



**SERVICE MANUAL  
PARTS LIST**

**UPRIGHT VACUUM CLEANER**

***MODELS:***

**U-1  
U-3  
U-5  
U-6**

**SERVICE**

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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 (1) or external (E) illustration.

## II.- REPLACEMENT PROCEDURES

### 1.- TO REMOVE BAG ( 33 ), FIG. 1

- 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 , 10 ), FIG. 1,2

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

### 3.- TO REPLACE BELT ( 31 )

- 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 ( 46 ) by pressing down on right side (Longest), remove brush rolls cover ( 45) and fan cover (30).
- 3.3.- Stretch and twist belt over motor pulley (15-M) to pull it out. (if not broken)
- 3.4.- Remove complete brush roll ( 43 ) with bearing supports ( 44 ) 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 ( 43 ) OR BEARING SUPPORTS (44)

- 4.1.- Follow steps indicated on point 3.1 to 3.4.
- 4.2.- Remove bearing support ( 44 ) 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 (14)

- 5.1.- Remove hood as in step 7
- 5.2.- Pull out retainer pin (15) from axle (8) and take out axle assembly.
- 5.3.- Replace then new wheel and axle, and insert two washer ( 55) and clip ring (15).
- 5.4.- Replace hood

### 6.- TO REPLACE FRONT WHEELS (34), FIG. 3, 4

- 6.1.- Remove hood as in step 7
- 6.2.- Remove screws (4-1) from axle supports (36) 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 (38 and 42) is in place.
- 6.6.- Replace hood

### 7.- TO REMOVE THE HOOD (17), FIG. 1,2

- 7.1.- Remove bag
- 7.2.- Depress handle release pedal (25) and put handle tube to horizontal position.
- 7.3.- Remove screw from height adjustment knob (11) and pull out knob (12).FIG. 1
- 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 (18) from "v" tabs chassis, turn upright holding hood and separate hood from chassis, removes nut (30).FIG 2

## **8.- TO REPLACE MOTOR (3), FIG. 2**

- 8.1.- Remove belts as in steps 3.1 to 3.3.
- 8.2.- Remove hood as in step 7
- 8.3.- Release air ducts (2 and 13) applying pressure on both sides and slide out.
- 8.4.- Remove the four motor base screws (4l) disconnect switch leads and pull out motor.

## **9.- TO REPLACE HEIGHT ADJUSTMENT CAM (12), FIG.2**

- 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 (25), FIG. 3, 4**

- 10.1.- Remove hood as in step 7
- 10.2.- Remove spring (26) from chassis
- 10.3.- Pull pedal towards spring side and remove

## **11.- TO REPLACE HANDLE SOCKET (19), FIG. 2**

- 11.1.- Remove hood as in step 7
- 11.2.- Remove handle release pedal as in step 10
- 11.3.- Remove "C" washers (15) from socket bolt (16) pull out bolt and remove socket.

## **12.- TO REPLACE HANDLE POSITION CAM (21), FIG. 2**

- 12.1.- Remove handle socket as in step 11
- 12.2.- Pull out "C" washer (24) and bolt (23) remove cam spring (22).
- 12.3.- When reassembling is sure spring (22) is located as before.

## **13.- TO REPLACE THE CORD ASS "3" (2A), FIG. 1, 2**

- 13.1.- Disconnect the cord assembly 3" from the cord extension.
- 13.2.- Remove hood as in step 7
- 13.3.- Remove the nut (49), washer (50) and the ground lead.
- 13.4.- Disconnect the line cord.
- 13.5.- Remove Heyco strain relief (17) from chassis with Heyco
- 13.6.- Slide strain relief and hook and the new cord assembly 3", and reassemble with the Heyco pliers making sure to locate the strain relieve as it was before.

