



TROUBLE SHOOTING AND PARTS REPLACEMENT MANUAL

FOR THE REMOTE CONTROLLED
YACHT BEAM 6M



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TABLE OF CONTENTS

YACHT BEAM 6M TROUBLESHOOTING

LAMP DOES NOT TURN ON _____	3
ELEVATION FAULTY _____	4
ROTATION FAULTY _____	5
NO FOCUS CONTROL _____	6

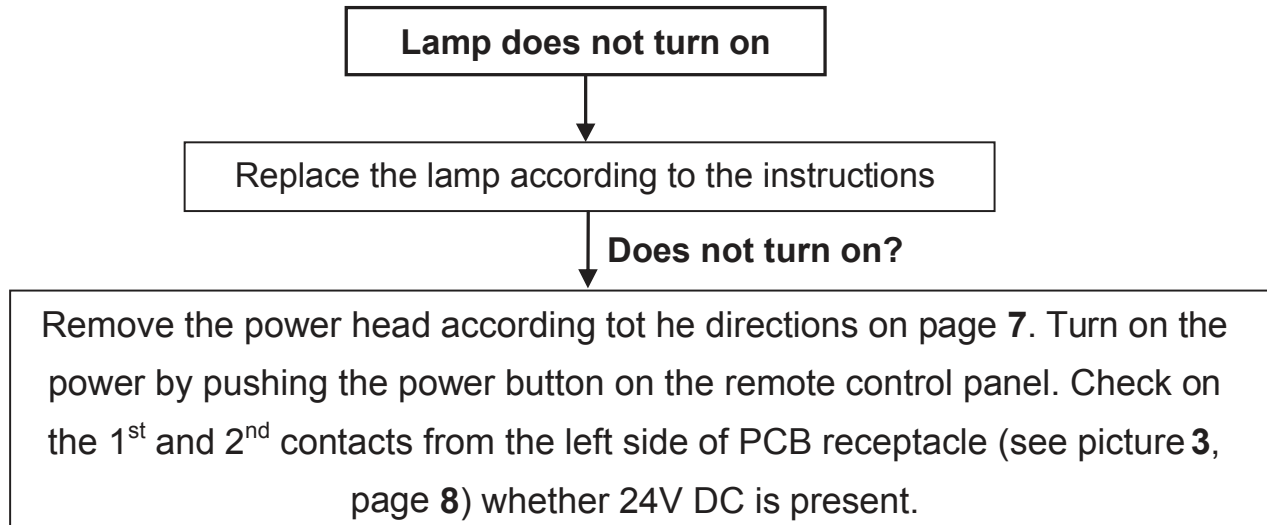
HOW TO...

REMOVE THE POWER HEAD _____	7
CHECK THE BALLAST _____	8
CHECK THE OUTPUT (LAMP) OF PCB PP-207A _____	10
REPLACE THE BALLAST _____	11
REPLACE THE STARTER _____	14
REPLACE THE BRUSH HOLDER _____	16
CHECK OUTPUT (ELEVATION) OF PCB PP-207A _____	19
CHECK OUTPUT (ROTATION) OF PCB PP-207A _____	20
REPLACE THE PCB (PP-207A) _____	21
REPLACE THE ELEVATION MOTOR _____	23
REPLACE THE PCB (PP-208A) _____	25
CHECK THE ROTATION GEAR _____	27
REPLACE THE ROTATION MOTOR _____	30
REPLACE CONTINUOUS ROTATING LIGHT _____	33
CHECK THE FOCUS MOTOR _____	36
REPLACE THE FOCUS MOTOR _____	38

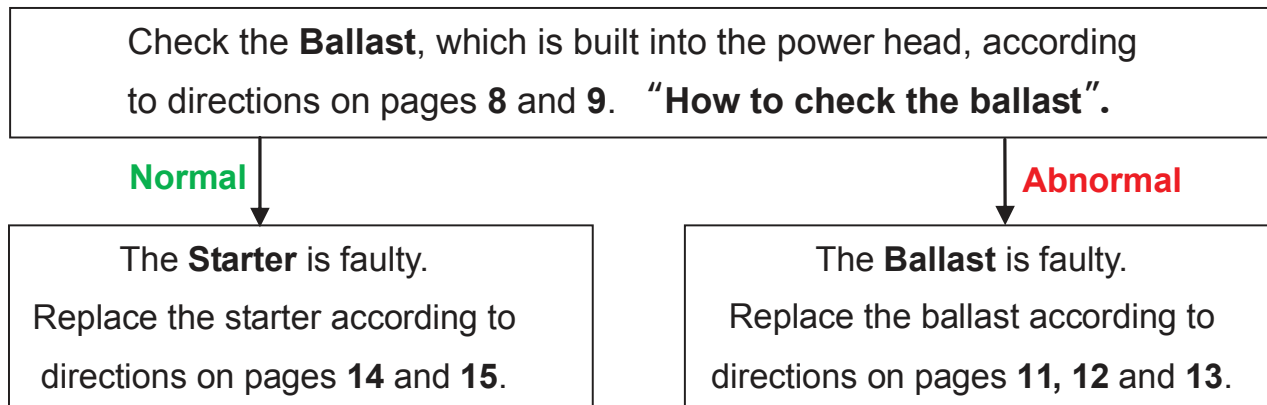


CAUTION: PLEASE BE VERY CAREFUL DURING THE TESTING AND TROUBLE SHOOTING OF THIS LIGHT. THERE ARE HIGH VOLTAGES ON SOME OF THE CIRCUITS.

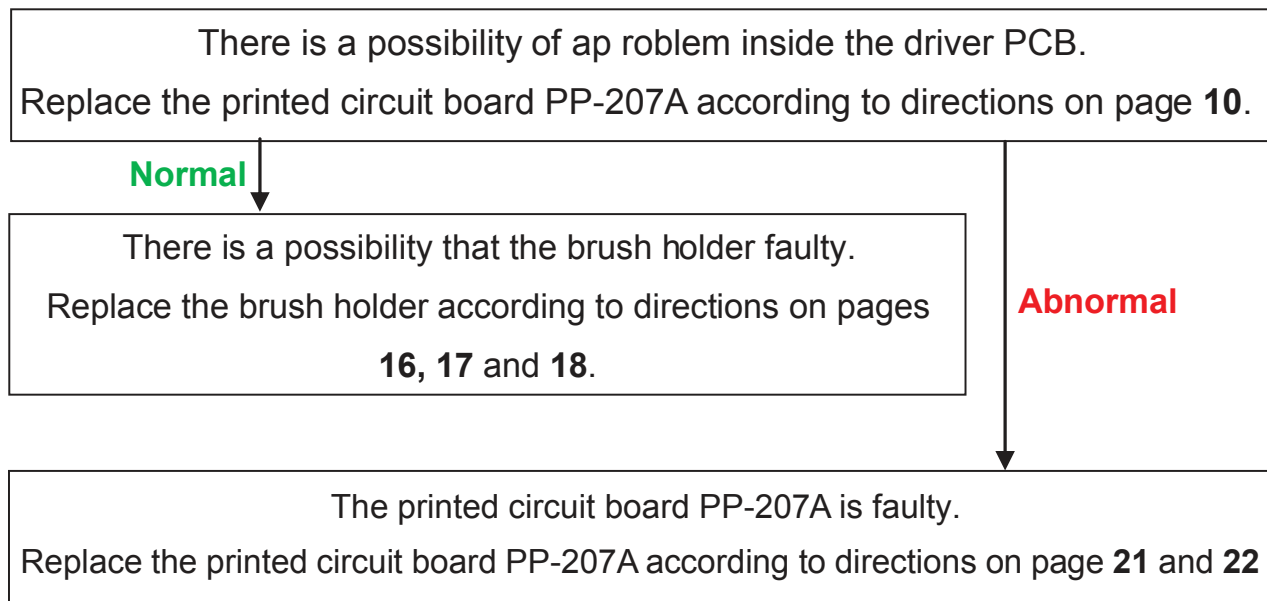
YACHT BEAM 6M - TROUBLE SHOOTING



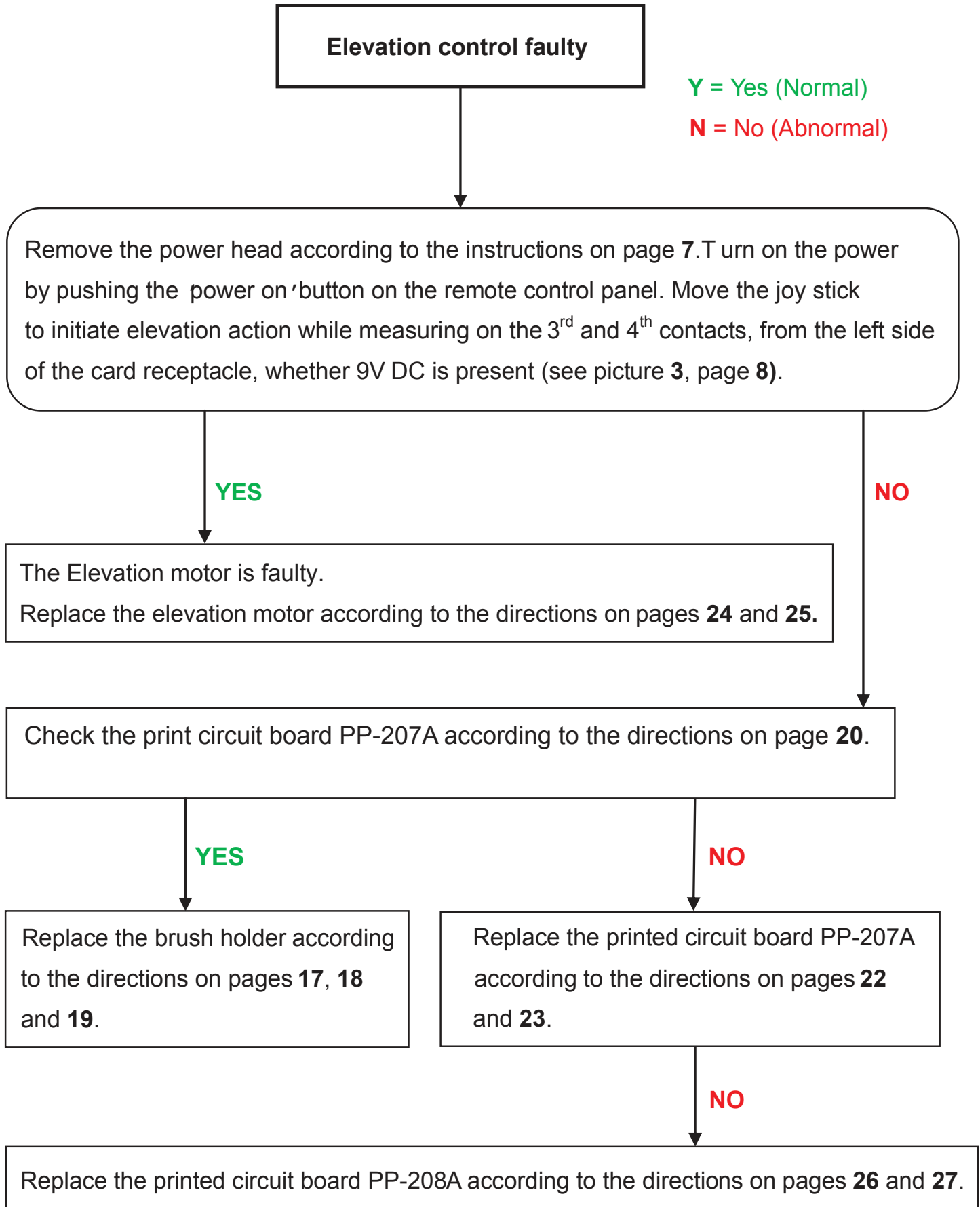
If 24V DC is measured:



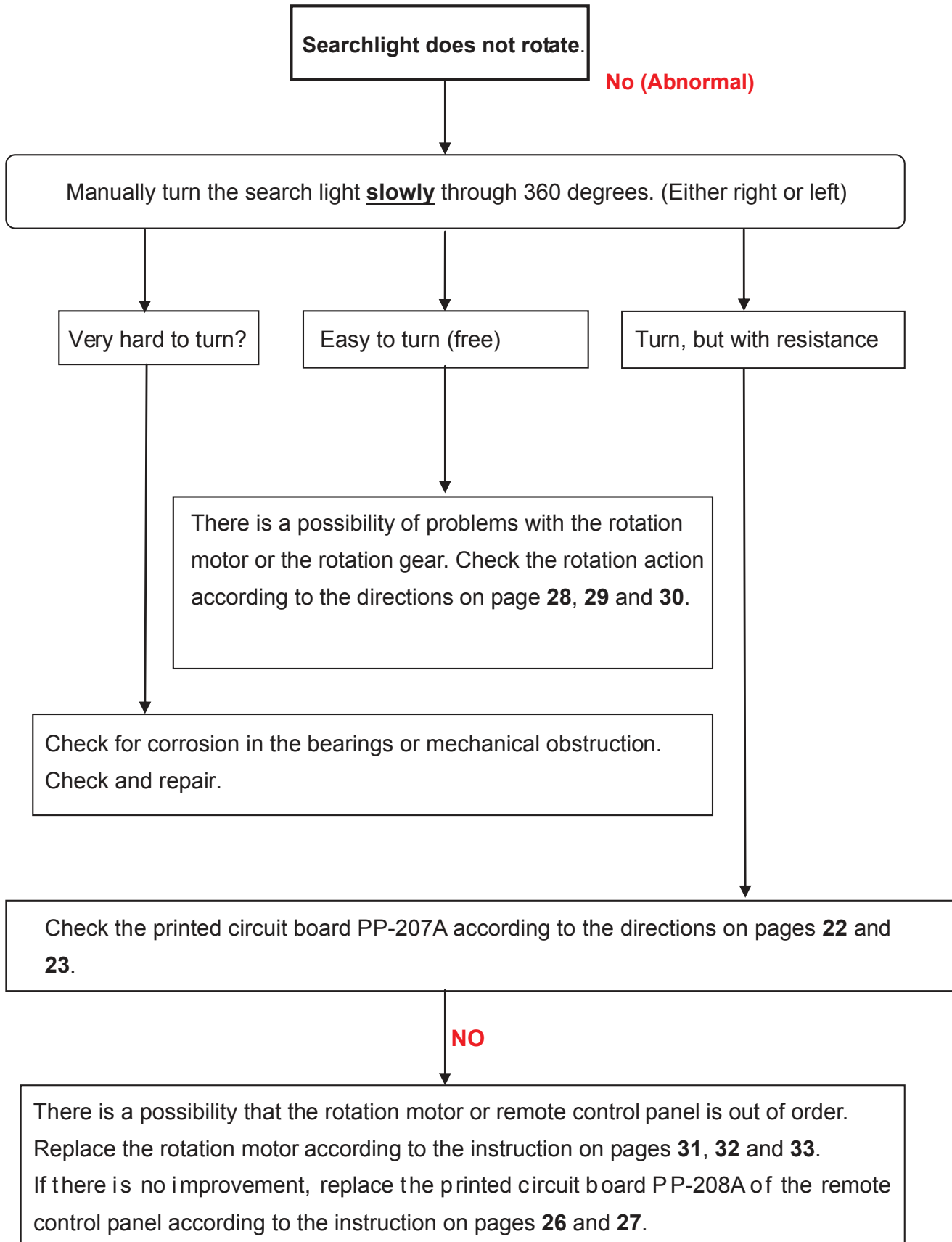
No 24V DC output?



