

Enya 45-TV R/C

R/C Mill From Japan

Enya 45-TV

■ Not too many years ago most products with a "made in Japan" label were considered inferior to ours. However, with the establishment of an exporting bureau of standards by the Japanese government, many nations would now find it pretty tough to better their standards.

A good example is the Enya 45 T.V. (throttle valve) engine for the R/C flyer seeking extra oomph. Workmanship of this Model 6001 is of the highest order. Its appearance is quite striking . . . dull finished crankcase parts against brightly finished machined parts and chrome plated fittings.

There are no radical departures from standard crankshaft rotary valve design. It is well made and runs accordingly. The fuel metering system has a barrel throttle valve and two needle valves. In high speed, the throttle valve is wide open and the greater part of the fuel is supplied by the main jet. Maximum speed is set by position of the main jet needle valve. Rotating the barrel throttles towards its closed position lowers the rpm. When about 90 per cent of the throttle valve port is closed, the main jet is completely shut off and the idling jet, located below the throttle, comes into operation. Thus the idling mixture can be accurately adjusted by the idling needle valve control. Additional adjustment is via an adjustment screw which limits rotational travel of barrel valve.

This is no plumber's nightmare . . . only one fuel line, from tank to main needle valve, is required. The tie-in between the two valves is provided.

A satisfactory idling adjustment need not be altered except for changing fuel formulas or atmospheric conditions. Although you are advised that the main needle valve will require different settings for starting and running, we found this not necessary. Exceptionally fast starts came by simply priming directly into the exhaust

port with nary a "tweak" of the needle valve. Speed response from slow idle to high speed is not 100% instantaneous probably due to an overly rich mixture introduced just as the main jet comes back into operation. At in-between settings of the throttle valve speed response is excellent fuel flow through the main jet is regulated by a tapered groove machined on the barrel surface. This groove is de-signed to match the opening of the throttle valve port and always insure a slightly rich mixture.

You could never call the Enya 45 fragile. Walls of the two aluminum alloy die castings are substantial. Main casting includes crankcase, cylinder, exhaust stack and cooling fins. The second carries crankcase front cover, venturi and main bearing which is bronze bushed. Four machine screws hold these with a gasket between. Steel cylinder liner is a push-fit into its case.

A one-piece steel crankshaft, hardened and ground to a good finish, is heavily counterbalanced and features a generous rectangular port. Propeller drive is by a heavily knurled friction-fitted aluminum turning. Connecting rod is forged aluminum with a bronze bushing at its lower end. The relatively light flat topped Meehanite piston has a thin straight baffle; hollow tubular steel wrist pin is fitted with brass end pads.

A finless aluminum head turning features a perfectly flat combustion chamber. Six bolts secure the head; no gasket is used. No glow plug is supplied. For our test we used Enya's #3 and #5 platinum filament plugs. Both worked equally well in combination with K8cB Supersonic 100 fuel.

Operating instructions proved accurate as to needle valve settings. No starting problems were encountered other than an early desire by the engine to run backwards. After loosening up this tendency disappeared and starts hot or cold were a real pleasure. Needle valve adjustments are completely non-critical. Setting up the idling speed is quickly accomplished and almost any desired rpm is easily attainable.

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Recommended prop is 12 x 5. A wood Top Flite R/C propeller was used for most running tests. About 45 minutes of rich running with an occasional high speed spurt limbered up the mill so it would maintain steady high-speed revs and smooth low idling. At this point it recorded a high of 12,500 rpm, a low of 2,000. This is close to the 2,000 to 14,000 rpm speed range specified by its manufacturer, Enya Metal Products Co., Ltd. Tokyo, Japan. Those figures were hit right on the nose with an 11 x 4 prop and a bit more tinkering with the throttle valve.

We were impressed not only with performance and workmanship, but especially with the easy starting and smooth running qualities of the Enya 45 T.V. Displacement, .449 cu. in., weight, 10 oz., max. power, 0.7 hp.



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