

FITTING INSTRUCTIONS FOR THE JENKS' BOLTS AIR INJECTION ELIMINATION KIT



Air Injector Elimination Kit Parts, (clockwise from top)

Two Black Bolts
Copper Washer
Vacuum cap
Air Box Plug

Introduction

The Bonneville family of motors are all fitted with carburettors, as part of the overall “retro” design concept. This means that the emission control system is not very sophisticated: it relies on secondary air injection into the exhaust just after the exhaust valves, coupled with single way oxidative catalysts for some markets. The air injection system fitted helps to reduce air pollution. It does this by burning some of the un-burnt hydrocarbons and in so doing makes the exhaust “mixture” more compatible with the single way catalyst, where they are fitted.

The system works, but from the customer’s viewpoint there are two distinct disadvantages:

- As air is injected into the exhaust pipe any un-burnt fuel in the exhaust gas is burnt, on the overrun the combustion can be so fast that it causes popping or back-firing. If the carbs have been re-jetted this popping is made much worse.
- The exhaust down pipes get very hot, which does nothing for the chrome, turning it dark blue as far as the balance pipe under the engine. The chrome can eventually crack and peel. The America and Speedmaster have secondary covers on the exhaust down pipes to help hide the discolouration.

The Jenks’ Air Elimination Bolt Kits were developed to replace the air injection system. Each kit is packaged with new copper sealing washers, a vacuum cap and air box plug.

Application

The Jenks’ Air Injection Elimination Kit is suitable for all Triumph Bonneville versions from 2001, including the Bonneville, T100, Thruxton, Scrambler, America and Speedmaster. The Nickel kit is intended for all versions, the Black looks best on the Speedmaster, Thruxton and “Black” Bonneville.

Part Numbers

AKN 04 Air Injection Elimination Kit, Nickel
AKB 04 Air Injection Elimination Kit, Black

Instructions

THE WORK REQUIRES ONLY BASIC WORKSHOP SKILLS, BUT IF YOU HAVE ANY DOUBT ABOUT YOUR ABILITY PLEASE GIVE THIS KIT AND THE INSTRUCTIONS TO A COMPETENT MECHANIC. THIS WORK IS BEST DONE WHEN THE FUEL TANK IS NEAR EMPTY: REMEMBER PETROL/GASOLINE IS HIGHLY FLAMMABLE AND A SKIN IRRITANT. WORK ONLY IN A WELL-VENTILATED AREA AND ENSURE THERE IS NO RISK OF IGNITION OR SPARK.

FOR CALIFORNIA REGISTERED BIKES VISIT

[HTTP://FORUMS.DELPHIFORUMS.COM/NEW_BONNEVILLE/MESSAGES?MSG=2656.1](http://forums.delphiforums.com/new_bonneville/messages?msg=2656.1) FOR INSTRUCTIONS ON REMOVING THE ANTI-SMOG GEAR.

1. Remove the seat.
2. Disconnect the battery, negative terminal first.
3. Turn off the fuel and then release the fuel pipe from the tap, there should be a spring clip that needs pliers to remove it.
4. Release the tank breather pipe from under the right (when sitting on the bike) side of the tank, just behind the fuel filler.

5. For Speedmaster/America undo the two screws and remove the instrument cluster from the tank
6. Remove the tank by unscrewing the bolts at the back of the tank, (Bonneville/Thruxton 2 bolts; Speedmaster/America 1 bolt). Lift slightly and pulling the tank back from the two rubber blocks at the front.
7. With the tank removed remove the rubber hoses between the chrome air injection tubes and the reed valve which is bolted to the frame above the coils to a frame bracket directly above the cam cover: there are spring clips that need pliers to remove them.
8. Remove the large rubber hose that runs from the top of the airbox to the reed valve and plug the hole in the air box with the stopper provided in the kit. Use a thin bead of silicone adhesive to ensure the cap cannot fall out: without the plug the bike will run very lean.
9. Remove the thin vacuum line that runs from the reed valve to one of the carburettor manifold vacuum points and cover the nipple on the manifold with the cap supplied.
10. Now remove the vacuum operated reed valve, it is mounted to the frame with 2 x 10 mm bolts.
11. Remove the spark plugs and push some rag into the holes to make it impossible to drop anything into the cylinders.
12. To remove the air injection tubes from the head first spray WD40 on to the point where they bolt into the cylinder head. Then leave for a few hours before using a 13 mm "C" spanner to undo the tube.
 - Ⓜ If the bike is new you should be able to move the tubes enough to free them. When the tube is loose it can be fully undone using soft nose pliers. Make sure you remove the sealing washer.
 - Ⓜ On older bikes the tube may be "glued in" with carbon. If this is the case then take off the metal band that holds the elbow to the tube. To do this release the bent metal tabs on the clip and spring the clip undone. Note that the clip cannot be re-used without a special clamping tool, so you need to source the right sized jubilee clips in case there is ever a need to replace the air injection.
 - Ⓜ Remove the chrome "elbow". As you remove the elbow, take care not to damage the graphite based heat insulator; you may have to ease the "fingers" that form the end of the elbow slightly.
 - Ⓜ Use a long reach 13 mm box spanner to undo the air tubes, make sure the copper compression washer is removed from the cylinder head.
13. Make **VERY** sure that the threads are clean: check by screwing a spark plug into the AI hole. If in doubt first clean the threads with small stiff brush and WD40 or similar oil. Wipe dry.
14. Fit the supplied flat copper washer to the Jenks Bolt Plug, smear the washer and bolt threads with copper anti seize grease. **THIS IS IMPORTANT!**
15. Fit each bolt into its hole in the cylinder head: start each bolt by hand (a 10mm socket with a short extension helps). The bolt should seat without any effort. If it seems tight remove and start again: it is easy to cross thread the fine pitched thread used on this part. Once threaded properly carefully tighten until the bolt is fully seated. Finally torque to 20Nm
16. Box up all the removed parts: you never know when you might need them again!
17. Re-connect the battery, positive lead first.
18. Replace the fuel tank, making sure the various hoses are properly in place and the bolts are tightened: Bonneville/Thruxton 9Nm, America/Speedmaster 19Nm.
19. For the Speedmaster/America refit the instrument unit, tighten the screws to 5Nm.
20. Replace the seat, for the Bonneville / Thruxton using a pair of the Jenks' Seat "Thumb Bolts" for preference.

Note: Removing the air injection will increase emissions of un-burnt hydrocarbons. The Jenks Partnership Ltd accepts NO responsibility for the consequences of using a motorcycle that does not comply with your local regulations. In many markets removing the AI system makes the bike suitable only for "Off Road and Closed Course Competition" use. It is your responsibility to check your local regulations before riding the modified bike on public roads.

MADE IN ENGLAND:

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Right: Air injection tubes replaced with TJP Air Injector Elimination Kit in Nickel.

