

# Shooting Gallery Maintenance

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# Daily check

1. Drain compressor at the end of every day.
2. Check all guns and coin mechanisms are working.
3. Check all targets are working and are shooting water.
4. Check water level in tank.
5. At the end of the day switch the compressor off using the switch on top of the compressor, before switching the main supply to the gallery off.

# Weekly Check

1. Check the oil level in the compressor
2. Before adding oil, turn off the compressor and drain the air from the tank.

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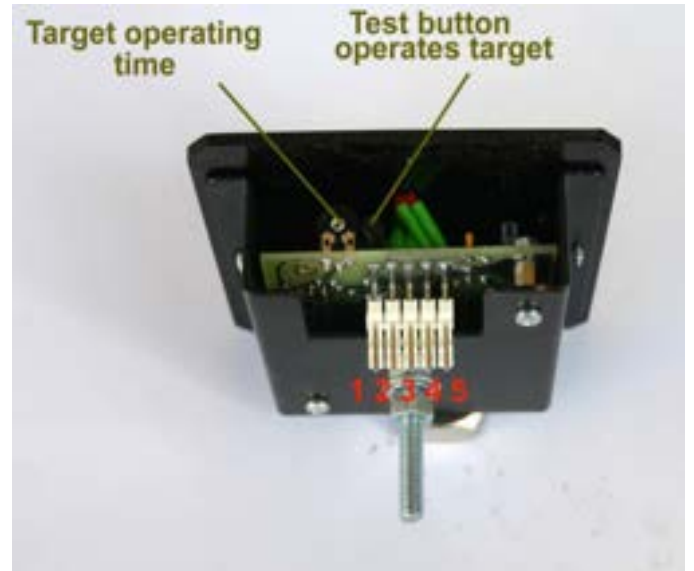
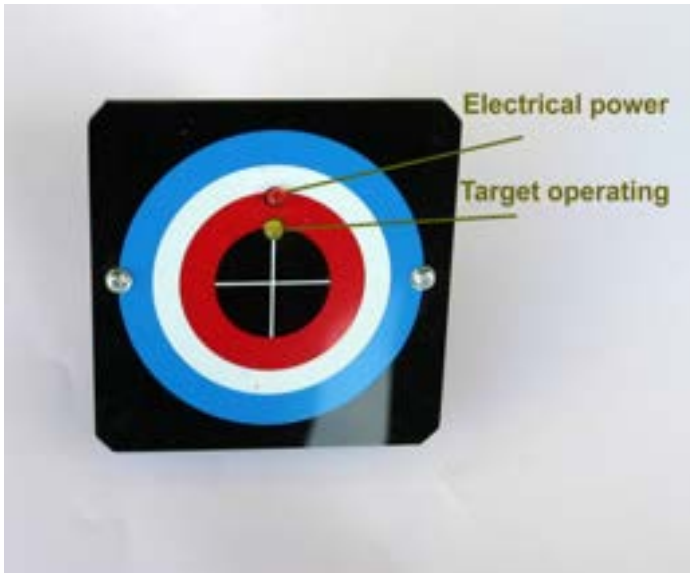
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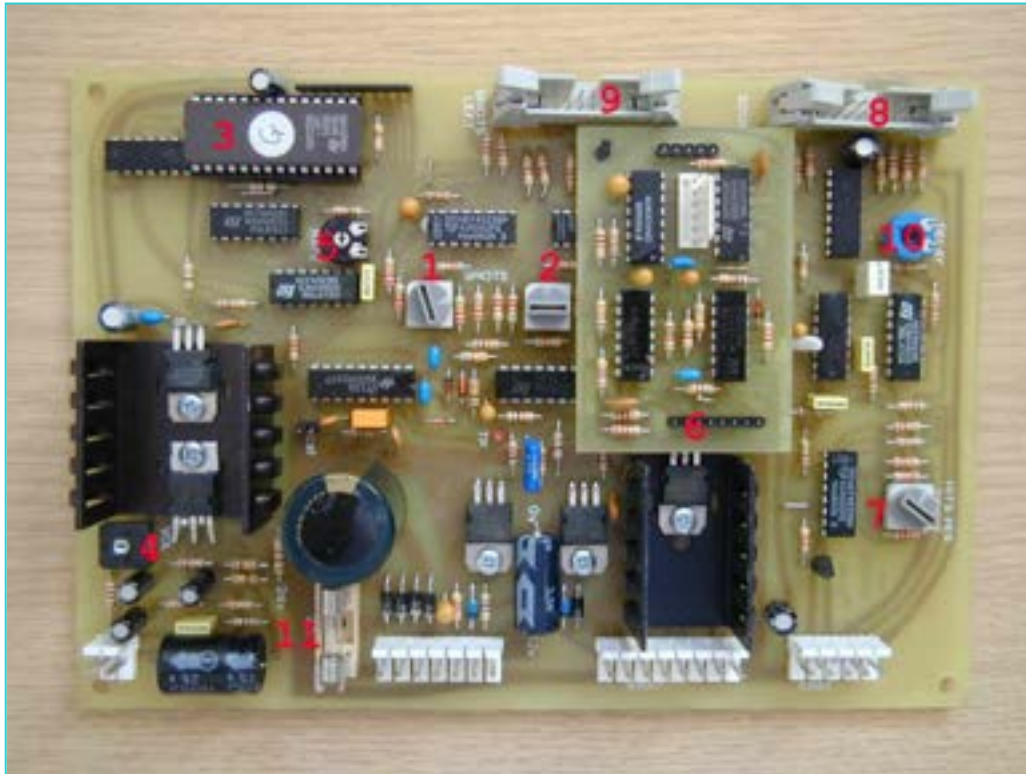


