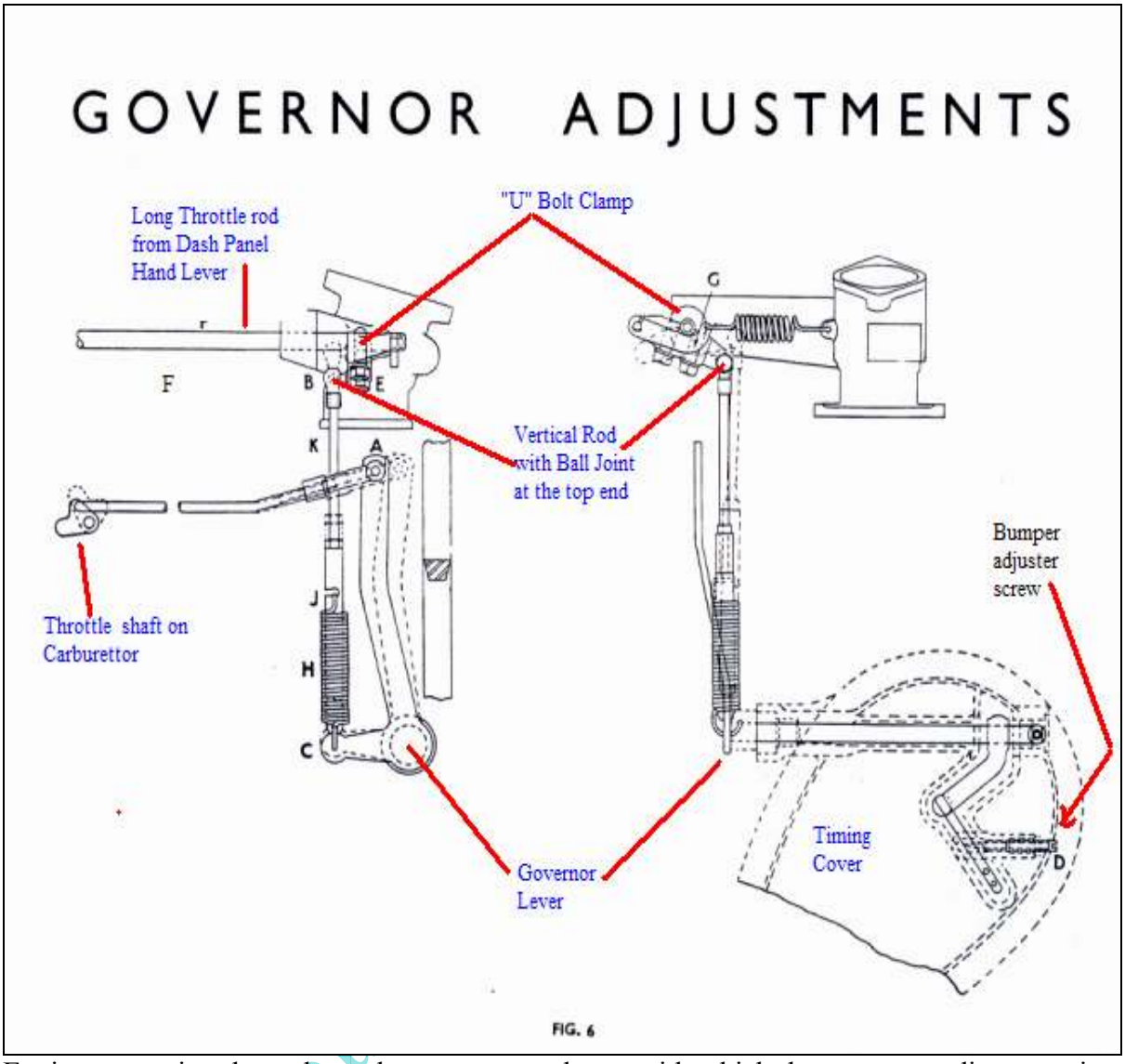
FERGUSON TRACTOR Carburettor engines



Engine governing depends on the accuracy and care with which the governor adjustment is carried out. It is essential that the following instructions are followed very closely.

1 Make sure that the engine is thoroughly warm. Disconnect fork end (A) of the throttle rod that runs from the governor lever to the carburettor, by removing the clevis pin. Adjust the idling stop and mixture control screw to give a steady idling speed of 400 – 450 r.p.m.. If you need help with this ask for the information sheet.

2 Switch off the engine and swing the generator outwards clear of the governor.

3 Disconnect the rod assembly at ball joint (B) and at end of the spring at (C)

4 Slacken off the bumper screw (D) and readjust until internal bumper spring can just be felt.

5 Make sure the carburettor idle adjustment screw is on its stop and adjust the screwed fork end (A) on the throttle rod so that the clevis pin can be inserted when light contact is felt with the bumper spring when you lightly hold the governor arm towards the carburettor.

6 Shorten the rod by adjusting the fork end one full turn before you insert the clevis pin and secure it.

7 Slacken the nuts on the "U" bolt (E) and turn it on the long throttle rod (F) until the spring hook (G) is JUST touching the long throttle rod (F) with the throttle lever on the dash panel in its idling position (lever over the top bolt on the right side of the steering housing)

8 Retighten the nuts on the "U" bolt.

9 Make sure that the coils of the governor spring (H) are in their relaxed position, that they are not stuck with paint or rust.

