OPERATORS MANUAL

JOINTER
by
INVICTA

Model
DI-32



INVICTA USA
(877) 308-6423 – East
(800) 499-4682 - West

English Version
Revision Nº 1

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General Instructions

As with all equipment, safety is to be a priority. The operator should understand the safety features and apply good safety habits in transportation, adjustment, maintenance and operation of the machine. Practice and teach others the safe operating procedures of this machine and help to prevent the possibility of accidents.

Safety Rules

1. *For your own safety, read carefully the **Instruction Manual** before attempting to operate the machine.*
2. *If you are not thoroughly familiar and comfortable with the adjustment and operation of the machine, ask for instruction from your supervisor or a fully qualified person. You may also contact **Invicta USA**.*
3. *Before the initial operation of the machine, remove all packaging, shipping grease and fully assemble the machine. Pay special attention to the assembly of safety components.*
4. *Wear proper apparel while operating the machine. Never wear loose fitting clothing, gloves or ties. Always remove rings or other jewelry before operating the machine. It is strongly suggested the operator wear shoes with non-slip soles and also wear a protective hair net to prevent hair entanglement in moving parts.*
5. *Always wear personal safety equipment. Follow the safety regulations of your country and your company.*
6. *Have a certified person make all wiring connections to power source and properly ground the machine.*
7. *Always disconnect the machine from the power source and use lockout procedures before servicing, changing cutting tools and during any cleaning of the machine.*
8. *Before starting the machine, be aware that the work area is clean and free of debris. Cluttered areas are invitations for accidents to occur. .*
9. *Keep the safety guard(s) of the machine in place and in proper working condition. Never operate machinery without safety equipment in place. Report any damage to your supervisor.*
10. *Keep children and visitors a safe distance from the working area.*
11. *Never leave the machine running while unattended. Turn off the power source during breaks. The machine should come to a complete stop before walking away.*
12. *Do not operate the machine under the influence of drugs or alcohol. Consult your physician when taking medications.*
13. *Do not force the machine beyond its limitations. It will produce a nicer and safer job and at the rate it was designed to operate.*

Additional Safety Rules for the Operation of Jointers

1) Avoid Kickbacks. "Kickback" can occur when the workpiece is forced back by the cutter during improper operation. When "Kickback" occurs an injury can result. Some of the causes of Kickback are:

A- Dull and Improperly Adjusted Knives.
B- Knots, Nails or Imperfections in the workpiece.
C- Heavier Cuts than the machine was designed for.
D- Failure to use a pusher block when jointing or planing short, thin or narrow workpieces.

2) Always maintain the proper relationship of in-feed and out-feed table surfaces to the cutterhead.
3) Never start the work-piece into the cutterhead before allowing it to reach operation speed.
4) Keep the Knives sharp and free of rust and pitch
5) Never perform jointing or planing cuts deeper than l/8" (3 mm).
6) Support and control the workpiece properly all times during the operation.
7) Never reverse the direction of the workpiece after beginning operation. Kickback can occur.
8) Definitions of jointing and planing operations:

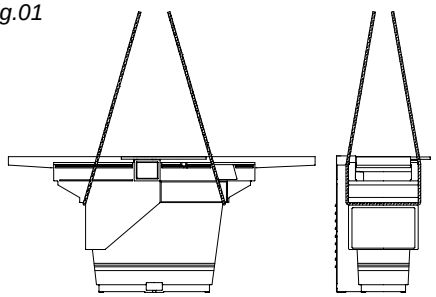
A- Jointing operations: The workpiece is positioned on the jointer with the narrow edge of work piece on the in-feed table and the larger surface positioned against the fence. The workpiece is moved right to left from the in-feed table across the cutterhead to the out-feed table.
B- Planing operations: Planing is a similar operation to the jointing operation except for the position of the work piece. For planing, the larger flat surface of workpiece is placed on the infeed table of the jointer and the narrow edge of the workpiece positioned against the fence.

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Loading and Unloading

Never load or unload the machine by the In-feed or Out-feed tables because damage can occur. Lift the machine by straps placed in areas shown in (Fig.01)

Fig.01



Installing the Machine

Level the machine on a solid surface to avoid vibration. See the foundation sketch in (Fig.02)

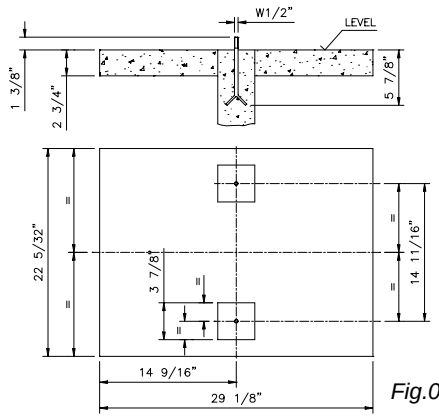


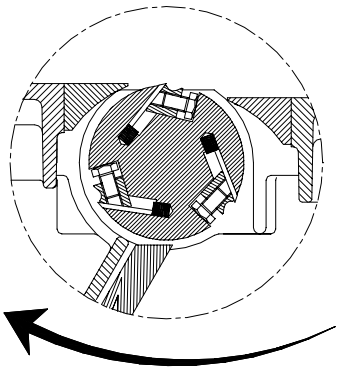
Fig.02

Connecting the Machine to the Power Source

Each machine is provided with a reference plate that indicates the requirements for electrical service needed for the machine to operate property. Before you call a certified electrician to make the wiring connections, be sure that the voltage and cycle (phase) stated on this reference plate are the same as provided in your building.

