

**SERVICE MANUAL
PARTS LIST**

UPRIGHT VACUUM CLEANER

MODELS:

**U-180 DC
U-240 DC**

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I.- FINAL TEST FOR PRODUCT SAFETY

At the completion of any repairs the product should be electrically tested for operating and electric strength as follows.

1.- ELECTRIC TEST

- 1).- Set hi-pot test meter at 1500 volts.
- 2).- Product handles tube to "ON" position.
- 3).- Touch one probe of tester to one blade of power cord plug and touch other probe to handle tube, there should be no breakdown.

2.- OPERATING TEST

Run the machine with the height adjustment knob on high and check:

- 1) There should be no abnormal noise or vibration.
- 2).- The carbon brushes spark should be small and uniform.
- 3).- The current should not exceed 9.0 Amps. and 7.0 Amps

Note: The letters with the item number, references, identify item number on internal (I) or external (E) illustration.

II.- REPLACEMENT PROCEDURES

1.- TO REMOVE BAG (33-E), FIG. 1,2

- 1.1.- Release spring (38-E), from handle, turn knob on bag coupling (27-E), slide coupling off unit

2.- TO REMOVE HAN OLE TUBE (7-E, 10-E), FIG. 1,2

- 2.1.- Disengage line cord from line cord retainer (3-E) pulling cord outward from retainer bottom
- 2.2.- Remove bolt and nut (8-E and 9-E) on handle socket (24-1) and pull tube out.

3.- TO REPLACE BELT (25-I), FIG. 3, 4

- 3.1.- Place upright on hood so wheels face upward Make sure to place on protected surface not to damage hood.
- 3.2.- Remove retaining bar (23-1) by pressing down on right side (Longest), remove brush rolls cover (24-1) and fan cover (52-1).
- 3.3.- Stretch and twist belt over motor pulley (15-M) to pull it out. (if not broken)
- 3.4.- Remove complete brush roll (22-1) with bearing supports (21-1) pulling it out near the bearings.
- 3.5.- Place new belt on roll, replace roll on chassis making sure the mark "top" on bearings support faces towards the brush roll cover and reassemble.

4.- TO REPLACE BRUSH ROLL (22-I) OR BEARING SUPPORTS (21-I), FIG. 3, 4

- 4.1.- Follow steps indicated on point 3.1 to 3.4.
- 4.2.- Remove bearing support (21-1), pulling them away from brush roller(old or new).
- 4.3.- Place bearing supports on new brush roll, place belt over roll and replace to on chassis following steps 3.5.

5.- TO REPLACE REAR WHEELS (34-I), FIG. 3, 4

- 5.1.- Remove hood as in step 7
- 5.2.- Pull out retainer pin (36-1) from axle (13-1) and take out axle assembly.
- 5.3.- Replace then new wheel and axle, and insert two washer (35-1) and clip ring (36-1).
- 5.4.- Replace hood

6.- TO REPLACE FRONT WHEELS (14-I), FIG. 3, 4

- 6.1.- Remove hood as in step 7
- 6.2.- Remove screws (4-1) from axle supports (13-1) and take out axle assembly.
- 6.3.- Remove axle with wheels
- 6.4.- Replace the new front wheel.
- 6.5.- Replace axle assembly on chassis making sure springs (18-1 and 20-1) is in place.
- 6.6.- Replace hood

7.- TO REMOVE THE HOOD (18-E), FIG. 1,2

- 7.1.- Remove the bag
- 7.2.- Depress handle release pedal (45-I) and put handle tube to horizontal position.
- 7.3.- Remove screw from height adjustment knob (11-E) and pull out knob (12-E).
- 7.4.- Place upright on hood so wheels face upward, make sure to place on protected surface not to damage hood.
- 7.5.- Remove springs (19-E) from "v" tabs chassis, turn upright holding hood and separate hood from chassis, remove nut (30-E).

8.- TO REPLACE MOTOR (3-I), FIG. 3, 4

- 8.1.- Remove belts as in steps 3.1 to 3.3.
- 8.2.- Remove the hood as in step 7.
- 8.3.- Release air ducts (2-1 and 33-1) applying pressure on both sides and slide out.
- 8.4.- Remove the four motor base screws (4-l) disconnect switch leads and pull out motor.

