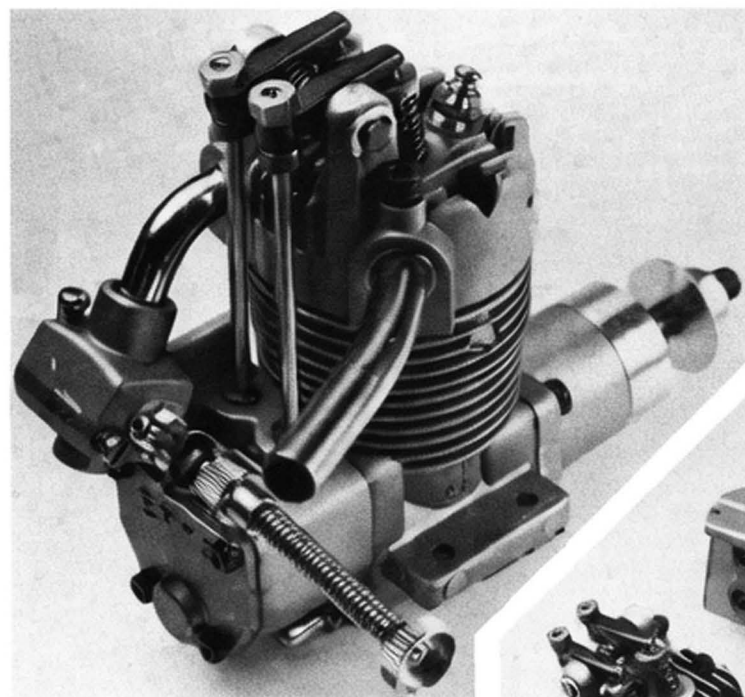


PETER CHINN'S

RADIO MOTOR

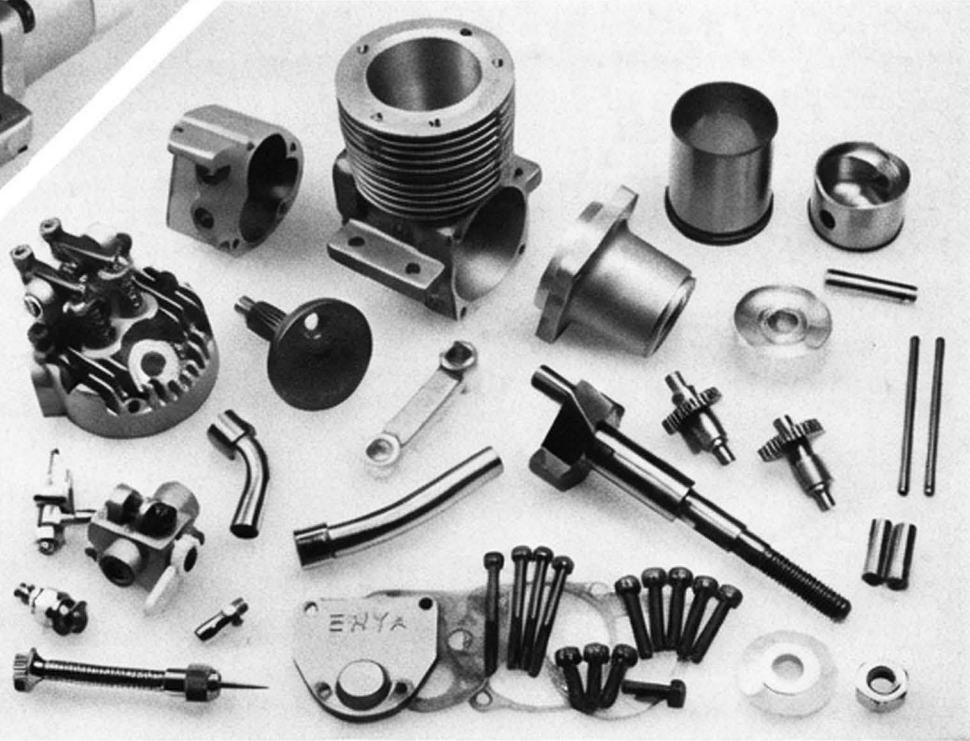
COMMENTARY



Left: Enya 40-4C four-stroke. Compact and sturdily made, engine has same external dimensions as 35-4C model. Below: parts of Enya 40-4C. Engine uses ringed piston running in steel liner instead of AAC system of 35-4C.