## **14.- TO REPLACE THE LIGHT BULB (6)**

- 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)**

- 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)**

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

## **17.- TO REPLACE THE FAN (14-M)**

- 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

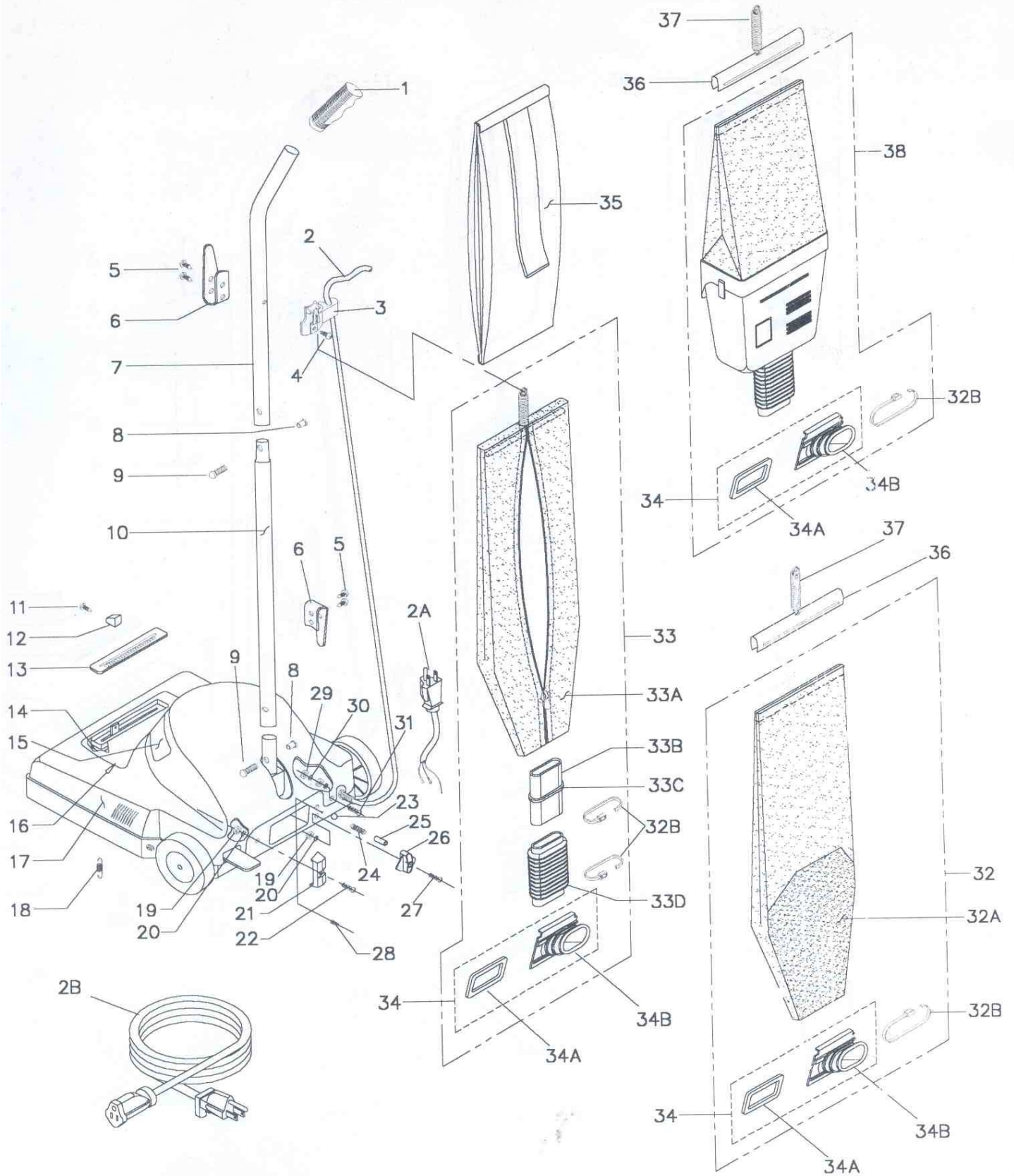
PROBLEM	POSSIBLE CAUSE	SOLUTION
A) Motor does not run	1.- Not firmly plugged in.	1.- Check attachment plug.
	2.- Bad ON-OFF switch.	2.- Replace switch.
	3.- Line cord open	3.- Replace cord.
	4.- Motor open	4.- Check motor and wiring.
	5.- Fan blockage by material	5.- Remove obstruction
B) Motor runs 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.**

