

# Intake and Exhaust Manifold

Job No.
14-5

Carefully examine the intake and exhaust manifold for cracks before re-installing them. In addition check the contact surfaces of the attaching flanges for displacement and distortion on a surface plate and, if necessary, recondition them. Cracked exhaust manifolds must always be replaced.

## A. Replacement of Heating Spiral

The removal and installation procedures for the heating spiral for Models 180 a, 180 b, 220 a, 219, and 220 S are the same as described for Model 190.

The heating spirals are identical and interchangeable.

## B. Replacement of Damper Spring

The procedures for the replacement of the damper spring on Models 180 a, 180 b, 220 a, 219, and 220 S are the same as on Model 190.

## C. Replacement of Heater Valve and Shaft

The removal and installation procedures for the heater valve and shaft on Models 180 a, 180 b, 220 a, 219, and 220 S are the same as described for Model 190. The diameter of the heater valve shaft, the bore in the exhaust manifold and the dimensions of the mounting bushings for the heater valve shaft are the same as on Model 190.