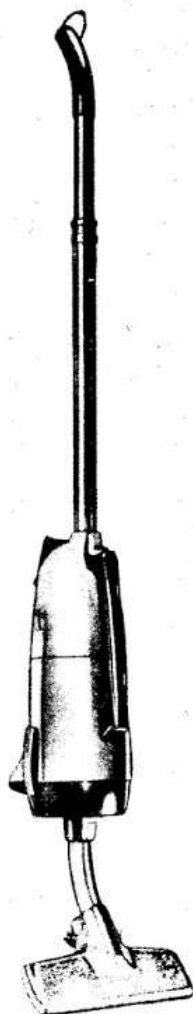


HOOVER

MODEL 2944



MODEL 2944

PORCELAIN BLUE

FROM JUL. 1961 - MAR. 1965

HOP GREEN AND JONQUIL

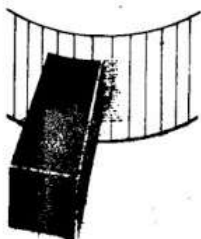
FROM MAR. 1965 -

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GENERAL NOTES

1. Commutation.

Excessive sparking at the carbon brushes can shorten the life of the armature and associated parts, reduce efficiency and cause interference to radio and television receivers. For these reasons, it is important to keep this sparking to a minimum.



The illustration gives an indication of the maximum acceptable sparking and in more serious cases the following possible causes should be checked and remedied.

- a) Ensure that the correct grade of brush is used.
- b) Examine and replace brushes which are less than one eighth of the original length.
- c) New brushes may cause abnormal sparking until they have 'bedded' down by a suitable running-in period.
- d) Check that the commutator is clean and free from grease.
- e) Remove carbon dust from brush holders.
- f) Replace deformed or weak springs.
- g) Refit brushes in their original position, i.e. the trailing edge of the brush invariably exhibits a burn mark.

Where attention to these details does not effect a satisfactory improvement the condition is probably due to an open circuit or shorted turns in the armature windings and the armature should be replaced.

2. Illustrations.

The exploded style illustrations are provided for a ready means of component identification and also to show the method of assembly.

3. Item Numbers.

The numbers quoted in brackets in the service instructions refer to the item numbers in the illustration plates. Item numbers with the prefix 'S' refer to 'Shop Supplies' and are detailed in the 'Procedures' section.

4. Lubrication.

For the motor ball bearing only Hoover Grease (S07) in conjunction with Grease Gun (S01) should be used.

5. Rivets.

For ease of riveting, 'Pop' rivets have been specified wherever possible. Where these rivets are in the air stream, the rivet must be sealed with Bostik Sealing Compound.

Always ensure that the head of the rivet is removed after assembly.

'Pop' riveting equipment is available under Item No. S09.

6. Suppression.

This model is fully suppressed for radio and television interference.

7. Voltages.

Except where stated otherwise, the voltage ranges listed for various components apply to D.C. and A.C. 0 - 60 cycles.

LOCATING THE FAULT

Fails to Clean.

Cleaning tool brushes worn.
Bag full.
Bag clogged.
Cleaning tool hose blocked.

Replace brushes.
Empty or fit new 'Disposall' bag.
Empty bag, turn inside out and brush clean.
Connect for blowing to remove obstruction.

Motor Fails to Run.

Broken connection in plug.
Fuse blown in plug.
Switch not operating.
Open circuit in motor.
Carbon brushes sticking.

Remake connection.
Replace fuse.
Replace switch.
Carry out continuity test.
Check brushes for free movement in brush holder.

Motor Fails to Run-up to Speed.

Sticking or worn carbon brushes.
Excessive sparking at commutator.
Voltage drop.
Wrong voltage machine.

Replace spring and/or brushes.
Check condition of springs, brushes and commutator.
Check with Electricity Board.
Change armature and field assembly.

Excessive Noise/Vibration.

Worn motor bearings.
Armature fouling field stack.
Incorrect fan assembly.

Replace bearings and armature as necessary.
Check for bearing or journal wear and correct field assembly location.
Check and remedy.