10 Clean off paint or any rust from hooks of governor spring (H) and from governor lever and plunger at (C and J)

11 Fit the hooks of the governor spring (H) in the eyes of the governor lever and plunger at (C and J)

12 Hold back the governor lever in the closed throttle position, apply a very slight upward vertical pull to vertical rod (K) and measure the clearance between plunger and lever at C, this should be .005" - .010" (.127 - .254mm)

NOTE extreme care should be taken when carrying out instruction 12 on TE20 and Continental Engines, as the governor spring has no wound-in load.

Springs for the TEA/D20 have an initial wound-in load so this operation is not as critical.

13 If the measured clearance between plunger and lever is outside the recommended limits then the spring length should be adjusted by "setting" the hooks.

14 Make sure the hand throttle lever on the dash panel is in the idle position (see 7), close carburettor throttle and adjust the setting of the vertical rod K in the plunger so that the rod can be connected at the ball joint B with the plunger just touching on the governor lever

15 Replace fan belt and adjust tension by moving generator before tightening the adjusting nuts.

16 Start up the engine and thoroughly warm it up again. Move the hand throttle hard back to the fully open position. Slacken the nuts on the "U" bolt and turn the "U" bolt (E) on the long throttle rod to adjust the governor spring tension so that the engine no-load speed is 2,200 r.p.m. (NO MORE)

17 Retighten the "U" bolt nuts.

18 If the engine speed does not remain constant and is surging" then adjust the bumper screw (D) clockwise gently until the "surge" stops. Tighten the locknut. Be careful with this adjustment or you could break the bumper spring inside the timing cover.

19 If the hand throttle will not remain in the fully open position, adjust the clamp spring compression at the back of the Air Cleaner by slackening off the clamp nut, compressing the spring, and retightening the nut, this is accessible between the Dash Panel and the Air Cleaner.

(If the problem persists, ask for the separate sheet on how to repair it)

20 Test the Governor is working correctly by opening the throttle quickly when the engine is hot, the engine should speed up rapidly then slow down and settle at the maximum speed to which it has been set. When you open the throttle it should speed up immediately without hesitation or black smoke; if there is hesitation then the usual cause is the mixture is too weak on the Carburettor, or it can be an ignition problem, check plugs and points are gapped correctly and that the correct plugs are fitted, black smoke usually means it is set too rich on the Carburettor, but it could also mean that the Air Cleaner requires servicing. When did you last remove it completely and allow it to soak in some solvent overnight to loosen any dust etc. that has collected in there. The oil should be changed daily or twice daily in dusty conditions. Use the same oil that is in the engine, or if the air temperature is low then use a lighter grade, too much oil will cause the Engine to run rich, fill only to the line on the bottom removable Bowl.

Illustration taken from the Massey-Ferguson TE20 Service Manual part No. 819-135M1 and adapted for use here in this information sheet…..Jan 2005

Fig 1


Fig 2

Fig 4
The Governor Spring and Rod
Notice how the spring coils are tight together, if there are gaps between the coils the Spring needs replacing as it is stretched.

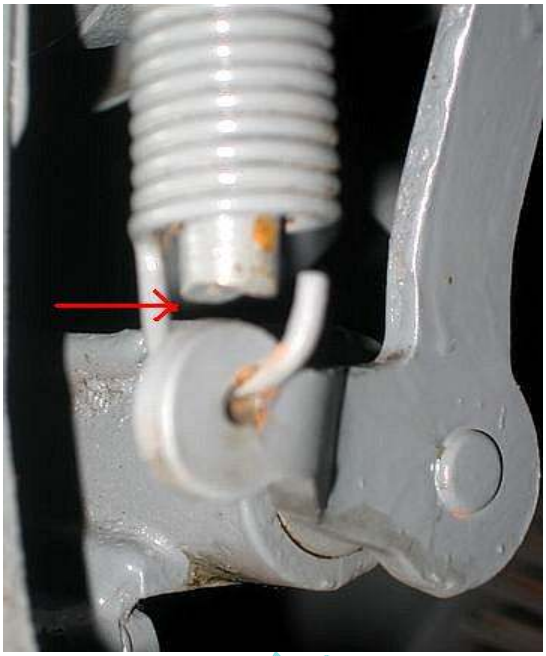


Fig 3
This is the gap that needs to be carefully set to .005" - .010" to allow the engine to govern the speed accurately.

IMPORTANT NOTE:-

You must check that the linkage between the Carburettor and the upright Governor Arm at the back of the Generator is not worn in any way. Check all the joints and clevis pins, any worn pins should be replaced and any worn holes where the pins are fitted should be filled in and re-drilled to the correct size, otherwise all the play in the joints will create "lost motion" which will not allow the Governor to adjust the Engine speed correctly. The Governor maybe working correctly but the free play or "lost motion" will absorb any movement before it gets to the Carburettor and so it will not be able to control the Engine speed.

NEVER tow using the Top Link Connection on the tractor, it is set far too high and will make the tractor unstable if pulling a heavy load. If, at the load end it is pulled from a low point, this could make the tractor rear-up as the traction will be increased and it may cause the tractor to flip over backwards crushing the operator.
It can also cause serious damage to the internal hydraulic mechanism.
THIS APPLIES TO ANY MAKE OR MODEL OF TRACTOR

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