(Electrician) Remove the electrical box cover and connect the electrical supply wires to the proper terminals. Rapidly turn on and off the machine, then visibly check the rotation direction of the cutterhead. It should correspond to the direction indicated on (figure 03.) If not, procceed with the instructions below:
For three-phase machines: invert two wires of the power source without changing the internal connections of the machine. See the electrical diagrams for three-phase on page 06 if further information is needed or contact Invicta USA.

Fig.03



CUTTERHEAD ROTATION DIRECTION

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Technical Specifications

In-feed Table……42”

Out-feed Table……42”

Max Width Capacity……12 5/8”

Cutterhead Speed……4375 RPM

Maximum Cutting Depth……3/4”

Fence Tilting……0º to 45º

Motor Power……3 HP (230v/1ph), 5 HP (230v/3ph) or 5 HP (460v/3ph)

Net Weight……838 Lbs

Accessories

Normal Accessories

1. Instructions Manual
2. Tool Kit

Optional Accessories

1. Knife gauge

Adjustment Instructions

Cutting Depth Adjustment

The quantity of material to be removed can be from 0” (0 mm) to 3/4” (19 mm) on the infeed table. To adjust the cutting depth, raise or lower the infeed table by loosening lock “G” and moving lever “E” (figure 06) on page 04.

Cutter Adjustment

For the best perfomance of the machine, the knives must be completely aligned parallel with the surface of the outfeed table. The outfeed table should be adjusted no more than 3/64” (1 mm) above the cutterhead surface. (Never allow the outfeed table surface to drop below Top Dead Center of the cutterhead) The outfeed table can be adjusted by loosening the handle “F” (M) and moving the lever “D”. (Figure 6 & 7)

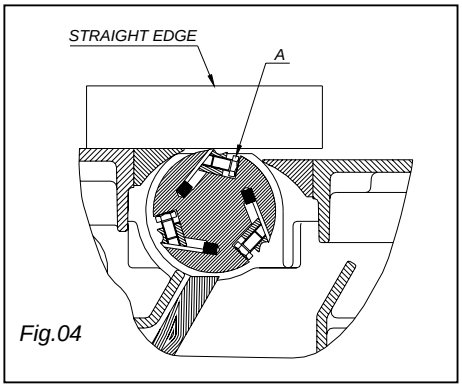


Fig.04

<u>Adjustment of the Knives: (disconnect power supply)</u>
Hold a straight edge firm against the outfeed table and across the cutterhead. Rotate the cutterhead with knife installed. If straight edge touches the knife raise the outfeed table and repeat the process until the knife passes the straight edge without touching. (Lock outfeed table in place) Check each side of cutterhead starting at the fence and then at the operator side. If one side touches and the other does not, the knife is not yet parallel. Continue to adjust knife until perfection is achieved. Securely tighten all screws “A” once final adjustment is made. Follow the same procedure to adjust the other knives remembering to tighten the screws “A” (Figure 04)
IMPORTANT: *The knives must be in the same relation to the straight edge when each knife is Top Dead Center. No lifting of the straight edge should be noticed. The outfeed table is also in its best position. Remember to securely lock the outfeed table.*

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Adjustment Instructions

Fence Adjustment

The fence can be adjusted in two different ways:
1. For the angular adjustment loosen the lock "C" and tilt the fence to desired position. Re-Lock handle "C".
2. Adjust the cross movement of the fence in relation to the tables by loosening lock "B" sliding the fence to the desired position. Re-Lock handle "B". (Fig. 05)

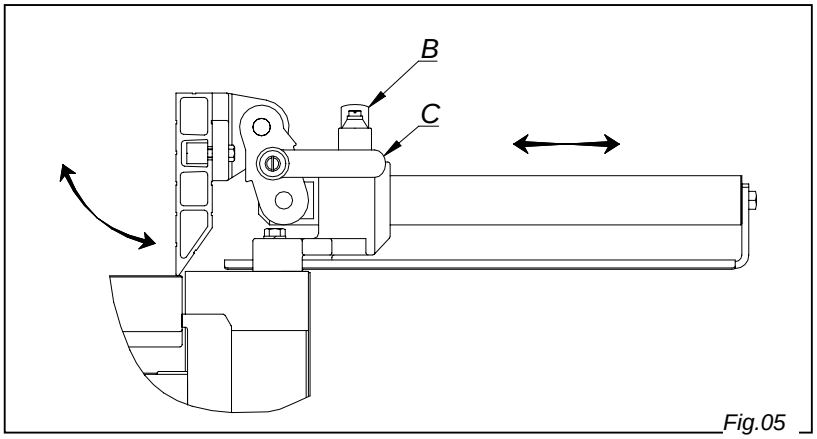


Fig.05

Maintenance

Belts tension and replacement

Remove the belt guard to access the belt. Loosen locking nuts "J & L" and lift motor to remove belt or press down on the motor to obtain an adequate tension. Re-Lock nuts "J & L". (Figure 06)

