will show a valley below that which is recommended. It isn’t necessary that you set per their instructions, as long as the valley is found and set accordingly.

For the tuning adjustment, turn the transmitter on, with antenna plugged in and have a helper stand at least about 400 feet away and adjust the tuning screw for a maximum plate current rise. I have the helper point the bottom of the transmitter towards me, holding both the transmitter and airplane at shoulder height. By making a tuning adjustment this way, I know that, in flight, with the antenna pointed towards the ship, I will have doubled the range.

One note of caution. Tuning may change the idling adjustment up or down and the core may then have to be set again. Once this is done the ship is ready to fly—there is no need for a second tuning adjustment. Also, never point the antenna directly at the ship when within a few feet of it as the directional signal is so strong it will have a tendency to paralyze the receiver. One last note is my transmitting antenna. I always keep it polished, using any metal polish. Dupont 27 rubbing compound, or Blitz cloth which is used to bring aluminum to a high luster. My reasoning is that a TV antenna produces better reception when the antenna is new and not corroded.

In closing, I have found 465 AR equipment to be very reliable. I feel the mistrust today in this equipment is only by the owner's not understanding fully its operations. I welcome any questions or problems on this equipment which the owner may have.

**Engine Review**
(Continued from page 90)

Whole mess comes to a grinding halt. More commonly, however, this thermal instability manifests itself obviously by simply limiting performance to a level where combustion temperature and friction have found a compromise. Upset the status quo by running a lean needle setting or hotter fuel and the machinery dies, as every speed flick knows.

The essence of breaking in an engine quickly is finding and never exceeding this point of compromise. As everything wears itself to the right fit, the point of compromise moves up the power scale until volumetric efficiency begins to exceed the need for further improvement and the engine can be considered as broken in.

The obvious solution to all this is to manufacture the piston to be the correct size and shape at operating temperature. This is what is commonly done in other fields, and advantage is taken of the light weight and thermal conductivity of light alloys, despite their high co-efficient of expansion, to improve other characteristics of the engine. However, the resulting cold fit of the piston is such that there is practically no compression at a crank angle, and starting is unacceptably difficult. This problem is solved by providing a number of piston rings for sealing purposes which are, in fact, very shallow lapped piston rings, but with one important difference. They are split, and spring outwards to maintain contact with the cylinder walls, and accommodate themselves to varying conditions of fit caused by temperature fluctuations. Alloy pistons and rings are undoubtedly the answer if one can afford them, and the fact that they are currently held by lapped piston engines is simply due, in our view, to the absence of thorough development work on piston rings of suitable sizes, because of the current

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