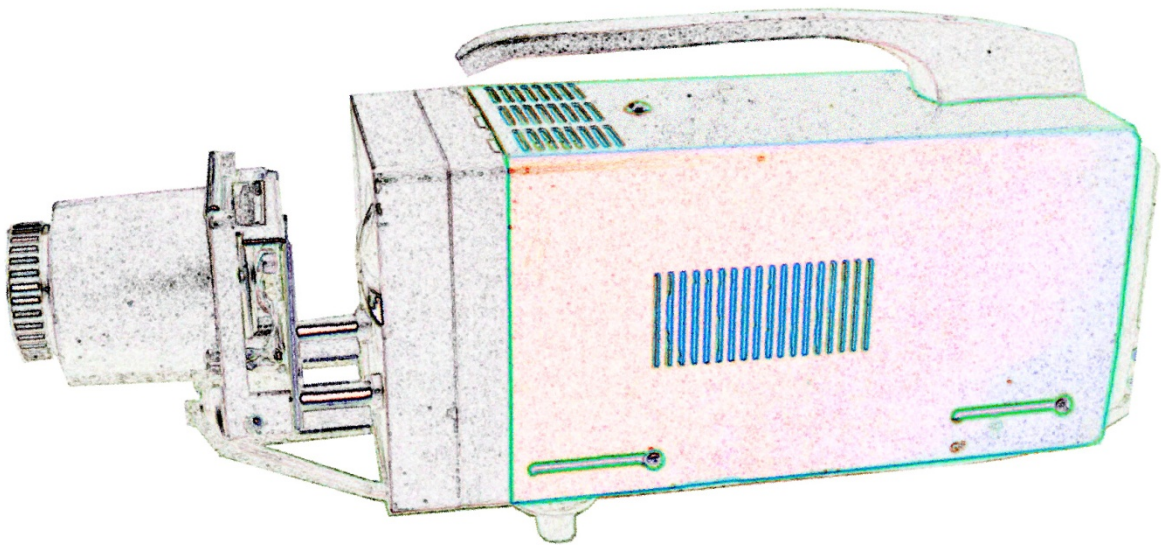


# SERVICING INFORMATION



## RANK ALDIS TUTOR II

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## **Servicing the Rank Aldis Tutor II effects projector.**

This is a short guide on how to service the main component parts of the projector.

You will need some simple tools to complete the service and some cleaning solutions.

Tools:

Cross point screwdrivers

Flat blade screwdrivers

Snipe nose pliers

4BA nut spinner

Circlip Pliers (optional)

Cleaning Solutions:

Isopropyl Alcohol or Methylated spirit

General purpose 'foam cleaner' or warm soapy water

You will also need a small brush (pastry brush or similar size) and some cleaning cloths. To clean the lens and heat filters you need a clean, preferably lint-free cloth.

Before starting, it's a good idea to wear vinyl or latex gloves, especially if the projector is exceptionally dirty inside.

Please note that this document is offered as a guide. I do not accept any responsibility for damage to equipment or persons as a result of actions advised in this document.

## STEP 1

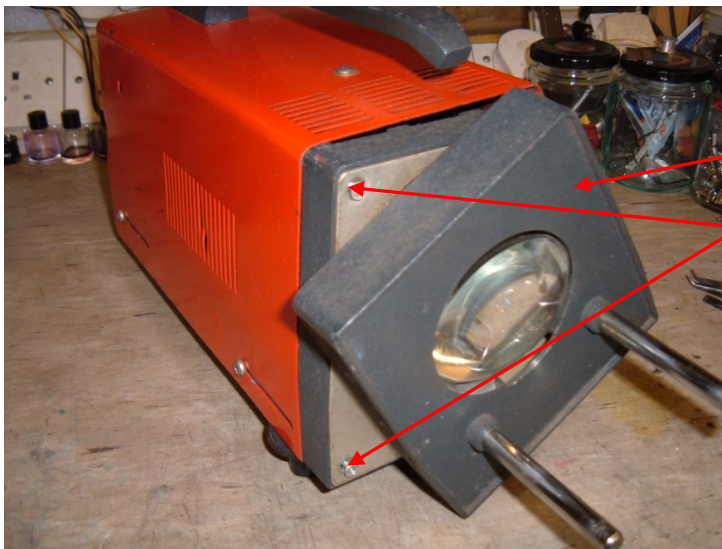
Disconnect the power from the projector! VERY IMPORTANT

## STEP 2

Start by removing the four screws holding the main cover in place, then remove the cover from the projector body. The handle or carry strap (dependant on model revision) is part of the cover, do not remove it.

## STEP 3

Remove the front gate assembly from the main body by rotating the gate a little to reveal the four xpoint securing screws. Removing the screws will release the whole front gate assembly.