# IV.- UPRIGHT VACUUM CLEANER EXTERNAL PARTS

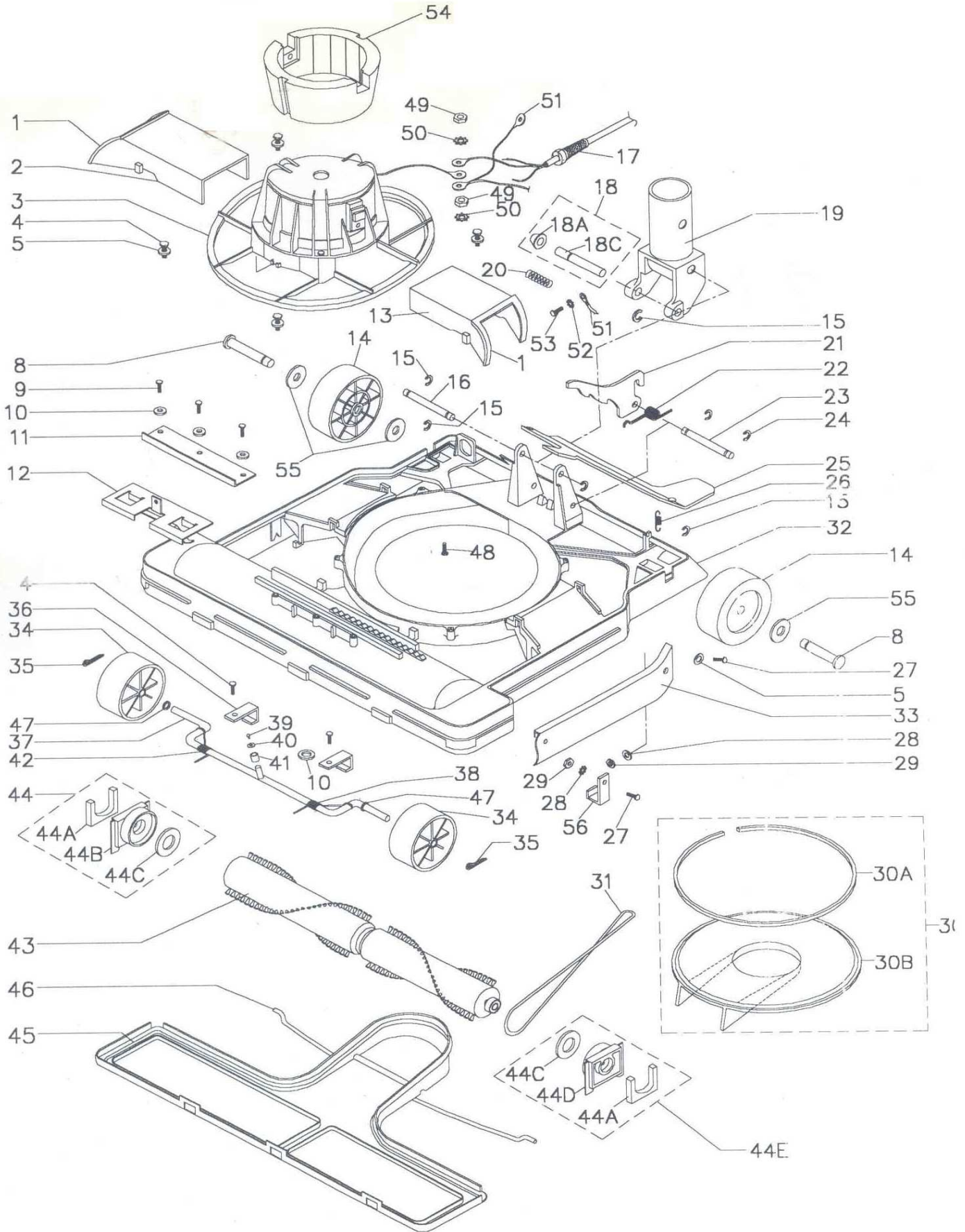


## V.- UPRIGHT VACUUM CLEANER EXTERNAL PARTS LIST

No.	PART. No.	DESCRIPTION	U-1	U-3	U-5	U-6
1	13-0947-5	HANDLE GRIP	1	1	1	1
2-A	28-1526-8	CORD ASSEMBLY 3"	1	1	1	
2-B	09-1310-3	CORD EXTENSION	1	1	1	1
3	13-1462-4	CORD RETAINER	1	1	1	1
4	01-0283-0	SCREW # 8 X ½	1	1	1	1
5	01-0290-5	SCREW # 10 3/8	4	4	4	4
6	05-2142-7	CORD HOOK		2	2	2
6	05-4089-8	CORD HOOK	2			
7	05-4051-8	UPPER HANDLE		1	1	1
7	05-4091-4	UPPER HANDLE	1			
8	02-0141-8	HANDLE NUT	2	2	2	2
9	01-2034-5	SCREW HANDLE	2	2	2	2
10	05-4049-2	LOWER HANDLE		1	1	1
10	05-4090-6	LOWER HANDLE	1			
11	01-0270-7	SCREW # 6 X 3/8	1	1	1	1
12	13-1100-0	KNOB HEIGHT	1	1	1	1
14	37-0136-4	FELT	1	1	1	1
16	17-4334-3	LABEL	1			
16	17-4335-0	LABEL		1		
16	17-4336-8	LABEL			1	
16	17-4337-6	LABEL				1
17	05-3343-0	HOOD W/LENS			1	
17	05-3489-2	HOOD W/LENS		1		
17	05-3492-6	HOOD W/LENS	1			
17	05-4391-8	HOOD W/LENS				1
18	24-0271-7	HOOD SPRING	2	2	2	2
19	02-0037-8	NUT # 10-32	2	2	2	2
20	04-0271-9	STAR WASHER	2	2	2	2
21	13-2127-2	BAG SUPPORT	1	1	1	1