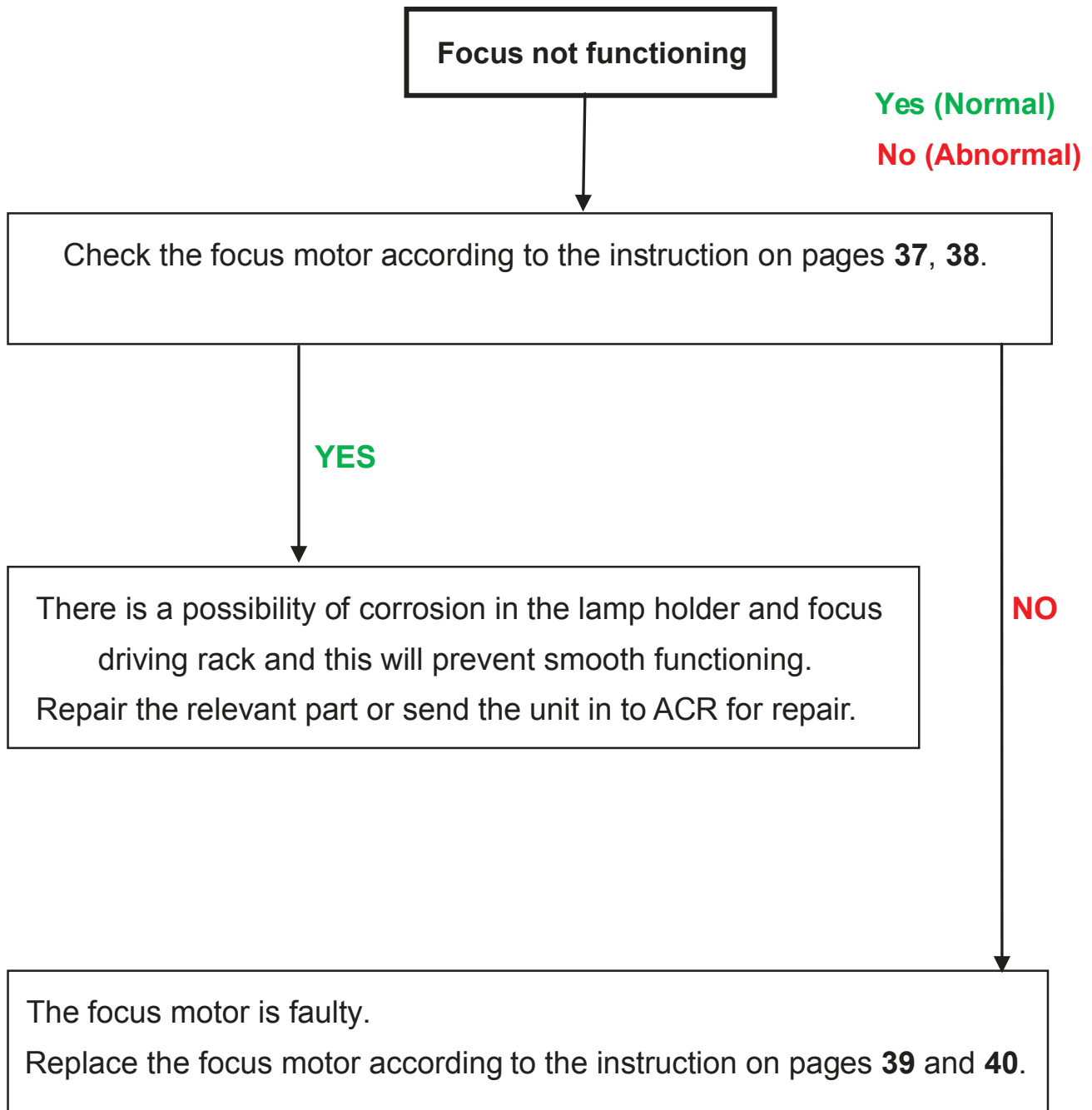
YACHT BEAM 6M - TROUBLE SHOOTING



YACHT BEAM 6M - TROUBLE SHOOTING



YACHT BEAM 6M - TROUBLE SHOOTING



REMOVE THE POWER HEAD

Use the following tools:

- Phillips screw driver
- 6mm hexagonal wrench

Working procedures:

1. Loosen 4 screws as marked in PICTURE 1 and carefully remove the front frame assembly.



PICTURE 1

2. Loosen and remove 2 screws indicated in PICTURE 2



PICTURE 2

3. CAREFULLY pull out the complete power head.

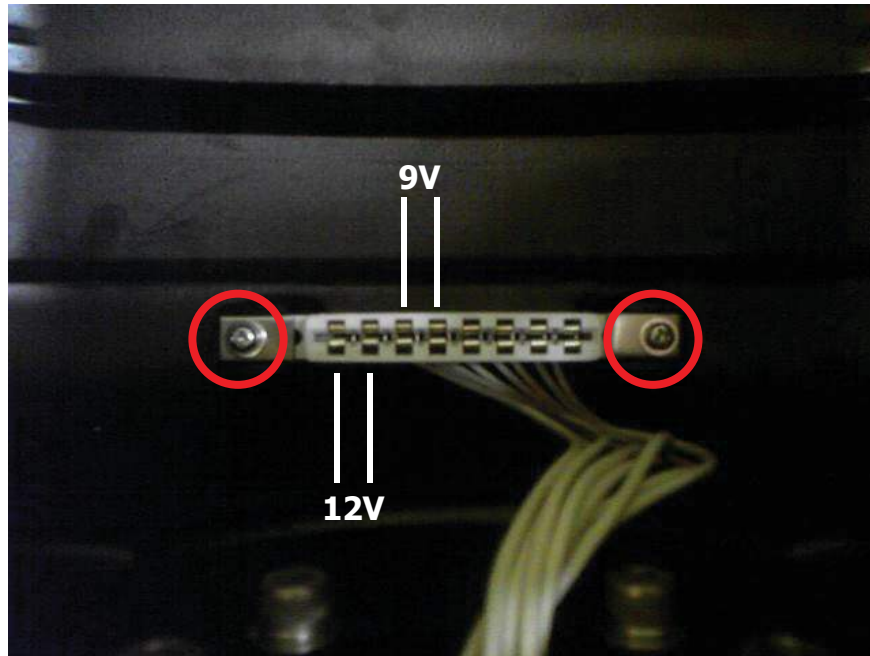
CHECK THE BALLAST

Use the following tools:

- Phillips screw driver
- 6mm hexagonal wrench
- DC Multimeter

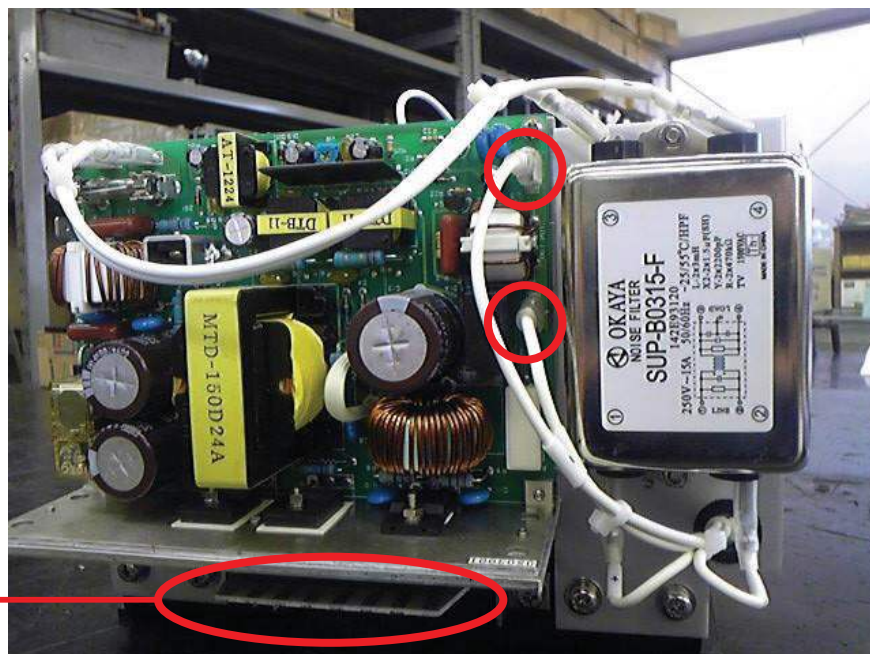
Procedures to check:

1. Remove the power head according to the instruction on page 7 "How to remove the power head".
2. Loosen and remove 2 screws as indicated in PICTURE 3 and remove the card edge receptacle from inside the search light.



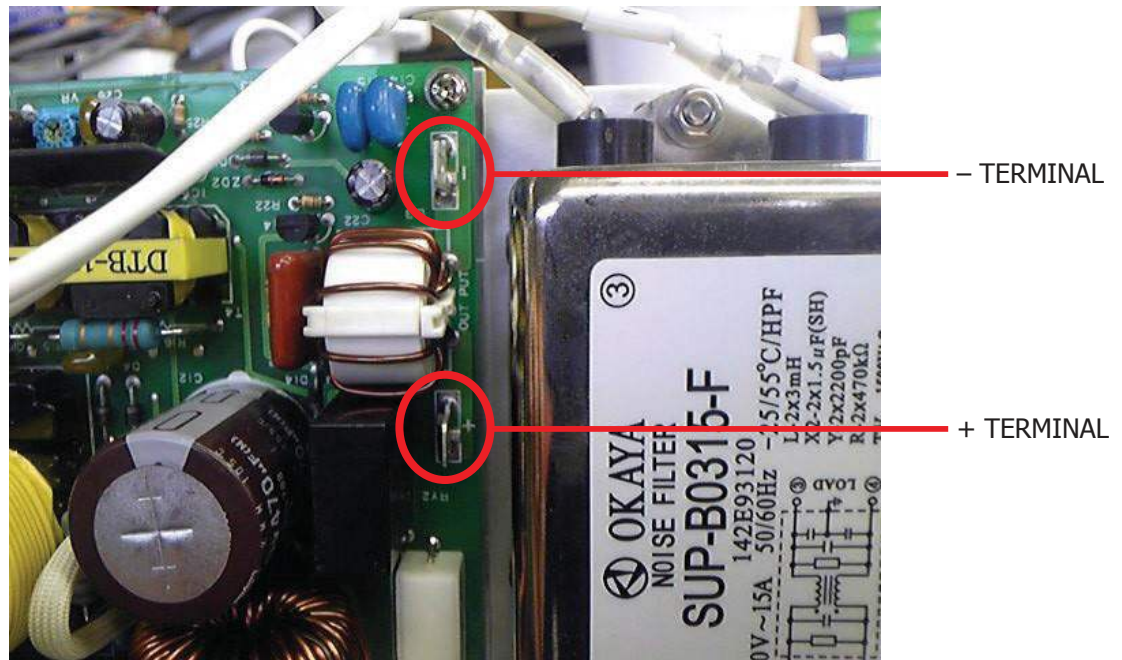
PICTURE 3

3. Remove 2 cable plugs on the ballast, as indicated in PICTURE 4
4. Take the card edge receptacle and plug into the Ballast P.C.B. assembly (Refer to PICTURE 4)



PICTURE 4

5. Turn ON the power source by pushing the power button on the remote control panel.
Measure on the terminals (indicated in PICTURE 5) whether 170+ DCV are available.



PICTURE 5

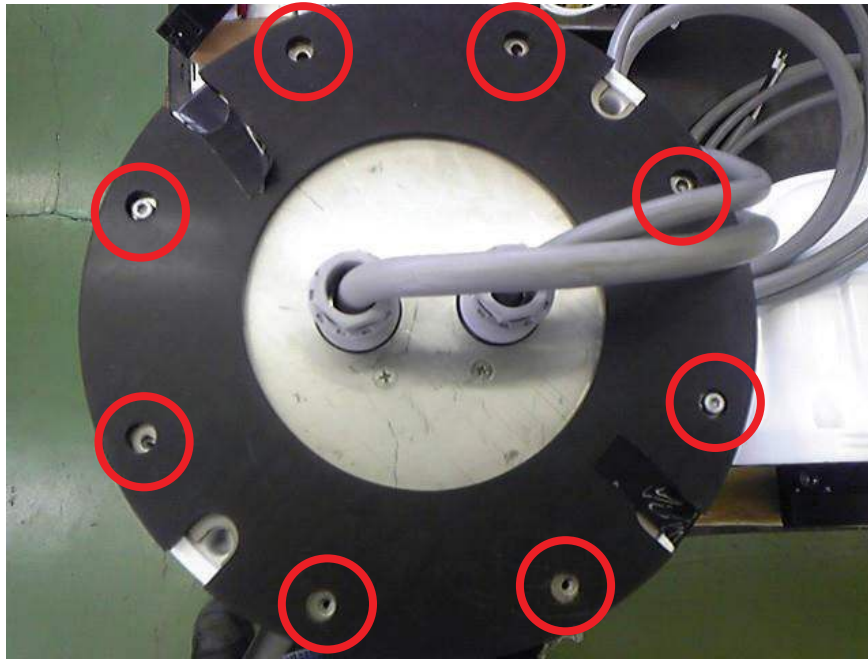
CHECK PCB PP-207A - (Lamp does NOT turn on)

Use the following tools:

- 4mm hexagonal wrench
- DC Multimeter

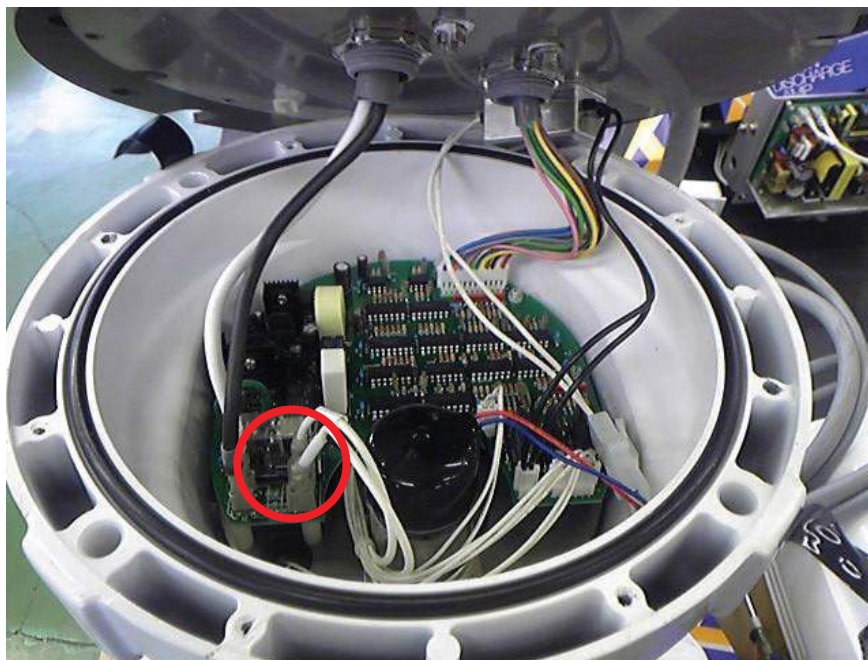
Procedure:

1. Remove the search light and place upside down.
2. Loosen and remove 8 screws as indicated in PICTURE 6. Carefully lift the bottom cover off the base.