Rotate to reveal fixing screws

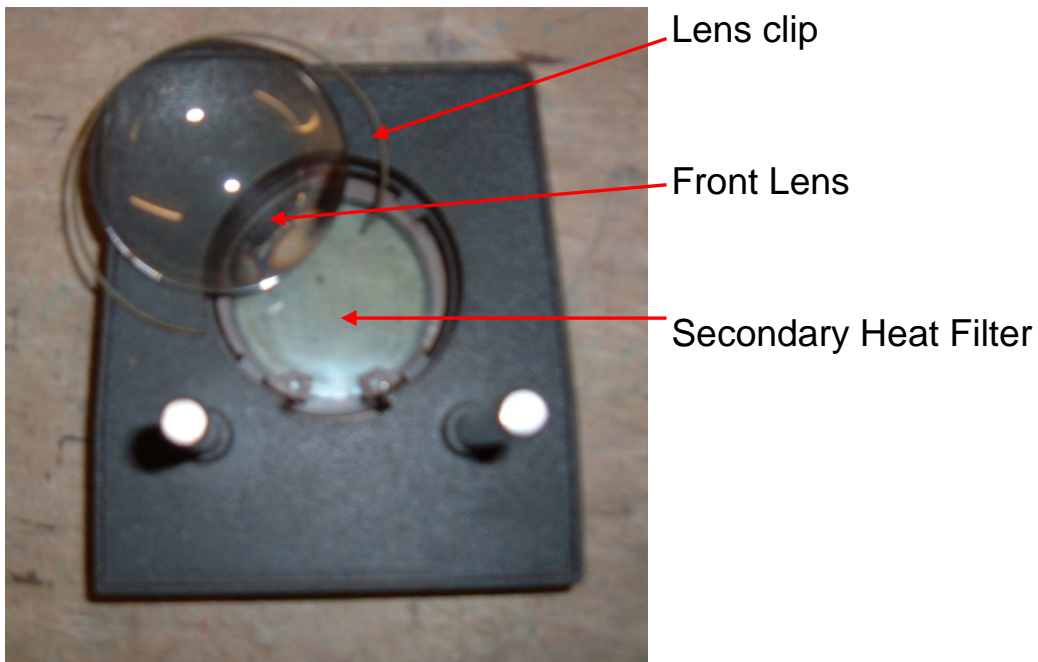
Remove all four screws,(one located at each corner).

## STEP 4

The front gate lens assembly can now be serviced. Start by removing the clip holding the lens in place (looks like a piece of wire, use a small screwdriver to lever this out), then carefully remove the lens from the housing.

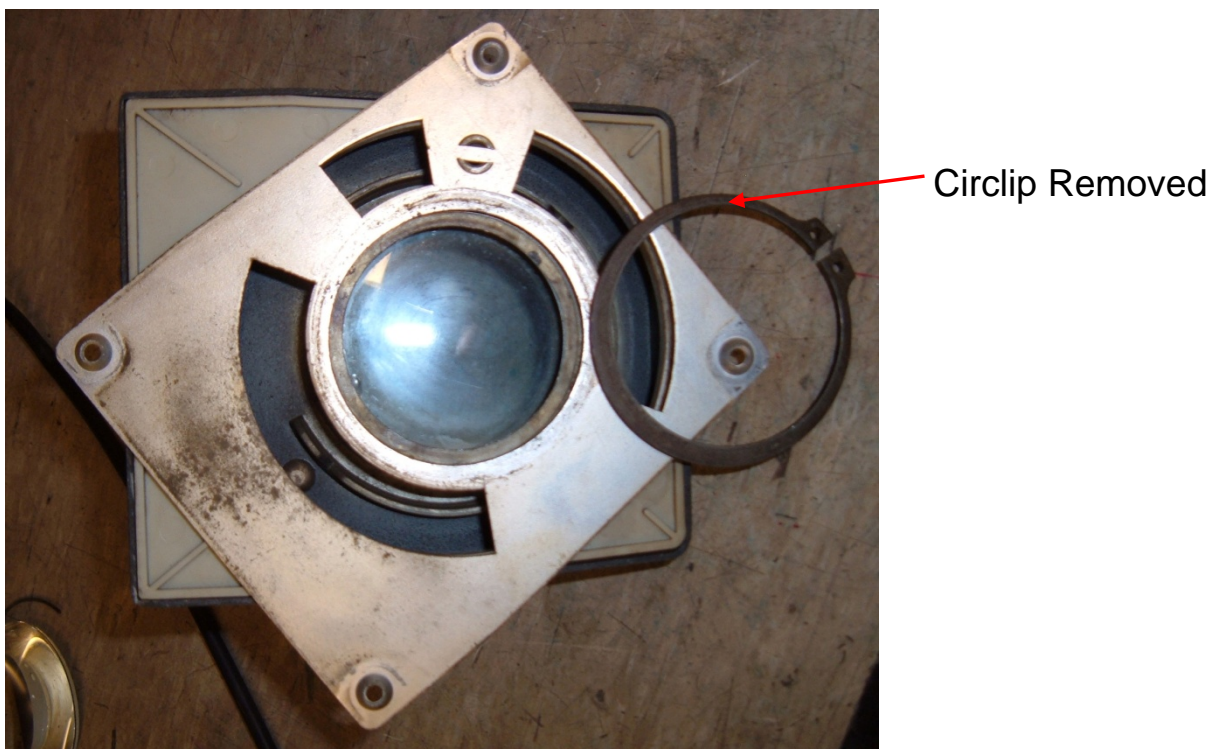
Be careful not to damage the lens during this operation, and observe that the lens has the larger domed side toward you.

You now have access to the secondary heat filter. DO NOT attempt to remove the heat filter unless it is damaged.



## STEP 5

Turn over the front gate assembly and using circlip pliers, or a flat blade screwdriver and snipe nose pliers, carefully remove the large circlip holding the rotation plate in place.