9.- TO REPLACE HEIGHT ADJUSTMENT CAM (12-I), FIG. 3, 4

- 9.1.- Remove hood as in step 7
- 9.2.- Slide cam assembly out
- 9.3.- Replace new cam and reassemble.

10.- TO REPLACE HANDLE RELEASE PEDAL (45-I), FIG. 3, 4

- 10.1.- Remove hood as in step 7
- 10.2.- Remove spring (46-l) from chassis
- 10.3.- Pull pedal towards spring side and remove

11.- TO REPLACE HANDLE SOCKET (40-I), FIG. 3, 4

- 11.1.- Remove hood as in step 7
- 11.2.- Remove handle release pedal as in step 10
- 11.3.- Remove "C" washers (36-l) from socket bolt (37-l) pull out bolt and remove socket.

12.- TO REPLACE HANDLE POSITION CAM (41-I), FIG. 3, 4

- 12.1.- Remove handle socket as in step 11
- 12.2.- Pull out "C" washer (44-l) and bolt (43-l) remove cam spring (42-l).
- 12.3.- When reassembling is sure spring (42-l) is located as before.

13.- TO REPLACE THE CORD ASSY "3" (2A-E), FIG. 1, 2

- 13.1.- Disconnect the cord assy 3" from the cord extension.
- 13.2.- Remove hood as in step 7
- 13.3.- Remove the nut (27-l), washer (28-l) and the ground lead.
- 13.4.- Disconnect the line cord.
- 13.5.- Remove Heyco strain relief (30-l) from chassis with Heyco
- 13.6.- Slide strain relief and hook and the new cord assy 3", and reassemble with the Heyco pliers making sure to locate the strain relief as it was before.

14.- TO REPLACE THE LIGHT BULB (6-I), FIG. 3

- 14.1.- Remove the hood as in step 7.
- 14.2.- Pull the light bulb out with a gentle side-to-side rocking and replace with a new one.

15.- TO REPLACE THE ON - OFF SWITCH (12-M), FIG. 5

- 15.1.- Remove hood as in step 7
- 15.2.- Disconnect the electrical terminal from switch.
- 15.3.- Press the side tabs on the switch and pull it out.
- 15.4.- Press the new switch on the opening until the tabs snap, and reconnect the terminal.

16.- TO REPLACE THE SWITCH ACTUATOR (31-1), FIG. 3, 4

- 16.1.- Remove hood as in step 7
- 16.2.- Remove "e" washer (36-1) from bolt (31 B-l) and slide out the actuator assembly.
- 16.3.- Replace the new actuator and assembly.

17.- TO REPLACE THE FAN (14-M), FIG. 5

- 17.1.- Remove the belt as in point 3.1, 2 and 3.
- 17.2.- Hold the fan (14-M) while turning loose the nut (15-M).
- 17.3.- Remove nut and fan
- 17.4.- Replace the new fan and reassemble.

NOTE: Two washer and spacer for fan of plastic

18.- MOTOR SERVICING, FIG. 5

The only possible motor repairs are: Replace carbon brushes. Replace armature. Replace field. Never try to repair the field or armature, it detective replace with a new one.

19.- TO REPLACE THE DUST CUP (ONLY DC SERIES), FIG. 6

- 19.1.- Place handle in upright position and unhook spring (1), shake bag (3) to release dirt accumulated in bag.
- 19.2.- Release the two latches by pulling them outward.
- 19.3.- Remove cup and replace it.

TO DISASSEMBLE THE MOTOR

- 1.- Remove motor as in point 8
- 2.- Hold the fan (14-m) while turning loose nut (15-m) and remove nut and fan.
- 3.- Remove the electrical connection to carbon brushes pulling them out of the terminals.
- 4.- Remove the brush holders support screws (5-m) and take out the brush holder assembly (3-m), if the carbon brush is worn out replace the complete assembly (3-m)
- 5.- Remove the four motor covers screws (2-m) and lift the motor cover (1-m).
- 6.- Remove field and armature and replace as required.
- 7.- Reassemble in reverse order making sure the field spring (10-m), the ground washer (16-m) and ground lead are in correct position.

