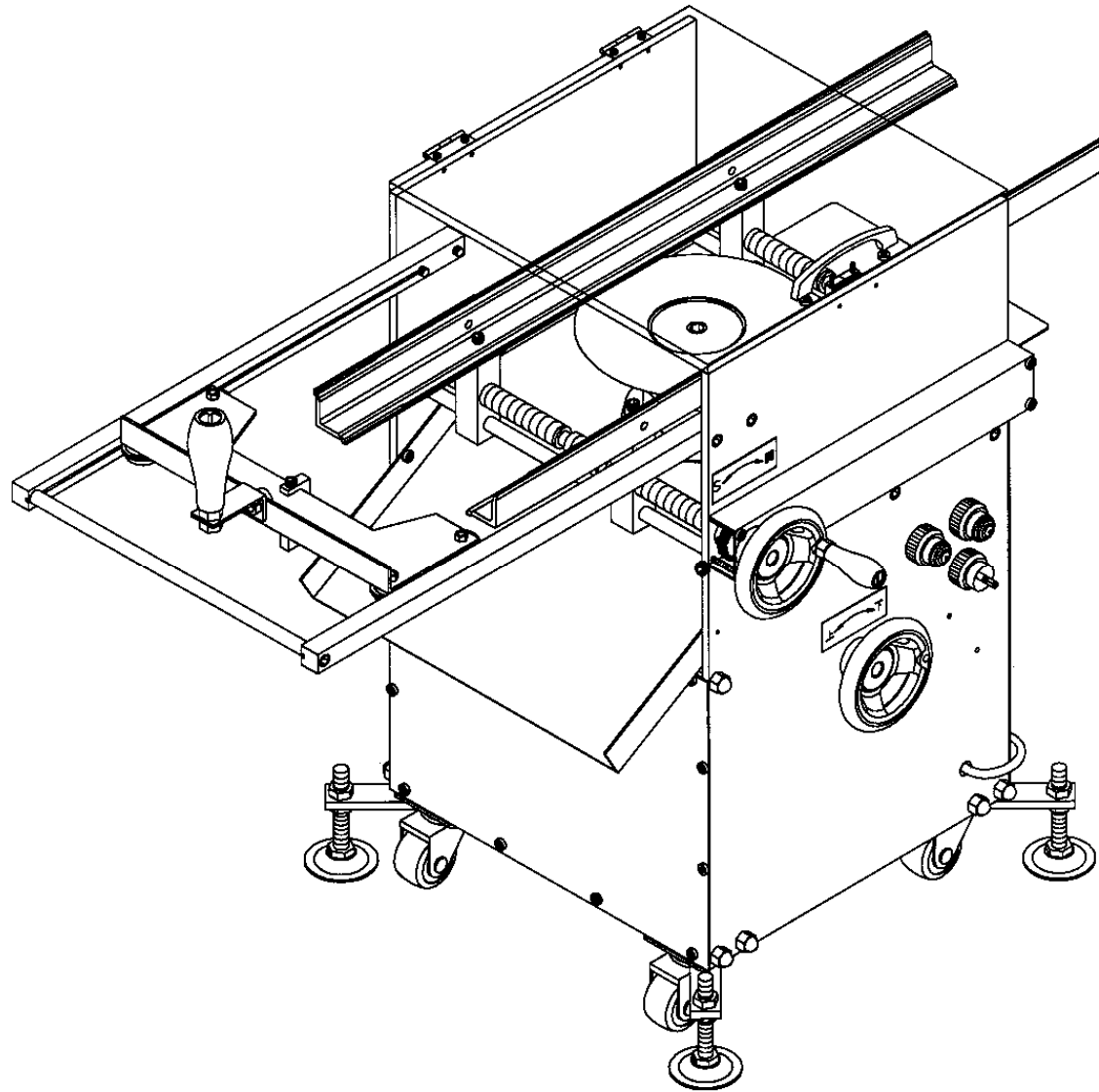


User's Guide

Manual PCB Lead Cutting Machine

PC 板切腳機

KA-8



KA-8 PC 板切腳機 說明書

A. KA-8 型 切腳機之介紹

- 1.電子元件插入 P.C 板，經過焊錫完成，多餘的零件腳，使用本機器將它切除。
- 2.切除零件腳是用高速旋的鎢鋼刀，將 P.C 板放在軌道上一片接一片推入切腳。
- 3.為確保作業安全，推送 P.C 板，請用 81 推架把手。
- 4.本機器只適合使用電子零件腳切除。

B. 規格與使用範圍

- 1.鎢鋼刀: 內徑 ϕ 70mm
外徑 ϕ 200mm 及 ϕ 250mm 兩種規格皆可使用。
2. P.C 板厚度: 0.8mm~2.0mm
3. P.C 板最大範圍: 長 400mm * 寬 270mm
- 4.電壓: AC110/220V .50/60HZ (註:訂購時就要將電壓指定好，不能切換電壓)
- 5.主軸轉速: 4500rpm
- 6.最小切腳長度: 0.5mm
- 7.主軸馬達: 1/2HP

C. 調整與安裝

- 1.先核對電源，確定與機台電源相同，才能插入電源。
- 2.機器就定位後，轉動 41 馬蹄螺絲，將四組 45 輪子調離地面後，將 4 個 41 馬蹄螺絲固定。
- 3.轉動 65 軌道轉盤，將 38 . 39 軌道打開，準備安放切刀。
- 4.放鬆 53 刀軸筒固定螺絲，轉動 42 升降轉盤，將 14 刀軸下降。
- 5.鬆開 50 刀蓋螺絲，取出 15 刀蓋，用清潔油布，將 14 刀軸擦乾淨，放入 46 鎢鋼刀，並檢查是否完全平整放入，再將 15 刀蓋鎖緊。
- 6.取來要切腳之 P.C 板，將 38 . 39 軌道調入，並將 P.C 板放於軌道內槽，反覆推送確定鬆緊適合，軌道調整即告完成。
- 7.切腳刀調整，轉動 42 升降轉盤，將 14 刀軸緩慢上升，讓 46 鎢鋼刀接近 38 . 39 軌道，用手轉動 46 鎢鋼刀，確定沒有接觸到軌道，再將 53 刀軸筒螺絲固定。
- 8.啟動 101 電源開關，此時 46 鎢鋼刀片已經高速旋轉，約 3 分鐘試轉，確定無其它問題，再將 P.C 板送入試切。