22	01-0742-5	SCREW 10-30 x 5/8	1	1	1	1
23	26-0001-3	BALL	1	1	1	1
24	24-0014-1	KNOB SPRING	1	1	1	1
25	05-0997-6	BAG KNOB SPACER	1	1	1	1
26	13-2126-4	BAG KNOB	1	1	1	1
27	01-0743-3	SCREW 10-32 X 3/4	1	1	1	1
28	01-0154-3	HEX, NUT 8-32	1	1	1	1
29	02-0007-1	HEXAGONAL NUT	2	2	2	2
30	04-0271-9	STAR WASHER	2	2	2	2
31	01-1247-4	SCREW # 6 X 5/16	1	1	1	1

No	PART No.	DESCRIPTION	CD	ZIP	PERMANE NT
32	46-2432-6	PERMANENT CLOTH BAG ASSEMBLY			1
32	46-2941-6	PERMANENT CLOTH BAG ASSEMBLY			1
32-A	45-0490-8	PERMANENT CLOTH BAG			1
32-A	450-560-8	PERMANENT CLOTH BAG			1
32-B	13-1601-7	PLASTIC STRAP	1	2	2
33	46-2434-2	ZIPPER BAG ASSEMBLY		1	
33	46-2490-8	ZIPPER BAG ASSEMBLY		1	
33-A	45-0488-2	ZIPPER BAG		1	
33-A	45-0559-0	ZIPPER BAG		1	
33-B	13-1128-1	PLASTIC STRAP		1	
33-C	24-0233-7	SPRING		1	
33-D	12-0548-3	ZIPPER BAG HOSE		1	
34	46-2105-8	BAG COUPLING GASKET	1	1	1
34-A	12-0550-9	BAG COUPLING GASKET	1	1	1
34-B	13-2196-7	BAG COUPLING	1	1	1
35	45-0220-9	PAPER BAG		1	
36	05-3356-2	CLIP BAG	1		1
37	24-0232-9	SPRING	1		1
38	46-2439-1	DUST CUP ASSEMBLY	1		
38	46-2942-4	DUST CUP ASSEMBLY	1		
38	46-2747-7	DUST CUP ASSEMBLY	1		