III.- TROUBLE SHOOTING CHART

PROBLEM	POSSIBLE CAUSE	SOLUTION
A) Motor does not run	1.- Not firmly plugged in.	1.- Check attachment plug.
	2.- Bad ON-OFF switch.	2.- Replace switch.
	3.- Line cord open	3.- Replace cord.
	4.- Motor open	4.- Check motor and wiring.
	5.- Fan blockage by material	5.- Remove obstruction
B) Motor runs but cleaner does not run pick-up	1.- Belt broken.	1.- Replace belt.
	2.- Blockage air system.	2.- Replace obstruction.
	3.- Fan broken.	3.- Replace fan.
	4.- Worn brush roll.	4.- Replace brush roll.
	5.- Motor slow.	5.- Check carbon brushes.
	6.- Bag full.	6.- Empty bag (or change paper bag).
C) Motor runs erratically	1.- Worn carbon brushes.	1.- Replace brushes.
	2.- Detective armature.	2.- Check spark, replace
	3.- Bad electrical connection.	3.- Check wiring.
	4.- Detective On-Off switch.	4.- Replace switch.
D) Brush roll vibrates	1.- Ball bearing worn out.	1.- Replace brush roll.
	2.- Ball bearing holder damaged.	2.- Replace ball bearing holder.
E) Head light does not run on	1.- Bad connections.	1.- Check wiring.
	2.- Light bulb burned out.	2.- Replace bulb.

WHEN ORDERING ,DO NOT FORGET TO SPECIFY :

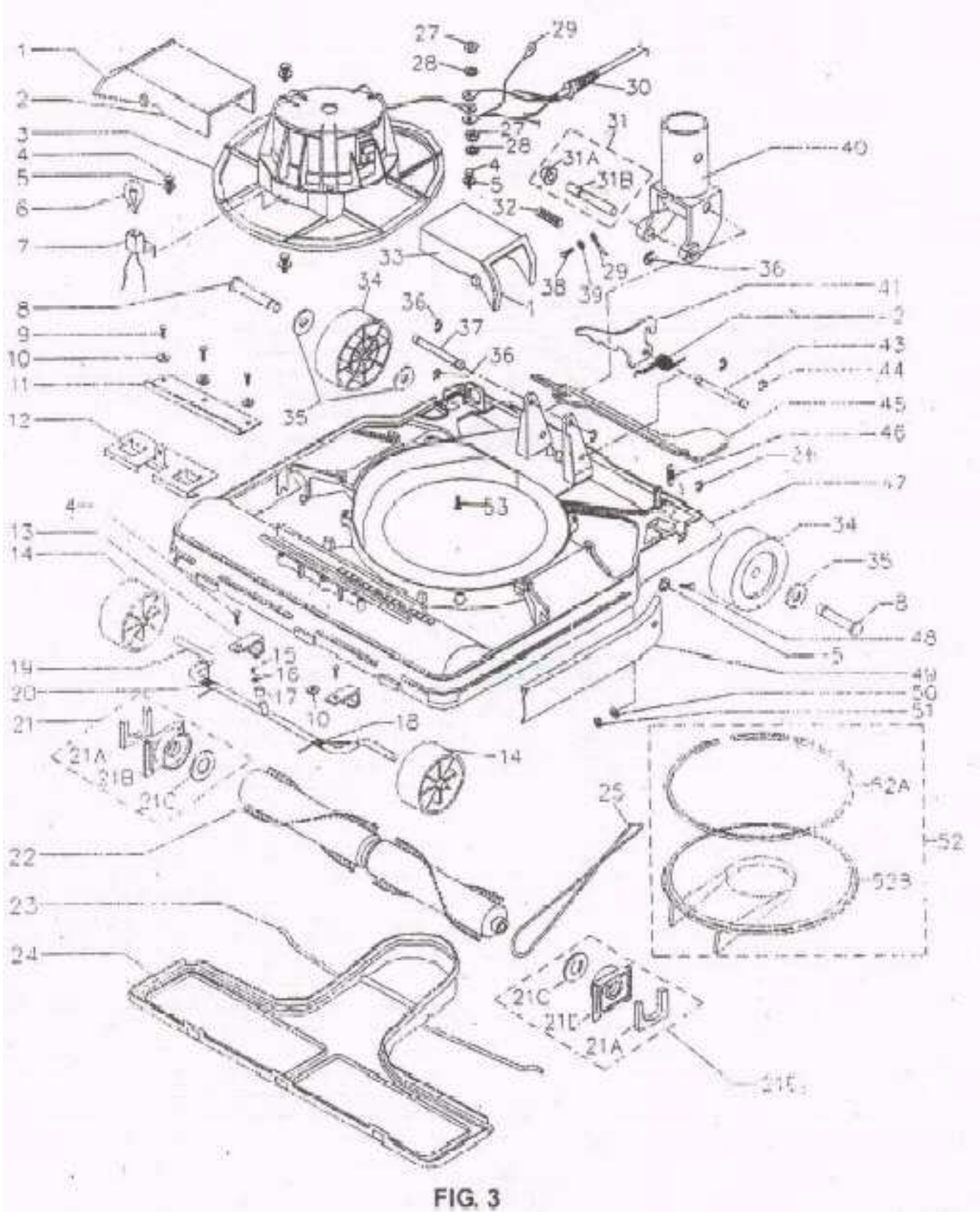
- ✓ **PART NUMBER**
- ✓ **DESCRIPTION**
- ✓ **MODEL NUMBER**