D. 使用說明

- 1.將 32 推板往後拉開。
- 2.放 P.C 板在 38 . 39 軌道上，再往前推入 U 型槽內，用手推 32 推板，而 29 推鐵即推送 P.C 板進入切腳。
- 3.再將 32 推板往後拉→放入第二片 P.C 板用上述方法→往前推動→由第二片 P.C 板向前推第一片 P.C 板完成切腳。
- 4.放入第三片 P.C 板推送第二片 P.C 板完成切腳。
第四片→推送第三片
第五片→推送第四片.....
- 5.第一片切腳要測量長度，再依所需腳長做調整。
- 6.太硬或線徑超過 $\phi 2\text{mm}$ 以上的粗線腳，必須另外處理，否則鎢鋼刀損耗會很大。
- 7.切腳長度以錫點下方，將腳切除是最好的切除位置。例: 錫點圓弧約 0.5mm，突出錫點線腳約 1mm，即 P.C 板到保留線腳在 1.5mm 以內最適合。
- 8.保留線腳長度如果超過 2.5mm，細線腳無支持點，容易有倒腳現象。

E. 廢料清理

- 1.切腳前需準備一個箱子，放置在 31 斜板前方，將廢料順利收集於箱子內。
- 2.要更改規格調整軌道寬窄之前，必須先將殘留在 6 . 7 螺桿上的殘渣清理乾淨。
- 3.每日作業完畢後，要將停留於機台上的線腳清理。

F. 保養與維護

1. 32 推板上有四個 30 滾輪要有油漬，確保推送 P.C 板能順暢。
2. 6 . 7 螺桿及 8 軌道前後導桿，在殘渣清理後要擦油以保光滑。
3. 14 刀軸、15 刀蓋，在每次更換切刀時，一定要擦拭乾淨。
4. 11 刀座、13 刀軸筒，在更換刀片需上下調整，所以要保持潤滑。

G. 故障排除

1. 軌道平行度調整

- a. 當 38 . 39 左右軌道前後寬窄不同時即要調整。
- b.軌道開合是由 44 鍊條帶動 6 . 7 螺桿轉動，當兩支螺桿同時轉動，38 . 39 左右軌道即同時開合。
- c.轉動 65 軌道轉盤時，二支 6 . 7 螺桿也同時轉動，38 . 39 左右軌道也同時開合。

- d.如果 65 軌道轉盤轉動時，其中 6 或 7 螺桿只要有一支沒有同時轉動，軌道就有外八或內八，即前後寬窄不一致，而必需調整。
- e.軌道會不平行主要原因是螺桿上有殘腳，沒清理乾淨造成的。

2. 調整方法

- a. 7 . 8 螺桿外側有兩個 28 鍊條齒輪，由 44 鍊條轉動。
- b. 鬆開 28 鍊齒上方的兩個 68 螺絲，六角板手依然插於螺絲上，防止 28 鍊齒轉動。
- c. 轉動 65 轉盤，此時只看到 6 前螺桿轉動，7 後螺桿不動，而 38 . 39 軌道也只前面開合。當 38 . 39 軌道平行後，即用六角板手將 68 螺絲鎖緊，調整即告完成。
- d. 軌道平行度調整，是利用一支螺桿轉動，一支螺桿不動的原理調整。

3. 軌道與切刀平整度

- a. 軌道與切刀必須平行，否則會有腳長尺寸不同。
- b. 切刀與軌道之平整可由 11 刀座調整。
- c. 11 刀座上有 51 螺絲四個往下鎖，52 螺絲八個往上頂的方式將刀頭調正。
- d. 軌道與切刀如果只有少許的誤差，可將 77 螺絲取下，於軌道下方放入如名片厚度的墊片，也可以將之間的誤差調近。

H. 服務與技術指導

- 1.將操作使用說明書的圖面影印。
- 2.提出您使用上的問題點，並用箭頭指向圖面所想要解決的問題位置，將圖 FAX 回公司，立即可獲得完整的答覆。
- 3.機器如有零件耗損，需要更換或訂購，也請將圖面及代號寫清楚，FAX 回公司，您將會得到快速而滿意的服務。
- 4.以上說明如有疑問請隨時來電諮詢。

※以上概略說明，如有疑問歡迎來電洽詢，本公司將以最大誠意為您服務，如需更換零件或購買備品，只要將圖上之代號，傳真回本公司，即可將您要的零件寄達貴司。

KA-8 零件表

零件編號	零件名稱	備註(圖碼)	零件編號	零件名稱	備註(圖碼)
1	左台身	FIG-4	52	刀座調整螺絲	FIG-2
2	右台身	FIG-5	53	刀軸筒固定螺絲	FIG-2
3	中板	FIG-2	54	三角皮帶	FIG-3
4	方型鐵支桿	FIG-5	55	1/2 馬達(110/220V)	FIG-3
5	輪子固定桿	FIG-5	56	U 型鐵固定螺絲	FIG-3
6	軌道前導螺桿	FIG-5	57	U 型鐵固定螺帽	FIG-3
7	軌道後導螺桿	FIG-5	58	支柱固定螺帽	FIG-3

