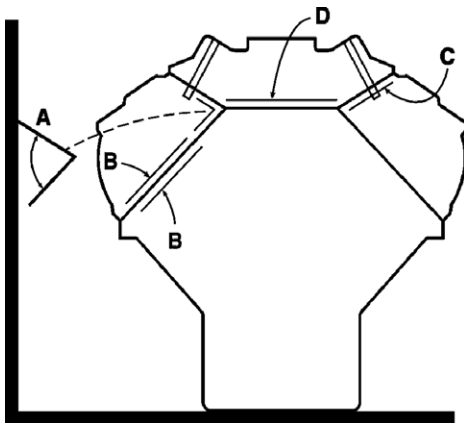


Calculating Manifold Angles

With the popularity of the "V" engine on the increase it is becoming more important to understand the necessity for re-working the inlet manifold, following machining of the cylinder heads or block.

Any machining of the cylinder heads (remove the same amount of material from both heads) or block will necessitate re-work of the inlet manifold to ensure correct port alignment and correct combustion.



- A - Angle between combustion surface and intake manifold surface.
- B - Total amount removed from combustion chamber surface of the head and cylinder block deck.
- C - Amount to be removed from the intake manifold side of the head.
- D - Amount to be removed from the base of the intake manifold.

Use the following chart to calculate the amount of material to be removed from the intake side of the head and the base of the intake manifold.

Head angle "A" (in degrees)	Amount to be removed at "C"	Amount to be removed at "D"
0 or 90	B x 1.000	B x 1.4
5	B x 1.100	B x 1.4
10 (Ford)	B x 1.233	B x 1.7 (1.4)
15	B x 1.414	B x 1.4
20	B x 1.673	B x 1.4
25	B x 2.067	B x 1.4
30	B x 2.733	B x 1.4
35	B x 4.072	B x 1.4
40	B x 8.113	B x 1.4

Eg. .015" stock removed from a 10° head:
 Amount to be removed from intake side "C" = .015 x 1.233 = .018495