NOTE: Drawing numbers are for identification purposes only.

V.- UPRIGHT VACUUM CLEANER EXTERNAL PARTS LIST

No.	PART. No.	DESCRIPTION	U-180	U-240
1	13-0947-5	HANDLE GRIP	1	1
2	28-0534-01-7	POWER SUPPLY AND CORD		1
2	28-1152-9	POWER SUPPLY AND CORD	1	
3	13-1462-4	CORD RETAINER	1	1
4	01-0283-0	SCREW # 8 X ½	1	1
5	01-0290-5	SCREW # 10 3/8	2	4
6	05-2142-7	CORD HOOK		2
6	05-4089-8	CORD HOOK	1	
7	05-4051-8	UPPER HANDLE		1
7	05-4091-4	UPPER HANDLE	1	
8	02-0141-8	HANDLE NUT	2	2
9	01-2034-5	SCREW HANDLE	2	2
10	05-4049-2	LOWER HANDLE		1
10	05-4090-6	LOWER HANDLE	1	
11	01-0270-7	SCREW # 6 X 3/8	1	1
12	13-1100-0	KNOB HEIGHT	1	1
13	17-4688-2	LABEL HEIGHT		1
15	37-0136-4	FELT	1	1
16	13-1401-2	LENS	1	1
17	17-2877-3	LABEL		1
18	05-4092-2	HOOD	1	
18	05-3064-2	HOOD		1
19	24-0271-7	COVERED MEANS	2	2
20	02-0037-8	HOOD SPRING	2	2
21	04-0271-9	NUT # 10-32	2	2
22	13-2127-2	STAR WASHER	1	1
23	01-0742-5	BAG SUPPORT	1	1
24	26-0001-3	SCREW 10-30 X 5/8	1	1
25	24-0014-1	BALL	1	1
26	05-0997-6	KNOB SPRING	1	1
27	13-2126-4	BAG KNOB SPACER	1	1
28	01-0743-3	BAG KNOB	1	1
29	01-0154-3	SCREW 10-32 X 3/4	1	1
30	02-0141-8	HEX, NUT 8-32	2	2
31	04-0271-9	STAR WASHER	2	2
32	01-1247-4	SCREW # 6 X 5/16	1	1
No	PART No.	DESCRIPTION	DC	DC
33-B	13-1601-7	PLASTIC STRAP	1	1
35	46-2105-8	BAG COUPLING GASKET	1	1
35-A	12-0550-9	BAG COUPLING GASKET	1	1
35-B	13-2196-7	BAG COUPLING	1	1
37	05-3356-2	CLIP BAG	1	1
38	24-0276-6	SPRING	1	1
39	46-2439-1	DUST CUP ASSY	1	1
39	46-2942-4	DUST CUP ASSY	1	1
39	46-2747-7	DUST CUP ASSY	1	1