8	軌道前後滑桿	FIG-5	59	主螺絲固定螺帽	FIG-3
9	軌道左座	FIG-5	60	六角鐵固定螺帽	FIG-3
10	軌道右座	FIG-5	61	馬達皮帶輪固定螺絲	FIG-3
11	生鐵刀座	FIG-2	62	刀軸皮帶輪固定螺絲	FIG-3
12	培林蓋	FIG-2	63	把手固定螺絲	FIG-4
13	刀軸筒	FIG-2	64	把手固定螺帽	FIG-4
14	刀軸	FIG-2	65	軌道轉盤	FIG-4
15	刀蓋	FIG-2	66	轉盤固定螺絲	FIG-4
16	馬達皮帶輪	FIG-3	67	鏈條蓋固定螺絲	FIG-4
17	刀軸皮帶輪	FIG-3	68	鏈齒固定螺絲	FIG-4
18	升降 U 型鐵	FIG-3	69	6304 培林	FIG-2
19	升降支柱	FIG-3	70	φ 28 培林	FIG-5
20	升降主螺絲	FIG-3	71	固定螺絲	FIG-5
21	帽蓋	FIG-3	72	馬達固定螺絲	FIG-5
22	升降六角鐵	FIG-3	73	中板固定螺絲	FIG-5
23	升降螺絲	FIG-3	74	輪子固定螺絲	FIG-5
24	升降左三角板	FIG-3	75	馬達固定螺帽?	FIG-5
25	升降右三角板	FIG-3	76	固定螺帽	FIG-5
26	推架方鐵軌道	FIG-6	77	軌道固定螺絲	FIG-6
27	推架圓鐵	FIG-6	78	推鐵固定螺絲	FIG-6
28	傳動鏈齒	FIG-4	79	滾輪固定螺絲	FIG-6
29	推鐵	FIG-6	80	滾輪固定螺帽	FIG-6
30	滾輪	FIG-6	81	推架把手	FIG-6
31	斜板	FIG-6	82	推架把手固定螺絲	FIG-6
32	推板	FIG-6	83	推架把手固定螺帽	FIG-6
33	推架把鐵	FIG-6	84	推架把鐵固定螺絲	FIG-6
34	鏈條蓋	FIG-4	85	推架把鐵固定螺帽	FIG-6
35	前封板	FIG-6	86	推架圓鐵固定螺絲	FIG-6
36	後封板	FIG-7	87	方鐵軌道固定螺絲	FIG-6
37	出料板	FIG-7	88	斜板固定螺絲	FIG-6
38	左軌道	FIG-6	89	封板固定螺絲	FIG-6
39	右軌道	FIG-6	90	後鈕	FIG-7
40	固定腳蹄鐵	FIG-5	91	上蓋板	FIG-7
41	馬蹄螺絲	FIG-7	92	把手	FIG-7
42	升降轉盤	FIG-4	93	戶擋(公)	FIG-7
43	軌道轉盤把手	FIG-4	94	戶擋(母)	FIG-7
44	傳動鏈條	FIG-4	95	戶擋固定螺絲	FIG-7
45	輪子	FIG-5	96	把手固定螺絲	FIG-7
46	超硬鎢鋼刀	FIG-2	97	後鈕固定螺絲	FIG-7
47	6205 培林	FIG-2	98	馬蹄螺絲固定螺帽	FIG-7
48	刀軸固定螺帽	FIG-2	99	紅指示燈	FIG-1
49	培林蓋固定螺絲	FIG-2	100	綠指示燈	FIG-1
50	刀蓋固定螺狀	FIG-2	101	切換開關	FIG-1
51	刀座固定螺絲	FIG-2			

KA-8 PCB Lead Cutter User's manual

A. KA-8 Brief introduction

1. The machine is designed to trim the wire leads of PCB assembly after soldering process.
2. The fast turning tungsten carbide blade cuts the wire leads while feeding the PCB one by one to the equipped track manually.
3. For safety, it is absolutely required to push the PCB assembly by handle.
4. This machine is for trimming the wire lead of electronics components only.

B. Spec and application range

1. Tungsten carbide blade: I.D 070mm,for both O.D 0200mm and 0250mm
2. PCB thickness: 0.8mm~2.0mm
3. PCB max width: 400mm(L) * 270mm(width)
4. Voltage: AC110 or 220V 50/60HZ (Note: Please specify in ordering)
5. Main spindle RPM: 4500rpm
6. min. leads height: 0.5mm
7. Main motor HP: 1/2HP

C. Adjustment and set-up the machine

1. Checking careful the power requirement of the machine and connecting to the power source.
2. Adjusting and fixed the 4 sets of shoe screw (41) to lift the 4 castors (45) until properly fixed to position.
3. Widening the tracks (38 . 39) by turning the hand wheel (65) for cutting blade installation.
4. Un-tighten the main spindle fix screw (53). Down the spindle(14) by turning the hand wheel (14).
5. Release the blade cover screw (50) and remove also the blade cover (15),Installing the blade after cleaning the shaft (14). Check the flatness of the blade in place. Tighten the screw while ready.
6. Adjusting the width of track (38.39) according the PCB that going to trim. Sliding / adjusting the PCB in the track until it moves smoothly.
7. Adjusting the cutting height - Raise slowly the spindle (14) by the hand wheel (42) until the blade reaches (38. 39) the tracks with no touching (Ensure by moving the blade). Tighten the main spindle screw (53) when ready.
8. Turn on the power switch (101). The blade is turning in regular cutting speed. Test for.3 minutes to see something improper if any. Trial cutting the PCB after the test.

D. Operation steps

- 1 Backward the push handle (32).
- 2 Feeding the PCB to the U slot in between the tracks of (38.39). Pushing the PCB manually forward by the handle.
- 3 Return the push handle (32) -> 2nd PCB as previous description to the position -> push forward the PCB to proceed the trimming operation.
- 4 Feeding 3rd PCB to the tracks and pushing the 2nd PCB. The 4th PCB → pushing the 3rd . The 5th PCB → pushing the 4th and so on
- 5 Measuring the height of cutting for the first PCB, Re-adjusting if necessary.
- 6 Pre-cut the irregular wire leads to lengthen the life of blade such as too hard material or diameter over 02mm.
- 7 Cutting more near to solder joints the better trimming quality will get. Such as the height of solder is in 0.5mm from the board and the best cutting height will be within 1mm over the solder joint. Keep cutting height within 1.5mm from end of lead to board will be the best.
- 8 The wire lead will possible tilt if the cutting height over 2.5mm from the board.

E. Waste cleaning

1. A waste can is suggested to place in beneath the chute 31 to collect the waste.
2. Cleaning first the chip or residues on the screw rod before adjusting the tracks.
3. Cleaning daily the machine especially the chip or leads after cutting.

F. Maintenance

1. Lubricate the 4 rollers in the push handle (32) to ensure moving smoothly.
2. Lubricate and cleaning the screw rods (6.7) and guide rod (8).
3. Cleaning the blade recess on the spindle (14) and blade cover in every blade replacement.
4. Lubricate the spindle bracket (11) and spindle bushing (13) to ensure height adjustment function.

G. Trouble shootings

- Adjusting the parallel of tracks

1. Adjusting the tracks (38 . 39) while the front/rear distance is not the same.
2. The track's open/close is by the synchronous motion of screw rod (6 . 7) that move by the chain 44.
3. The screw rod (6 . 7) will move in the same time while turning the hand wheel and the track (38. 39) will

open /close also.

4. It is necessary to adjust the parallel if any one of the screw rods is not move while turning the hand wheel (65).
5. The main reason to cause the un-parallel tracks is because of chip or residues block the screw rods.