# VI.-UPRIGHT VACUUM CLEANER INTERNAL PARTS



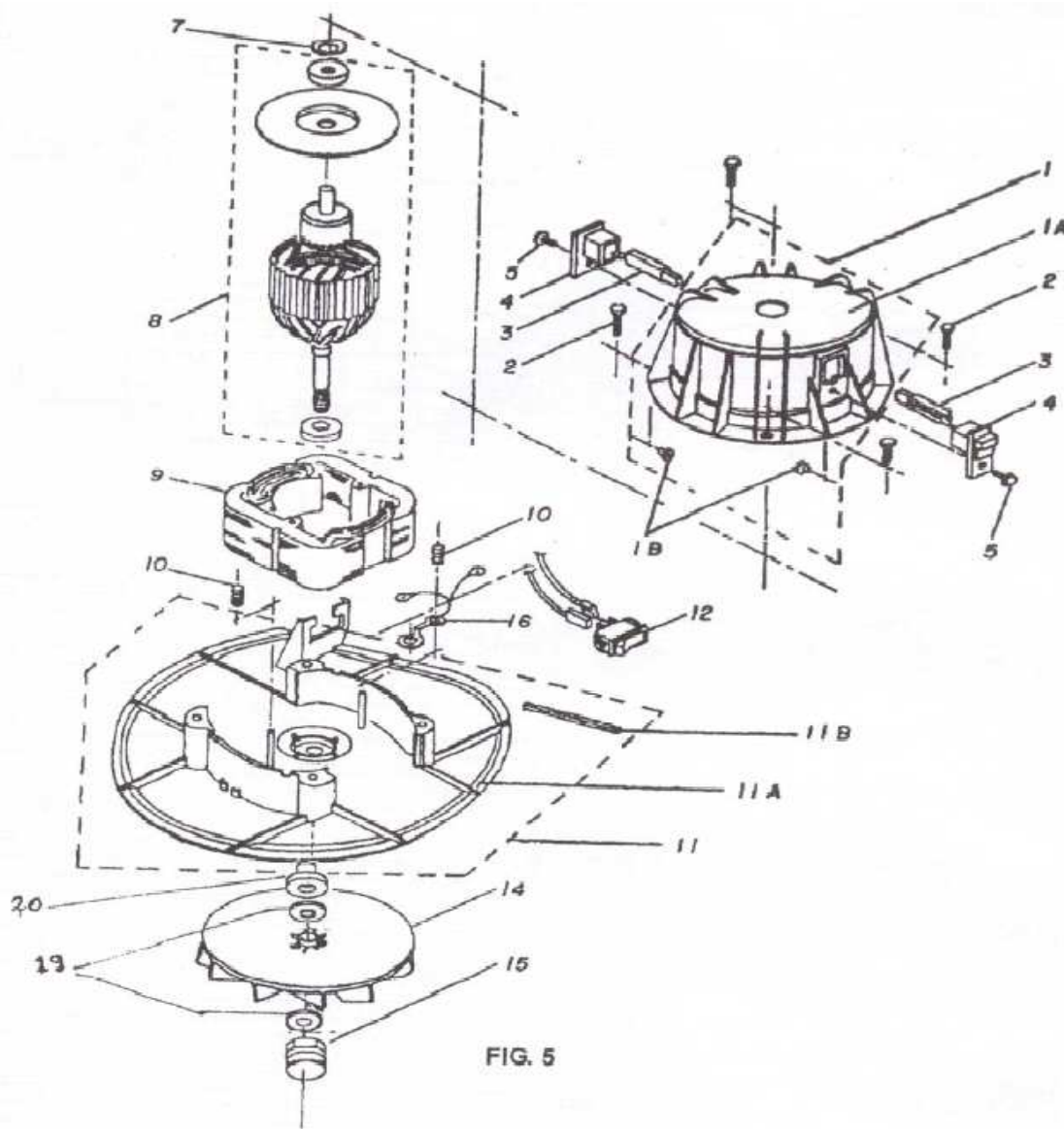


## VII.-VACUUM CLEANER INTERNAL PARTS LIST

No.	PART. No.	DESCRIPTION	U-1	U-3	U-5	U-6
1	12-0258-9	AIR DUCT GASKET	0.325	0.325	0.325	0.325
2	13-1095-2	RIGHT AIR DUCT	1	1	1	
2	13-1843-5	RIGHT AIR DUCT				1
3	46-2542-2	MOTOR ASSEMBLY	1			
3	46-2016-7	MOTOR ASSEMBLY		1		
3	46-2020-9	MOTOR ASSEMBLY			1	1
4	01-1391-0	SCREW 8-32 X 1/2	6	6	6	6
5	04-0065-5	FLAT WASHER	6	6	6	6
8	25-1242-4	REAR WHEEL AXLE	2	2	2	2
9	01-0846-4	SCREW 6-32 X 3/8	3	3	3	3
10	04-0026-7	FLAT WASHER	5	5	5	5
11	05-3069-1	PLATE CAM GUIDE	1	1	1	1
12	46-1898-9	CAM SPRING ASSEMBLY	1	1	1	1
13	13-1096-0	LEFT AIR DUCT	1	1	1	
13	13-1842-7	LEFT AIR DUCT				1
14	13-1090-3	REAR WHEEL	2	2	2	2
15	04-0469-9	CLIP RING	5	5	5	5
16	25-1233-3	SOCKET SHAFT	1	1	1	1
17	25-0515-2	GROMMET HEYCO	1	1	1	1
15	03-0127-5	TYPE "S" RIVET	1	1	1	1
16	04-0019-2	FLAT WASHER	1	1	1	1
17	25-1065-9	SHUSHING	1			
18	46-2106-6	SWITCH ACTUATOR ASSEMBLY	1	1	1	1
18-A	13-1292-5	SWITCH ACTUATOR	1	1	1	1
18-B	25-1002-2	SWITCH SHAFT	1	1	1	
18-C	25-1226-4	SWITCH SHAFT				1
19	06-0567-5	TUBE SOCKET	1	1	1	1
20	24-0259-2	SPRING	1	1	1	1
21	05-3061-8	HANDLE CAM	1	1	1	1
22	24-0249-3	CAM SPRING	1	1	1	1