VI.-UPRIGHT VACUUM CLEANER INTERNAL PARTS



VII.-VACUUM CLEANER INTERNAL PARTS LIST

No.	PART. No.	DESCRIPTION	U-180	U-240
1	12-0258-9	AIR DUCT GASKET	0.325	0.325
2	13-1095-2	RIGHT AIR DUCT	1	1
3	46-2757-6	MOTOR ASSEMBLY V	1	1
4	01-1391-0	SCREW 8-32 X ½	6	6
5	04-0065-5	FLAT WASHER	6	6
6	14-0073-8	LIGHT BULB	1	1
7	10-0112-2	LIGHT BULB SOCKET	1	1
8	25-1242-4	REAR WHEEL AXLE	2	2
9	01-0846-4	SCREW 6-32 X 3/8	3	3
10	04-0026-7	FLAT WASHER	5	5
11	05-3069-1	PLATE CAM GUIDE	1	1
12	46-1898-9	CAM ASSEMBLY	1	1
13	05-3068-3	FRONT AXLE RETAINER	2	2
14	13-2705-5	FRONT WHEEL	2	2
15	03-0127-5	TYPE "S" RIVET	1	1
16	04-0019-2	FLAT WASHER	1	1
17	25-1065-9	AXLE BUSHING	1	1
18	24-0229-5	FRONT AXLE SPRING	1	1
19	46-2972-1	FRONT AXLE ASSEMBLY	1	1
20	24-0234-5	FRONT AXLE SPRING	1	1
21	45-0348-8	SEARING SUPPORT ASSEMBLY	1	1
21-A	12-0522-8	SEARING GASKET	2	2
21-B	13-1252-9	RIGHT SEARING SUPPORT	1	1
21-C	37-0130-7	FELT	12	12
21-D	13-1801-3	LEFT SEARING SUPPORT	1	1
21-E	46-2376-5	SEARING SUPPORT ASSEMBLY	1	1
22	46-2375-7	BRUSH ROLL	1	1
23	25-0997-4	RETAINING SHAFT	1	1
24	46-2035-7	BOTTOM PLATE WITH	1	1
25	12-0814-9	BELT	1	1
27	02-007-1	NUT8-32	2	2
28	04-0276-8	STAR WASHER	2	2
29	28-0476-3	GROUND LEAD	1	1
30	12-0515-2	GROMMET HEYCO	1	1
31	46-2106-6	SWITCH ACTUATOR ASSEMBLY	1	1
31-A	13-1292-5	SWITCH ACTUATOR	1	1
31-B	25-1002-2	SWITCH SHAFT	1	1
32	24-0259-2	SPRING	1	1
33	13-1096-0	LEFT AIR DUCT	1	1
34	13-1090-3	REAR WHEEL	2	2
35	04-0587-7	FLAT WASHER 5/16	4	4
36	04-0469-9	CLIP RING	5	5
37	25-1233-3	SOCKET SHAFT	1	1
38	01-0931-4	SCREW 6-32	1	1
39	04-275-0	STAR WASHER	1	1
40	06-0567-5	TUBE SOCKET	1	1
41	05-3061-8	HANDLE CAM	1	1
42	24-0249-3	CAM SPRING	1	1
43	25-1003-0	CAM SHAFT	1	1
44	04-0242-0	C. WASHER	2	2
45	05-3062-6	PEDAL	1	1
46	24-0193-3	SPRING	1	1
47	06-0838-0	CHASSIS	1	1
48	01-1609-5	SCREW 10-32 X 1/4	2	2
49	12-0475-9	BUMPER	1	1
50	04-0271-9	STAR WASHER	2	2
51	02-0037-8	NUT 10-32	2	2
52	46-2036-5	FAN COVER	1	1
52-A	12-0834-7	FAN COVER GASKET	1	1
52-8	13-1094-5	FAN COVER	1	1
53	01-1249-0	SCREW 8-32	1	1
54	05-3872-8	RETAINING PLATE	1	1

