

Bangalore

B38 Retro-Fit Instructions



Upgrade your digital control box to the latest Bangalore Broadside controller

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1. The Bangalore B38 Retro Fit Kit

Thank you for purchasing a Bangalore B38 Retro Fit Upgrade Kit. This will upgrade your old digital control box to the one that operates the Bangalore Broadside, the latest model in a long line of Bangalores.

2. For your safety

<p>The Bangalores make loud noises. Always wear ear protectors when approaching or retreating from a Bangalore or when you're programming an active Bangalore.</p>	<div> High noise levels</div> <div> Wear ear protectors</div>
<p>Do not smoke or use naked flames near a Bangalore.</p> <p>Do not store flammable materials near a Bangalore or operate a Bangalore in an enclosed space.</p>	<div> No naked flames or smoking</div> <div> No flammable materials</div>
<p>Disconnect the battery before undertaking any repairs or maintenance on a Bangalore or dismantling any parts of the Bangalore.</p>	<div> Caution Electric shock risk</div>
<p>Once you've fitted your new B38 Retro Fit Control Box, always follow this safety procedure before attempting to transport the Bangalore:</p> <ol style="list-style-type: none">1. Turn off the gas at the bottle2. Disconnect the battery connectors.	<div> Caution</div> <div> Turn off when not in use</div>

3. Overview

The Bangalore B38 Retro-Fit Kit replaces your old digital Bangalore control box with the latest one that controls the Bangalore Broadside bird scarers.



This guide describes how to install the kit yourself.

Please read through these instructions carefully before starting to install the B38 Retro-Fit control box.

If you need help at any time, please call our Bangalore Technical Support line on 01223 88 22 22.

4. What's in the box?

Your B38 Retro Fit Kit contains the following:



Figure 1. B38 Retro Fit Kit

- 1 x Bangalore Broadside Digital Control Box complete with gas system and electrical connectors
- 1 x B74-1 Quick Reference Label (in 3 parts, not shown)
- 4 x self-tapping screws (inserted into the 4 holes of the control box mounting board)
- 1 x Bangalore Broadside Operating Instructions
- 1 x B38 Retro Fit Installation Guide

5. Strip Down your Old Bangalore



High noise
levels



Wear ear
protectors

Note: Always wear ear protection when approaching an operating Bangalore.

Make sure the battery is disconnected and the gas supply has been turned off and disconnected before moving your Bangalore.

We first need to remove and discard the following components from your old Bangalore:

- Control box assembly
- Complete gas system
- Condenser on the ignition coil

Move your Bangalore to a suitable place to work.

Remove the lid by undoing the nut at the hinge and sliding the long bolt from the mounting. Retain the nut, bolt, washers and lid to refit after you've installed your new control box.

Disconnect the HT lead from the top of the ignition coil.

Disconnect the blue and brown spade terminals from the ignition coil (see Figure 2). Follow the earth cable (yellow and green) from the control box to the bolt that secures the ignition coil to the chassis. Undo this 10mm nut (see Figure 3) and disconnect the earth cable.



Figure 2. Spade terminals on the top of the ignition coil.



Figure 3. Nut retaining the earth wire from the control box to the coil mounting.

The control box is mounted on a metal plate that's attached to the inside of the chassis with either rivets or scrivers. If it's attached with rivets, drill them out. There are 4 in total, 2 on each side (see Figure 4).

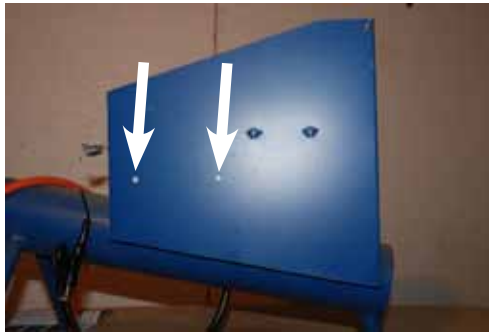


Figure 4. Rivets holding the control box in place. Two further rivets are on the other side of the chassis

If the plate's attached with scrivets, use a Philips-head screwdriver to unscrew them. If they're seized, or snap off in the process, unscrew them as far as they can go and then shear them off with a hammer and chisel.

Loosen the 10mm bolt that retains the gas injector in the firing tube (see Figure 5).



Figure 5. Hexagonal bolt retaining the gas injector in the firing tube.

You should now be able to remove the entire control box and gas-pipe assembly. You might need to squeeze the walls of the chassis out a little to get the gas regulator past the barrel.

If your gas pipe exits through the front of the gun, follow these next steps to remove the control box and gas-pipe:

1. Cut through the gas pipe to make removing it easier. The Retro Fit Kit contains a full, new gas assembly.

2. Cut through the gas line inside the base of the Bangalore. Remove the gas pipe and the regulator.
3. Undo the rivets holding your old control box to the chassis. They may be seized so you may need to shear or grind them off.