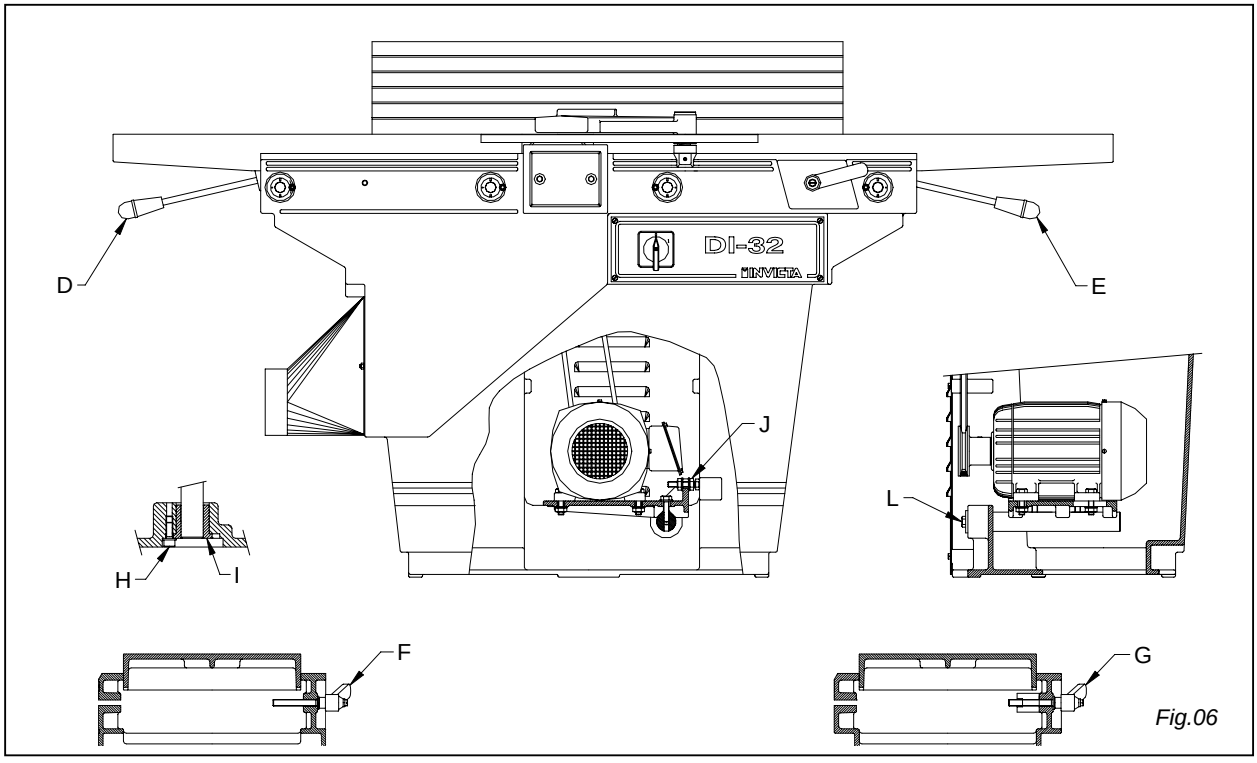


Fig.06

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Table Alignment

This procedure is performed in the factory. If further alignment is required due to damage, proceed as follows: Loosen screw "H" and turn the adjustment bushing "I" with a screwdriver until obtaining the desired alignment between table and cutterhead body. Re-Lock screw "H" (Figure 06).
Caution: Never align tables by referencing from the blades.

Cutters Maintenance

Keep the cutter knives in sets with the same weight and dimensions. Knives used together with different weights will cause imbalance. Sharpen periodically with a fine grain stone and oil, maintaining a cutting angle of 40º.

Machine Identification and Replacement Parts

Every machine has a manufacturing code (tag) which provides the manufacturers serial number and production date. This manual gives listings of parts that form your machine. They provide description and order numbers. When needed, use original parts; always mention the manufacturing code, part number and quantity desired.