Adjustment steps

1. Two chain wheel (28) locate beside the screw rod (7.8) which move by the chain (44)
2. Release two screws (68) on the chain wheel and keep the alien-key on the screw socket to prevent the moving of chain wheel (28).
3. The front screw and front of track moving only while turning the hand wheel. Adjusting until the track is parallel as required. Tighten the screws released.
4. The mentioned parallel adjustment is in the principle of one fix and one move.

Parallel between blade and tracks

1. The height of the wire leads will be different after cutting if un-parallel between the track and blade.
2. The parallel between cutting blade and the tracks can be adjusted by spindle bracket (11).
3. Adjust the parallel by four down side screws (51) on the spindle bracket (11) and 8 up side screws (52).
4. Underlay with a sheet of material such as name card if minor variance only. It is a quick solution for minor adjustment.

H. Service and technical support

1. Please copy the sketch on the manual that unclear or question.
2. Descript the question and contact us by Fax. We'll reply you very soon.
3. For spare parts requirement, please ordering by fax in which specified part number or indicate by sketch.
4. Welcome your inquiry for any question if unclear

※Maintenance and technical support.

Please copy the sketch on the manual for further questions. For spare parts requirement, please ordering by fax in which specified part number or indicate by sketch. Welcome your inquiry for any question if unclear!

Part List

Part No.	Part name	Figure	Part No.	Part name	Figure
1	Right wall	Fig-4	51	Screw - Spindle	Fig-2
2	Left wall	Fig-5	52	Screw - Spindle bracket	Fig-2
3	Middle frame	Fig-2	53	screw - Spindle bushing	Fig-2
4	Support sq bar	Fig-5	54	Belt - triangle	Fig-3
5	Castor fix rod	Fig-5	55	Motor	Fig-3
6	Front screw rod	Fig-5	56	Screw	Fig-3
7	Real screw rod	Fig-5	57	Nut -	Fig-3
8	Sliding rod	Fig-5	58	Nut - support	Fig-3
9	track left base	Fig-5	59	Nut - main screw	Fig-3
10	Track right base	Fig-5	60	Nut - hex bar	Fig-3
11	Main spindle bracket	Fig-2	61	Screw - motor pully	Fig-3
12	Bearing cover	Fig-2	62	Screw - motor pully	Fig-3
13	Spindle bushing	Fig-2	63	Screw - handle	Fig-4
14	Blade shaft	Fig-2	64	Nut -handle	Fig-4
15	Blade cover	Fig-2	65	Hand wheel -track	Fig-4
16	Motor pully	Fig-3	66	Screw - hand wheel	Fig-4
17	Shaft pully	Fig-3	67	Screw - chain cover	Fig-4
18	Blade lift bracket	Fig-3	68	Screw - chain wheel	Fig-4
19	Lift bracket shaft	Fig-3	69	Bearing - 6304	Fig-2
20	Lift bracket screw	Fig-3	70	Bearing 28mm dia	Fig-5
21	Cover	Fig-3	71	Screw	Fig-5
22	Hex spacer bar	Fig-3	72	Screw - fix motor	Fig-5
23	Screw- blade lift	Fig-3	73	Screw- middle from	Fig-5
24	Left triangle bracket	Fig-3	74	Screw - castor	Fig-5
25	Right tringle bracket	Fig-3	75	Nut -Motor	Fig-5
26	Push handle square R	Fig-6	76	Nut	Fig-5
27	Push handle round sh	Fig-6	77	Screw - track	Fig-6
28	Chain wheel	Fig-4	78	Screw - push handle	Fig-6
29	Push handle	Fig-6	79	Screw - castor	Fig-6
30	Roller	Fig-6	80	Nut - roller	Fig-6
31	Waste chute	Fig-6	81	Push handle	Fig-6
32	Push handle bracket	Fig-6	82	Screw - push handle	Fig-6
33	Push handle frame	Fig-6	83	Nut -push handle	Fig-6
34	Chain cover	Fig-4	84	Screw	Fig-6
35	Front cover	Fig-6	85	Nut	Fig-6
36	Rear cover	Fig-4	86	Screw	Fig-6
37	Outlet holder	Fig-4	87	Screw	Fig-6
38	Left track	Fig-6	88	Screw - Chute	Fig-6
39	Right track	Fig-6	89	Screw	Fig-6
40	Shoe screw bracket	Fig-5	90	Hinge -Acylic cover	Fig-7
41	Shoe screw bracket	Fig-7	91	Acylic cover	Fig-7
42	Spindle Hand wheel	Fig-4	92	Handle	Fig-7
43	Handle hand wheel	Fig-4	93	Door closer (M)	Fig-7
44	Chain	Fig-4	94	Door closer (F)	Fig-7
45	Castor	Fig-5	95	Screw	Fig-7
46	Tungsten carbide blad	Fig-2	96	Screw	Fig-7
47	Bearing - 6205	Fig-2	97	Screw	Fig-7
48	Spindle fix screw	Fig-2	98	Nut	Fig-7
49	Screw	Fig-2	99	Rad lamp	Fig-7
50	Screw - Blade cover	Fig-2	100	Green lamp	Fig-1
			101	On /Off switch	Fig-1