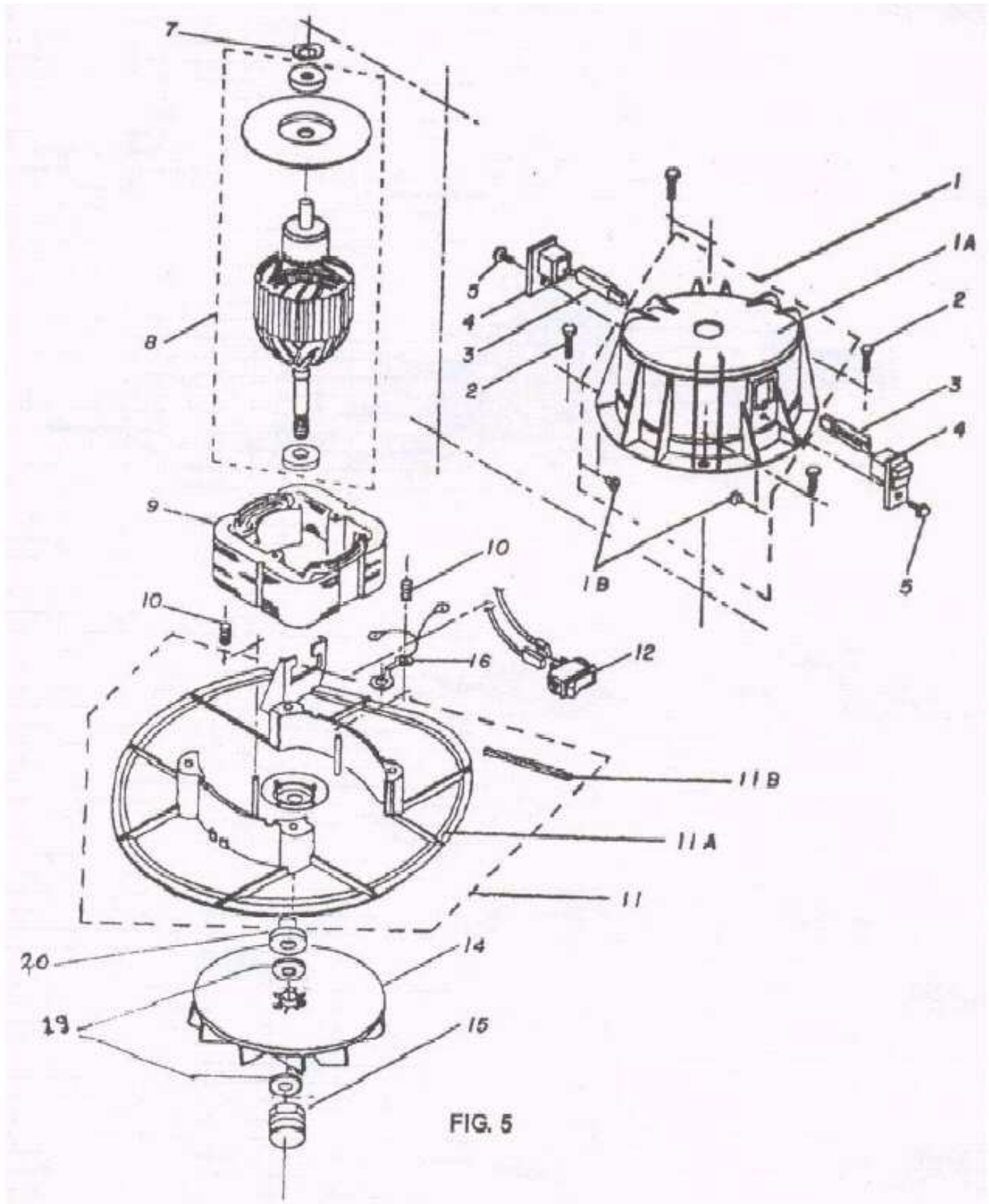