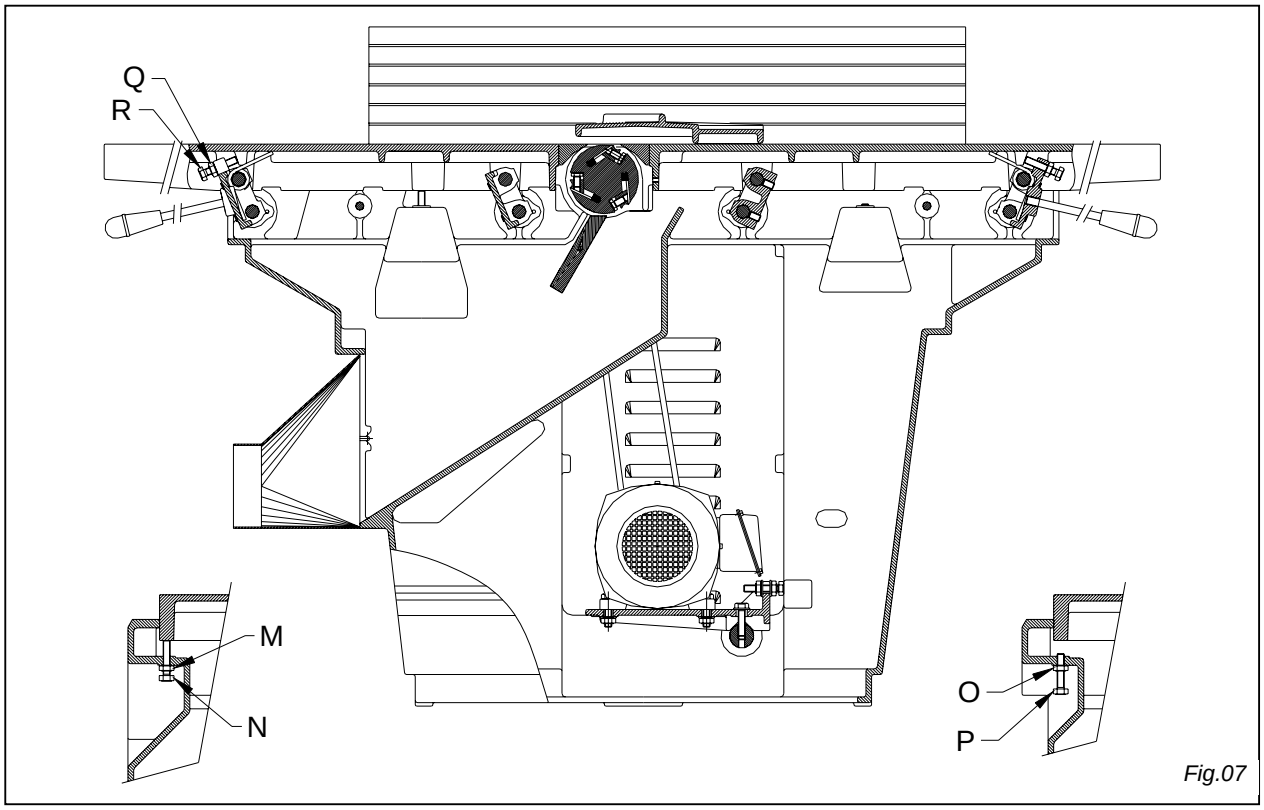
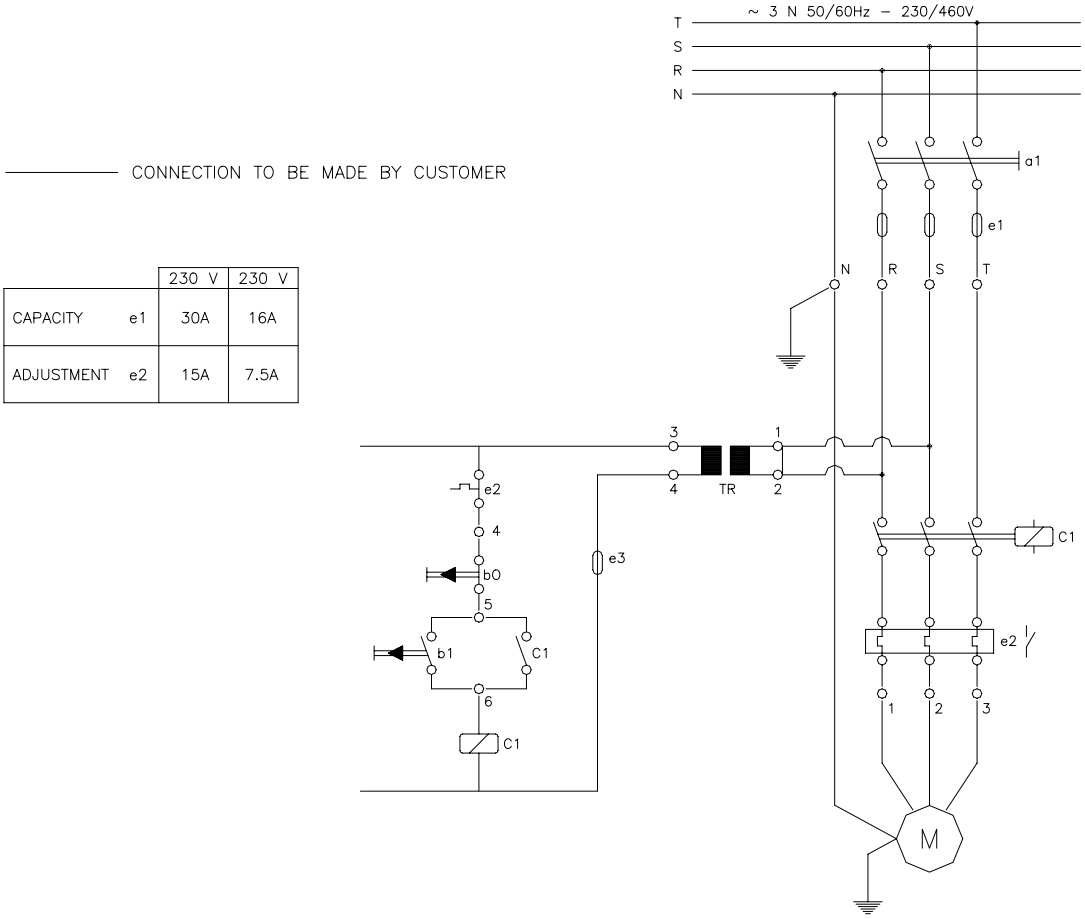


Fig.07

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Electric Diagram

THREE-PHASE MOTORIZATION WITH OVERLOAD PROTECTION 5CV 230/460V



		230 V	230 V
CAPACITY	e1	30A	16A
ADJUSTMENT	e2	15A	7.5A

CODO	QTY.	NAME
a1	1	Master switch
C1	1	Contact CWM25
e1	3	Delayed action fuse 63A – 500V
e2	1	Bi–metal relay RW27D
e3	1	Circuit breaker 6A