Once the circlip is removed, the component parts of the gate head assembly can be separated.

OK now it's time to clean these parts.

Start by cleaning the metal parts with general cleaning solution, wipe away any excess and dry. Clean the plastic filler with warm soapy water and dry thoroughly. Stubborn oily deposits can be removed with spirit or alcohol.

Very carefully clean the lens and the heat filter, first with a small amount of foam clean or soapy water. Dry thoroughly then clean both parts using some spirit or alcohol and a clean dry lint free cloth.

Make sure both parts are thoroughly clean, avoid handling the lens with bare fingers as finger marks if left, will eventually become permanent marks.

Double check the heat filter is clean and dry as you will have limited access again once the components are re-assembled.

## STEP 6

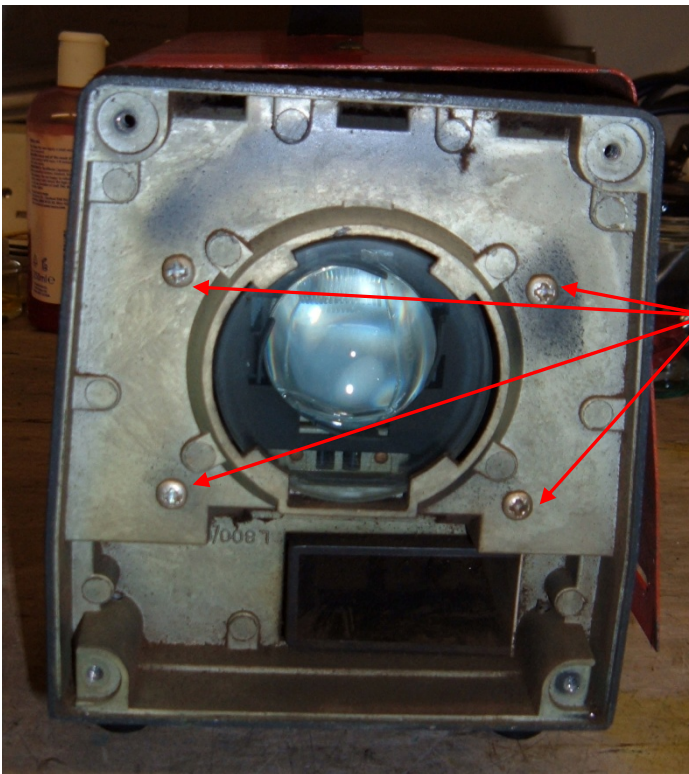
The gate head assembly can now be re-assembled.

Using a small piece of cloth, lightly oil the rear rotation mount (where the circlip fits). You can use a standard hinge oil or clean engine oil for this.

Re-assemble the component parts in the reverse order taken for disassembly.

After fitting the lens, place the assembly to one side away from the work area.

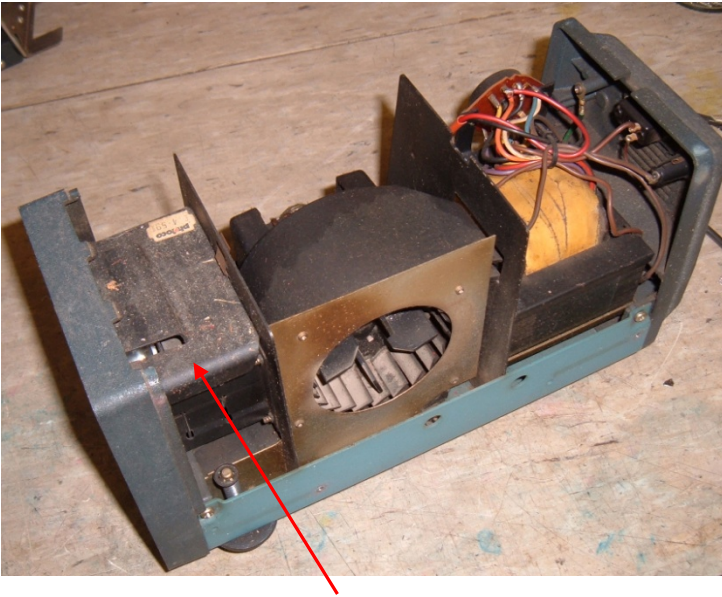
## STEP 7



Remove the four Lamp House retaining screws from the front of the main body.

This will partly release the lamp house assembly from the main body.

## STEP 8

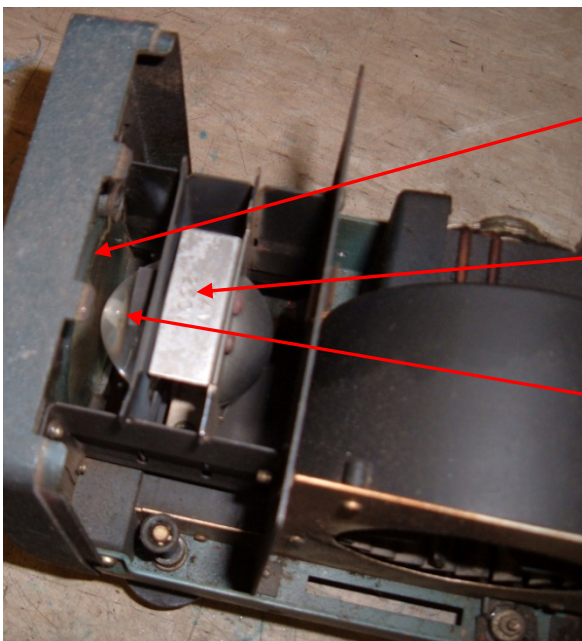


Remove the Lamp House cover, clean this item and place to one side.