PICTURE 6

3. Remove 2 cable connectors (P and N) as indicated inside circle in PICTURE 7.



PICTURE 7

4. Turn ON the power source by pushing the power button on remote control panel.
Measure on terminals P (+) and N (-) with the DC Multimeter for 24V output. (Refer to PICTURE 7)

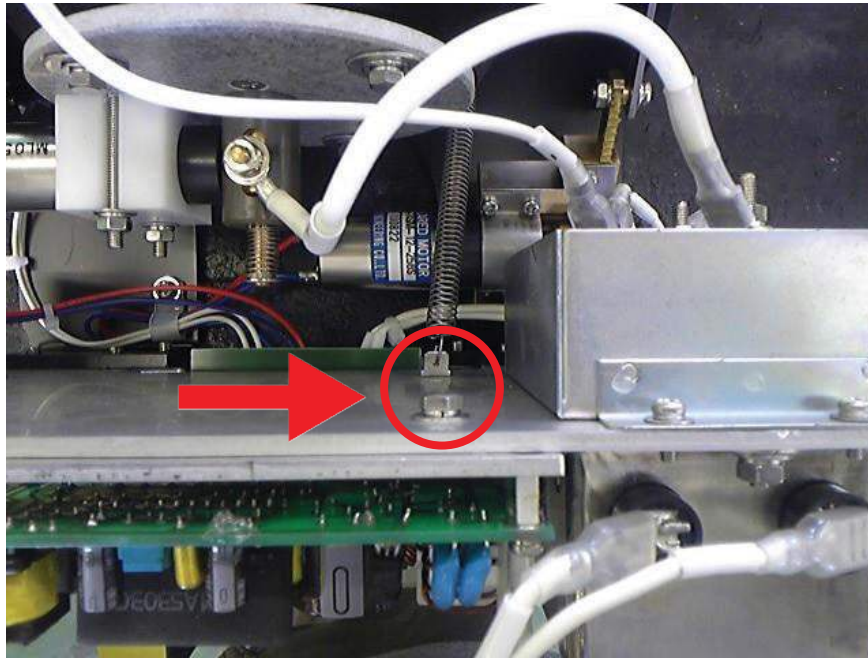
REPLACE THE BALLAST

Use the following tools:

- Phillips screw driver
- Pliers
- 7mm flat spanner
- 6mm hexagonal wrench
- Silicon compound
- Ballast (PXE-150-DC24)

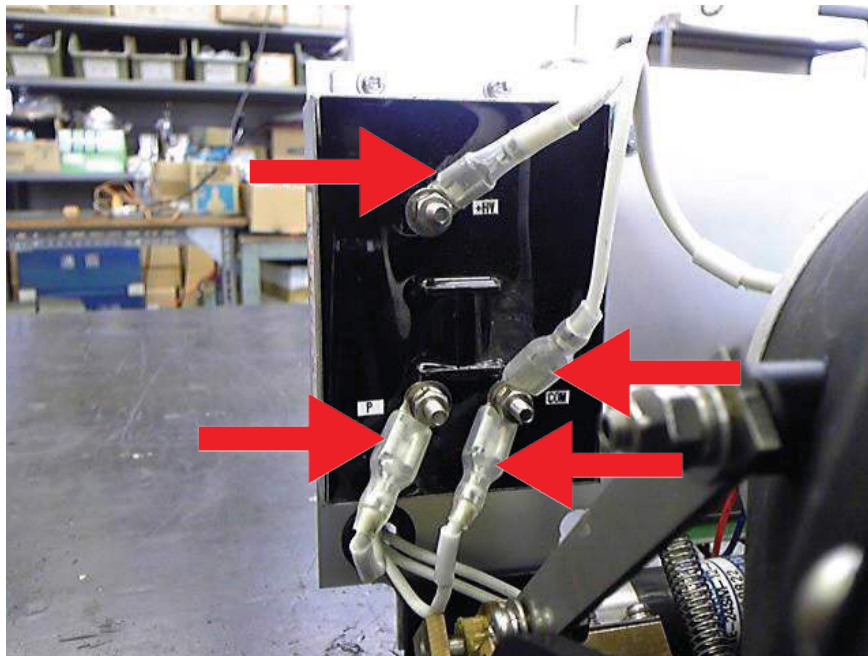
Procedure for exchanging the PCBs:

1. Remove the power head according to the instructions on page 7.
2. Remove the spring with pliers as indicated in PICTURE 8.



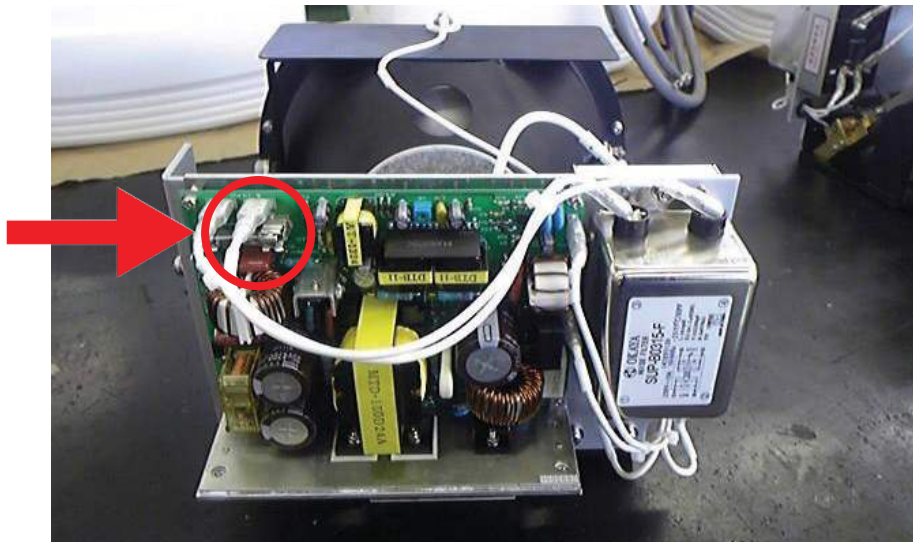
PICTURE 8

3. Remove cables connected to the starter. See PICTURE 9.
NOTE: Remove cables after marking them in order to replace them in their proper order.



PICTURE 9

4. Remove the 4 cables as indicated in PICTURE 10 and 11.

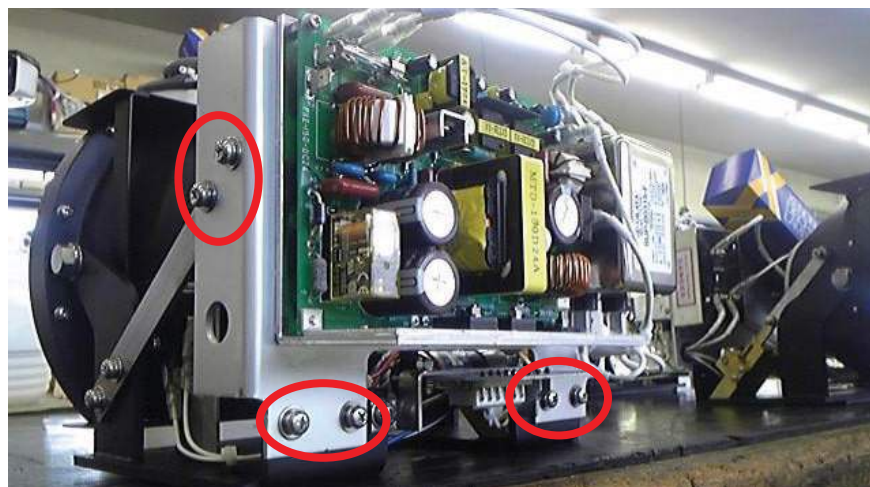


PICTURE 10



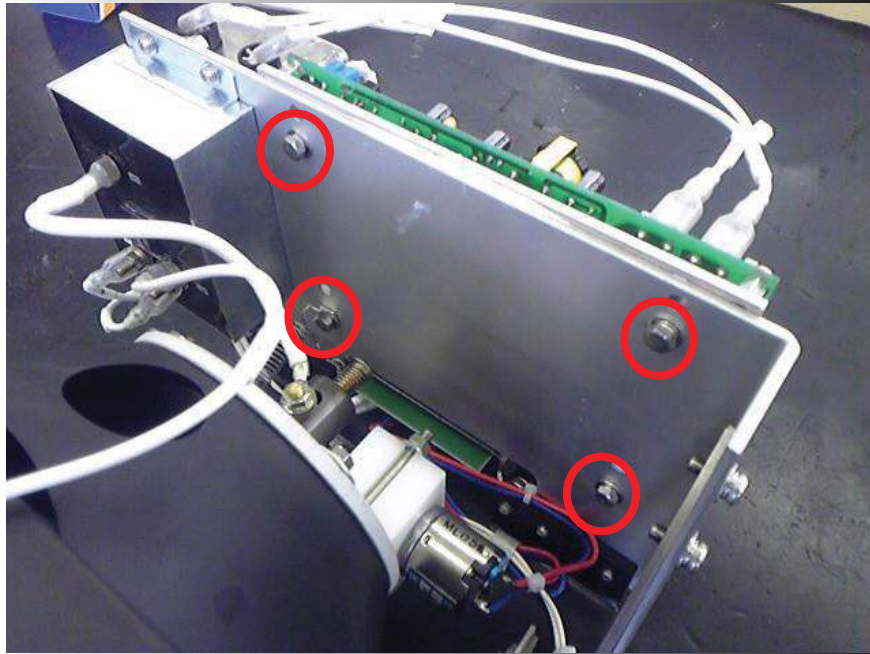
PICTURE 11

5. Loosen and remove all screws (6) as indicated in PICTURE 12.
Remove the complete ballast assembly with fitting plate



PICTURE 12

6. Loosen and remove the 4 screws as indicated in PICTURE 13.
Remove the ballast PCB from fitting plate by sliding it sideways to break the silicon heating compound seal
Install the new PCB.
NOTE: Install the ballast after applying a suitable amount of silicon heating compound between the ballast and fitting plate.



PICTURE 13

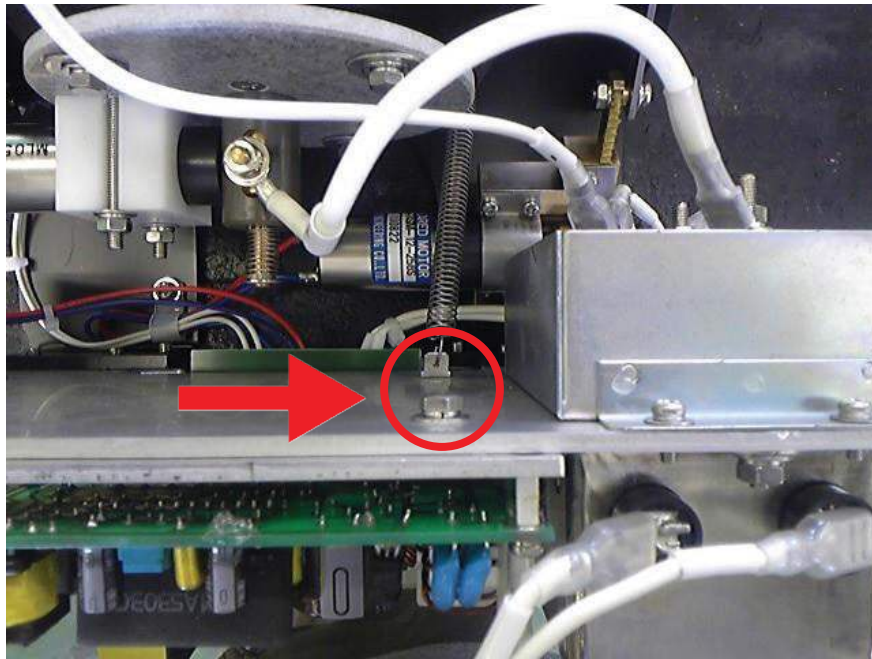
REPLACE THE STARTER

Use the following tools:

- Phillips screw driver
- Flat head screw driver
- Pliers
- 6mm flat spanner
- New Starter unit (STX-10)

Replacement Procedure:

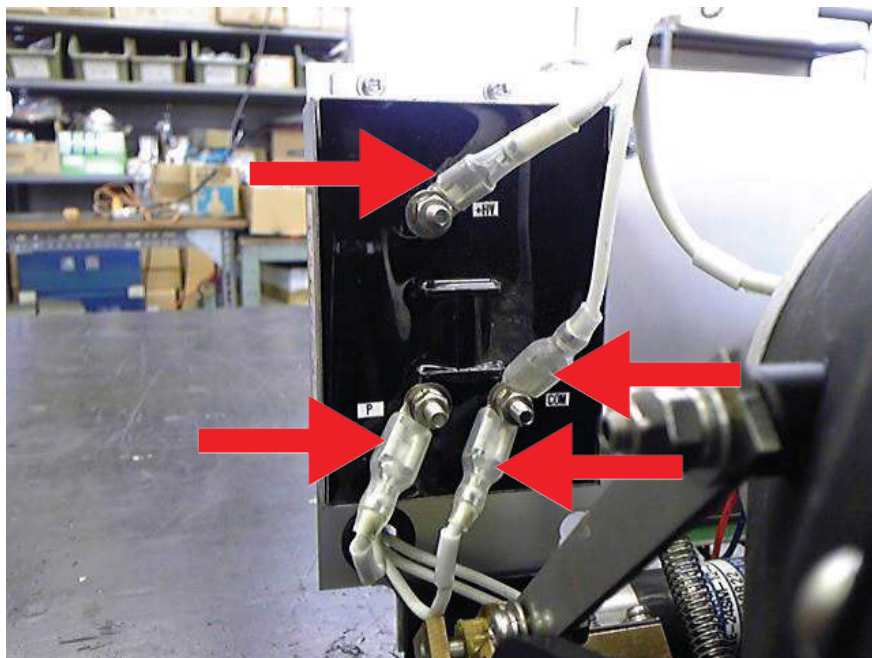
1. Remove the power head according to the instructions on page 7.
2. Remove the spring by pliers where is the arrow mark on PICTURE 14.



PICTURE 14

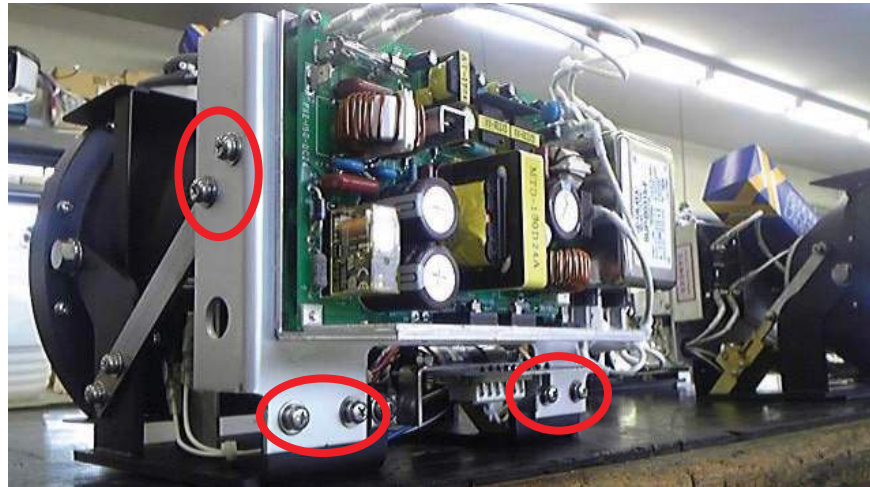
3. Remove cables connected to the starter. See PICTURE 15.

NOTE: Remove cables after marking them in order to replace them in their proper order.