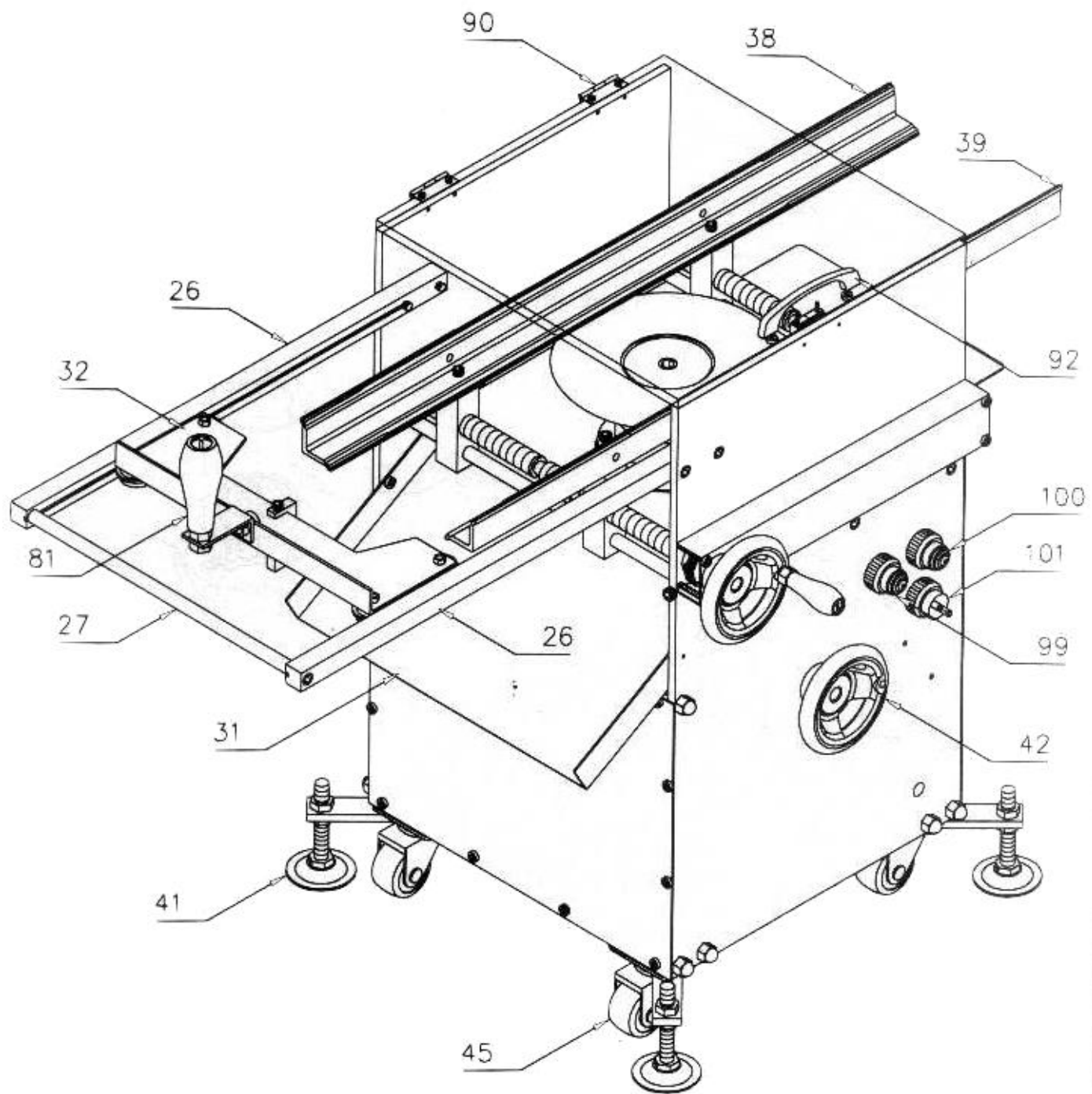


FIG-1

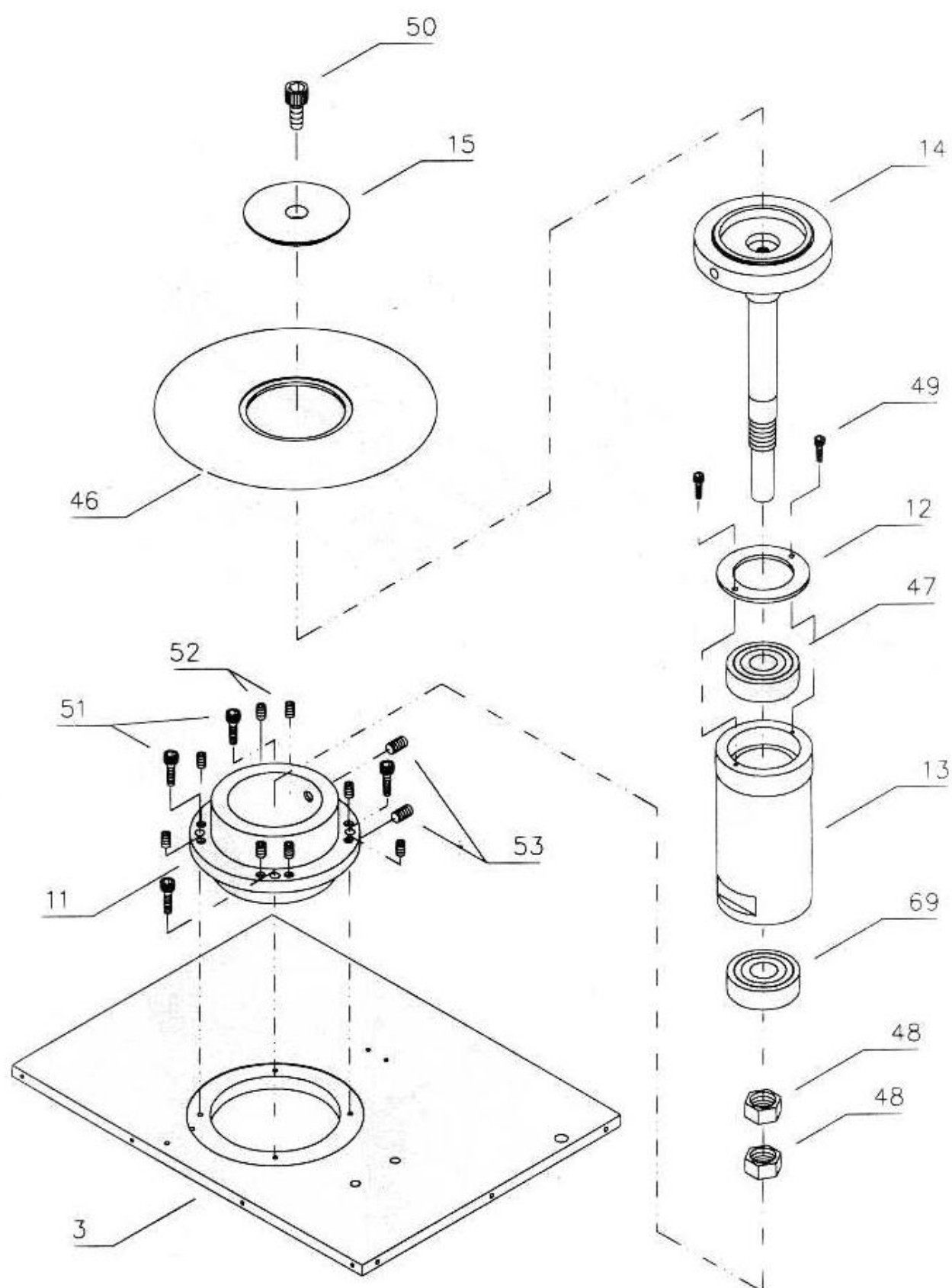


FIG-2

