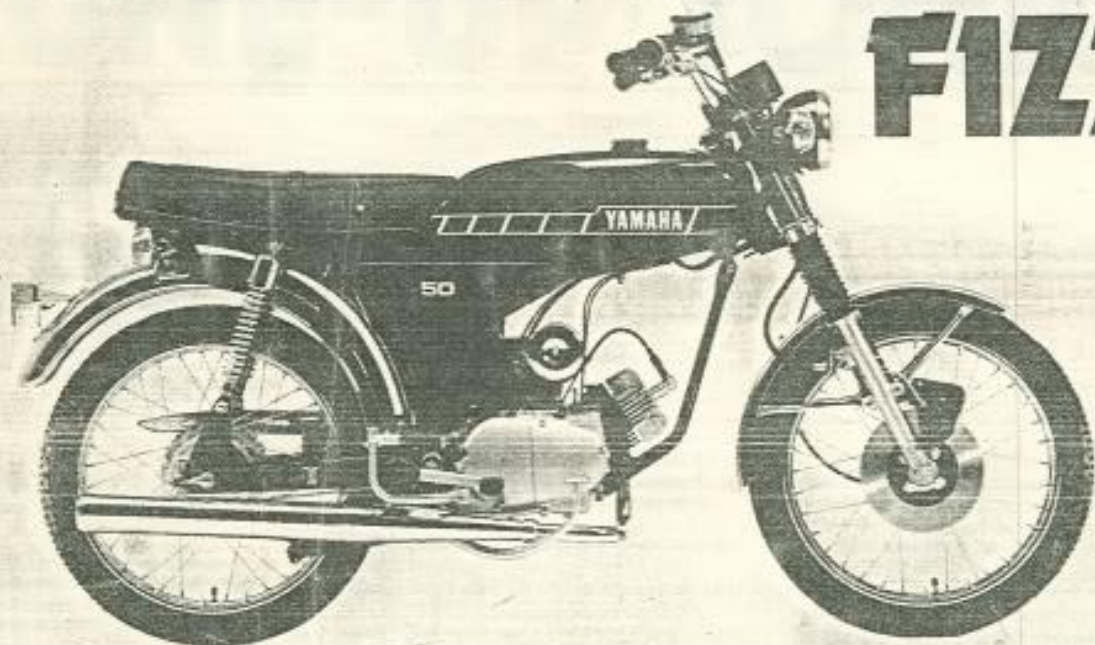


FIZZY



IF YOUR unrestricted FS1E Yamaha "Fizzer" is getting rather tired, then maybe it's time for a tune-up tonic. So long as the engine is still sound it could respond to the following tuning tips sent in from reader CM Lynch of Potters Bar, Hertfordshire.

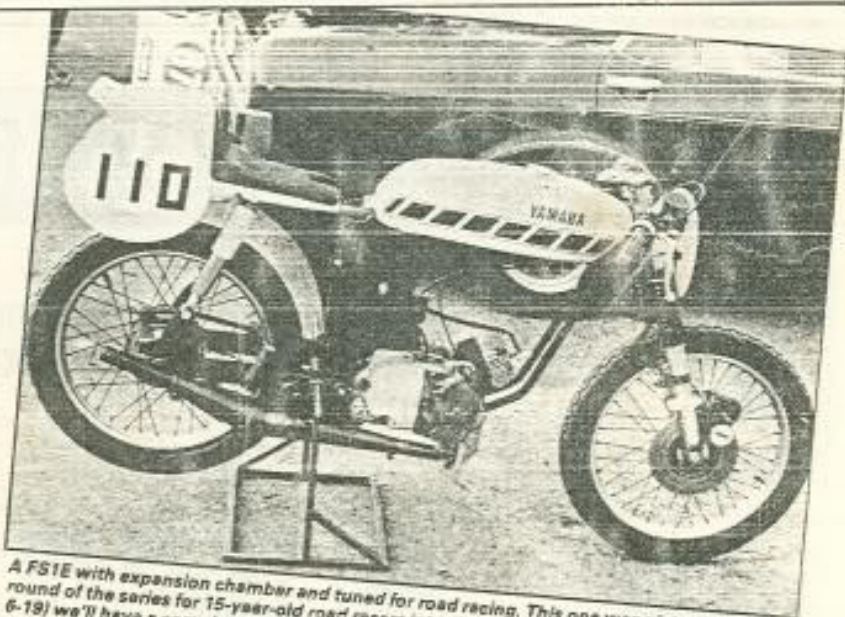
While we cannot verify the results, the tips sound fair enough to us. So, take it away Mr Lynch...