The inside of the Bangalore should now be empty apart from the ignition coil assembly (see Figure 6).

The coil needs to be removed so that the condenser attached to the side of it can be removed. The ignition coil is held to the chassis by 2 bolts. Undo the nut that's nearest to the barrel, retaining all the nuts, bolts and washers (see Figure 7).



Figure 6. Ignition coil assembly complete with condenser.



Figure 7. Nut retaining the earth wire from the control box to the coil mounting.

Remove the coil assembly. Strip down and clean all the contacts thoroughly to remove any corrosion (see Figure 8).



Figure 8. Clean up all the contacts of the ignition coil.

Remove the condenser from the ignition coil assembly (see Figure 9). To do this, unscrew the nut on the top of the negative terminal (the terminals are marked on the top of the ignition coil). Retain this nut.



Figure 9. Remove the condenser from the ignition coil.

Unscrew the bolt that holds the clamp around the ignition coil and remove it. Retain the nut and bolt. You should then be able to remove the condenser and its wire from the negative terminal. Replace the clamp around the coil. Replace the nut and bolt in the clamp and tighten. Replace the nut on the negative terminal and tighten. Dispose of the condenser. Your ignition coil should now look like Figure 10.



Figure 10. Ignition coil with condenser removed.

Remove the spark plug (see Figure 11). Clean the thread of the spark plug and thread of the hole into which it screws with a wire brush. Examine the end of the spark plug. If it's ever been replaced, make sure that the ground electrode on the end of the spark plug has been removed completely (see Figure 12). Leaving the ground electrode in place can cause unreliable firing.



Figure 11. Remove the spark plug to give it a clean.

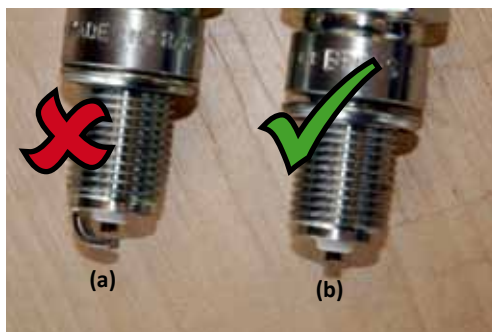


Figure 12. Spark plugs showing (a) the ground electrode still in place and (b) the ground electrode removed.

6. Re-Assemble your Bangalore

Screw the spark plug back into the ignition tube.

Re-mount the ignition coil (without its condenser) to the chassis. Put the nut on the bolt furthest away from the barrel for the time being (see Figure 13) and tighten. Leave the nut off the other bolt for the moment.



Figure 13. Mount ignition coil back in the chassis. Tighten only the nut furthest away from the barrel for the time being (marked with an arrow).



Ensure you've removed the condenser from the ignition coil assembly - refer to section 6 above. Failure to do this will result in damage to the circuitry of your new control box.

Remove the four self-tapping screws from the holes in the control box mounting plate and retain for later use.

Drop the gas regulator and the battery connectors down through the bottom of the chassis. Make sure the gas regulator passes down one side of the barrel and the battery connectors pass down the other side of the barrel, as shown in Figure 14. You may need to gently squeeze the side of the chassis out a little to get the gas regulator past the barrel.



Figure 14. Pass the gas regulator down one side of the barrel and the battery connectors down past the other side of the barrel.

Drop the new gas injector into the firing tube. Don't tighten the retaining bolt just yet. Make sure the control box is facing the correct way round so that the writing on it is the same way round as the writing on the outside of the Bangalore (see Figure 15).



Figure 15. Make sure the control box is the correct way round in the chassis.

Connect the earth lead from the control box to the loose bolt on the coil mounting (the bolt nearest the barrel - see Figure 16).

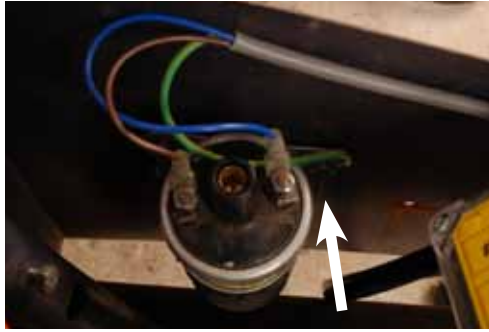


Figure 16. Connect earth cable to the bolt holding the ignition coil (shown with the arrow). Connect up the live and neutral cables to the top of the ignition coil.

Ensure you replace the washers and nut that you retained earlier in the correct order: place the big washer on the bolt, then the eyelet of the earth wire, then the small washer then the nut. Tighten the nut securely.