TESTING

In the interests of electrical safety and customer satisfaction, the following tests should be carried out before and after repair or overhaul.

1. Functional Test.

Fit cleaning tools, run machine and check:

- a) Cleaner efficiency, i.e. suction and litter removal.
- b) Correct operation of all controls.
- c) Noise level and vibration.
- d) Check all cleaning tools for fit and operation.

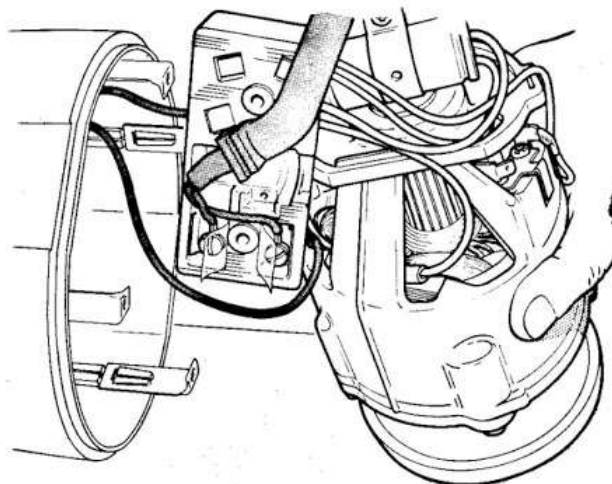
For further information on any faults found in the above tests, refer to 'Locating the Fault'.

2. Electrical Test.

With motor removed from shell body, but with switch leads still attached and cord leads reconnected to terminal block, run motor and observe degree of sparking at carbon brushes and motor.

2. Electrical Test (cont.).

As the protrusion of the fan nut prevents the motor being stood on end for this test, tilt sideways and steady by holding the bakelite motor casing. DO NOT TOUCH any metal parts of the motor.



Disconnect from supply and while motor is still warm test:

a) Insulation.

- i) Current pin to suppressor clip (562) - minimum resistance 1 megohm.

Switch must be 'ON' for insulation test.

ROUTINE MAINTENANCE

When normal servicing of this model is requested it is recommended that the following sequence is adopted.

1. Functional Test.

See 'Testing'.

2. Cord and Cleaning Tools.

Inspect all cleaning tools and examine for wear on the brushes and for physical damage. Check hose carefully and ensure all tools can be fitted easily. Check that the plug is correctly wired and inspect cord for abrasion or other damage.

3. Shell.

Remove end cap (129) and bag assembly (122). Remove handle attaching screw (509) and shell body front screws (505), and detach shell body-front (137). Remove terminal block cover (144), cord clamp (542) and disconnect cord leads.

Carefully withdraw motor assembly from the shell body - rear. Clean shell body - rear. Reconnect cord leads.

4. Electrical Test.

See 'Testing'.

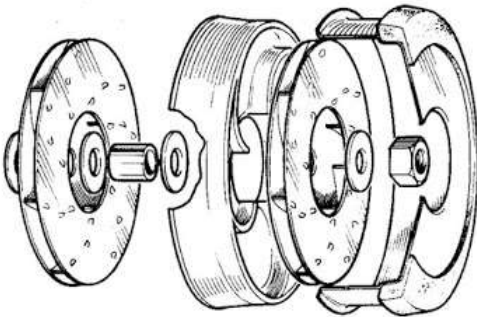
ROUTINE MAINTENANCE (CONT.)

5. Motor.

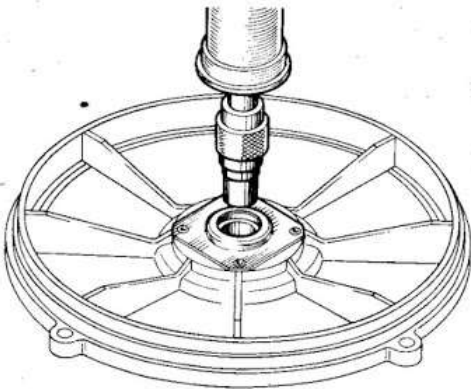
Disconnect cord and switch leads from terminal block (142 or 143). Remove suppressor clip (562) and detach motor mounting-rear (116) and motor support plate (118). Remove carbon brushes (104 or 105) and holders (106). Remove the fan chamber (108) and withdraw the motor front plate (115) and armature assembly from motor casing. Thoroughly clean motor casing.