66-67 S -
THE FOLLOWING modifications to the 50cc FS1E Yamaha will give 55 to 60 mph on the level, provided that the sprockets are changed to 15 teeth on the front and 36 or 37 teeth on the back to take full advantage of the extra torque.

File the top of the exhaust port to increase the height of the 13mm port to 17 mm. The top should be curved, not square. The port can also be widened to 24 mm, measured straight across. The sides should also be curved, so the whole port is an oval shape.

Cut the closing edge of the disc valve so that it closes 80 degrees after TDC instead of 35 degrees. If it is standard to start with this means half an inch needs to come off the closing side. File the edges smooth and make sure you put it back in the correct position.

The expansion chamber can be attached by large hose clips to the bracket on the frame which held the original silencer. It has to be dented to



A FS1E with expansion chamber and tuned for road racing. This one was pictured at a round of the series for 15-year-old road racers introduced this year. In our next issue (Jan 6-18) we'll have a complete story on these young aces and their machinery.

clear the brake pedal pivot and the kickstart pedal.

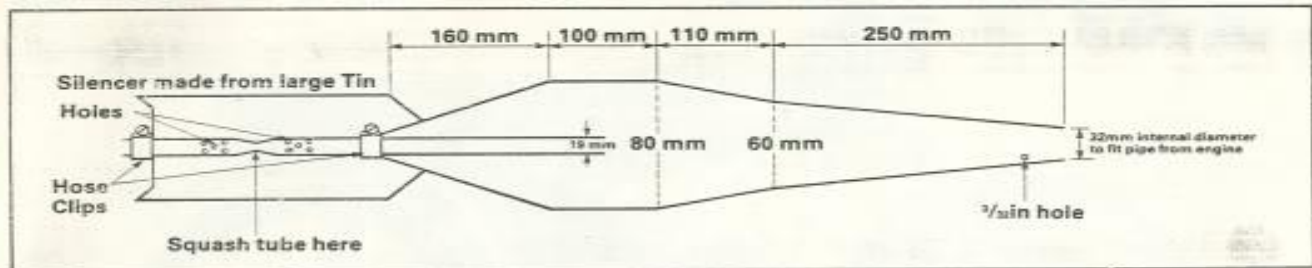
The original header pipe can be used, cut off just behind the bend. Note the small hole just behind the joint between the pipe and expansion chamber. This makes a huge difference in performance by removing the bad flat spot which would otherwise occur just below the power band.

Fit a number 170 main jet in the carburettor and NGK B9HCS or B9HCV

sparkling plug, and retard the ignition timing by closing the points gap so the points start to open when the timing marks have gone a quarter of an inch past each other. These three changes are very important, as without them the engine might seize or melt a hole in the piston.

File the cutaway on the carburettor: slide a millimetre higher and carefully remove all burrs and metal particles

TUNE-UP TONIC



before putting it back. This weakens the mixture at small throttle openings. If it is now too weak, raise the needle. Use a 16 to 1 fuel/oil mixture instead of autolube.

It is very likely that after these modifications the clutch will slip badly. This can be cured by fitting clutch springs of part number 90501-20123.

To get an expansion chamber made, try local welding and sheet metal

working firms. One firm which will do this is Essendon Forge, which is on the B158 in Essendon, between Hertford and Potters Bar.

Sprockets for raising the gearing are made by Beeline Racing (tel 01-550 5582), who also do complete tuning kits for the FS1E if you prefer to do it that way. Their kits can give a top speed well over 60 mph, but the exhaust is very noisy.

For anyone who wants to experiment with tuning a two-stroke motorcycle, I would recommend the book "Two-Stroke Tuner's Handbook" by Gordon Jennings, published by H. P. Books at £3.95. It does not give details of tuning any particular engine but it gives information which will enable you to make amazing improvements in the performance of almost any two-stroke engine. □



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