# Target connections



1. Black wire 24 volt a.c. supply
2. Red wire 24 volt a.c. supply
3. Yellow/black wire 24 volts a.c. when the target operates
4. Blue/brown wire 24 volts a.c. when the target operates
5. Grey wire scoring to all targets and buffer board E87S

## Gun board settings



- 1. & 2. Sets number of shots per game. Switch 1 sets tens, and switch 2 sets units.  
Example:- For 25 shots set switch 1 to read 2 and switch 2 to read 5.**
- 3. Gun noise eprom.**
- 4. Gun noise volume control.**
- 5. Speed and pitch of gun noise (factory set).**
- 6. Piggyback board for electronic coin mechanism.**
- 7. Used only if ticket dispensers are fitted. Sets number of hits needed for one ticket.**
- 8. Output to score display.**
- 9. Output to shots left display.**
- 10. Factory set do not alter.**
- 11. Main board fuse 2 amp.**

# Water tank assembly



1. Water pump
2. Float switch, removes power from the water pump when the water level is low. This is operated through a relay situated on the floor of the electrical distribution cabinet.
3. Water pressure reducing valve.
4. Water pressure gauge.
5. Water manifold, outlets to individual models.
6. Water return pipe to tank.
7. Water bypass pipe, maintains a water flow through the pump even if the water pressure reducing valve is shut.
8. Tank to pump inlet pipe.

The water pump runs continuously maintaining pressure in the system. If the pressure is increased using the water pressure reducing valve 3 the water will squirt a greater distance. The maximum pressure is about 35 psi.

## Fault finding

If the pump does not run.

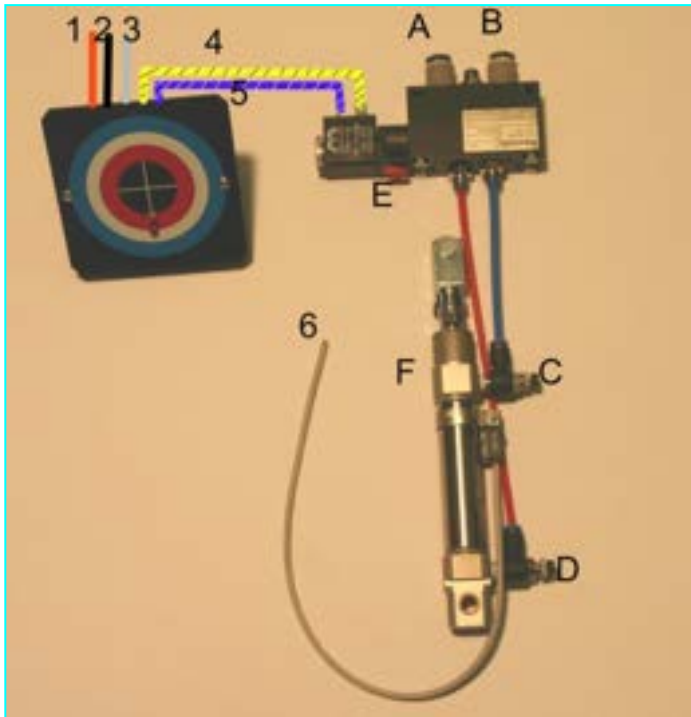
- i. No power to the water system.
- ii. The water level in the tank has fallen below the float switch.
- iii. The pump has overheated and the built in automatic reset, thermal cut out has operated.