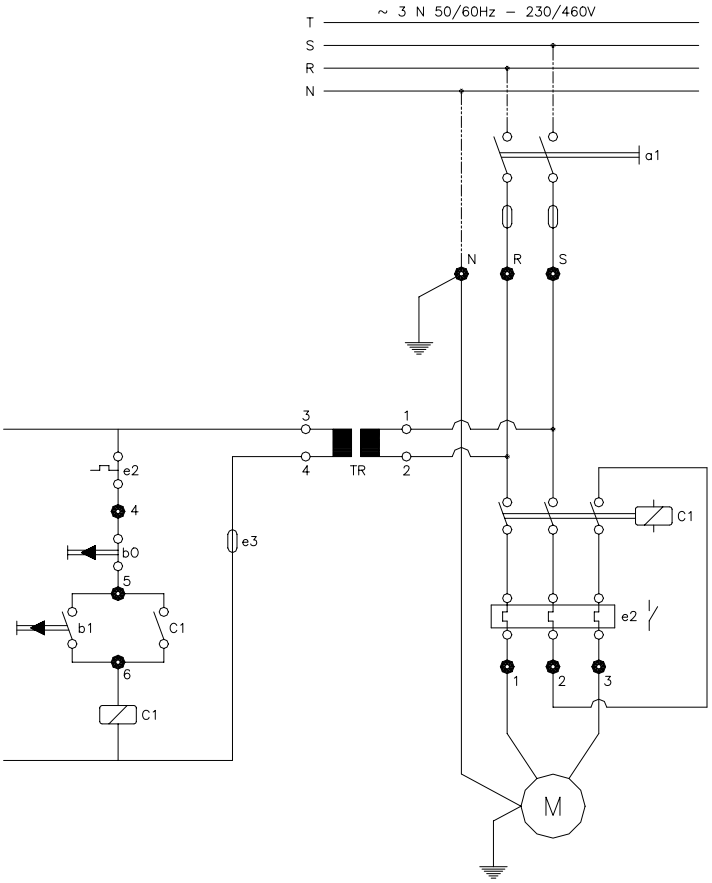
CODO	QTY.	NAME
b0	1	Off button – red
b1	1	On button – green
M	1	3 phase motor 5 CV 2 Pole
o	1	Terminal
TR	1	Transformer

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Electric Diagram

MONO-PHASE MOTORIZATION WITH OVERLOAD PROTECTIONS-2CV 230/460V

		230 V	230 V
CAPACITY	e1	30A	16A
ADJUSTMENT	e2	10A	7.5A



CODO	QTY.	NAME
a1	1	Master switch
C1	1	Contact CWM25
e1	3	Delayed action fuse 63A – 500V
e2	1	Bi–metal relay RW27D
e3	1	Circuit breaker 6A

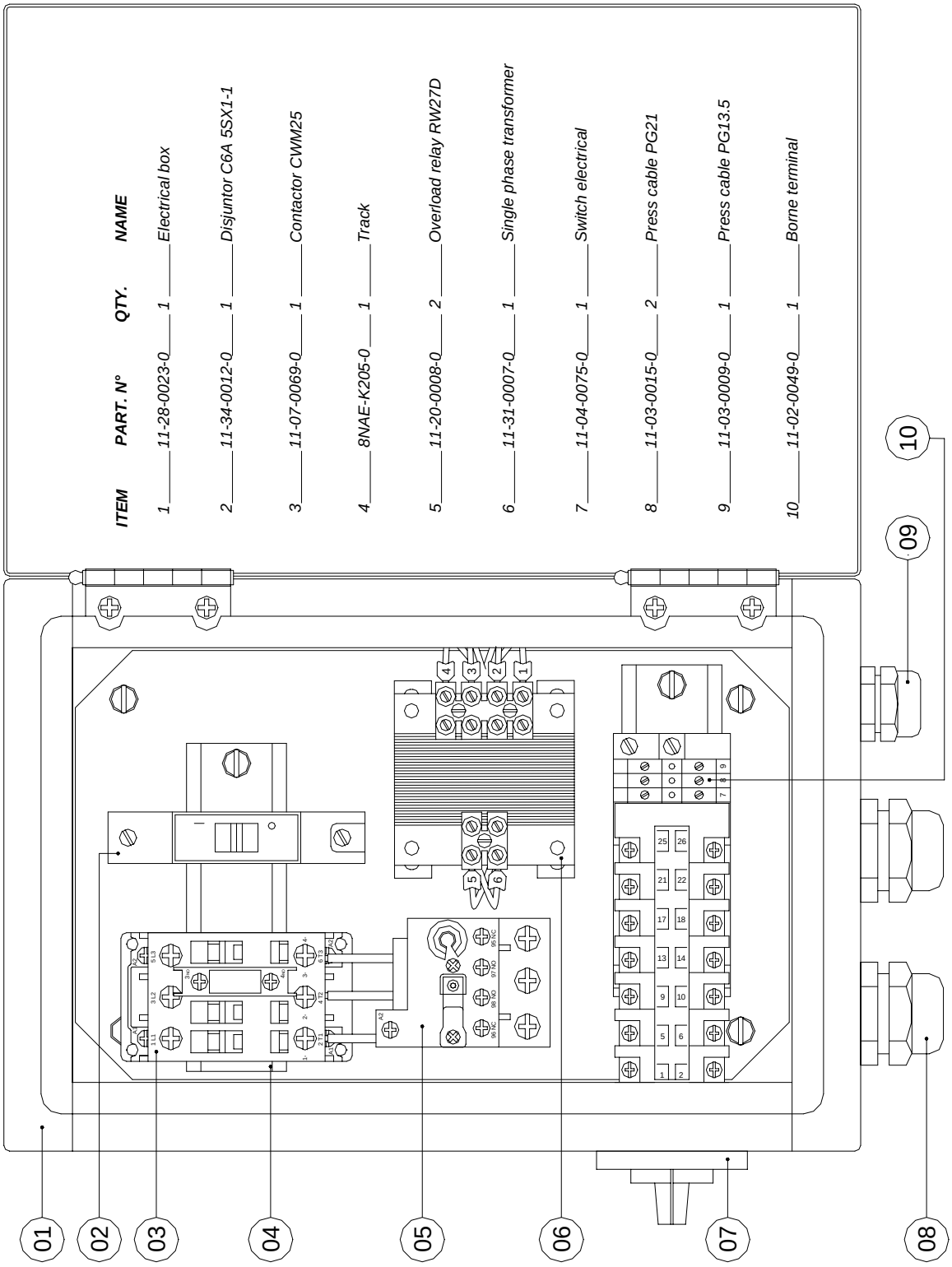
CODO	QTY.	NAME
b0	1	Off button – red
b1	1	On button – green
M	1	3 phase motor 2 CV 2 Pole
●	1	Terminal
TR	1	Transformer

