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engine is running. Connect a water manometer to end of aspirator hose to measure the negative pressure produced. If manometer reads less than 1 inch of water suspect obstruction of aspirator in muffler and proceed to next step.

3. Connect pre-cleaner to air cleaner and take manometer reading at aspirator connection with engine at high idle, Detail A. Compare this reading to that of Step 2 and if it is greater than suction in aspirator hose proceed to Step 6.

4. Check aspirator hose by placing chopped paper shreds in aspirator hose connection of pre-cleaner while engine is shut off, Detail B, connecting aspirator hose, then starting engine. If paper particles remain in the air system proceed to next step.

5. Shut off engine and inspect air filters for presence of paper particles. If present, replace pre-cleaner (in models without pre-cleaner, replace air cleaner), refer to para 5.10. If paper particles are not present in air cleaner proceed to next step.

6. Disconnect aspirator hose from muffler and air cleaner and blow air through it to clear it of obstructions. Replace hose if damage has caused restriction or if leaks in hose are discovered. If hose is not faulty proceed to next step.

7. Connect water manometer to aspirator connection of muffler and start tractor, Detail C. Take readings at low idle and high idle engine rpm. If maximum vacuum is less than 4 inches of water, muffler is defective and requires replacement, refer to para 5.11.

NOTE: Manometer readings on muffler connection to aspirator hose normally reveal greater suction than readings on air cleaner connection at same engine rpm. The reverse indicates damaged muffler or restricted air intake stack.

Air Intake Tube
To check out air intake tube proceed as follows:

1. Inspect all rubber connections of air intake tube between air cleaner outlet and engine or turbocharger inlet. Use a light and hand mirror to clearly view every side of each connection.

2. Look for dust patterns that reveal leaks. Examine clamps making sure they are straight (1/4 inch (6mm)) from edge of rubber parts and not tightened beyond the point of being flush with adjacent rubber surfaces.

3. Replace faulty rubber parts that have been punctured, softened, cracked, collapsed in operation or damaged by over-tightening of clamps. If no faulty parts are detected do not disturb the intake tube.

Air Restriction Gauge
To check air restriction gauge proceed as follows (Ref. Figure 2-17):

1. Disconnect air restriction gauge tube (1) at air cleaner outlet and insert a tee (2), with connection to an accurate vacuum gauge (3) or water manometer, into this connection.

2. Reconnect air restriction gauge (5) to this tee and start tractor.

3. Compare readings of the two gauges and log any differences.

4. Progressively cover intake port of air cleaner with a flat panel of wood (4) to obtain a range of vacuum gauge readings.

5. Replace air restriction gauge if its reading is less than 2 inches.

Air Filters
Inspect filters of air cleaner by removing them and scanning the entire surface against a light held at the center of the cylindrical filter. Points of light breaking through filter medium are cause to discard filter and replace with a new one.

FIGURE 2-17: Checking Accuracy of Restriction Gauge
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