# Air Filter Assembly



1. **Entry point for air from the compressor.**
2. **Dry air to the shooting gallery.**
3. **Air shut off valve. When the air supply to the gallery is cut off the air pressure is automatically drained, making the system safe to work on.**
4. **Air pressure gauge (should read 90 psi or 6 bar).**
5. **Water collects in this bowl and is drained by pushing the pipe up towards the body of the filter when there is pressure in the air system.**
6. **Air pressure adjustment. Lift and turn the black knob to alter the air pressure.**

# Target Operation, with Sound Effects, No Water



## Electrical

The target box is supplied with 24 volts AC (connections 1 & 2); a red LED on the target front plate is lit when the supply is on. When the target operates 24 volts AC appears between wires 4 & 5 and the yellow LED on the target front plate lights up. Altering the setting of a variable resistor on top of the target box can vary the operating time. Next to the resistor is a test button, which simulates the target being hit.

## Air System

Air pressure is normally on the blue airline pipe and no pressure is on the red pipe. When voltage is applied to the coil, air pressure switches over to the red pipe and no pressure is on the blue pipe. The air piston then operates. Turning the red plastic knob (E) through 90° can simulate this?

Adjustable restrictors B and C control the forward speed of the cylinder. The return speed is controlled by A and D. The restrictors on the cylinder (C & D) are used for fine adjustment control.

## Notes

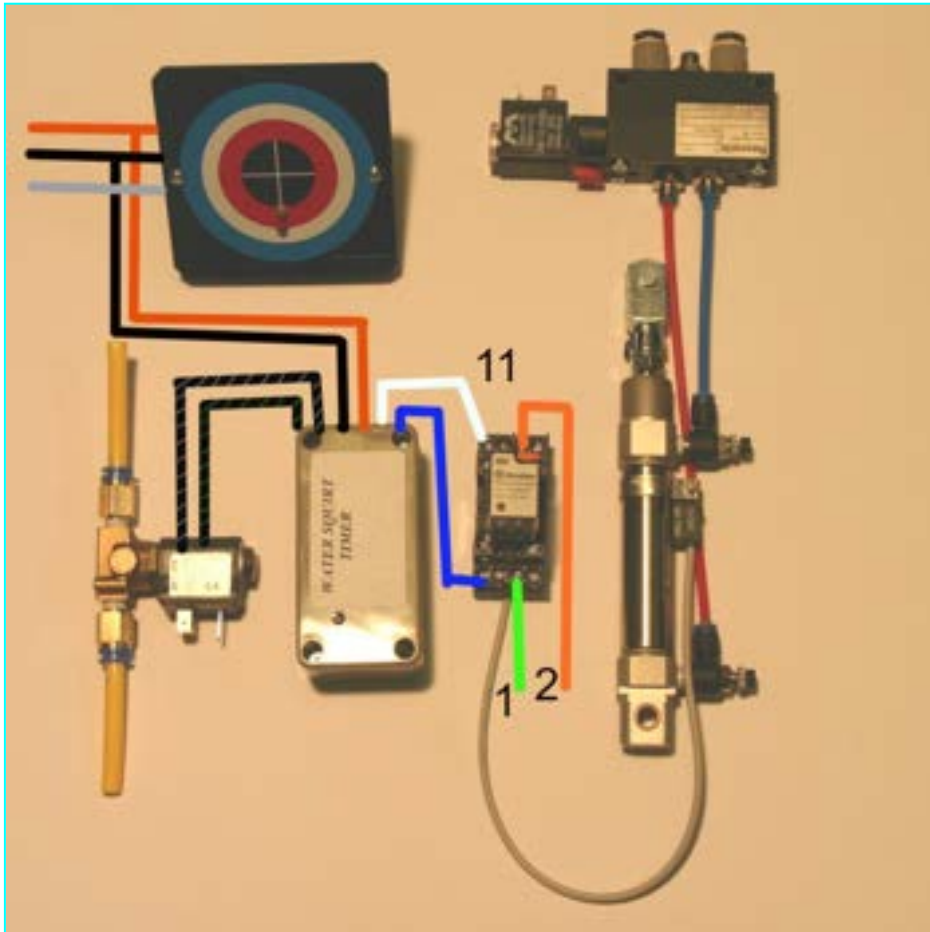
Reed switch F is operated by the magnetic air piston and the output from the reed switch 6 is used to switch the message repeater.