Do not lubricate sleeve bearing as this is grease impregnated.

Dismantle armature and fan assembly (107) (R.H. thread) and thoroughly clean all parts.



Grease ball bearing, using Grease Gun and Nipple No. 4 (S05).



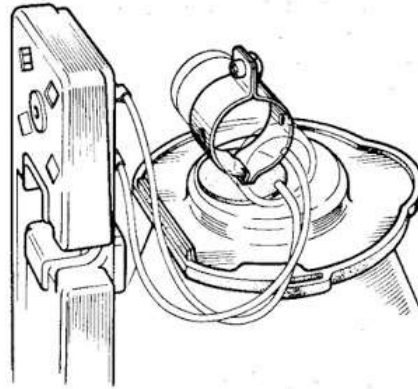
When a replacement armature is being fitted, clean the protective coating from the journals with white spirit, wipe with a clean rag and lightly oil. Motor front bearing spacer (556) was fitted to early machines but the replacement armatures now supplied do not require this to be fitted.

5. Motor (cont.).

Reassemble motor, ensuring that:

- Motor mounting support plate (118) is correctly located into the motor mounting - rear (116).
- The suppressor clip (562) is located into the slot in the bearing clip and the terminal block (142 or 143) lies adjacent to the flat on the motor mounting support plate (118).

Check for free rotation. Connect cord leads and switch leads to terminal block.



6. Repeat Electrical Test.

Disconnect cord, reassemble motor to shell body, connect leads, fit terminal cover, shell body-front, bag and end cap.

Check that:

- Leads are not trapped when assembling the motor assembly to the shell.
- The terminal block is positioned by the locators in the shell body.
- The switch is correctly located in the handle.

7. Repeat Functional Test.

FITTING NOTES

1. Cleaning Tool Hose.

Replacement of the flexible part of the hose can be made as follows:

- a) Remove the hose ends and hose grips from the hose and remove all traces of adhesive.
- b) Apply Bostik Clear Adhesive to the tube portion of the hose ends and insert into the hose - flexible part, taking it to within $\frac{1}{4}$ " of the collar.

Do not twist the hose more than necessary.

- c) Secure hose to the ends with a few turns of waxed twine placed between the raised rib on the tube and the end of the hose.

- d) Assemble hose grips.

2. Field Assembly.

Strip down motor casing assembly as for overhauling. Remove field leads from terminal block (142 or 143) and carbon brush holders (106), and remove field assembly (110) from the motor casing (114).

Reassemble, ensuring that:

- a) The red field lead is positioned adjacent to the open side of the suppressor clip.
- b) Ventilating baffles (568) are fitted on top of the lamination stack.
- c) Field leads are connected without the leads crossing the face of the terminal block.

3. Motor Mounting-Rear & Support Plate.

Because of changes in design, the above parts for early machines cannot be changed individually but must be replaced in pairs.

4. Switch.

Strip machine and remove motor from shell body. Remove handle attaching screw (506), dismantle handle and withdraw switch.

Disconnect switch leads.

