

# TECHNICAL HELP SHEET

Time Tunnel Models  
www.TamiyaParts.co.uk

## Repair Technique: Tamiya XBG-TGS Car – eliminating “knocking” noise

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***It is quite common for these cars to suffer from a loose pilot shaft – this is essentially just a “loose nut” problem but the effect that you hear is a pronounced knocking and sometimes scraping noise, a lack of power and sometimes a strange clanging from the pull start mechanism. This guide demonstrates how to fix this problem. The cause of the fault is thought to be the effect of the pull-start causing a slight reverse motion when it is released in the event the engine fails to start – commonly caused by a flat or flattening battery in the glow clip. In most cases, no damage will have occurred. By following this guide and threadlocking the shaft into place, the problem is less likely to reoccur.***

*You will need a couple of good quality screwdrivers, the gold coloured spanner which came with the car (it was in the bag with the wheel spanner and spare air filters), a BIC pen (if your tank is full), clean tissue paper and we recommend a tube of threadlocking solution (model – e.g. Tamiya - or automotive – e.g. Loctite - will do, but do not attempt to use any form of glue!).*

- 1: Working from beneath the car, loosen but do not remove entirely the screws holding the black plastic loop which fits above the flywheel.
- 2: Remove the screw in the top of the throttle servo and lift off the two linkages, ensuring the part fitted directly to the servo is left in place – unclip the throttle linkage which you have just removed from the servo from the carburettor and put to one side.
- 3: Unplug the fuel pipe from the carburettor. If the tank is full, plug the pipe (use a BIC pen or similar – must be clean).
- 4: Undo the two screws holding the exhaust on, pull away the exhaust – do not peel off the gasket unless it falls away. Leave the fuel pipe attached to the exhaust so as to avoid confusion.
- 5: Undo the screw at the front of the fuel tank, do not remove entirely.
- 6: Undo the screw attaching the black rod from the chassis to the back of the fuel tank, again only undo enough to lift the tank away.
- 7: Lift the tank, fuel pipes, BIC pen and exhaust away and place in a safe place. Note that the fuel tank usually has a rubber O-Ring under the front mount – make sure you retain this.
- 8: Undo the 4 screws holding the engine to the chassis. Wiggle the engine forwards, up and out of the car.
- 9: Remove any loose screws, where the engine/exhaust was fitted and note the positions of any washers.
- 10: Working at the end of the engine with the big cog (clutch bell), unclip the circlip. Note the green/blue coloured paper/fabric disc should be left in place.
- 11: Lift off the clutch bell (silver barrel with cog on end) ensuring you collect any bearings which stay on the shaft and fit them back into the bell.
- 12: Lift off the clutch – note which way around it is fitted.
- 13: You are now looking at the pilot shaft. This should be very tightly fitted onto the engine output shaft. Chances are you will be able to undo it by hand – so remove it.
- 14: Lift off the flywheel and wipe all the area clean with your tissue paper. Pay particular attention to the threaded engine output shaft and try to clean as much oil & dirt as possible out of the threaded section inside the pilot shaft. At this point it's a good idea to examine the flywheel - if the fins are damaged or the flywheel shows signs of excessive wear then it would be wise to replace it. The part you need is number 3454165 and only costs £3.50 so would be a false economy to overlook it
- 15: Put the flywheel back on. Put some threadlock liquid on the thread inside the pilot shaft and refit. Use your gold spanner to ensure that the shaft is tight (no specific torque figure, but if you hold the flywheel tightly and tighten the pilot shaft as tight as you can it should be OK.
- 16: Wipe away any excess threadlock that has seeped out.
- 17: At this point is it wise to leave the model for whatever period is advised on the threadlock tube for the solution to set.
- 18: Slip the clutch back over the pins on the flywheel. It should only fit one way round.
- 19: Slip the clutch bell back on, ensuring the bearings are in place, and refit the circlip. Make sure the fabric/paper disk hasn't fell off.
- 20: Wiggle the engine back into place. This may involve a small amount of strong language as the brake tends to get in the way – ensure that it is fully opened before you put the engine in. It may be necessary to roll the car slightly to engage the gears. Check the fabric disk hasn't fallen off during this process.
- 21: Refit the four screws with their lock washers which hold the engine into the car.
- 22: Refit the fuel tank and exhaust (and gasket if it came loose), remembering the O-Ring under the front tank mount, remove the BIC pen and plug the fuel pipe back into the carb.
- 23: Reassemble the servo fittings; note that the metal rod goes into the top hole on the carb arm. Fit the screw in the top.
- 24: Turn the car over and tighten the two screws undone in stage 1.
- 25: If you didn't leave time for the threadlock to set, leave the car now for some time.
- 26: Car now ready to run. If the problem occurs again, we recommend (1) tightening the pilot shaft further after having thoroughly degreased it, (2) investing in a rechargeable glow clip.

**TOP TIPS:** The engines in these cars tend to overheat if run too weak. To avoid this happening, always reset the mixture on the needle valve to the factory setting if you experience any running problems – to do this, gently tighten the needle valve fully home then undo by one and a half turns. Your car should smoke at all times – if the exhaust is clean, particularly under full throttle, the mixture is too weak.

With the radio switched on and the car's receiver powered up the car should be able to roll freely. If you push the car and it very quickly stops, or worse still won't roll at all, the brakes are probably over tight – this can cause the bottom of the engine to overheat. Release the brakes by unscrewing the adjuster until the car is able to roll – as a guide, you should not see much, if any, of the threaded shaft emerging from the adjuster.

Check for stones – if the car stops dead at any time and the pull start seems jammed, check the flywheel area for small stones. These can be taken in through the air scoop on the bottom plate of the car, and if they jam the flywheel/clutch mechanism you may think your engine has seized – when of course the source is something far less sinister!