The grey wire 3 is used in the scoring system and is connected back to the distribution board. On some animations fine adjustments C & D are not fitted.





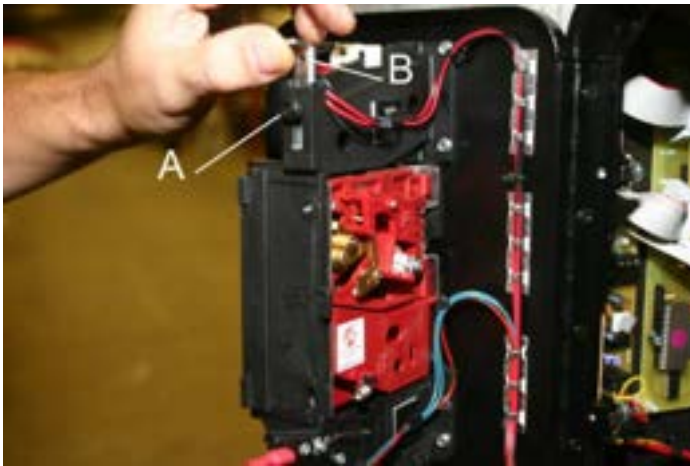
## Target Operation with Water & Sound Effects



Targets with both water and sounds require 2 outputs from the reed switch, this is achieved using a relay 11.

The message repeater is switched by wires 1 & 2 (colours of the wires can vary).

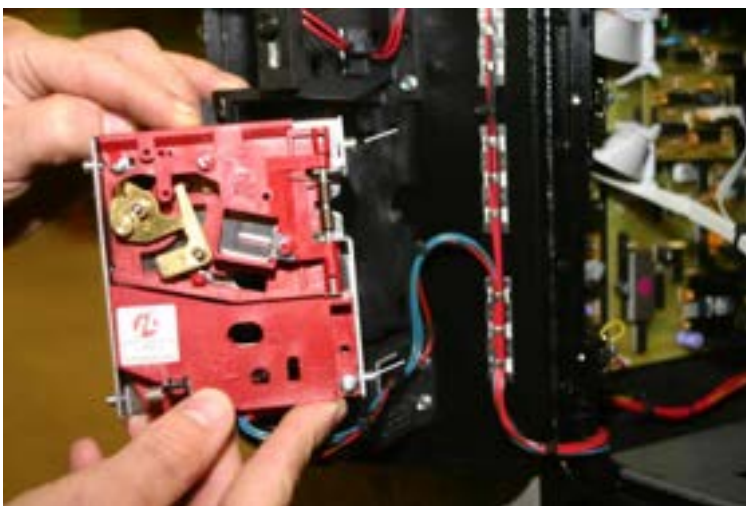
## Mechanical coin mechanism removal and replacement