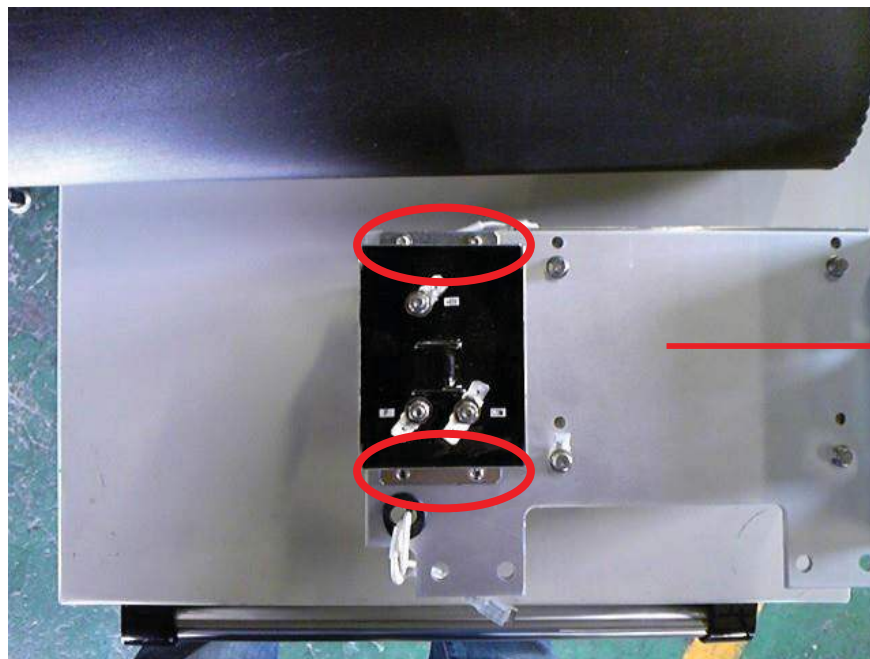
PICTURE 15

- Loosen and remove all screws (6) as indicated in PICTURE 16.
Remove the complete ballast assembly with fitting plate



PICTURE 16

- Loosen and remove 4 screws as indicated in PICTURE 17, remove and replace the starter.



FITTING PLATE

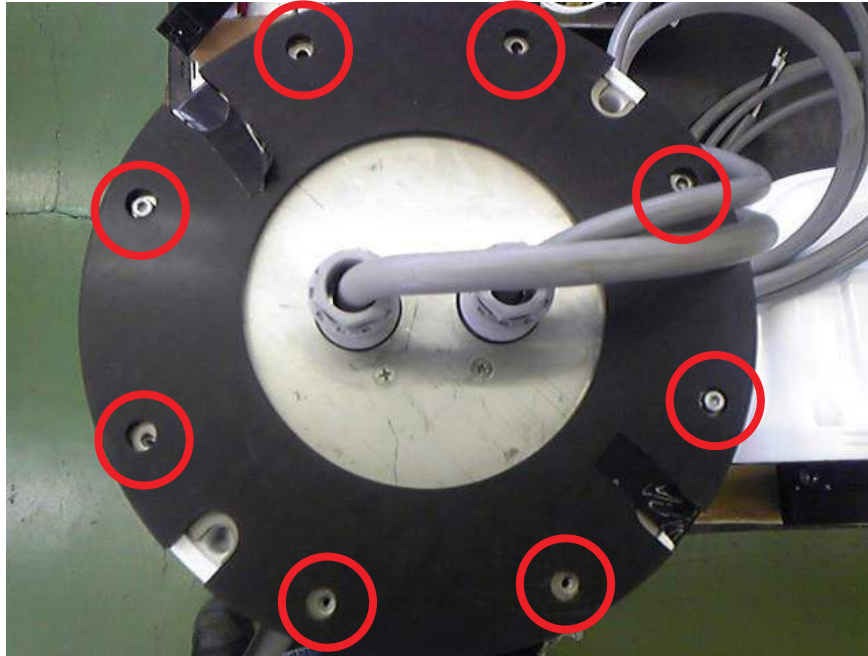
REPLACE THE BRUSH HOLDER

Use the following tools:

- Phillips screw driver
- 4mm hexagonal wrench
- 8mm Box wrench, Spanner or Wrench
- Brush holder assembly (B3A00140)

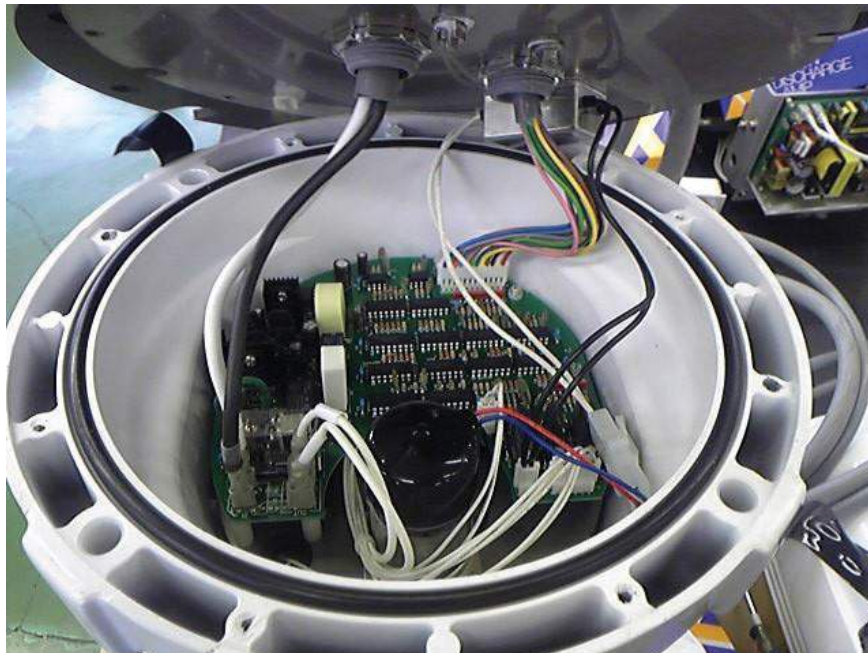
Replacement Procedure:

1. Remove the search light and place upside down on a suitable surface.
2. Loosen and remove 8 screws as shown in PICTURE 18. Carefully lift the bottom cover off the base.



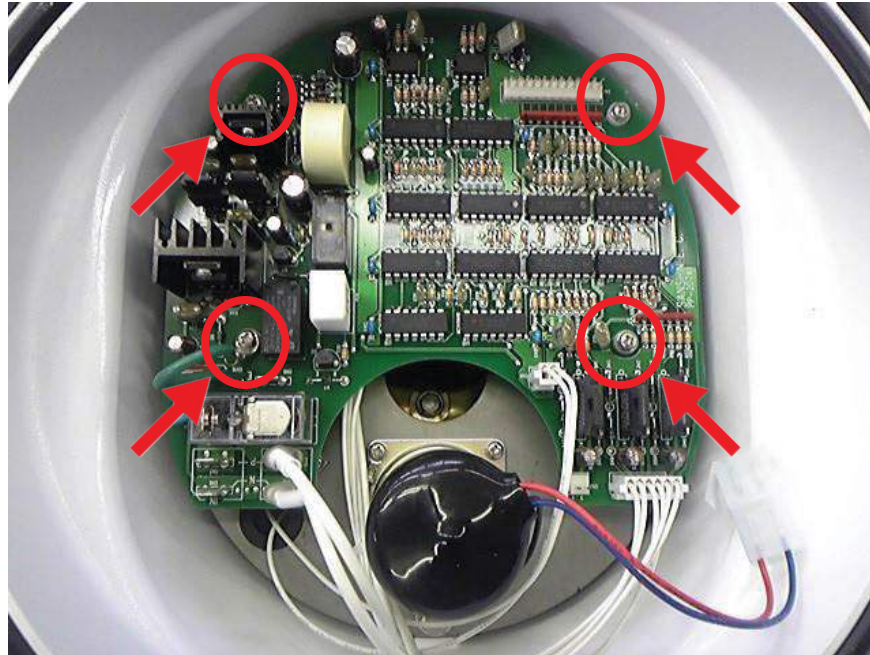
PICTURE 18

3. Remove all the cables connected to the PCB in order to place the bottom cover to one side. See PICTURE 19



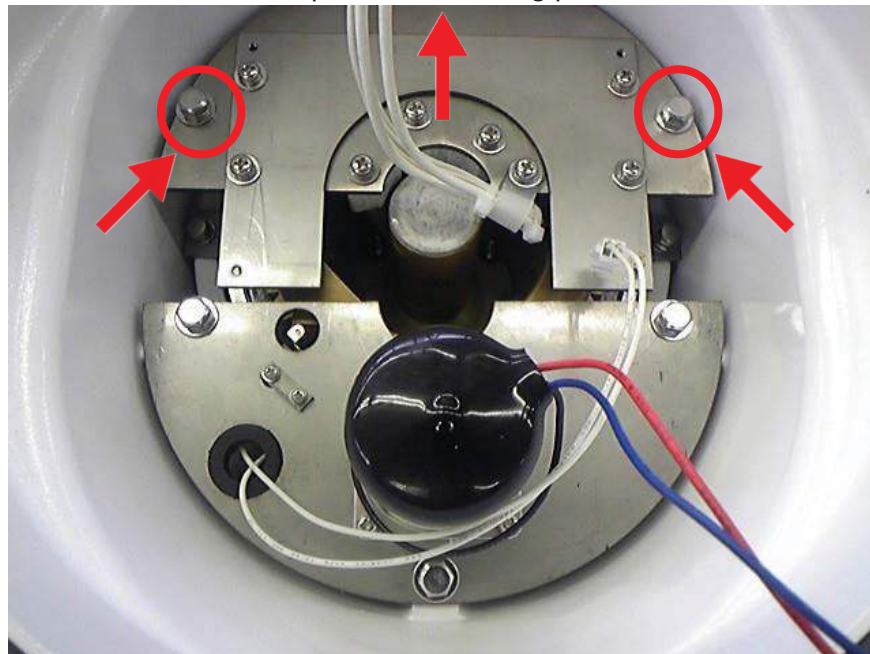
PICTURE 19

- Loosen and remove 4 screws as indicated in PICTURE 20.
Carefully remove the printed circuit board PP207



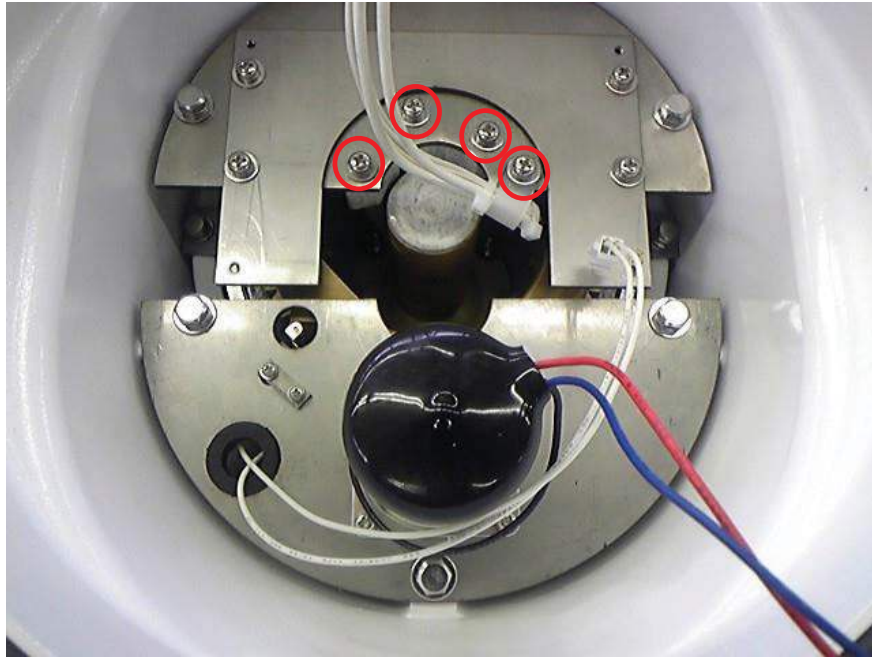
PICTURE 20

- Loosen and remove 3 screws as indicated in PICTURE 21.
Carefully pull out the brush holder complete with mounting plate.



PICTURE 21

6. Loosen and remove 4 screws as indicated in PICTURE 22.
Replace the complete brush holder assembly.



PICTURE 22

Carefully reverse the process to re assemble the light.

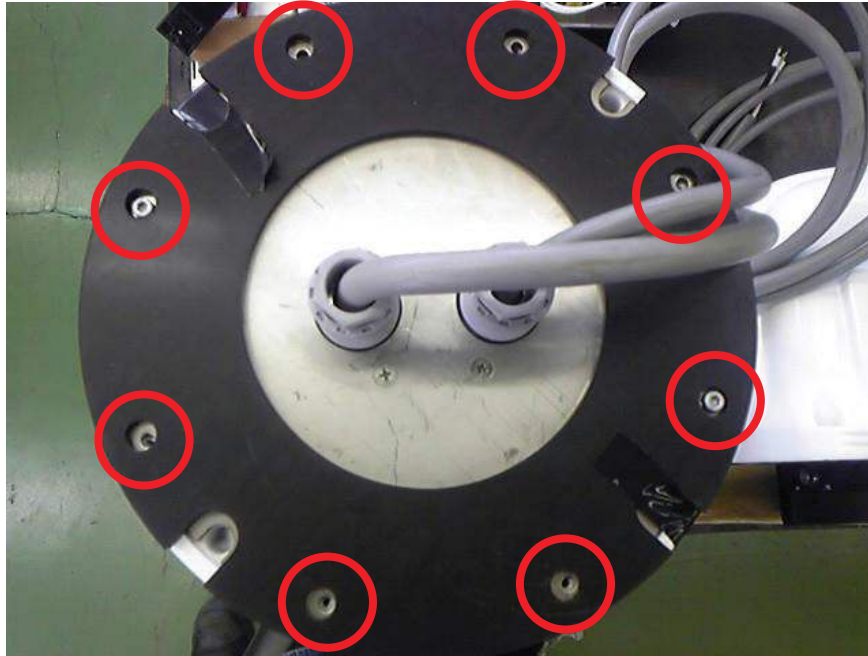
CHECK THE PRINTED CIRCUIT BOARD PP-207A (ELEVATION)

Use the following tools:

- Phillips screw driver
- 4mm hexagonal wrench
- 8mm Box wrench
- DC Multimeter

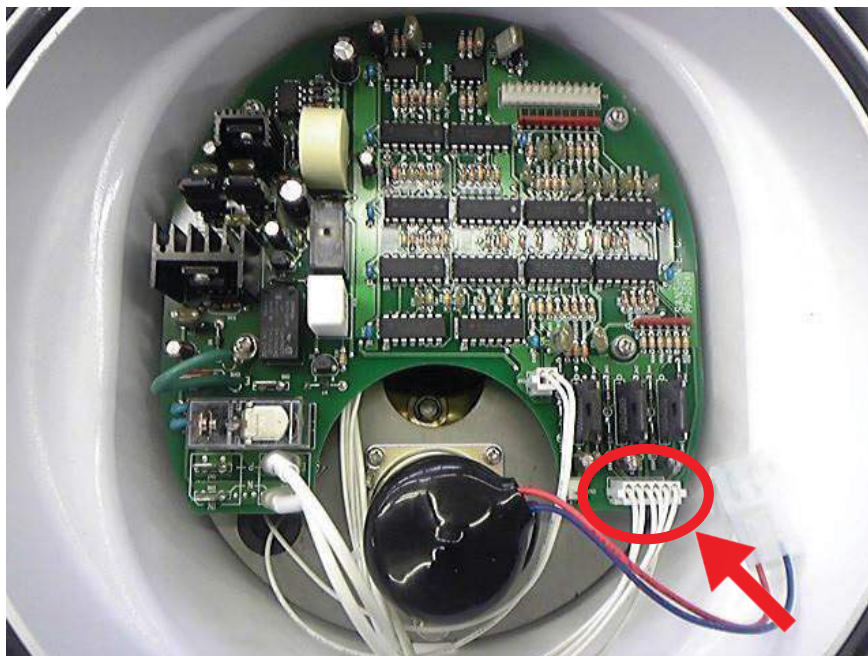
Procedure:

1. Remove the search light and place upside down on a suitable surface.
2. Loosen and remove 8 screws as shown in PICTURE 23. Carefully lift the bottom cover off the base.



PICTURE 23

5. Turn on the power source on the remote control panel and move the joy stick in elevation. Measure $\pm 8V$ between terminals 3 and 4 of CN2, as indicated in PICTURE 24.