If this item has paint damage, rub down and re-paint using a MATT finish black paint.

Next remove the reflector and condenser lens plates from the lamp housing.

Carefully remove the lamp using a small plastic bag to first cover the lamp. Do Not touch the lamp with bare fingers, if you do then clean the lamp envelope with alcohol or spirit.

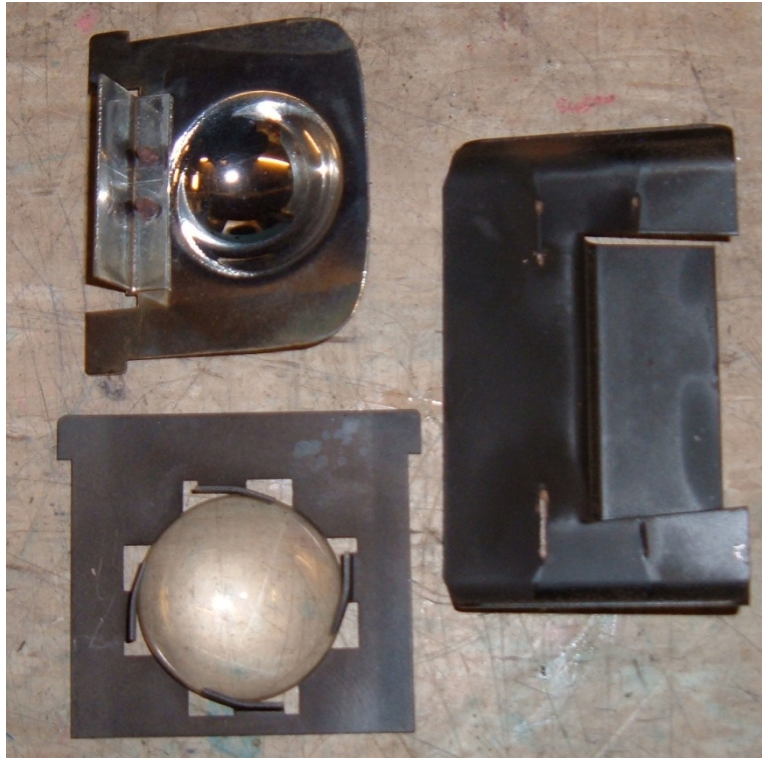


Primary heat filter

Reflector

Condenser Lens





Clean the condenser lens in the same manner as in STEP 4.

The reflector is chrome plated steel and should be carefully polished after cleaning with spirit. Do not scratch the surface.

Access can now be made to the primary heat filter. This should be removed by rotating the retention clip, and carefully pulling out the glass filter.

Clean the filter in the same manner as used for the lens. Place these items safely away from the work area until re-assembly.

## **STEP 9**

The lamp housing assembly, the fan unit and the fan unit baffle can now be removed from the main projector body.

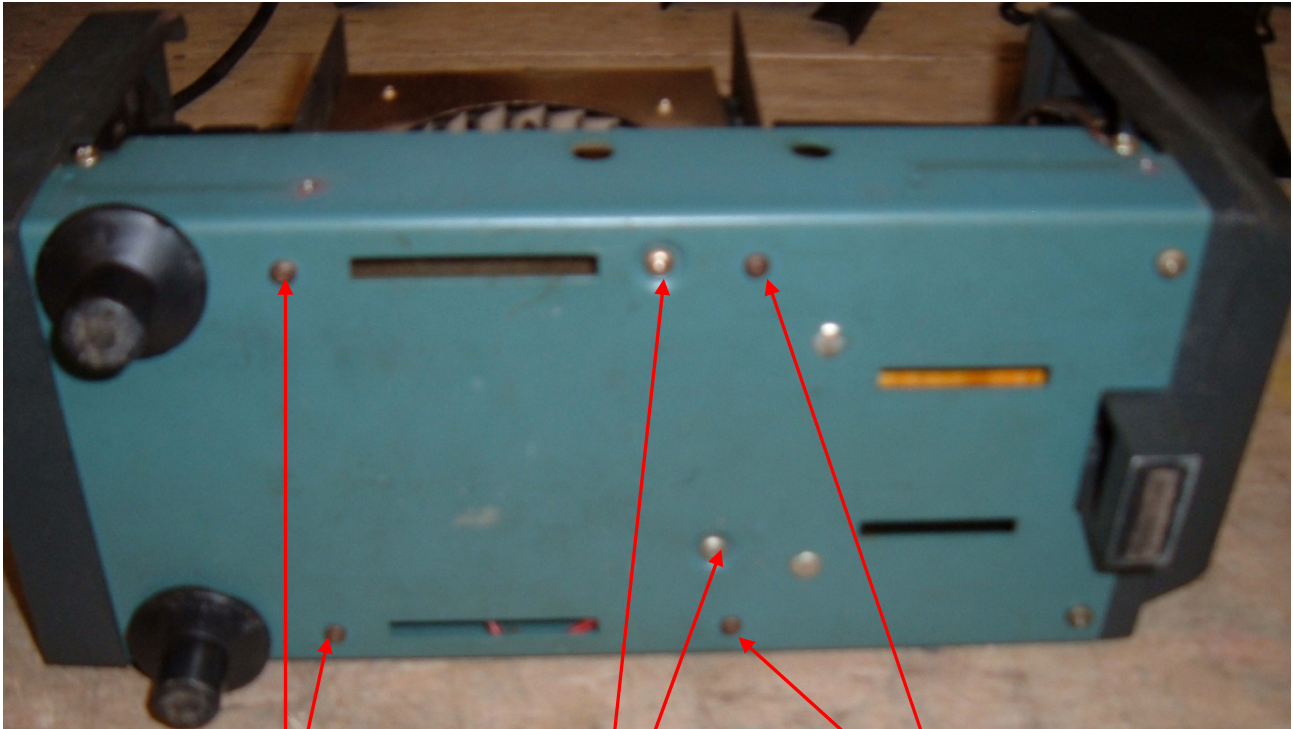
To achieve this, turn the main body on its side.