Turn A anti clockwise  
Lift B



Open spring loaded flap C and pull mechanism towards flap

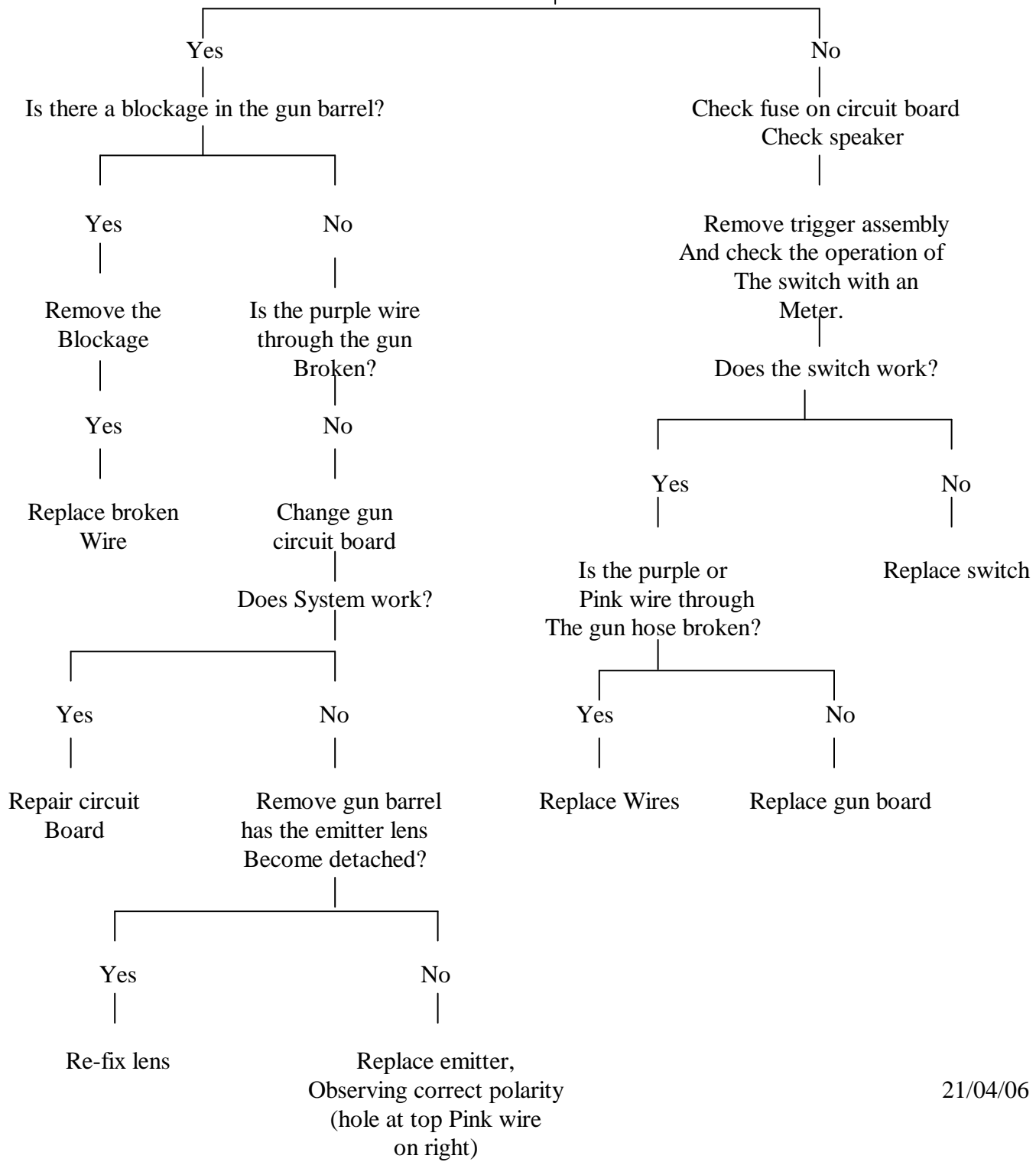


To replace coin mechanism locate pegs on rear of mechanism in holes in back plate and close flap C onto pegs on coin mechanism.