23	25-1003-0	CAM SHAFT	1	1	1	1
24	04-0242-0	C .WASHER	2	2	2	2
25	05-3062-6	PEDAL	1	1	1	1
26	240193-3	SPRING	1	1	1	1
27	01-1609-5	SCREW 10-32 x 1/2	2	2	2	2
28	04-0271-9	STAR WASHER	2	2	2	2
29	02-0037-8	NUT 10-32	2	2	2	2
30	46-2036-5	FAN COVER	1	1	1	1
30-A	12-0813-4	FAN COVER GASKET	1	1	1	1
30-B	13-1094-5	FAN COVER	1	1	1	1
31	12-0814-9	BELT	1	1	1	1
32	06-0638-0	CHASSIS	1	1	1	
32	06-0840-6	CHASSIS				1
33	12-0589-7	BOMBER	1	1	1	
33	12-0705-9	BOMBER				1
34	13-2705-5	FRONT WHEEL	2	2	2	2
35	25-0012-2	CLIP	2	2	2	2
36	05-3068-3	FRONT AXLE RETAINER	2	2	2	2
37	46-1723-9	FRONT AXLE ASSEMBLY	1	1	1	1
38	24-0229-5	FRONT AXLE SPRING	1	1	1	1
39	03-0127-5	TYPE " B " RIVET	1	1	1	1
40	04-0019-2	FLAT WASHER	1	1	1	1
41	25-1065-9	BUSHING	1	1	1	1
42	24-0234-5	FRONT AXLE SPRING	1	1	1	1
43	45-0299-3	BRUSH ROLL ASSEMBLY	1	1	1	
43	45-0457-1	BRUSH ROLL ASSEMBLY				1
44	46-2107-4	BEARING SUPPORT ASSEMBLY	1	1	1	1
44-A	12-0522-8	BEARING GASKET	2	2	2	2
44-B	13-1252-9	RIGHT BEARING SUPPORT	1	1	1	1
44-C	37-0130-7	FELT	2	2	2	2
44-D	13-1801-3	LEFT BEARING SUPPORT	1	1	1	1
44-E	46-2343-5	BERING SUPPORT ASSEMBLY	1	1	1	1
45	46-2035-7	BOTTOM PLATE WITH	1	1	1	
45	46-2448-4	BOTTOM PLATE WITH				1
46	25-0997-4	RETAINING SHAFT	1	1	1	1
47	04-0047-3	FLAT WASHER	2	2	2	2