Remove the screws holding the lamp housing assembly.

Remove the screws holding the fan baffle plate.

Remove the 4BA nuts and bolts retaining the fan unit.





Lamp Housing screws

Fan Unit Bolts

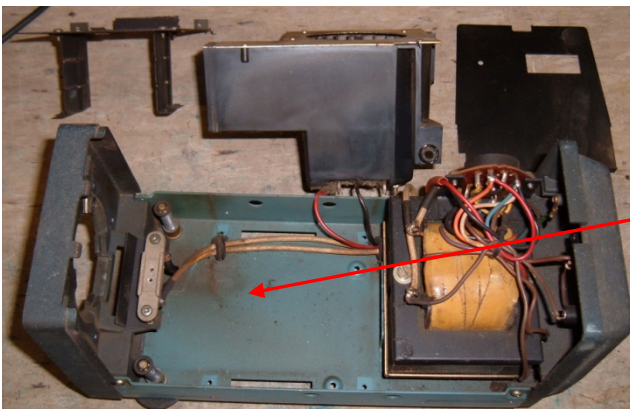
Fan Baffle Plate screws

#### NOTE:

The 4BA nuts have washers under them.

First remove the fan baffle plate, take note that the cables to the lamp and fan pass through a grommet located at the base of this plate. This plate can now be cleaned.

Now remove the lamp housing and Fan assembly, note that like the fan baffle, the lamp housing has a cable grommet. Place the items on the bench top and avoid damage to the cables.



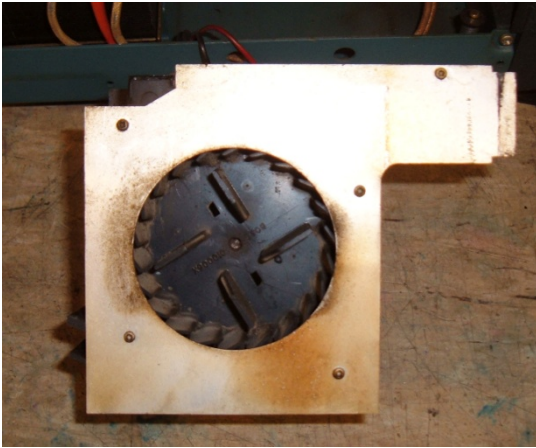
The projector body can now be cleaned using a brush and then cleaning solution.

Ensure you dry this area thoroughly. Avoid getting liquid near the transformer and lamp holder.

Visually inspect the lamp holder and replace this if necessary.

## STEP 10

Service the Fan unit.



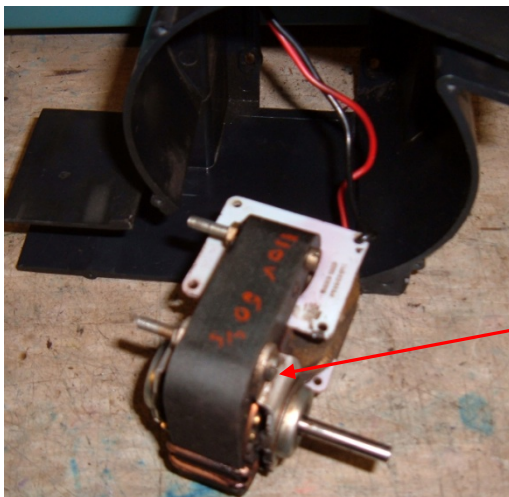
Start by removing the five screws holding the cover plate.

Remove the plate and clean this, taking care not to bend it. The Case part of the fan assembly is very fragile; take care not to damage it.