Lower tab B and turn A clockwise

## Gun does not operate target

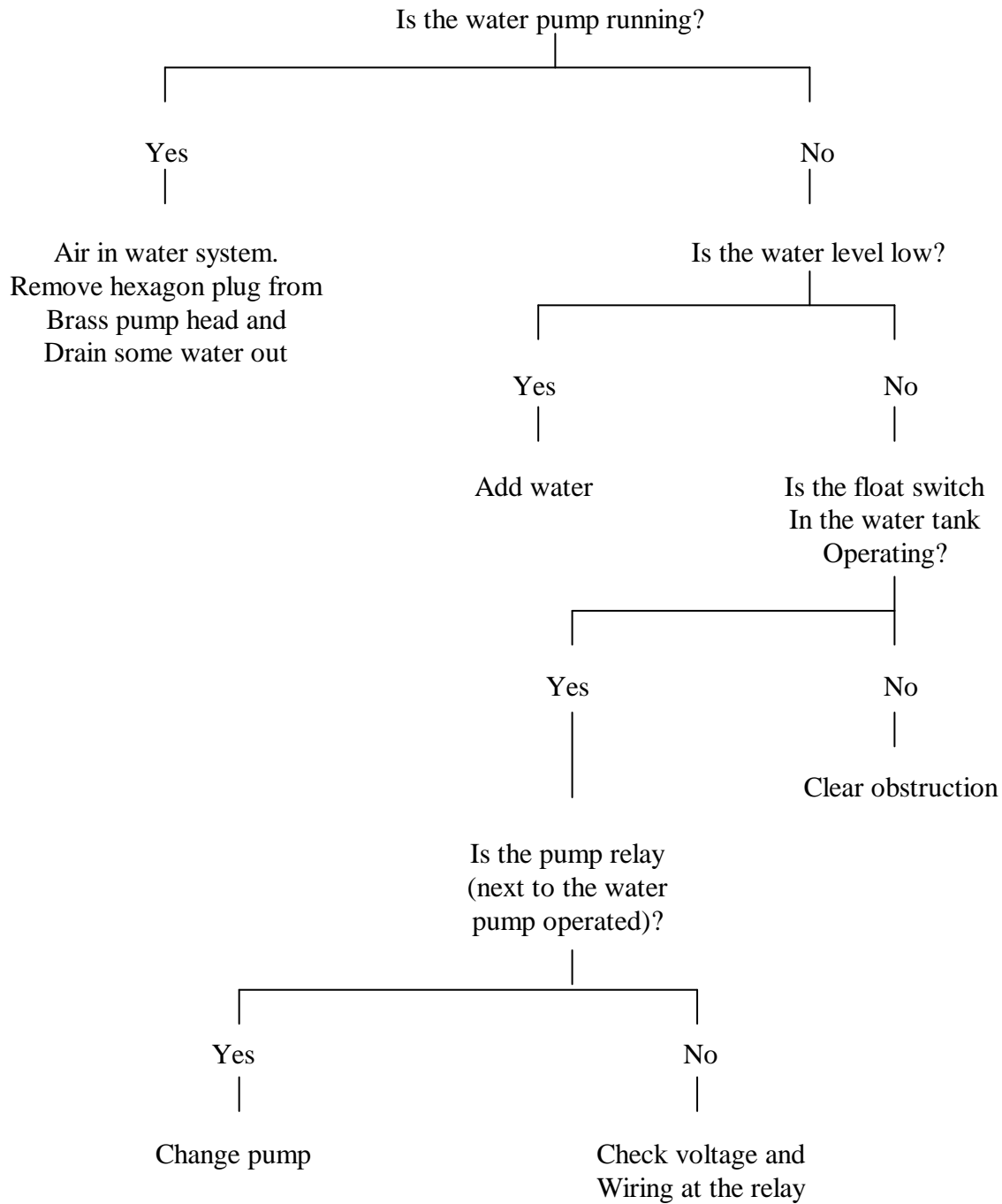
Is there a gun noise when the gun is operated?



21/04/06

# Water System Faults

## NO WATER SQUIRTERS WORKING





# Maintenance Training Certificate

This is to certify that ..... has been trained by  
..... of Pan Amusements in the general maintenance of shooting  
gallery.

This training includes:

- daily maintenance schedule
- weekly maintenance schedule
- monthly maintenance schedule
- trouble shooting
- fault finding
- replacement part identification

Dated.....

.....  
Pan Amusements Engineer

.....  
for Customer