PICTURE 24

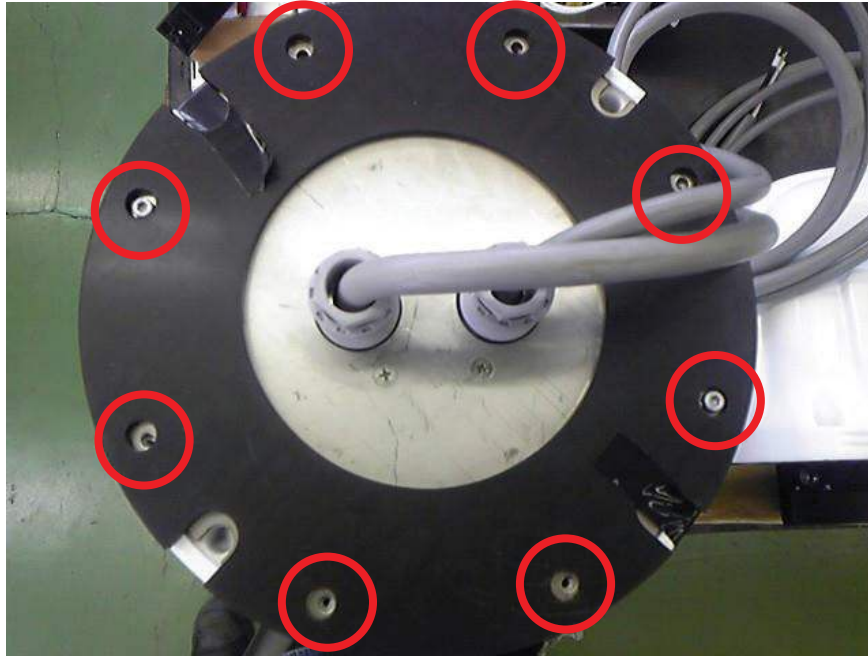
CHECK THE PRINTED CIRCUIT BOARD PP-207A (ROTATION)

Use the following tools:

- Phillips screw driver
- 4mm hexagonal wrench
- 8mm Box wrench
- DC Multimeter

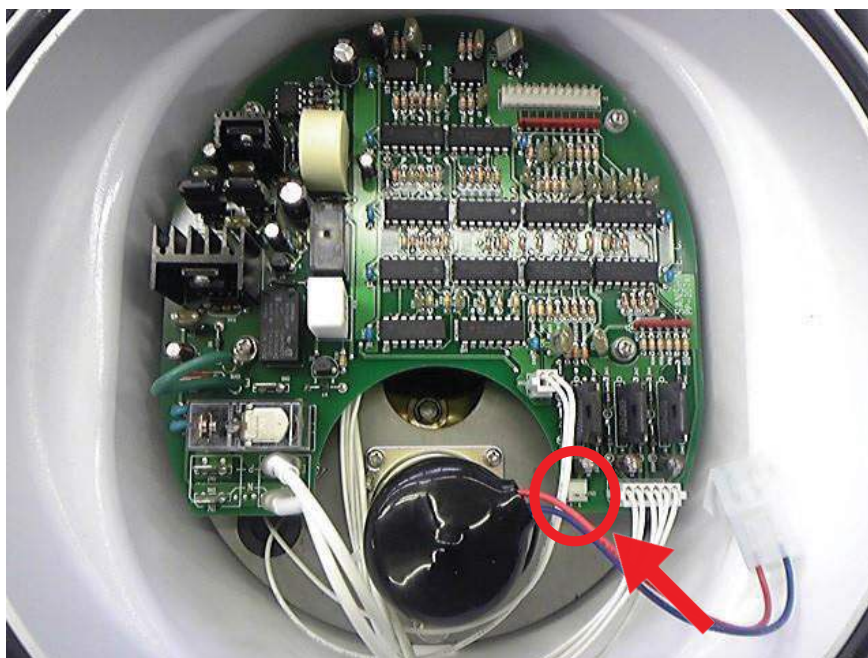
Procedure:

1. Remove the search light and place upside down on a suitable surface.
2. Loosen and remove 8 screws as shown in PICTURE 25. Carefully lift the bottom cover off the base.



PICTURE 25

5. Turn on the power source on the remote control panel and move the joy stick to the right or left. Measure approximately 8V between terminals 1 and 2 of CN3 where is the arrow mark on PICTURE 26.



PICTURE 26

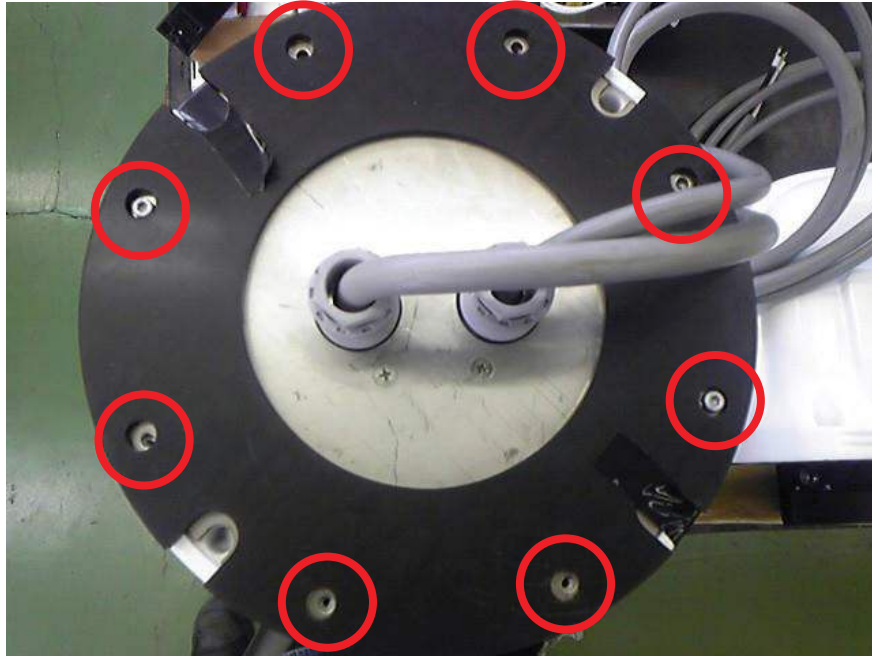
CHANGE THE PP-207A PCB

Use the following tools:

- Phillips screw driver
- 4mm hexagonal wrench
- Printed circuit board (PP-207A)

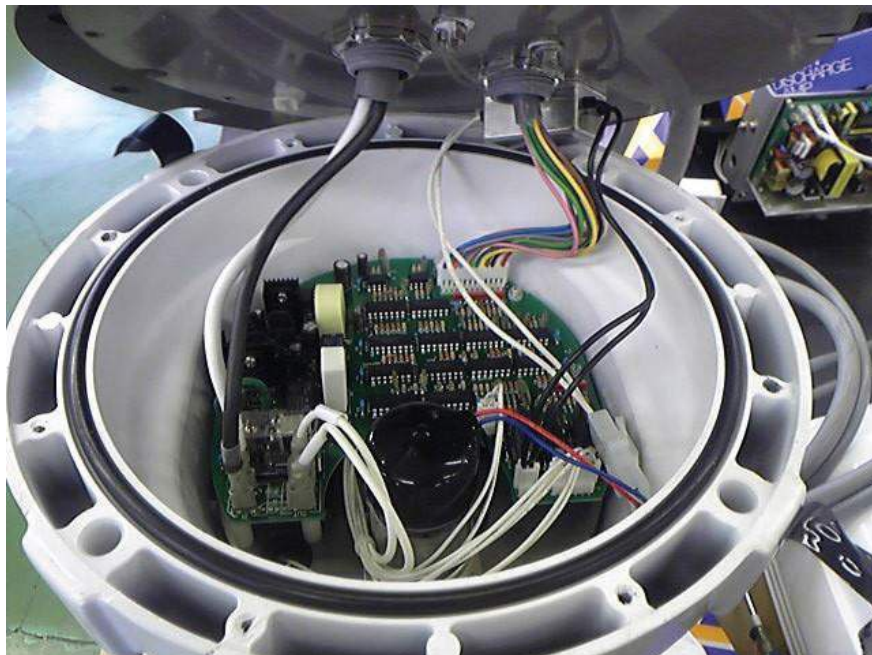
Procedure:

1. Remove the search light and place upside down on a suitable surface.
2. Loosen and remove 8 screws as shown in PICTURE 27. Carefully lift the bottom cover off the base.



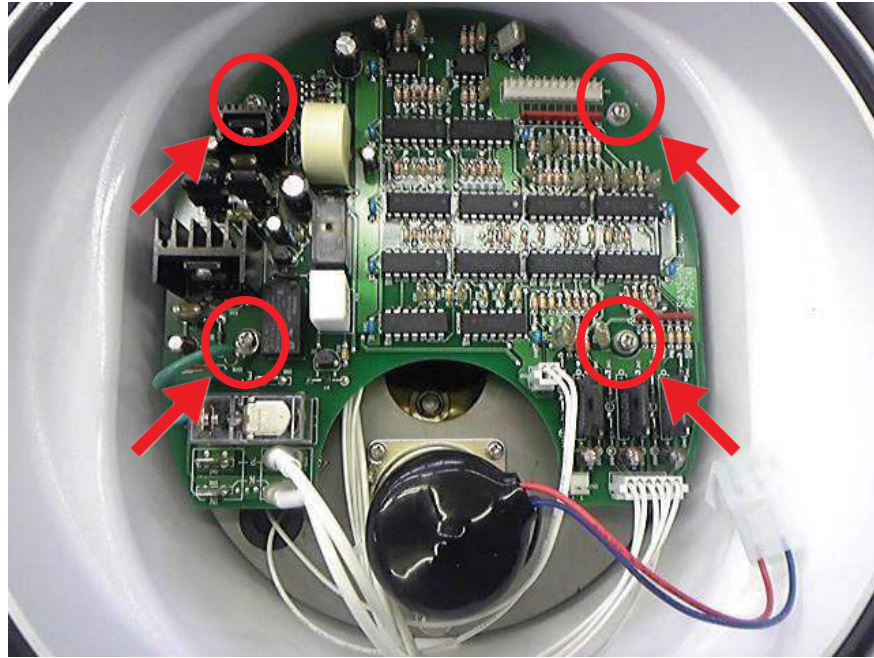
PICTURE 27

3. Remove all the cables where connected to the print circuit board.
Remove the bottom cover. (See PICTURE 28)



PICTURE 28

- Loosen and remove 4 screws as indicated in PICTURE 29.
Replace PCB



PICTURE 29

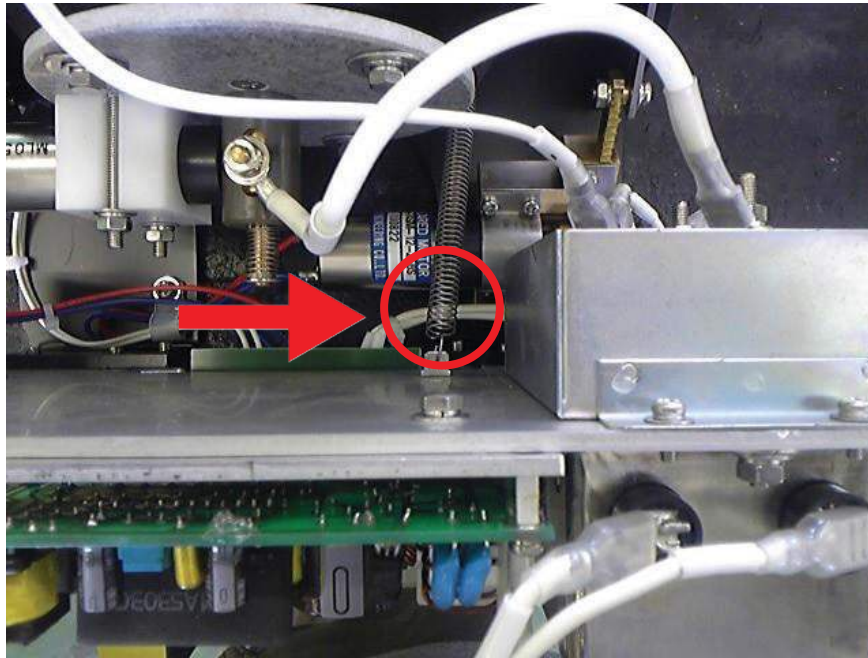
REPLACE THE ELEVATION MOTOR

Use the following tools:

- Phillips screw driver
- 6mm Hexagonal wrench
- Flat head screw driver
- Pliers
- 7mm flat spanner
- Elevation motor (TE-24SM-12-256S)

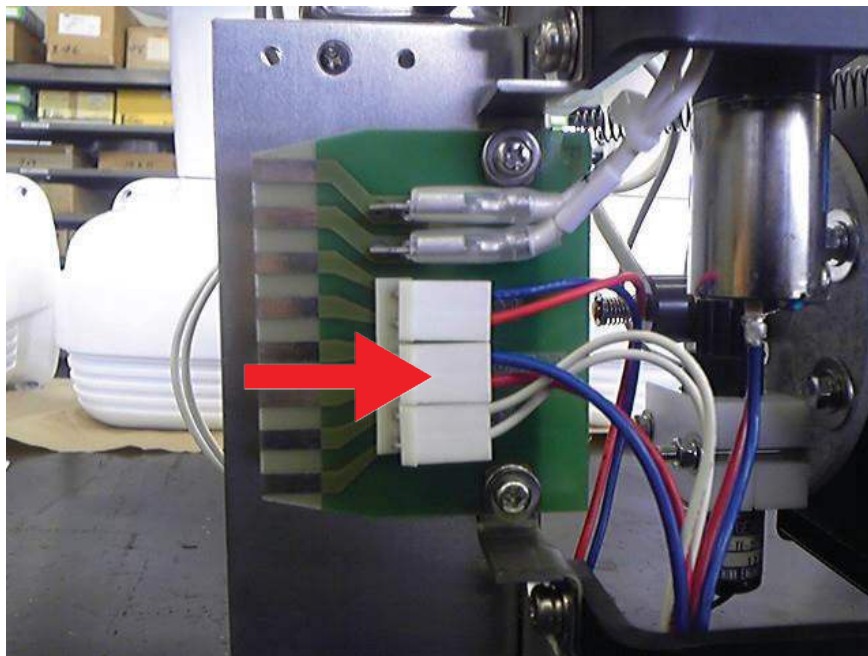
Procedure:

1. Remove the power head according to the instructions on page 7.
2. Remove the spring with pliers where is the arrow mark on PICTURE 30.