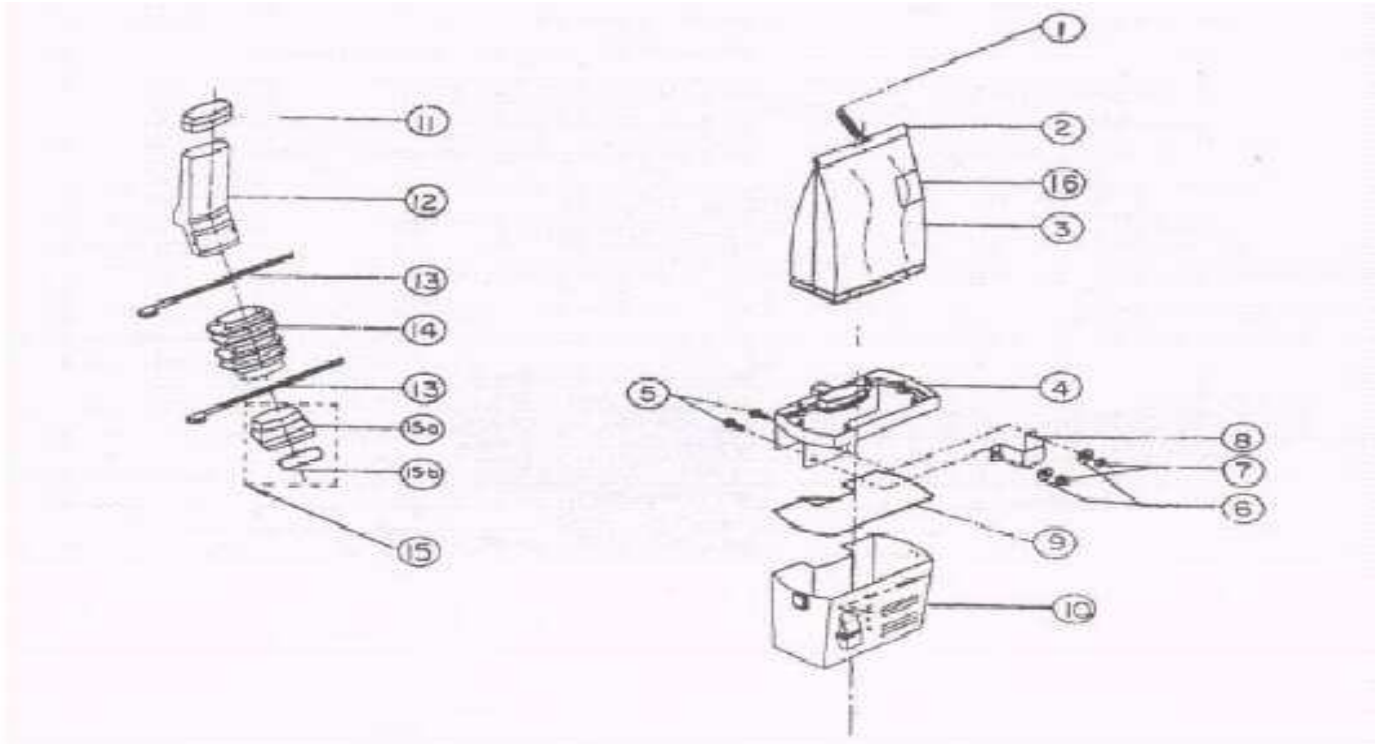