—·—·—·—·— CONNECTION TO BE MADE BY CUSTOMER

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ELECTRICAL BOX

ITEM	PART. N°	QTY.	NAME
1	11-28-0023-0	1	Electrical box
2	11-34-0012-0	1	Disjuntor C6A 5SX1-1
3	11-07-0069-0	1	Contactor CWM25
4	8NAE-K205-0	1	Track
5	11-20-0008-0	2	Overload relay RW27D
6	11-31-0007-0	1	Single phase transformer
7	11-04-0075-0	1	Switch electrical
8	11-03-0015-0	2	Press cable PG21
9	11-03-0009-0	1	Press cable PG13.5
10	11-02-0049-0	1	Borne terminal



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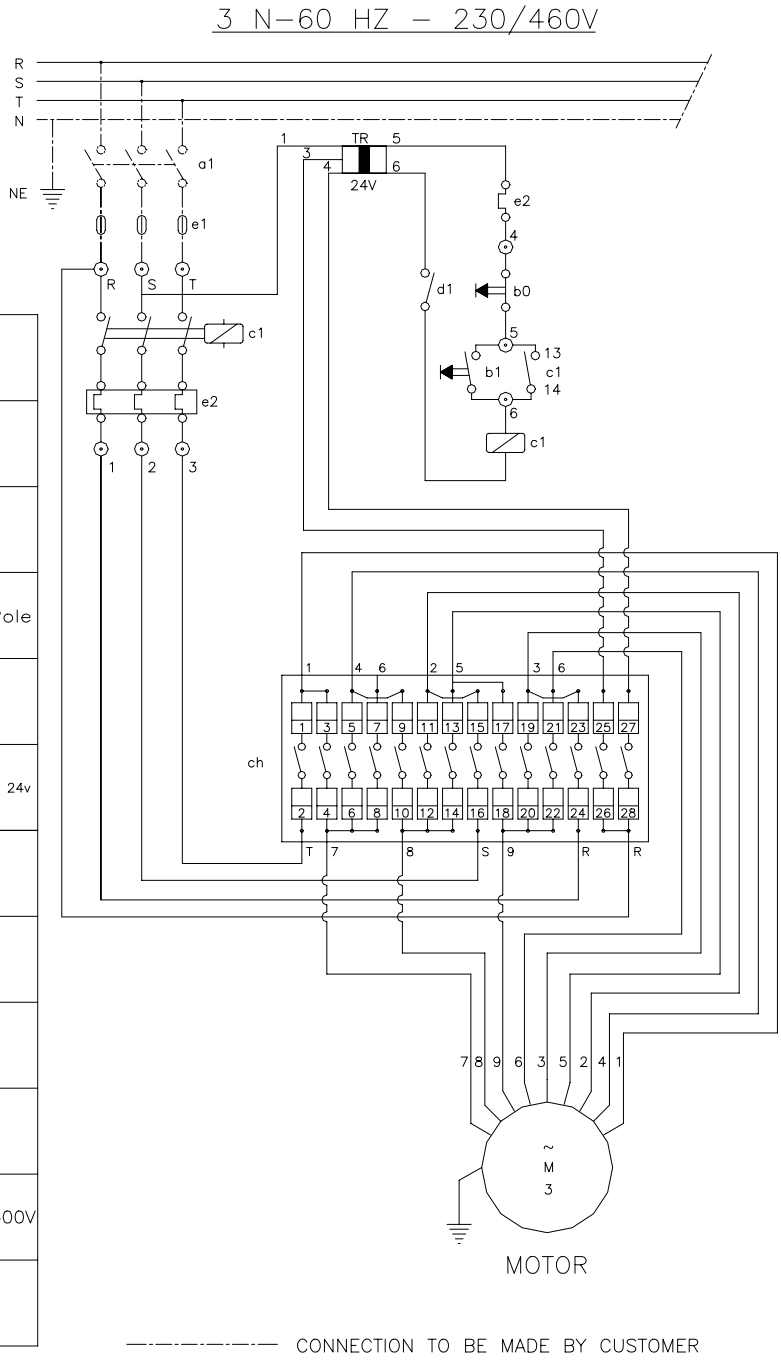
Electric Diagram 230/460V