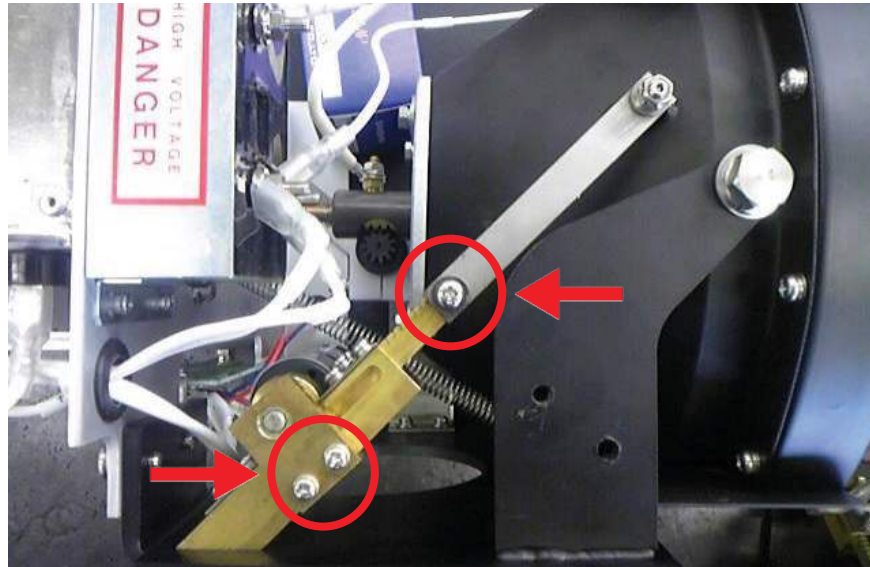
PICTURE 30

3. Remove center connector as indicated in PICTURE 31.



PICTURE 31

4. Loosen and remove 3 screws as indicated in PICTURE 32.



PICTURE 32

5. Loosen and remove 2 screws as indicated in PICTURE 33 and remove the elevation motor.



PICTURE 33

6. Loosen and remove 4 screws as indicated in PICTURE 34 and replace motor.



PICTURE 34

REPLACE THE PP-208A PCB INSIDE JOYSTICK CONTROL

Use the following tools:

- Phillips screw driver
- 7mm spanner
- Printed circuit board (PP-208A)

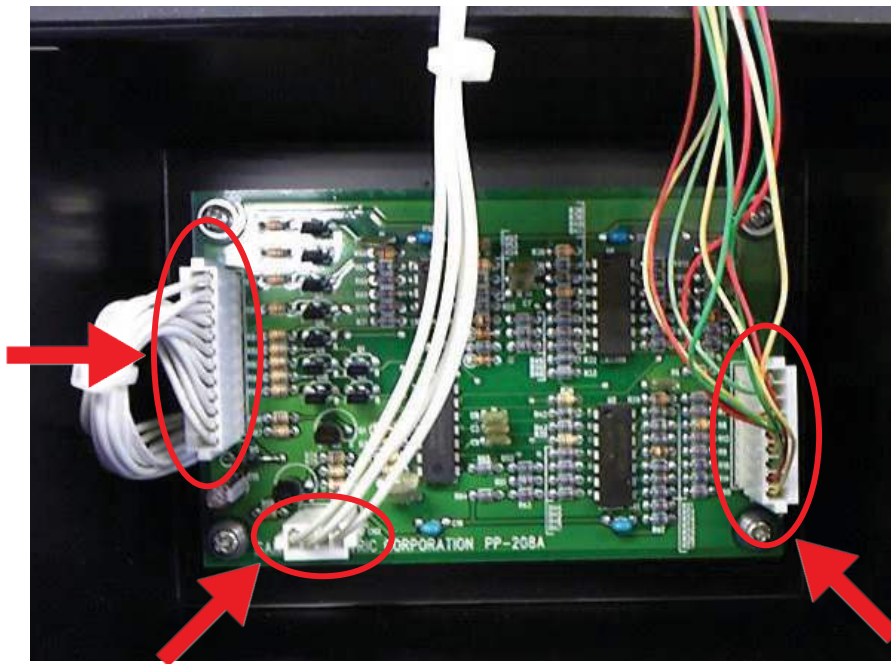
Replacement Procedure:

1. Loosen and remove 4 screws as indicated in PICTURE 35. Open the cover.



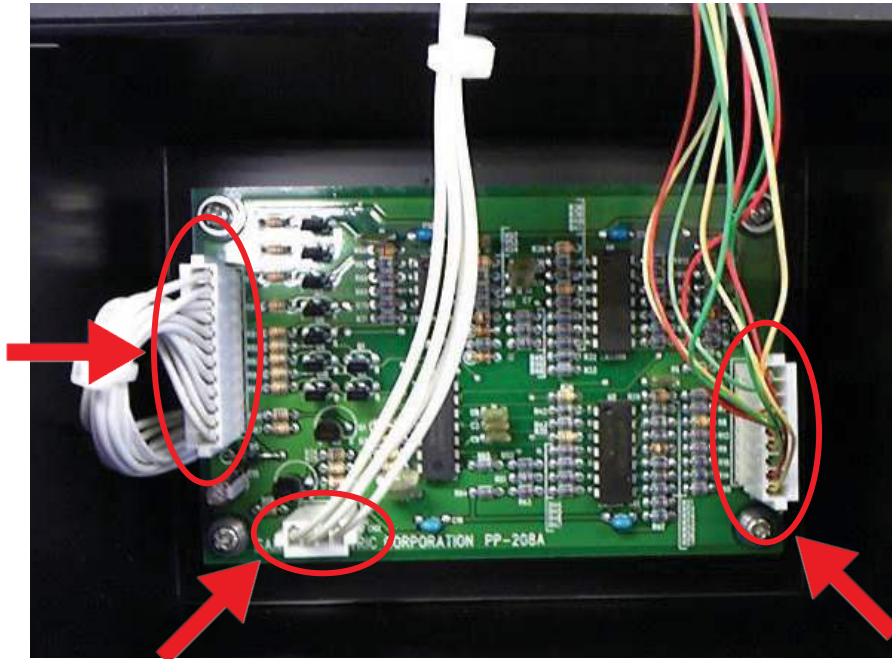
PICTURE 35 (Remote control panel CPF99)

2. Remove all the connectors from the printed circuit board as indicated in PICTURE 36.



PICTURE 36

3. Loosen and remove 4 screws (4 places) as indicated in PICTURE 37 and replace printed circuit board (PP-208A).



PICTURE 37

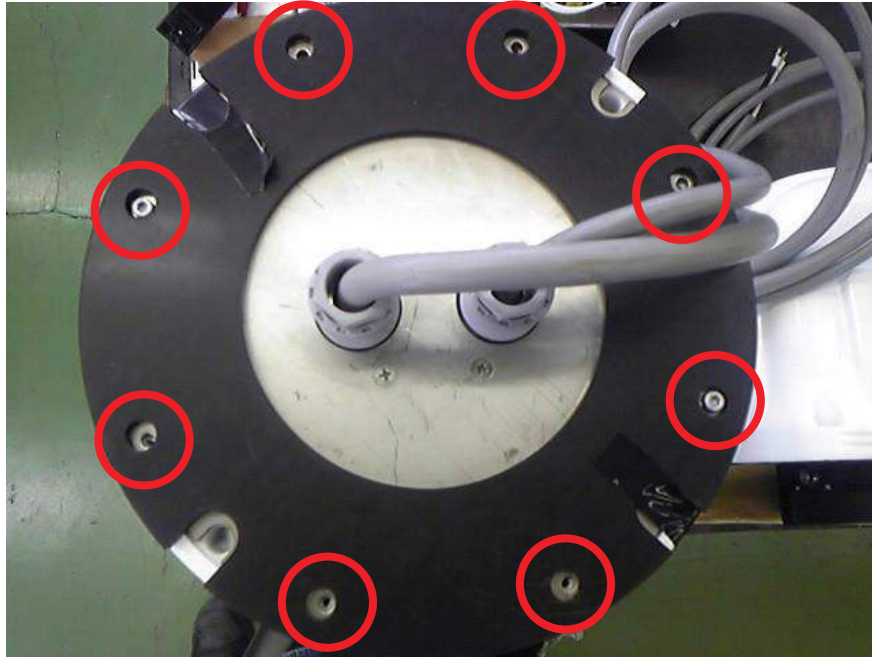
CHECK THE ROTATION GEAR

Use the following tools:

- Phillips head screw driver
- 4mm Hexagonal wrench
- 3mm Hexagonal wrench
- 8mm Box wrench
- Printed circuit board (PP-207A)

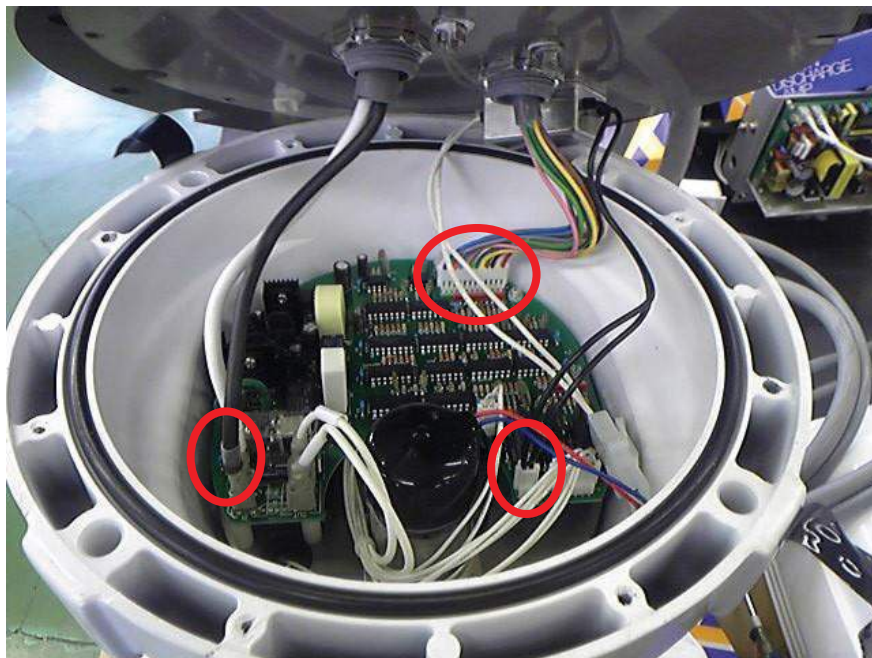
Procedure:

1. Remove the search light and place upside down on a suitable surface.
2. Loosen and remove 8 screws as shown in PICTURE 38. Carefully lift the bottom cover off the base.



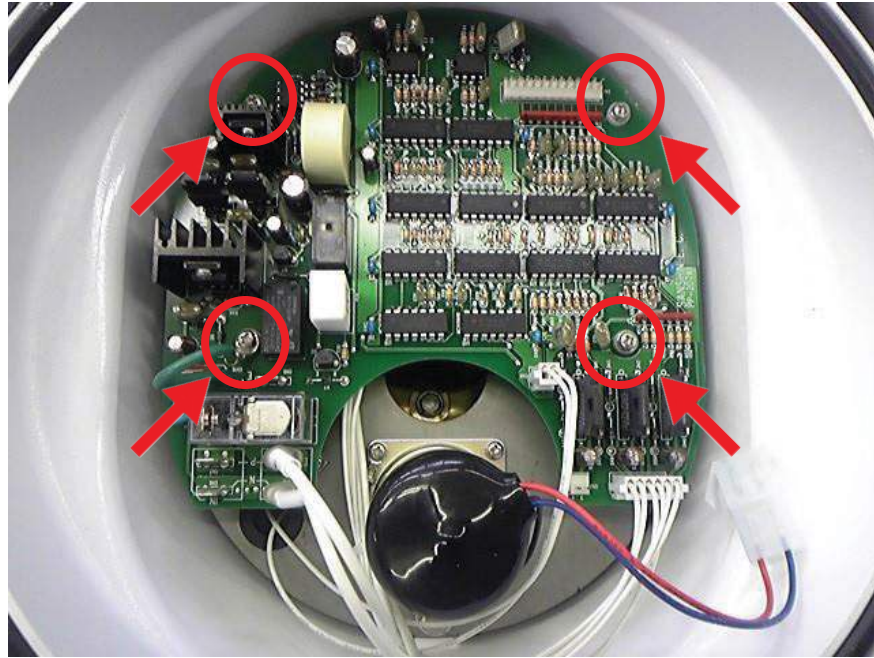
PICTURE 38

3. Remove all the cables where connected to the print circuit board.
Remove the bottom cover. (See PICTURE 39)



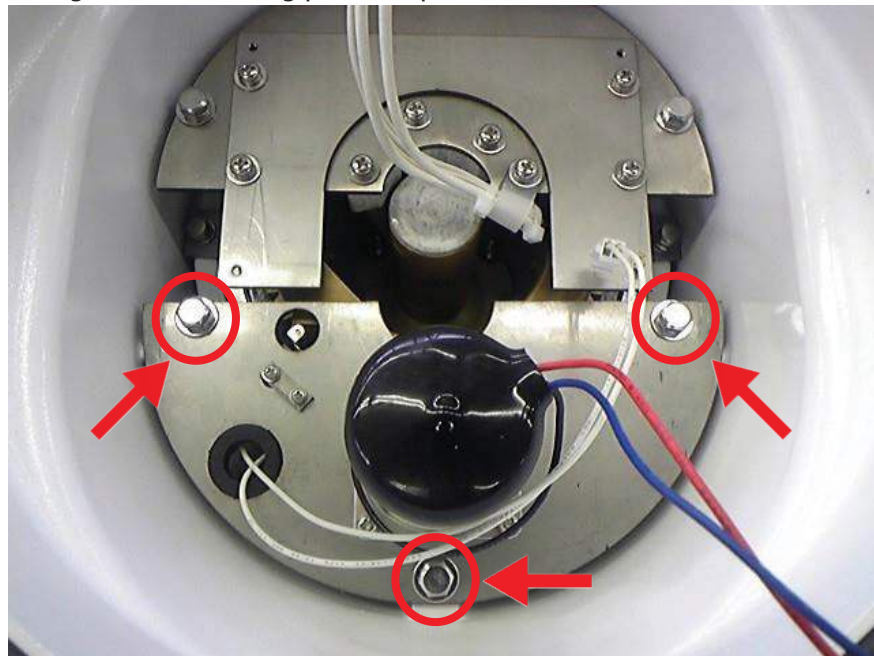
PICTURE 39

- Loosen and remove 4 screws as indicated in PICTURE 40.
Carefully remove the printed circuit board PP207



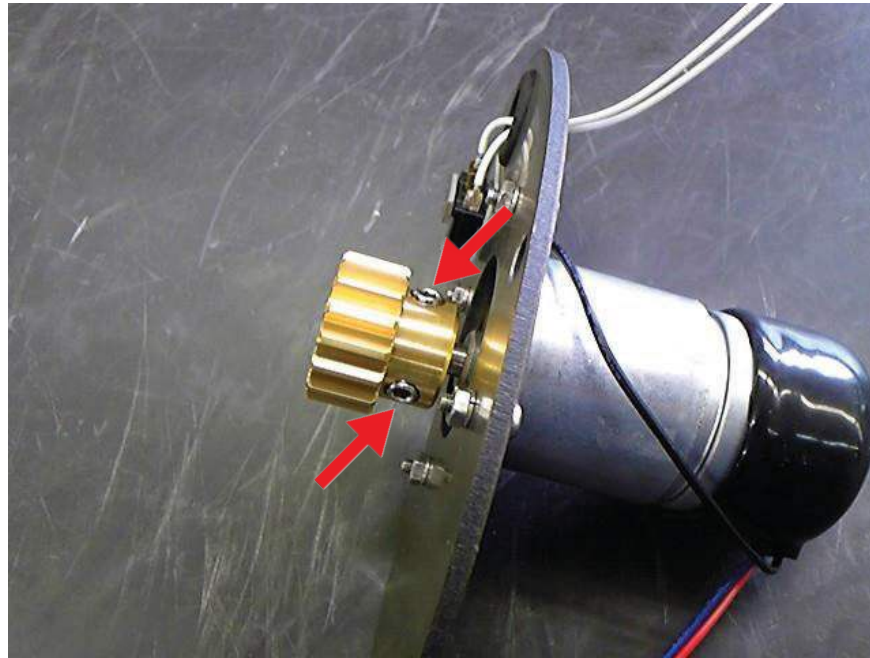
PICTURE 40

- Loosen and remove 3 screws as indicated in PICTURE 41.
Remove the turning motor with fitting plate complete.



PICTURE 41

6. Check whether the 2 screws, as indicated in PICTURE 42, came loose.



PICTURE 42

If the screws are loose, remove both, apply Loctite fluid to both screws' tread and turn them in firmly.