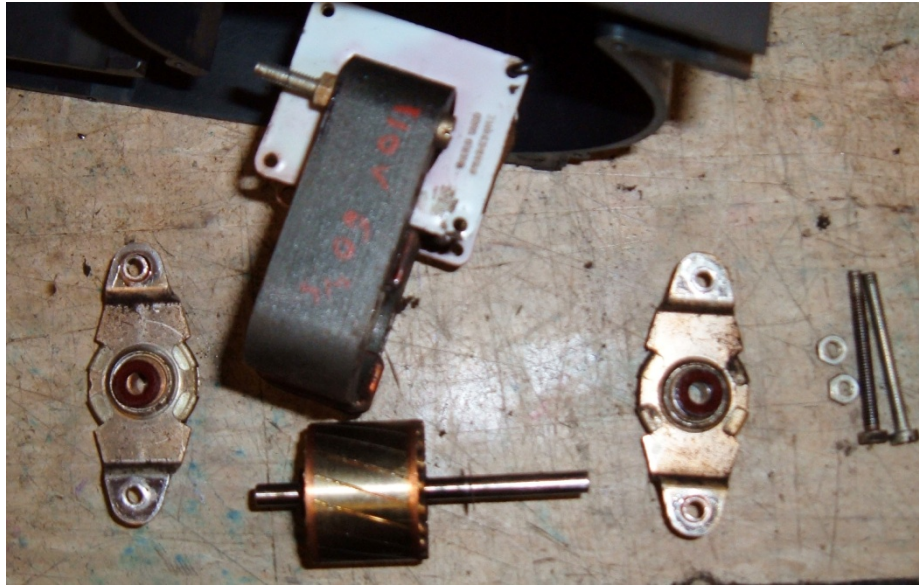
Prize off the fan blade from the motor shaft using a large screwdriver (from the motor side). Now remove the four 4BA nuts retaining the motor and withdraw the motor from its housing. Clean the housing and plastic fan.

Inspect the housing for damage. If evident glue cracked parts with model glue. Holes or badly damaged areas can be fixed with epoxy glue.

The Motor can now be serviced.



Remove the four nuts and bolts holding the rotor.



Both bearing plates and the rotor can be removed from the armature.

Clean any residue from the bearing plates and the motor spindle. Be careful not to lose the two fibre washers and the steel shim.

After brushing clean the armature the spindle of the rotor can be lightly oiled (don't apply too much) and the motor re-assembled.

Check the motor can be spun freely by hand. Re fit the motor to the now clean and repaired housing, take care not to over tighten the fixing nuts as this can damage the plastic housing.

Fit the fan back to the motor, gently tapping it onto the spindle. When positioned correctly there should be a 2 to 3mm gap between the end of the blades and the metal cover plate. Check the fan spins without fouling on the cover plate then fit the five screws to retain the plate.

## **STEP 11**

Re fit the primary heat filter if you have not already done so.

Re assemble the lamp housing, fan unit and baffle plate into the main projector body.

Remember to locate the two cable grommets into the relevant locations. Ensure the cables are not trapped under anything before replacing the screws



through the base. Remember to fit the washers under the nuts securing the fan unit.

Finally fit the four screws to retain the lamp housing at the front of the main body (see STEP 7).

## **STEP 12**

Replace the lens, lamp, and reflector in the lamp housing. Avoid handling the lamp with bare fingers, use a clean cloth or plastic bag. If you do touch the lamp, clean it with alcohol or spirit. The lamp is made from quartz not glass, and finger grease will burn into the quartz causing a dark 'hotspot' resulting in poor light, and premature lamp failure.

Got it all back together ok?

We can now do a quick test. Put the projector power switch in the ON position, fit the power cable (unplugged from the wall socket). Keep well clear of any exposed electrical connections. Plug the power lead into the wall socket and turn it on.

The lamp should light and the fan should run smoothly. Turn off the power and unplug the power cable.

If the fan runs but there is no light, check the lamp for failure.

If the lamp lights but the fan does not run, check the fan is not fouling on the cover plate, adjust if necessary. Check the fan cables have not become detached. If all is well proceed to final assembly and alignment.

## **STEP 13**

You can now re fit the gate head assembly. This is a reverse of the procedure performed in STEP 3.

Check the gate head assembly rotates freely.



## STEP 14

### Lamp alignment

To give maximum light output and even illumination the lamp position must be set. This is achieved using two setting screws, located each side of the lamp holder.

You will need a piece of card cut to about the size of a 35mm slide.

Make a hole in the centre of the card using a 2.5mm drill bit or ball point pen nib, ensure the hole is clean and free from burred card edges.

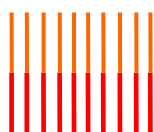
Fit the card using tape over the front lens in the gate.



