleed needle valve (to raise reading above apparent reading), then close low bleed needle valve. When reading settles, record actual reading across No. 1 check valve.
- 3b. Close test cocks, open No. 2 shutoff valve, remove equipment.

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Diagnostics

T1. Attach temporary bypass hose to test cock No. 1, and open to bleed air from hose. Close test cock No. 1. Attach other end of temporary bypass hose to test cock No. 4, then open test cocks No. 1 and No. 4

- If reading stabilizes above RV opening point, re-open low control needle valve no more than 1/4 turn.
 - If reading drops, record RV opening point. Close low control needle valve, bleed low and close. Record No. 2 check as OK, actual reading for the No. 1 check, and No. 2 shutoff valve leaks. Go to 3b.
 - If reading drops to 0.0 and the RV does not open, record as such. Close low control needle valve, bleed low and close. Record No. 2 check as OK, actual reading for the No. 1 check and No. 2 shutoff valve leaks. Go to 3b.
 - If it is not possible to get the reading to drop, the No. 2 shutoff valve must be repaired. Go to 3b.
- If reading drops, record RV opening point, bleed low and close.
 - If reading stabilizes above RV opening point, record No. 2 check as OK and actual reading for No. 1 check. Record No. 2 shutoff valve leaks. Go to 3b.
 - If reading drops to RV opening point again, repairs must be made. Go to 3b.

T2. Close Test Cock No. 2

- If reading holds steady or drops, there is no backpressure. Open No. 2 test cock. Go to 3a.
- If reading increases, backpressure is present. Close No. 4 test cock.
 - Record No. 2 check valve as OK.
 - Record apparent reading as actual reading for No. 1 check valve and No. 2 shutoff valve as leaks with backpressure. Go to 3b