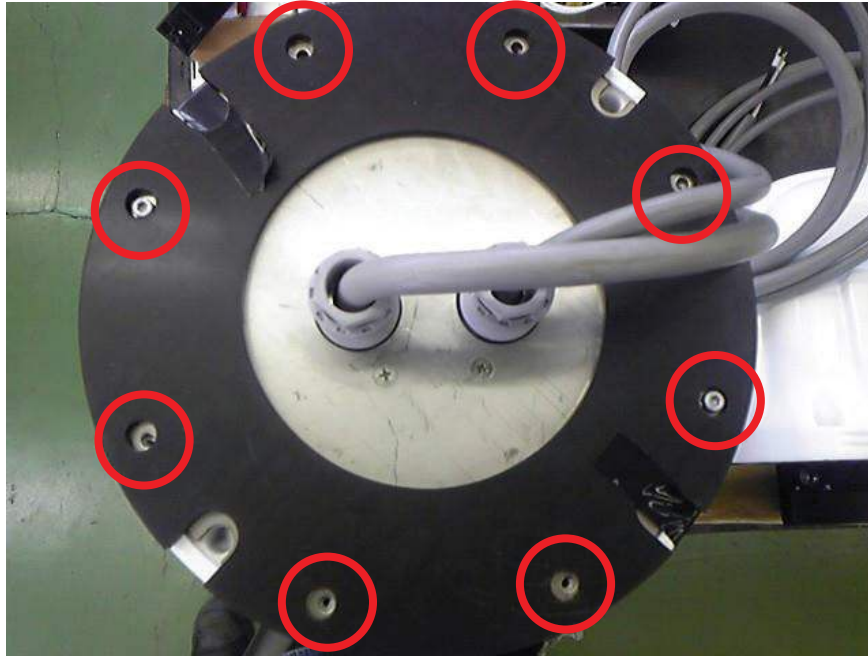
REPLACE THE ROTATION MOTOR

Use the following tools:

- Phillips head screw driver
- 4mm Hexagonal wrench
- 8mm Box wrench
- 5.5mm flat spanner
- Rotation motor (TE-400G-12-200SD)

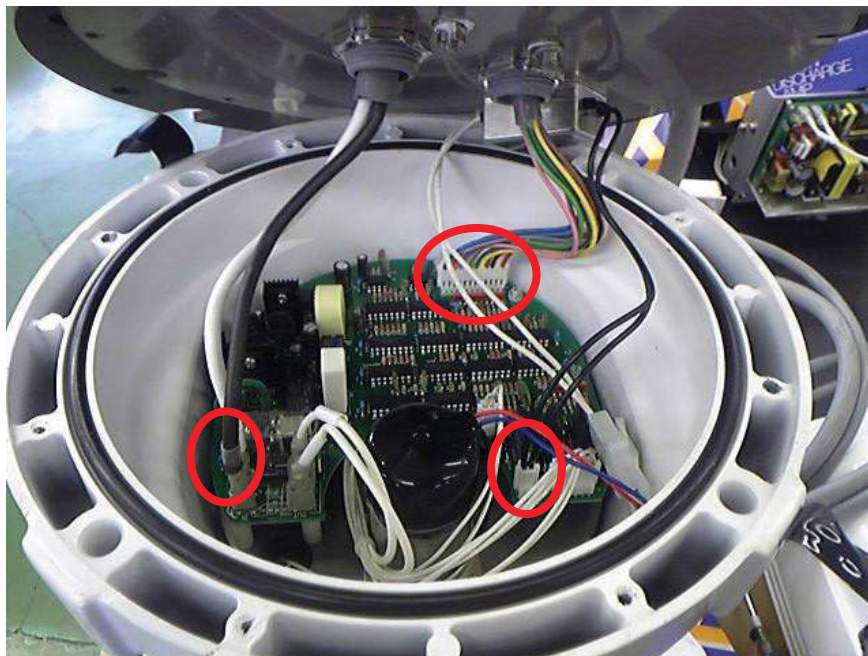
Procedure:

1. Remove the search light and place upside down on a suitable surface.
2. Loosen and remove 8 screws as shown in PICTURE 43. Carefully lift the bottom cover off the base.



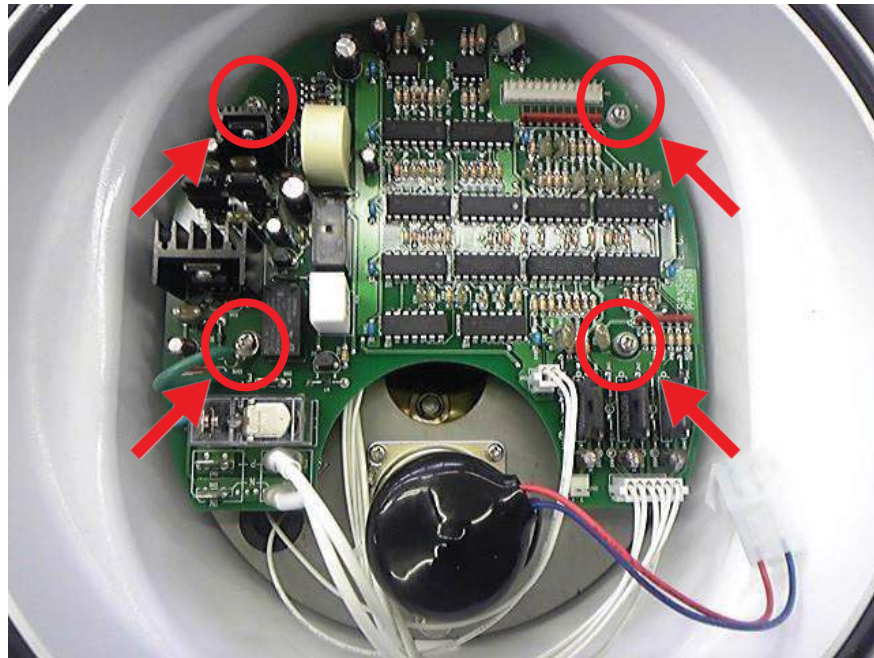
PICTURE 43

3. Remove all the cables where connected to the print circuit board.
Remove the bottom cover. (See PICTURE 44)



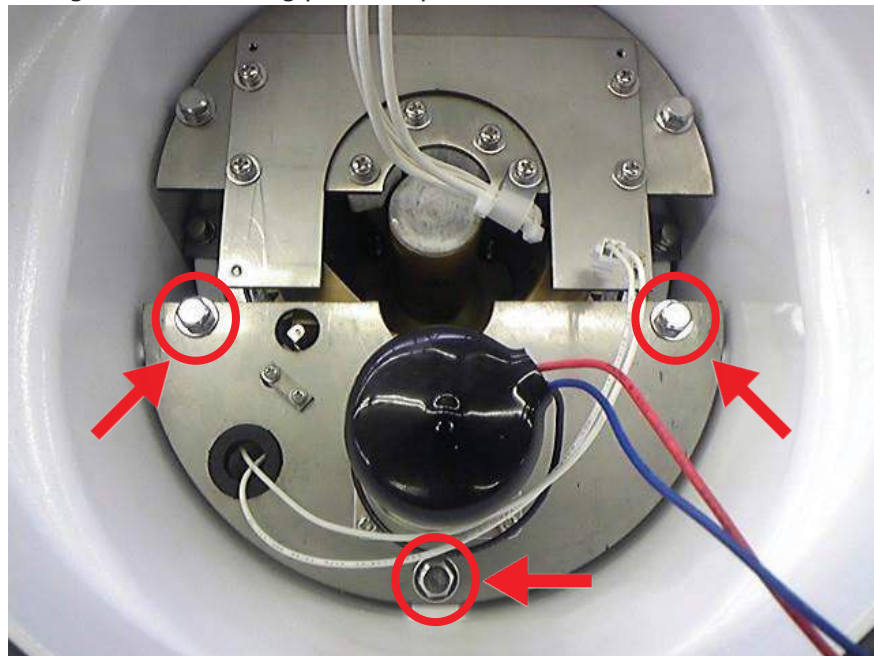
PICTURE 44

4. Loosen and remove 4 screws as indicated in PICTURE 45.



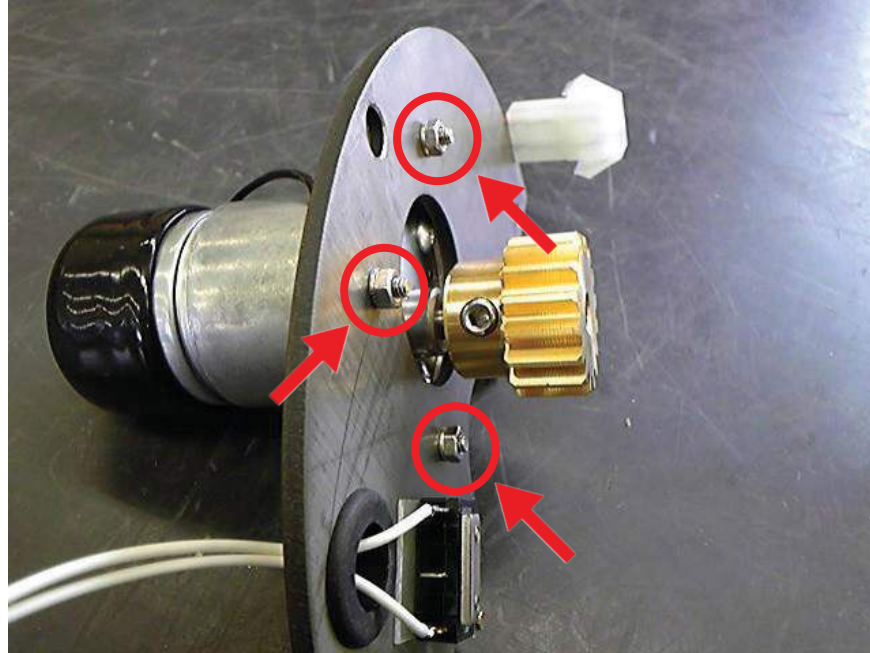
PICTURE 45

5. Loosen and remove 3 screws as indicated in PICTURE 46.
Remove the turning motor with fitting plate complete.



PICTURE 46

6. Loosen and remove 3 screws as indicated in PICTURE 47.
Remove and replace rotation motor.



PICTURE 47

NOTE: When installing the new motor assembly, make sure that there is a small gap between the turning pinion and turning gear as indicated in PICTURE 48.



PICTURE 48

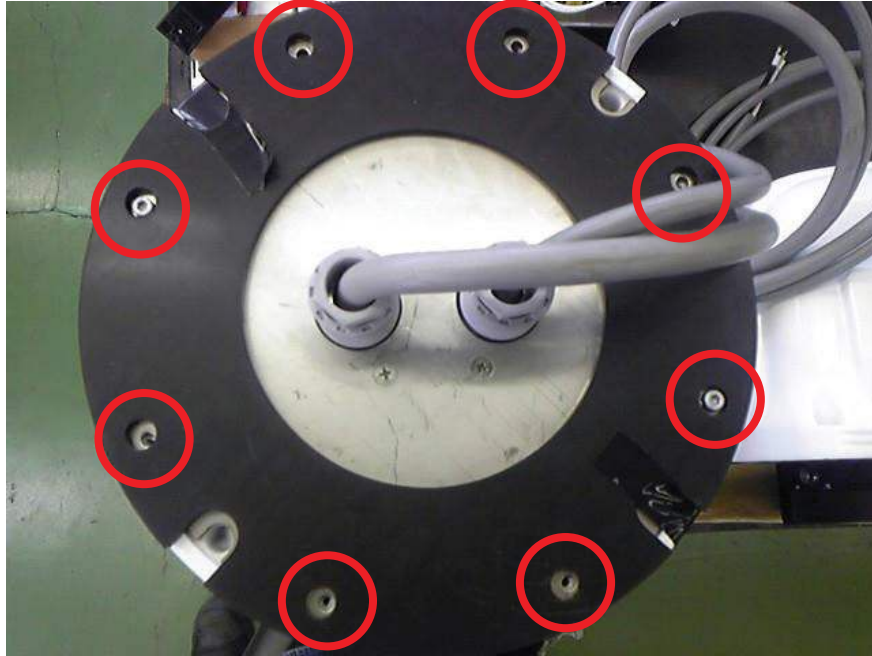
REPLACE CONTINUOUS ROTATING LIGHT

Use the following tools:

- Phillips head screw driver
- 4mm Hexagonal wrench

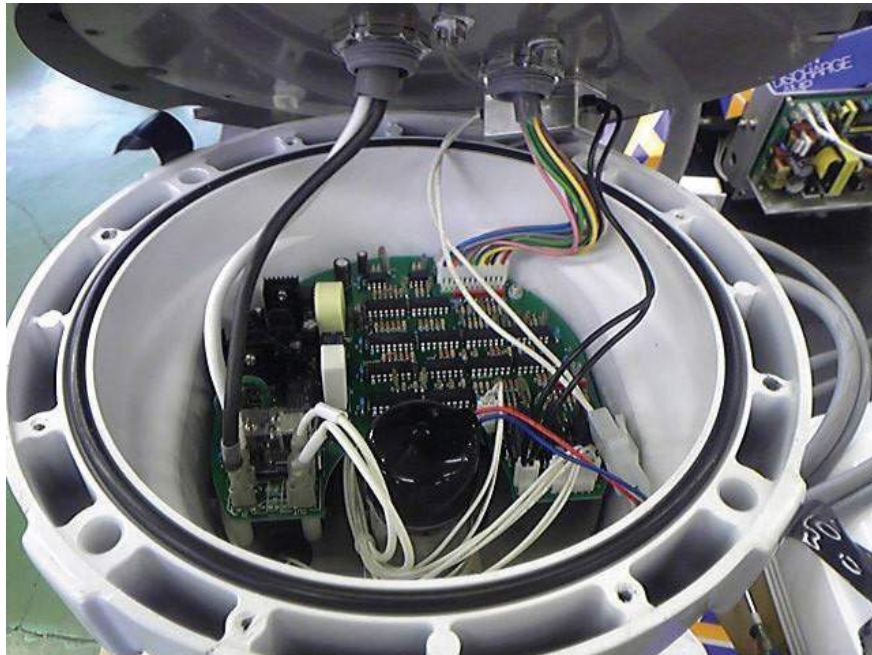
Procedure:

1. Turn off the power source.
2. Remove the search light and place upside down on a suitable surface.
3. Loosen and remove 8 screws as shown in PICTURE 49. Carefully lift the bottom cover off the base.