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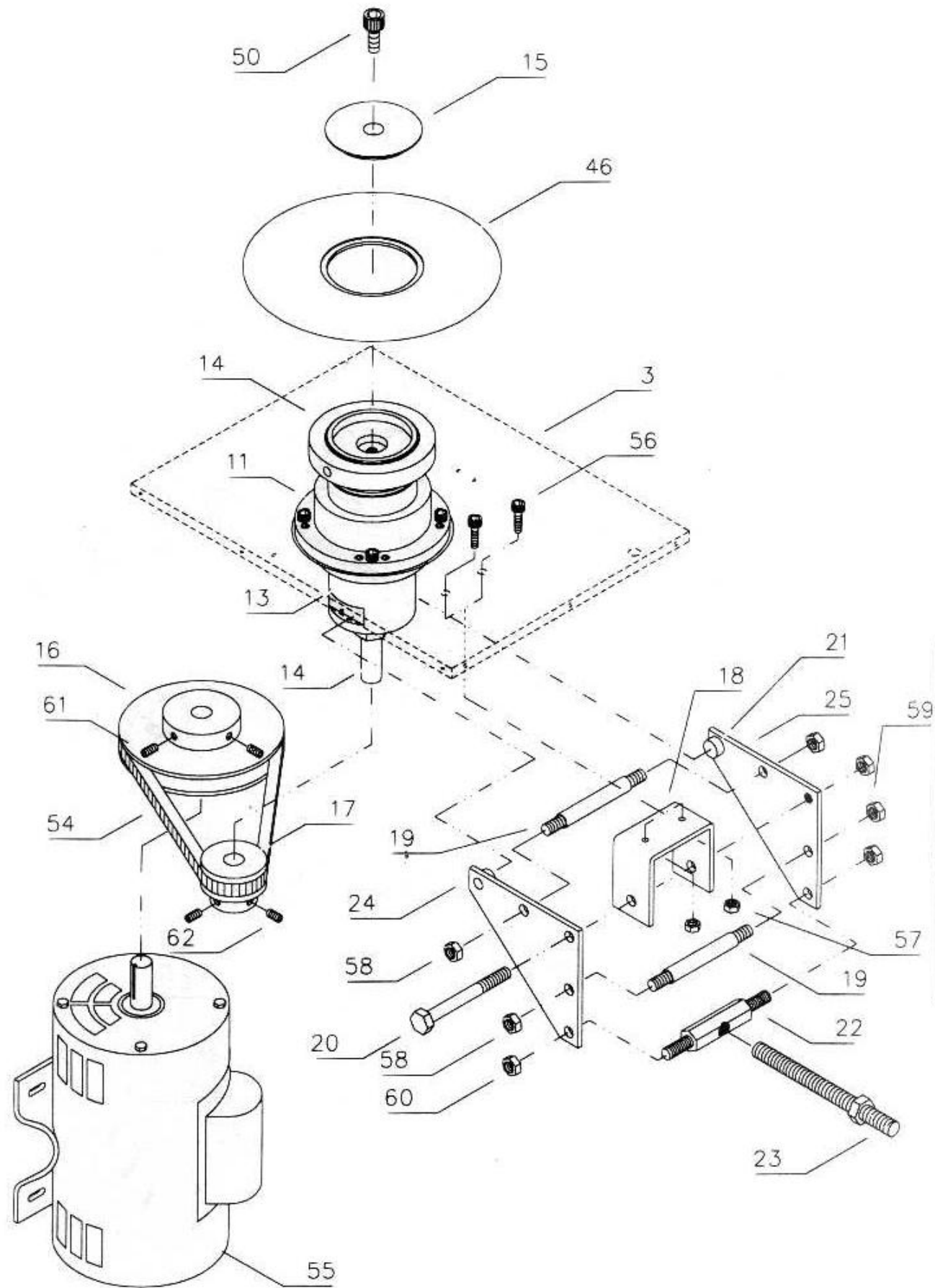