Connect the blue cable from the control box to the negative (-) terminal of the coil. Connect the brown cable from the control box to the positive (+) terminal of the coil, as shown in Figure 16. The terminals are labelled on the top of the coil housing.

Lower the control box and its mounting plate carefully into the chassis, taking care not to trap the cables or gas pipe. Line up the 4 holes on the mounting plate with the 4 holes in the chassis where the rivets used to be. Secure in place with the 4 self-tapping screws.

Connect the HT lead to the top of the ignition coil and to the spark plug.

Gently turn the gas injector clockwise in the firing tube so that the gas pipe runs along the wall of the chassis (see Figure 17).



Figure 17. Gently turn the gas injector clockwise in the firing tube so that the gas pipe runs along the wall of the chassis.

Set the vertical position of the gas injector so that it's just flush with the top of the firing tube. Secure the gas injector in place by tightening the clamp bolt.



You may need to experiment with the vertical position of the gas injector inside the firing tube. If, when you test it, your Bangalore makes a WHUMP instead of a BANG, the gas injector might be too low in the firing tube. In this case, move the position of the gas injector up slightly and try again. Experiment with the position until you get a satisfactory bang.

Refit the lid and replace the securing bolts and washers. Ensure the lid closes fully without trapping any cables or gas pipes. Make sure it's still weather-proof.

Apply the B74-1 stickers to the outside of the lid of your Bangalore. Use these for quick reference when programming your upgraded Bangalore.



Before proceeding any further, ensure you really have removed the condenser from the coil assembly. We really can't emphasise enough how important it is to do this. Just check once more. Failure to remove the condenser will result in damage to the circuitry of your new control box.

7. Testing your Bangalore



High noise
levels



Wear ear
protectors

Always wear ear protection when operating a Bangalore Bird Scarer.

Your upgraded Bangalore is now ready for testing.

You will need:

- Your upgraded Bangalore
- Bottle of propane gas (red bottle)
- A fully-charged 12V car or tractor battery
- The Bangalore Broadside Instruction Manual
- Suitable ear protectors

Move your Bangalore to a suitable wide-open space.

Connect the gas regulator to your gas bottle.



Note

If you're using a brand new bottle of gas, "crack" the bottle first. Before attaching the regulator, open the valve slightly then close it immediately. This blows out dust or dirt from the valve outlet and can reduce mis-fires. Use two hands on the valve and stand at the side of the valve - never stand directly in front of or behind the valve outlet. Do not smoke whilst doing this procedure or perform it near sources of ignition.

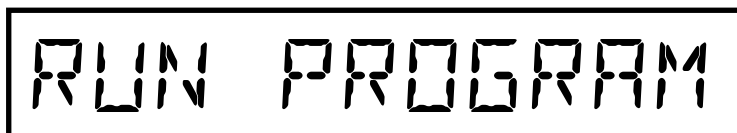
Connect the red and black leads from the control box to your external 12V battery. Turn on the gas bottle's valve.

The Bangalore Broadside has a factory-preset program to get you up and running quickly. It also reverts to a time of 8am (but you can set this to the correct time later). When you connect up the battery, the screen will light up briefly and then settle with the following message:

OFF 08.00

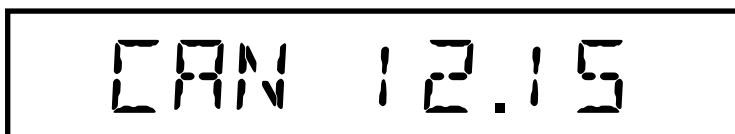
You can refer to the Bangalore Broadside Instructions on how to test fire your Bangalore to make sure your new control box kit is installed correctly.

Hold your finger on the PLUS (+) button until the screen shows:



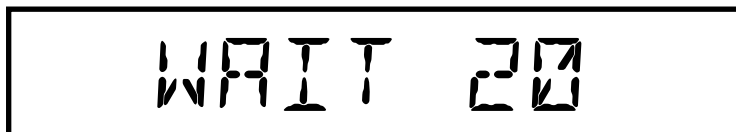
RUN PROGRAM

Tap the OK button until the screen shows CAN and the remaining time until the next shot is fired, e.g.



CAN 12.15

Hold your finger on the TEST button until the screen shows:



WAIT 20

It will start counting down from 20. The gun will fire a single shot when the countdown reaches zero.

Your gun is now fully upgraded and working correctly. Refer to the Bangalore Broadside Operating Instructions for further details on how to set the correct time, the day of week and program the firing patterns you'd like.

8. Help and Support

You can get help and support on many aspects of your Bangalore Bird Scarer from the Bangalore website:

www.birdscaring.co.uk/support

Or to talk to someone about your upgrade, please telephone:

01223 88 22 22

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