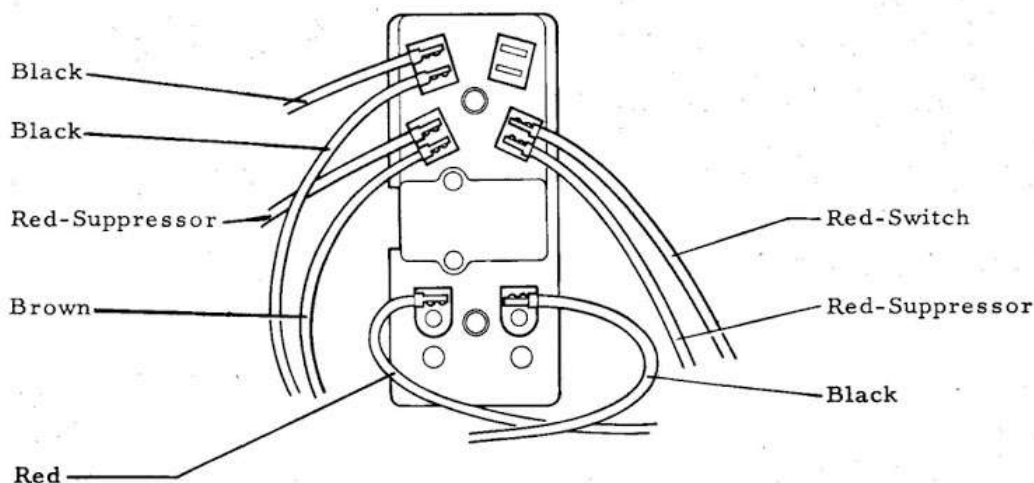
Reconnect, ensuring that the leads come away toward the top of the switch.

Reassemble, ensuring that:

- a) Switch is correctly located in the handle.
- b) Leads are divided by the lugs in the handle halves.
- c) Leads pass through into the shell body on either side of the boss for the handle attaching screw (506).

Two elastic bands can be used to hold the handle halves, switch and leads correctly assembled whilst assembling to the shell body.

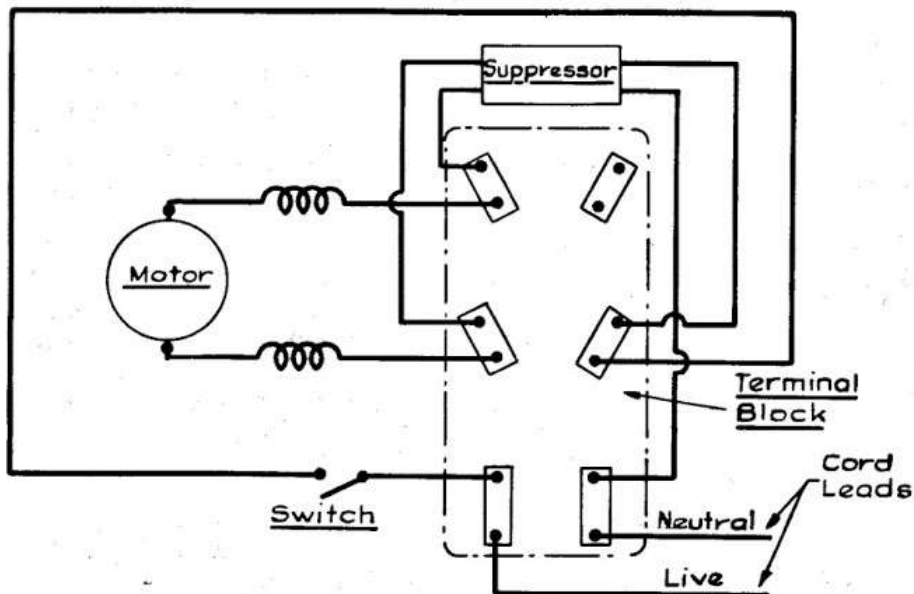
The latch button (135) can be assembled after the latch button spring (519) is secured by the handle attaching screw (506) by sliding it over the spring.



TECHNICAL DATA

Weight of cleaner.	6 lbs.	(2.72 Kg.)
Motor r. p. m.	21,000	
Closed suction.	35"	(89 c.m.)
Voltage range.	<u>D. C.</u>	<u>A. C. 0 - 60 cycles</u>
	24 v.	
	30/35 v.	
	45/55 v.	
	85/95 v.	85/95 v.
	100/115v.	100/115v.
	120/135v.	120/135v.
	140/160v.	140/160v.
	165/190v.	165/190v.
	195/220v.	195/220v.
	225/250v.	225/250v.
	255/280v.	255/280v.

WIRING DIAGRAM



2 WIRE SUPPRESSED