FIG-3

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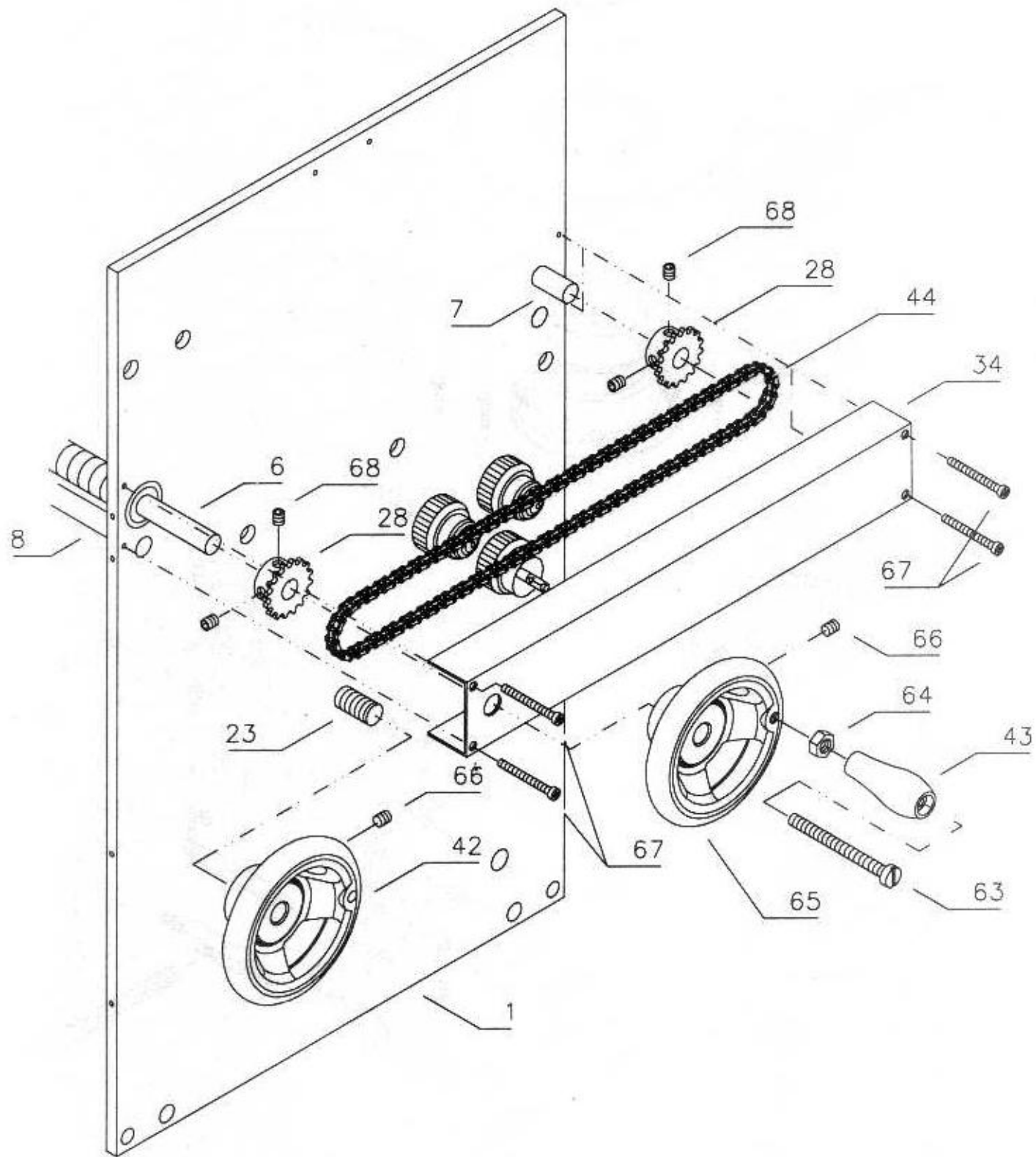
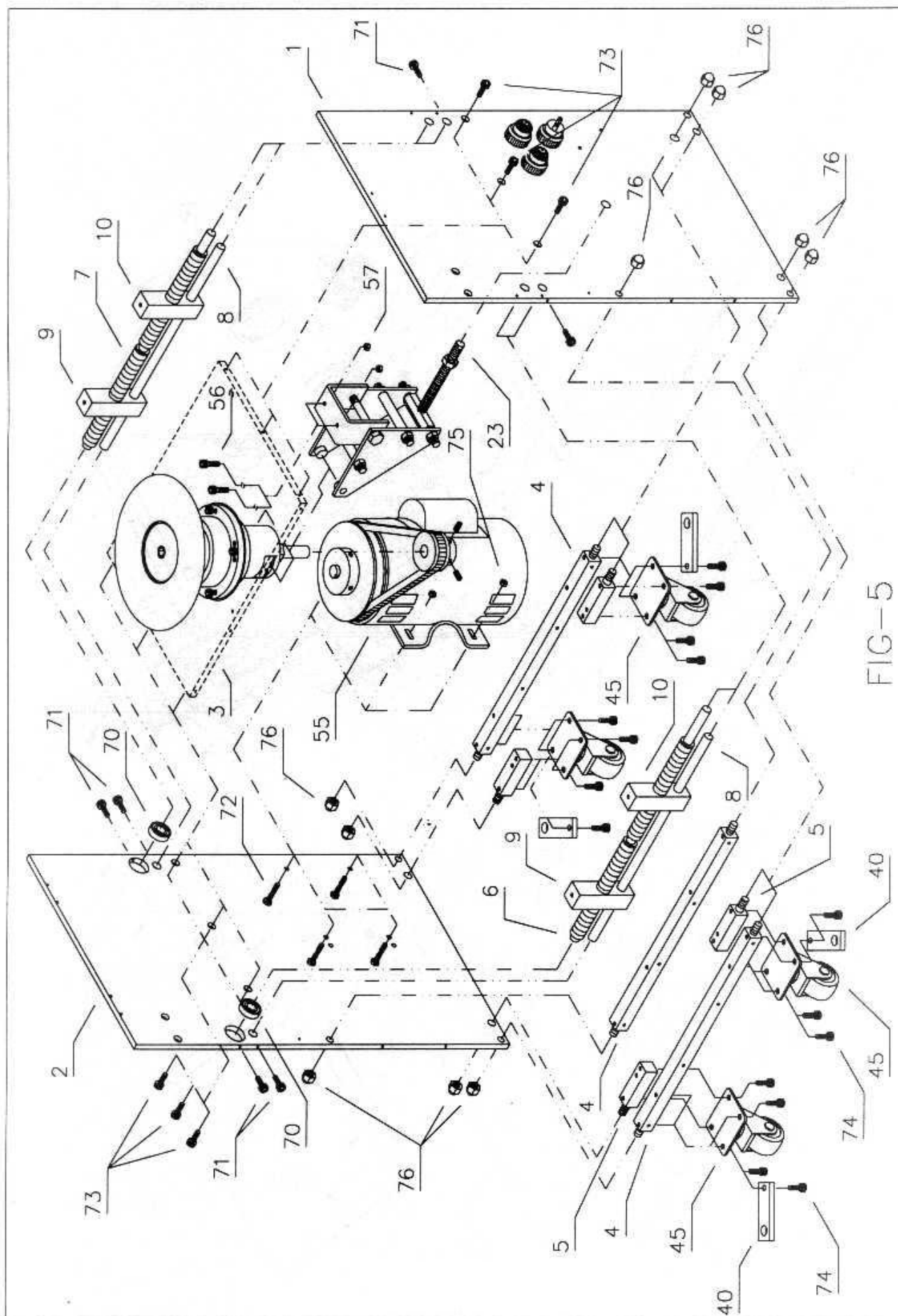