No.	PART. No.	DESCRIPTION	U-1	U-3	U-5	U-6
48	01-1249-0	SCREW 8-32	1	1	1	1
49	02-0007-1	NUT 8-32	2	2	2	2
50	04-0276-8	STAR WASHER	2	2	2	2
51	28-0476-3	GROUND LEAD	1	1	1	1
52	04-0275-0	STAR WASHER	1	1	1	1
53	01-0931-4	SCREW 6-32	1	1	1	1
54	12-0588-9	MOTOR NOISE REDUCER	1	1	1	1
55	04-0587-8	FLAT WASHER	4	4	4	4
56	05-3872-8	RETAINING PLATE				2

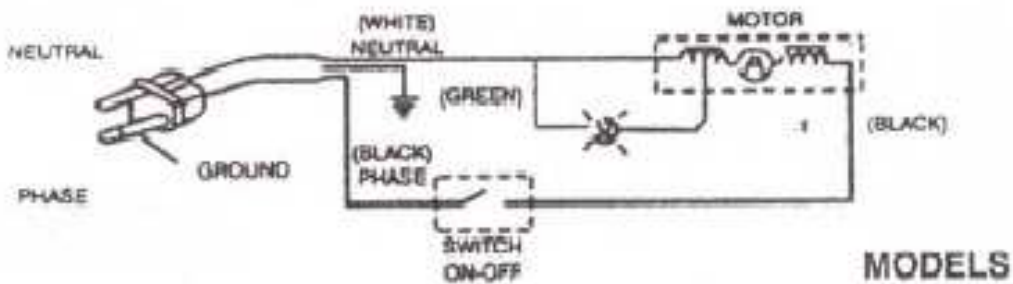
## VIII.- MOTOR ASSEMBLY



## IX.- MOTOR ASSEMBLY PARTS LIST

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

## X.- WIRING DIAGRAM





**FACTORY AUTHORIZED SERVICE**

Thorne Electric Company  
610 Lanark Suite 205  
San Antonio TX ,78218  
Tel (210) 590-1226  
Fax (210) 590-1258  
1-800-548-5741

**FACTORY**

Koblenz Electrica ,S.A. de C.V.  
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Edo. de México ,C.P. 54730  
Tel : 5864-0300  
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**KOBLENZ ELECTRICA S.A. DE C.V.**  
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LP-APVI500-200509

**SERVICE**