SELECT SWITCH – 230/460V

IMPORTANT

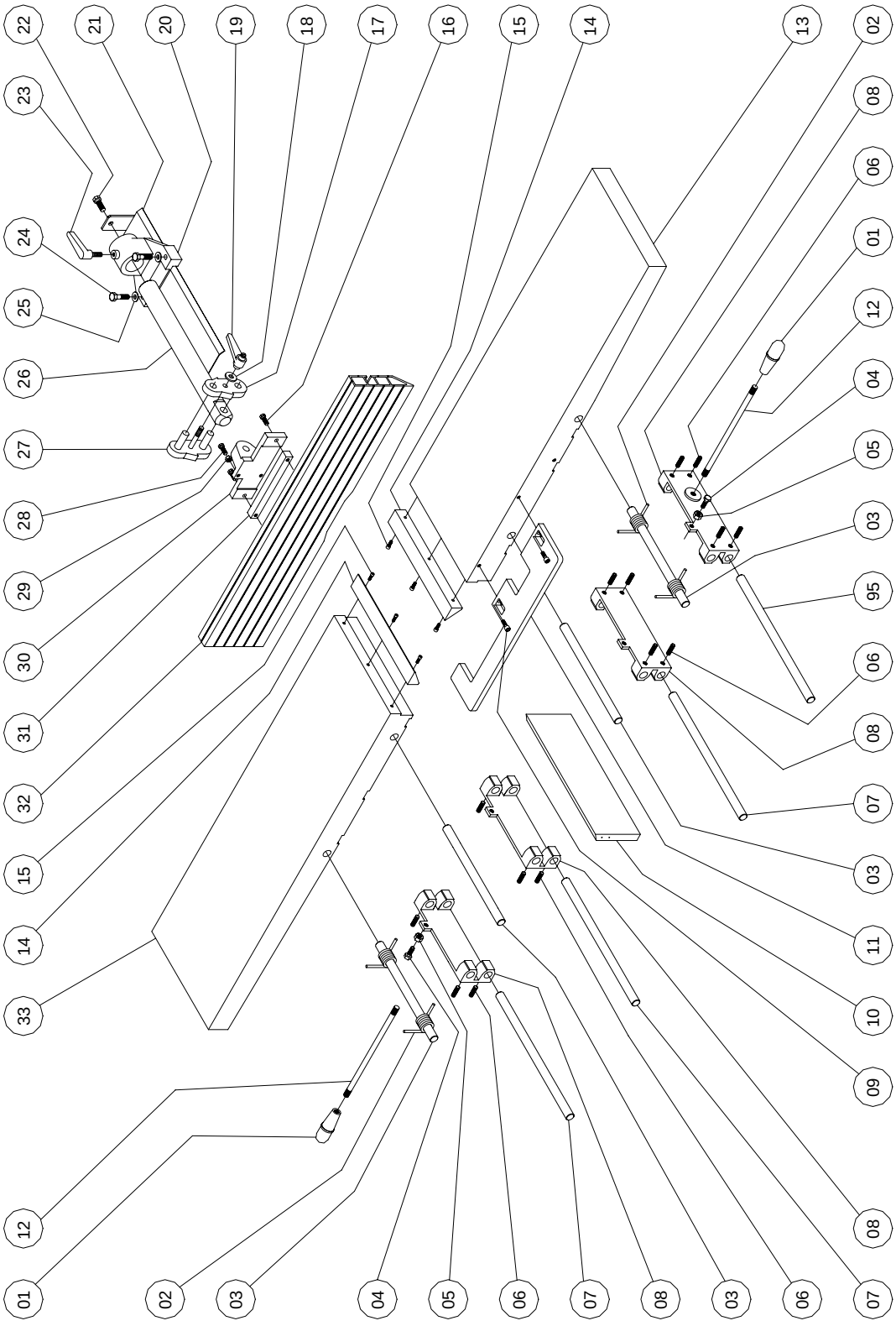
SELECT THE VOLTAGE (230/460V) OF YOUR INTERNAL ELECTRIC NETWORK.
THE VOLTAGE SELECTION KEY IS LOCATED ON THE ELECTRICAL BOX.
FOR YOU SAFETY THE VOLTAGE SELECTION KEY IS ON NEUTRAL POSITION.

CODO	QTY.	NAME
b0	1	Off button – red
b1	1	On button – green
M	1	3 phase motor, 5 CV 2 Pole
⬡	1	Terminal
TR	1	Transformer –Entry 230/460v–Quit 24v
ch	1	Select switch – 230/460V
a1	1	Master switch
c1	1	Contact CWM25
d1	3	Circuit breaker 6A
e1	1	Delayed action fuse 50A – 500V
e2	1	Bi–metal relay RW27D 230V – 12,3A 460V – 6,17A