FIG-4



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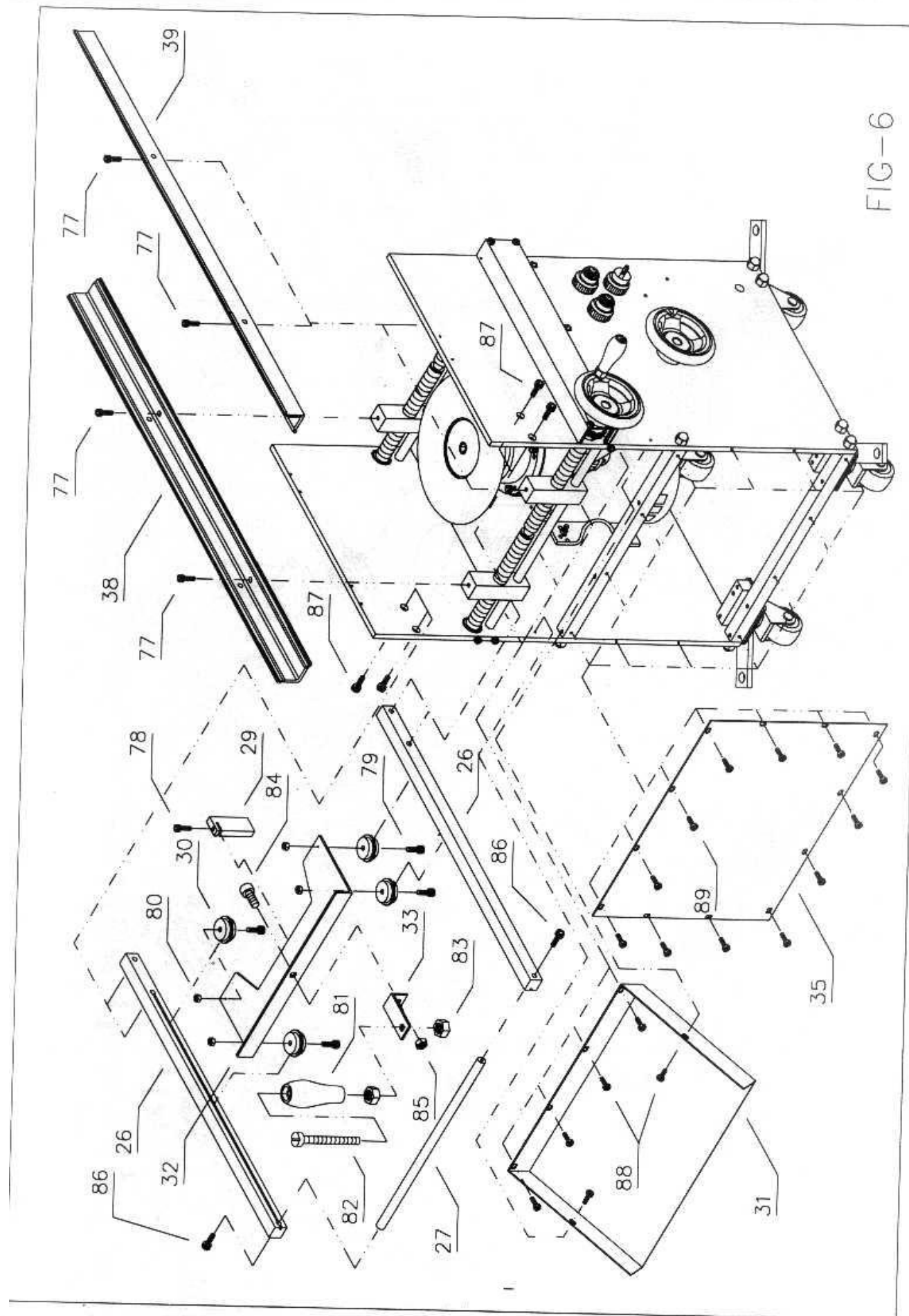


FIG-6

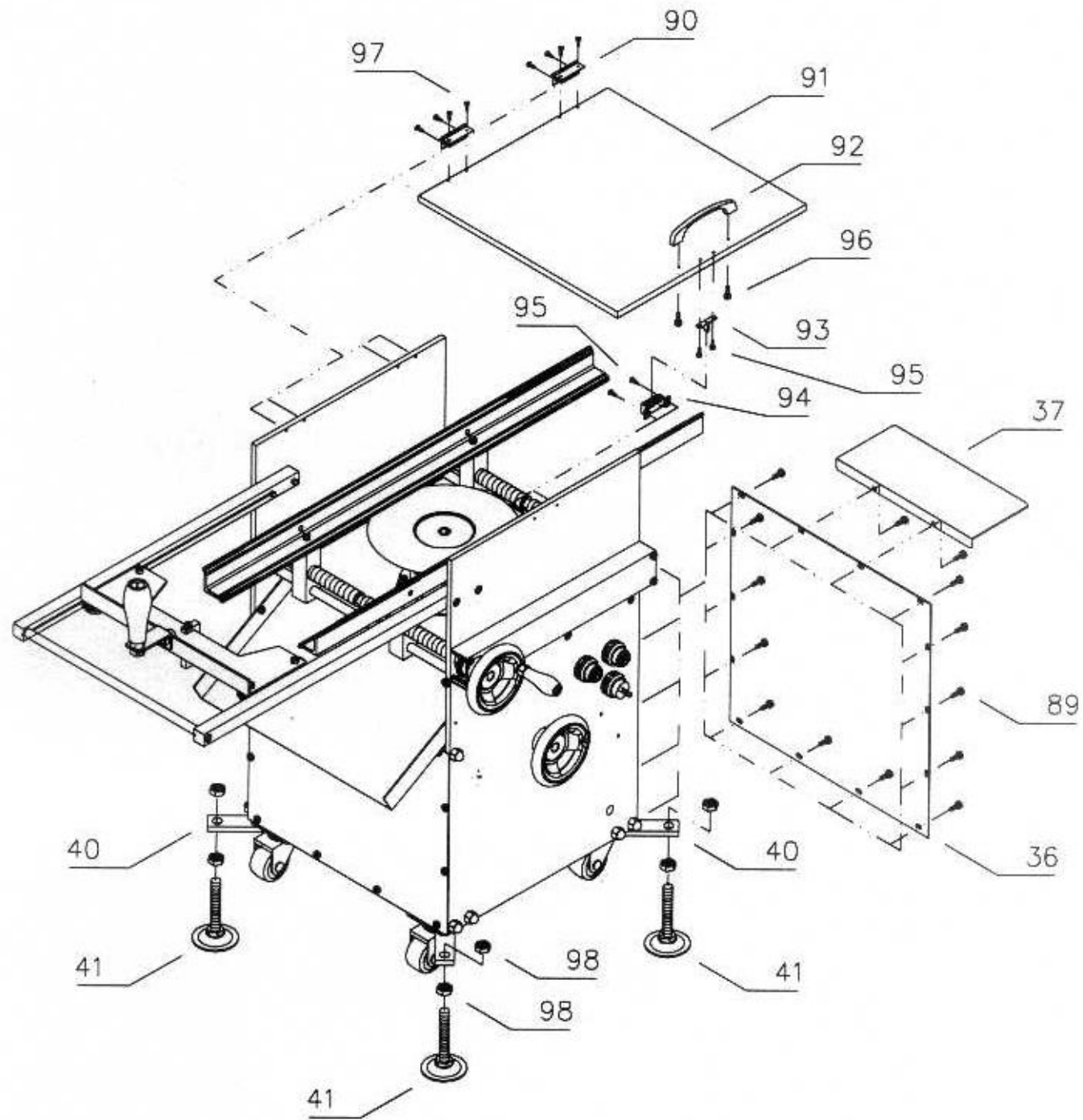


FIG-7