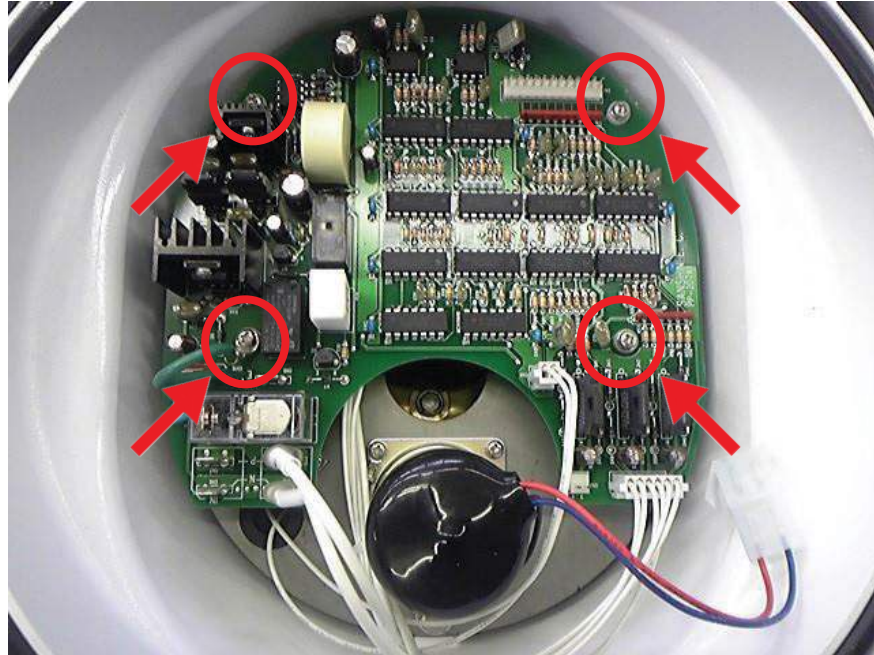
PICTURE 49

4. Remove all the cables where connected to the printed circuit board.
Remove the bottom cover. (See PICTURE 50)



PICTURE 50

5. Loosen and remove 4 screws as indicated in PICTURE 51.
Remove the printed circuit board.



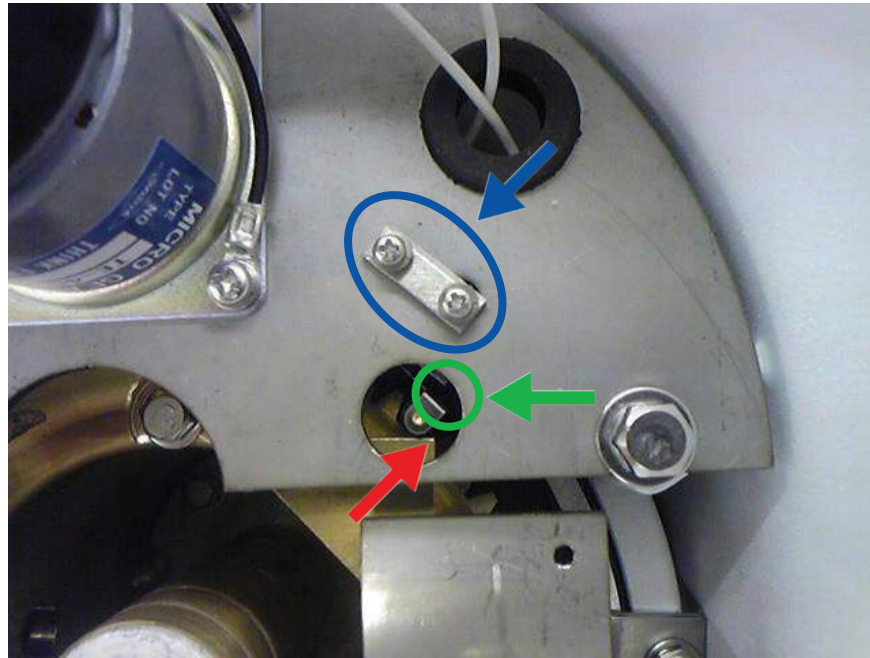
PICTURE 51

6. Check whether the 2 screws, as indicated, in PICTURE 52 came loose.



PICTURE 52

6. If the screws are found to be loose, adjust the limit switch to the position indicated by the RED arrow and fasten the 2 screws as indicated by the BLUE arrow. There must be a small margin of space as indicated by the GREEN arrow. (Refer to PICTURE 53)



PICTURE 53

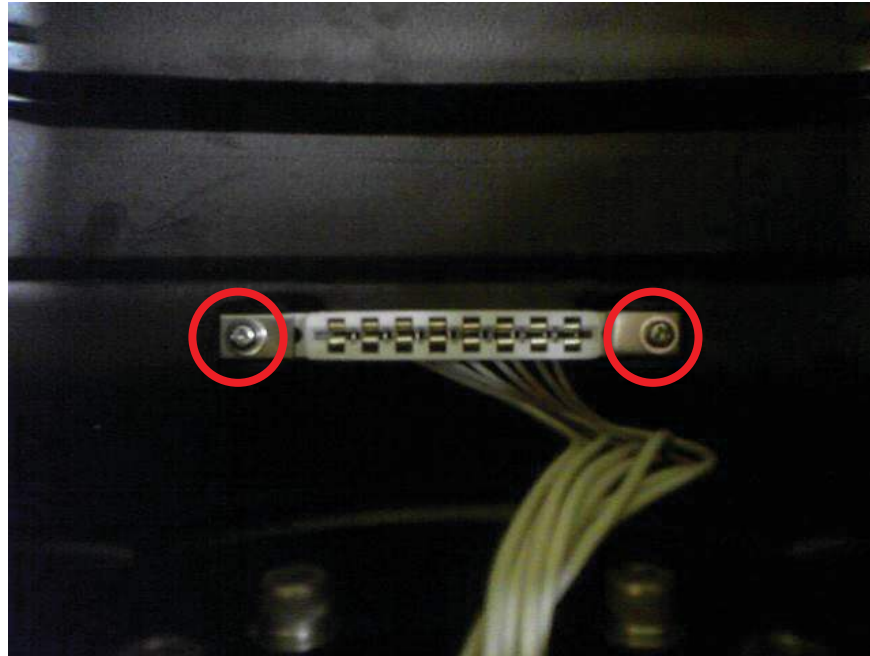
CHECK THE FOCUS MOTOR

Use the following tools:

- Phillips screw driver
- 6mm hexagonal wrench
- 7mm flat spanner

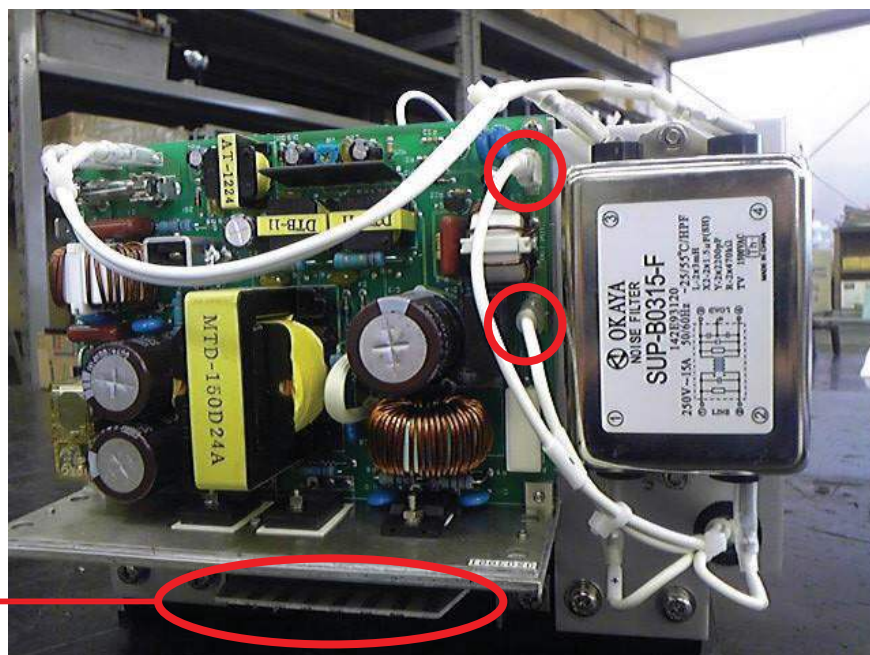
Procedures to check:

1. Remove the power head according to the instruction on page 7 "How to remove the power head".
2. Loosen and remove 2 screws as indicated in PICTURE 54 and remove the card edge connector from inside the search light.



PICTURE 54

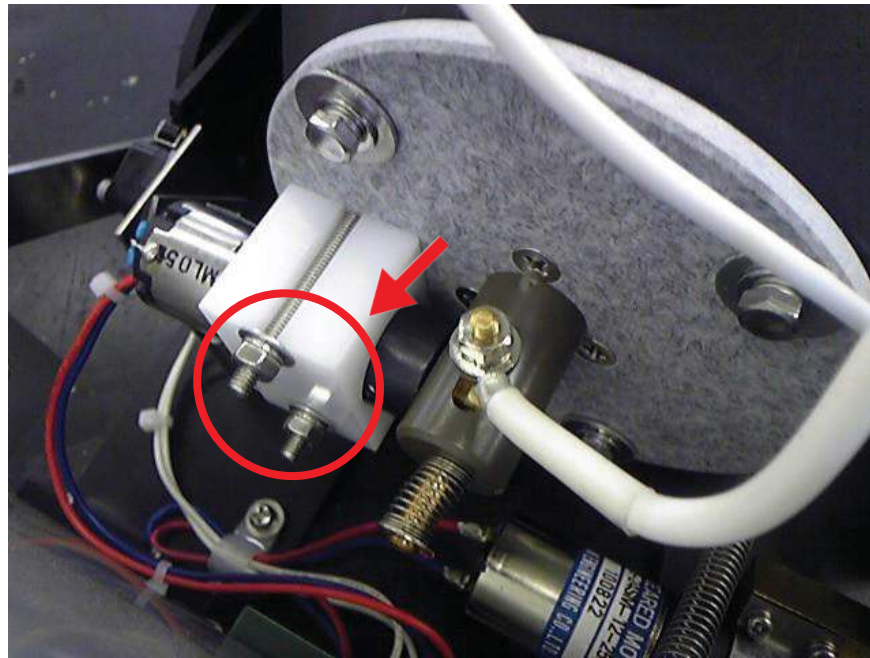
3. Insert the card edge connector, which was removed, into plug-in P.C.B. as indicated in PICTURE 55



PLUG-IN P.C.B.

PICTURE 55

4. Loosen and remove 2 screws as indicated in PICTURE 56. Remove the focus motor.



PICTURE 56

5. After removal of the focus motor, operate the joy stick on the remote control panel to the right or left and ascertain whether the focus motor is functioning.

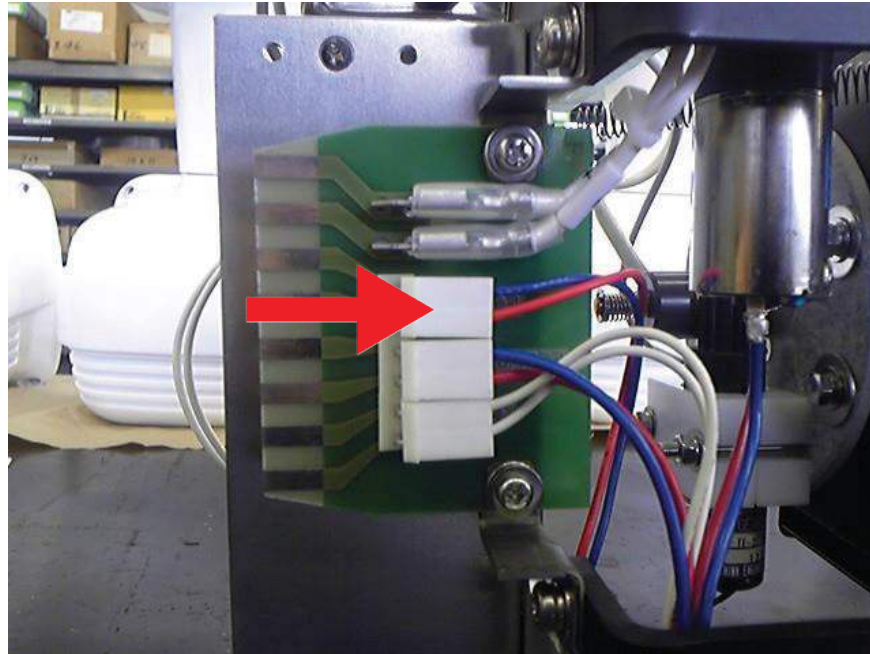
REPLACE THE FOCUS MOTOR

Use the following tools:

- Phillips screw driver
- 6mm Hexagonal wrench
- 7mm flat spanner
- Focus motor (TE-20-69E-500S)

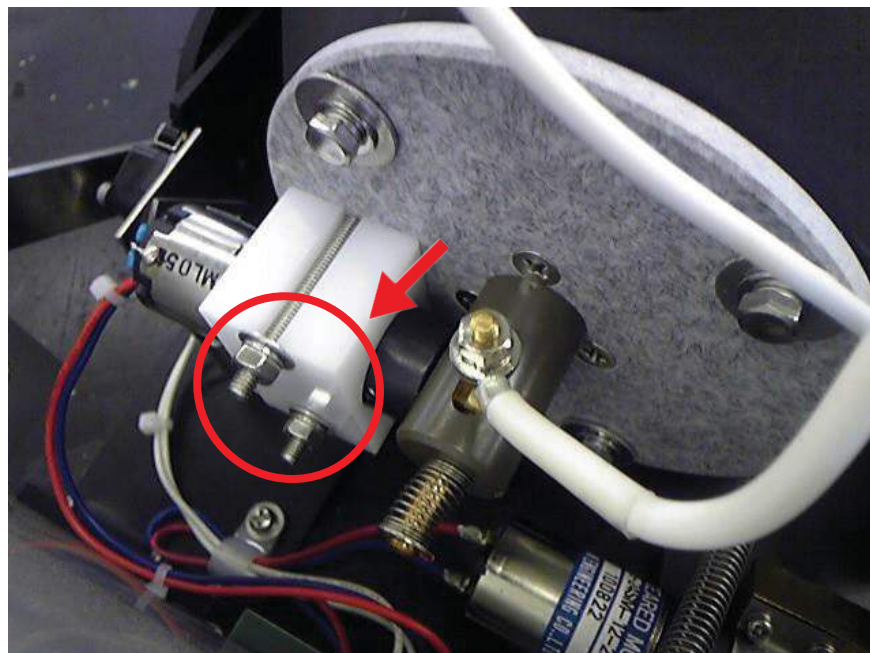
Procedure:

1. Remove the power head according to the instructions on page 7.
2. Remove the connector as indicated in PICTURE 57.



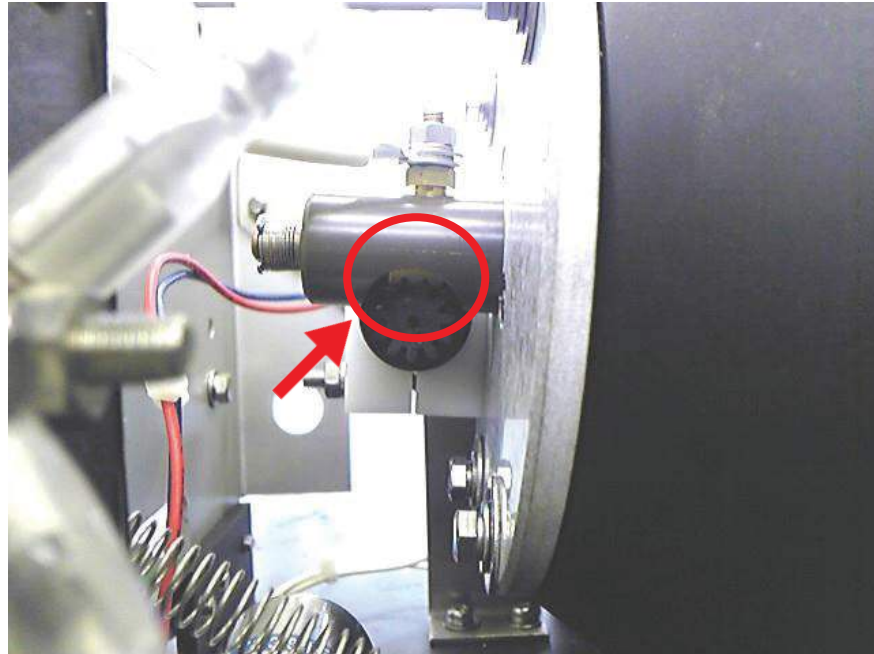
PICTURE 57

3. Loosen and remove 2 screws as indicated in PICTURE 58. Replace the focus motor.



PICTURE 58

NOTE: Allow for a small gap between the motor pinion and focus driving rack as indicated in PICTURE 59.
Replace the focus motor and adjust the complete assembly to be as vertical as possible.
If no margin for space is allowed, or the focus motor is installed diagonally, there is a possibility that the focus motor will not function smoothly during focus operation.



PICTURE 59