FIG. 5

IX.- MOTOR ASSEMBLY PART LIST

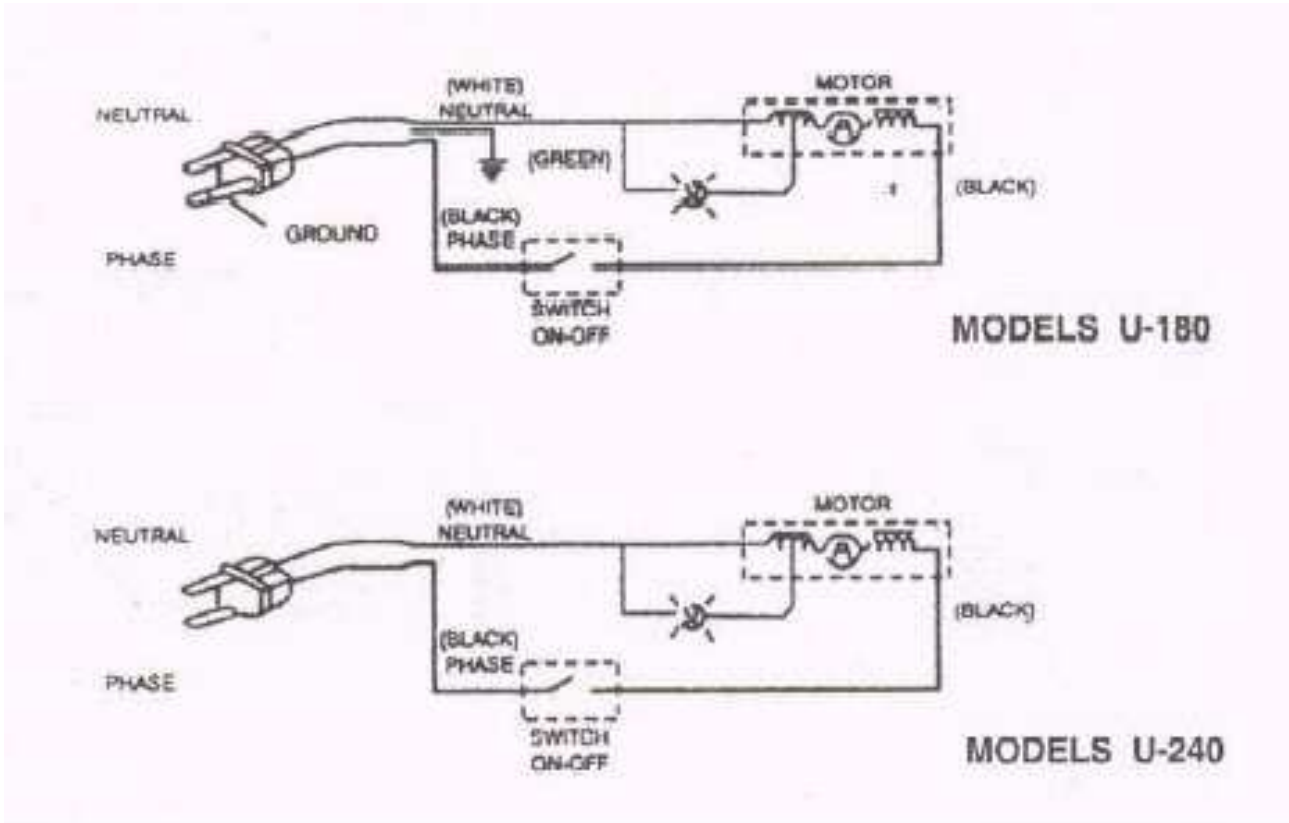
No.	PART. No.	DESCRIPTION	46-2542-2	46-2757-6
1	46-2108-2	MOTOR COVER ASSEMBLY y	1	1
1-A	13-1091-1	MOTOR COVER	1	1
1-B	02-0096-4	NUT 8-32	2	2
2	01-0071-9	SCREW TYPE 8-18 x 3/4	4	4
3	46-2024-1	BRUSH HOLDER ASSEMBLY y	2	2
4	13-1121-6	BRUSH HOLDER SUPPORT	2	2
5	01-0375-4	SCREW 8-32 X 3/8	2	2
7	04-0397-2	END. PLAY WASHER .850 X .017	1	1
8	28-0580-2	ARMATURE ASSEMBLY Y	1	1
9	28-0632-1	FIELD ASSEMBLY Y		1
9	28-0628-9	FIELD ASSEMBLY Y	1	
10	24-0228-7	SPRING	2	2
11	46-2109-0	MOTOR BASE WITH GASKET	1	1
11-A	13-1758-5	MOTOR BASE	1	1
11-B	12-0495-7	GASKET	1	1
12	11-0159-1	SWITCH	1	1
14	06-0574-1	FAN		
14	13-2442-5	FAN	1	1
15	02-0208-5	BELL T PULLEY NUT	1	1
16	30-0207-8	GROUP WASHER	1	1
17	01-0375-4	SCREW 10-24 X 3/8	1	1
18	04-0271-9	WASHER	1	1
19	04-0123-2	WASHER	2	2
20	26-0221-7	SPACER	1	1

X.- UPRIGHT VACUUM CLEANER DUST CUP PARTS (ONLY DC SERIES)



No.	PART. No.	DESCRIPTION	46-2542-2	46-2757-6	46-2757-6
1	24-0232-9	BAG SPRING	1	1	1
2	05-3356-2	BAG CLIP	1	1	1
3	46-2943-2	BAG ASSEMBLY y			1
3	46-2748-5	BAG ASSEMBLY y	1		
3	46-2442-5	BAG ASSEMBLY y		1	
4	13-2697-4	CUP FRAME			1
4	13-1736-1	CUP FRAME	1		
4	13-2470-6	CUP FRAME	2	2	2
5	01-0438-0	SCREW 8-32 X 3/8	2	2	2
6	04-0022-6	FLAT WASHER	2	2	2
7	02-0007-1	HEX. NUT 8-32	2	2	2
8	13-1740-3	CLAMP	1	1	1
9	12-0671-3	CUP GASKET	1	1	1
9	12-0712-5	CUP GASKET			1
10	46-2946-5	CUP ASSEMBLY y			1
10	46-2360-9	CUP ASSEMBLY y		1	
10	46-2807-9	CUP ASSEMBLY y	1		
11	12-0646-5	UPPER HOSE SEAL	1	1	1
12	13-1739-5	EXHAUST HOSE	1	1	1
13	13-1601-7	CABLE TIE	2	2	2
14	12-0645-7	DUST CUP HOSE	1	1	1
15	46-2105-8	BAG COUPLING GASKET	1	1	1
15-A	13-2196-7	BAG COUPLING	1	1	1
15-B	12-0550-9	BAG COUPLING GASKET	1	1	1
16	17-4050-5	BAG LABEL	1		

XI.- WIRING DIAGRAM





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SERVICE