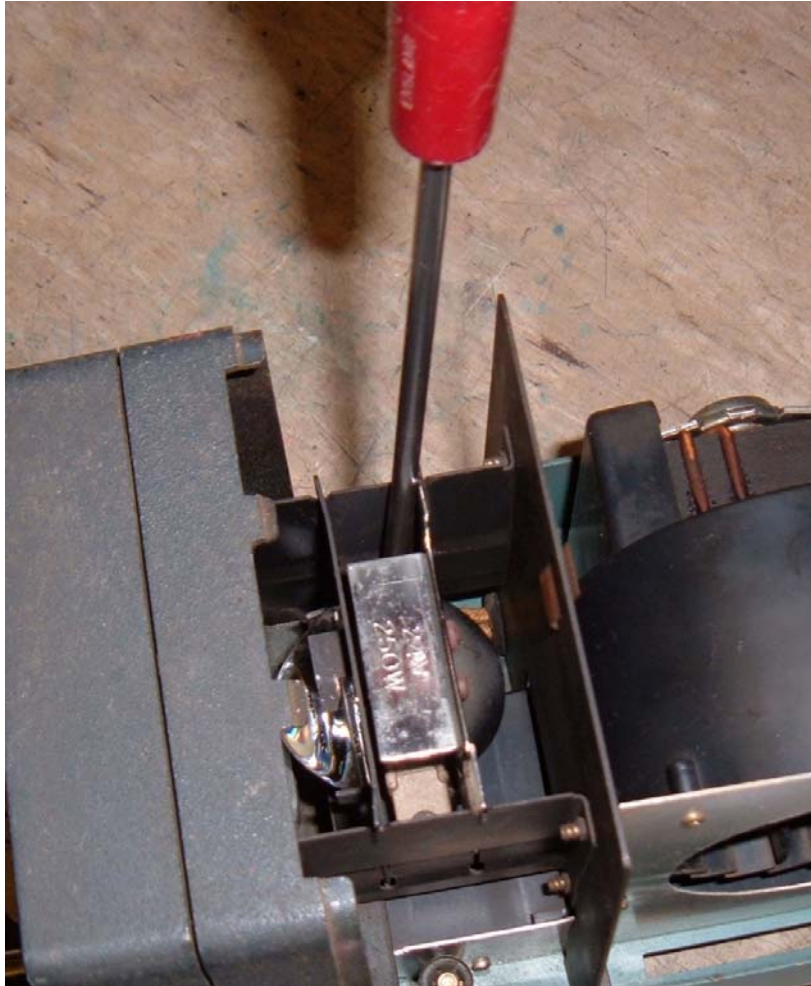
For ease, if you have a motor plate, you can tape it to this, then fit the motor plate in place.

Place a piece of white paper a few inches away from the focus lens and turn on your projector. Observe the projected pattern.

The pattern should have an image of the lamp filament with a second less bright image of the filament immediately above it (similar to image below).



Using a xpoint screwdriver, adjust the two lamp holder screws to obtain the pattern. Be careful not to undo the screws completely. Small adjustments of the screws are all that is usually required, check the lamp is fully seated and vertical if you have difficulty obtaining the pattern.



Once completed, the lamp cover can be fitted in place and then the main projector outer cover can be fitted.

Check that the two front feet adjust correctly, apply a little oil to the threads, remove the alignment card and keep it safe for further use.

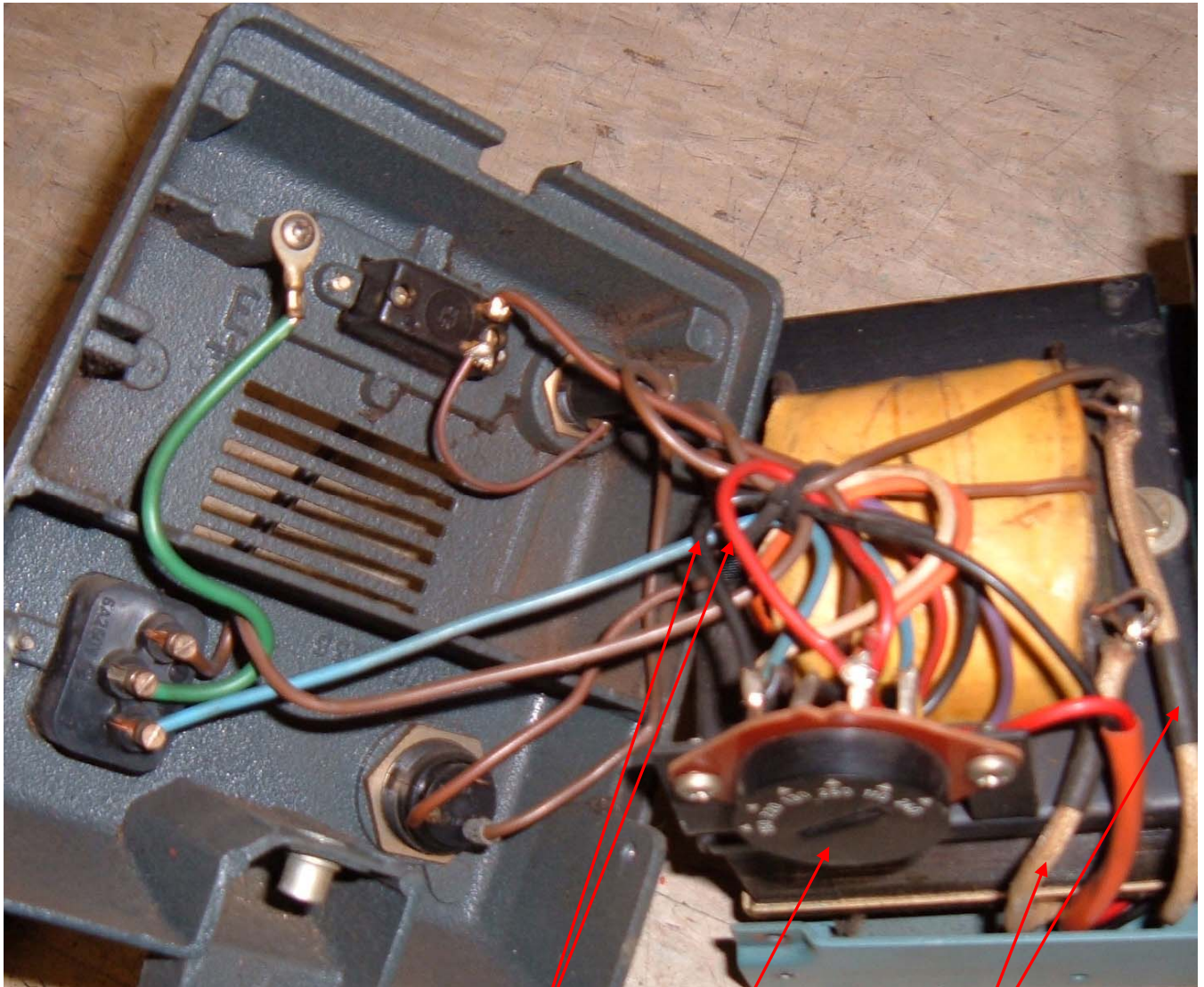
Enjoy using your serviced projector.