Enya 40-4C Four-stroke Tested

This engine is essentially a bored version of the 35-4C model on which a test report was included in the May 1981 *Commentary*. Its cylinder bore is increased by 1.35mm, enlarging the engine's swept volume from 5.86cc to 6.64cc and it employs a conventional ringed aluminium piston in a steel liner in place of the ringless aluminium piston and chromed aluminium sleeve used by the 34-4C. There are one or two minor internal modifications, but the engine is otherwise identical in design and construction and is virtually indistinguishable from the 35-4C externally. Readers are therefore referred to the May 1981 issue for information on the general design and construction of these very compact Enya four-strokes.



SPECIFICATIONS and TEST DATA

General Data

Type: Single cylinder, glowplug ignition, pushrod-OHV four-stroke with twin ball-bearing crankshaft. Twin camshafts supported in bronze bearings and driven by timing shaft carried in twin ball-bearings.

Bore and stroke: 22.3 x 17mm (0.8780 x 0.6693in.)

Swept volume: 6.640cc (0.4052 cu.in.)

Stroke/bore ratio: 0.762:1

Measured compression ratio: 7.0:1 (6.4:1 with decompression gasket added)

Nominal valve timing (maker's figures):

Inlet opens: 20° BTDC

Inlet closes: 60° ABDC

Exhaust opens: 40° BBDC

Exhaust closes: 40° ATDC

Carburettor: Enya fixed automatic mixture control type with 4.5mm choke (12sq.mm. effective choke area).

Silencer: Not included. Exhaust pipe only.

Checked weight: 369 grammes (13.0oz.)

Required bearing spacing: 31.5mm

Manufacturer: Enya Metal Products Co. Ltd., Nerimaku, Tokyo, Japan.

U.K. Distributor: Ripmax Ltd., Green Street, Enfield EN3 7SJ.

FOR ENYA 40-4C FOUR-STROKE

Performance Tests

Power output, gross: 0.47bhp at 11,500 rpm

Torque, gross: 48oz.in. at 8,000 rpm

Equivalent b.m.e.p.: 93lb/sq.in.

Specific output, gross: 71 bhp/litre

Power/weight ratio, gross: 0.58 bhp/lb.

Typical prop rpm:

6,800 rpm on a 13 x 4 Punctilio beech

7,500 rpm on a 12 x 6 Top Flite maple

7,900 rpm on a 12 x 5 Top Flite maple

9,000 rpm on a 12 x 4 Zinger maple

9,000 rpm on an 11 x 6 Top Flite maple

9,500 rpm on an 11 x 6 Power Prop maple

9,200 rpm on an 11 x 5 Zinger maple

9,600 rpm on an 11 x 5 Punctilio beech

9,750 rpm on an 11 x 4 Power Prop maple

9,750 rpm on a 10 x 7 Zinger maple

10,250 rpm on a 10 x 6 Power Prop maple

10,800 rpm on a 10 x 5 Top Flite maple

Test conditions

10% nitromethane fuel; air temperature 10°C; pressure 767mm Hg; relative humidity 57%.

simply cut out abruptly if the mixture was leaned out too far.

The specific output of the 40-4C (71 bhp/litre) was not quite so high as that of the 34-4C but, as the engine is only a little heavier than the 35, its power/weight ratio was very slightly better. The 40-4C started easily and would idle safely at under 2,500rpm.

Performance figures and other information on the Enya 40-4C will be found in the accompanying data tables.