Replace faulty lamps with type M33 24v 250w

Occasionally remove the outer cover and remove dust and dirt using a brush.

Regularly clean dirty lens parts. (Full Disassembly is not required for this).

Should any of the wiring have come adrift during this procedure, you can check against the following images. One is for early production models with IEC power inlet, the other is for later models with fixed power cord.



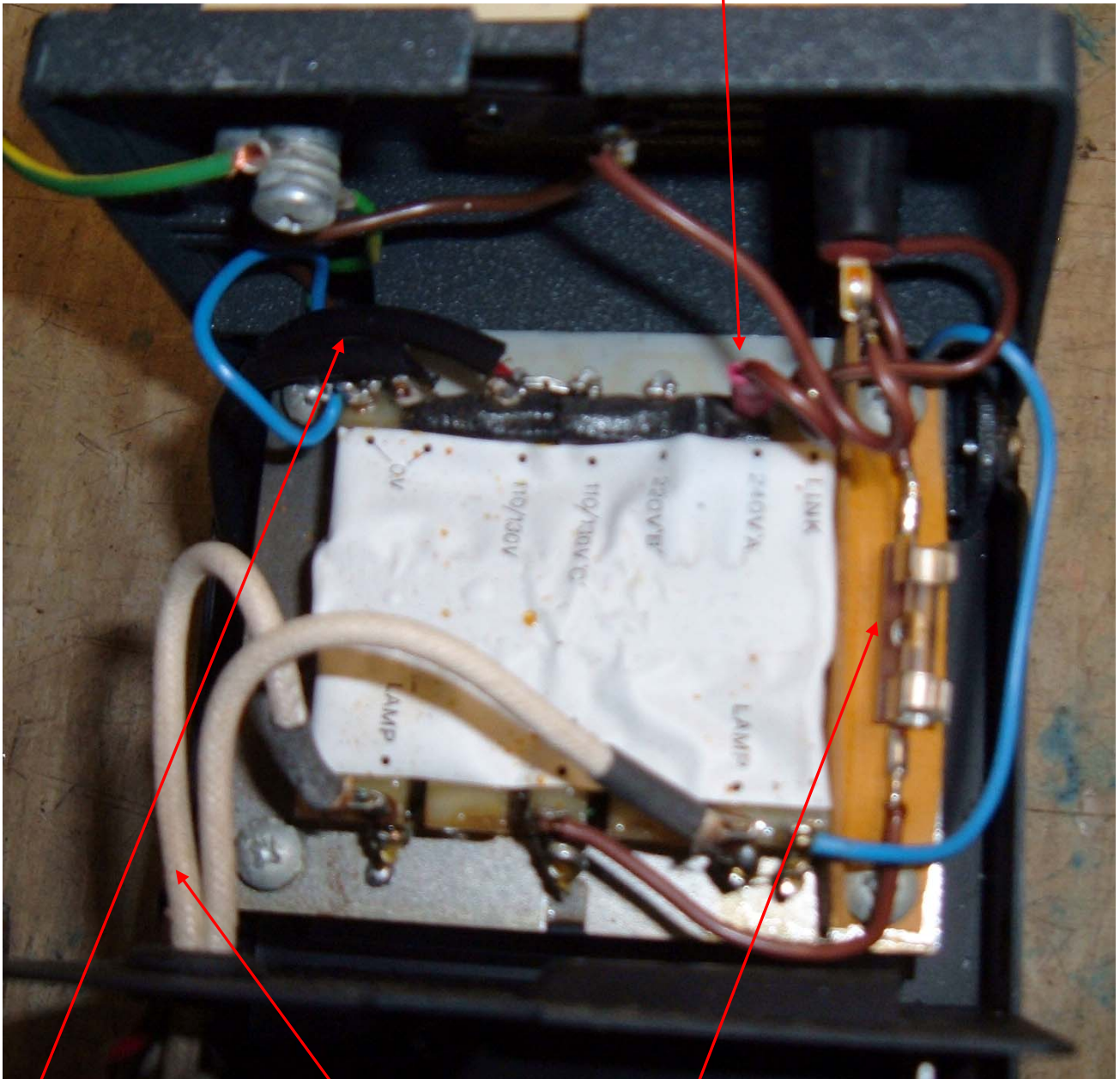
Fan Wires

Lamp wires

Voltage selector



Voltage Selector wire



Fan Wires

Lamp wires

12v Outlet Fuse