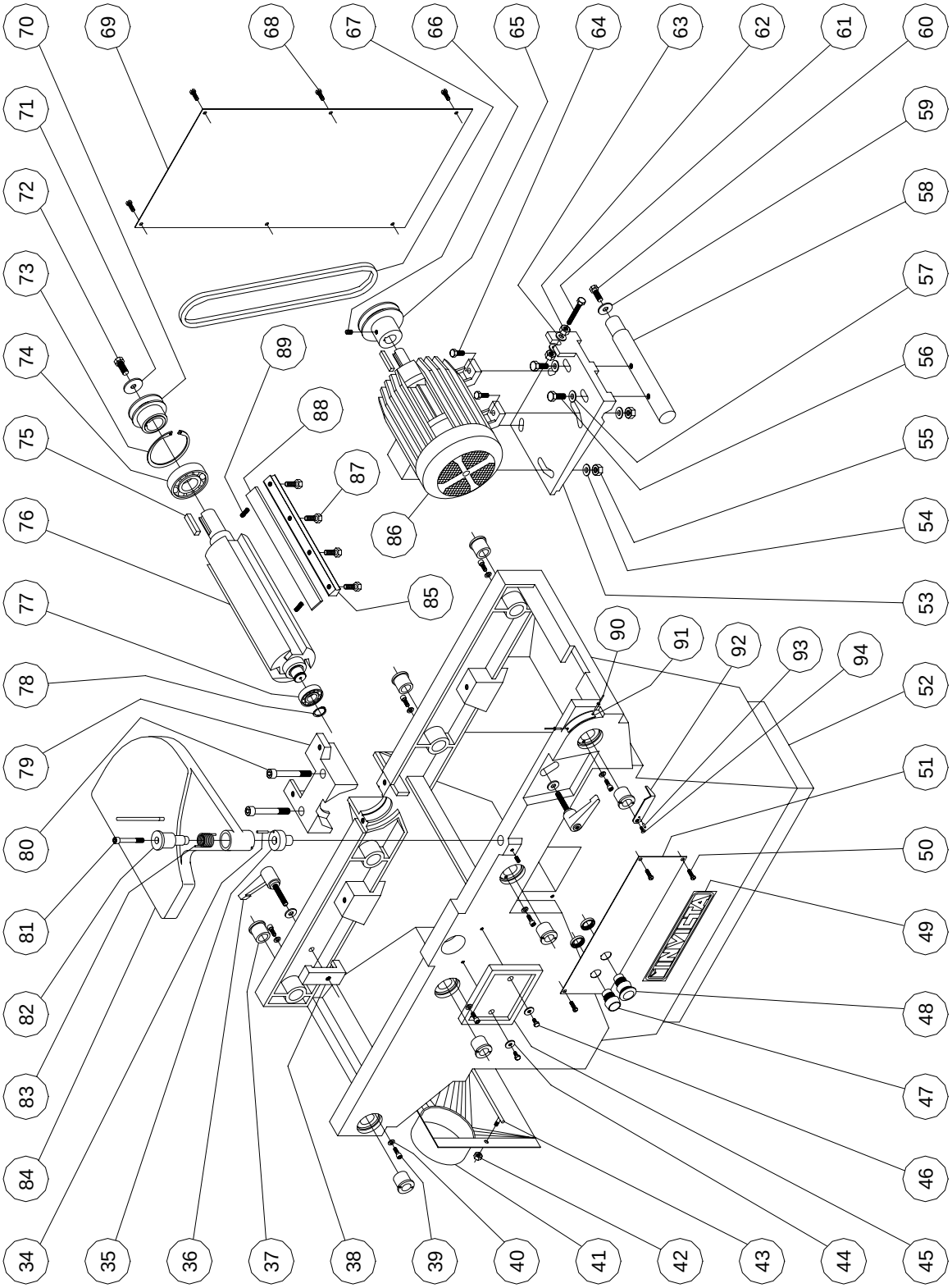
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Replacement Parts



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Replacement Parts



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REPLACEMENT PARTS

FIG. Nº	CODE	QTY.	NAME
01.....	27-00-0007-0	02.....	Knob
02.....	07-00-0062-0	04.....	Spring
03.....	8NVL-K280-0	04.....	Lower table shaft
04.....	06-04-0089-0	02.....	Hex head cap screw M10x50
05.....	06-09-0021-0	02.....	Hex nut M10x1.5
06.....	06-02-0056-0	16.....	Allen set screw M10x16
07.....	8NVL-K279-0	04.....	Lower table shaft
08.....	82DI-KKK6-0	04.....	Table adjustment support
09.....	06-03-0065-0	02.....	Allen cap screw M8x25
10.....	21-15-0040-0	01.....	Upper chip duct
11.....	82DI-KK22-0	01.....	Table extension
12.....	82DI-KK14-0	02.....	Table adjusting lever
13.....	82DI-KKK4-0	01.....	In-feed table
14.....	82DI-KK15-0	02.....	Table end caps
15.....	06-03-0071-0	06.....	Allen cap screw M6x20
16.....	06-04-0083-0	02.....	Hex head cap screw M6x20
17.....	82DI-KK20-0	01.....	Fence bracket (right)
18.....	06-13-0015-0	01.....	Flat washer Ø10mm
19.....	27-00-0013-0	01.....	Adjustable handle
20.....	82DI-KKK7-0	01.....	Fence bracket (main)
21.....	82DI-KK17-0	01.....	Fence plate
22.....	06-04-0121-0	01.....	Hex head cap screw M10x30
23.....	27-00-0019-0	01.....	Adjustable handle
24.....	06-04-0089-0	02.....	Hex head cap screw M10x50
25.....	06-13-0023-0	02.....	Washer
26.....	82DI-KK16-0	01.....	Fence guide shaft
27.....	82DI-KK21-0	01.....	Fence bracket (left)
28.....	06-04-0120-0	01.....	Hex head cap screw M8x20
29.....	06-09-0020-0	01.....	Hex nut M8x1.25
30.....	82DI-KKK8-0	01.....	Fence support
31.....	82DI-KK33-0	01.....	Fence lock
32.....	82DI-KK32-0	01.....	Fence (Aluminum)
33.....	82DI-KKK5-0	01.....	Out-feed table
*34.....	26-00-0006-0	01.....	Roll pin
*35.....	81DJ-KK20-0	01.....	Support bushing for guard
36.....	27-00-0018-0	02.....	Adjustable handle
37.....	25-00-0020-0	08.....	Eccentric bushing
38.....	82DI-KK38-0	01.....	Table lock
39.....	06-03-0069-0	08.....	Allen cap screw M6x16
40.....	06-13-0013-0	08.....	Flat washer
41.....	82DI-KK27-0	01.....	Chip duct
42.....	06-09-0019-0	02.....	Hex nut M6x1
43.....	82DI-KK34-0	01.....	Internal chip duct plate
44.....	8NAR-K135-0	02.....	Washer
45.....	82DI-KK11-0	01.....	Front cover
46.....	06-04-0095-0	02.....	Hex head cap screw M6x20
47.....	11-27-0001-0	01.....	ON Button (green)
48.....	11-27-0012-0	01.....	OFF Button (red)
49.....	10-04-0042-0	01.....	Invicta emblem
50.....	06-05-0059-0	04.....	Round head screw M6x16
51.....	10-03-0126-0	01.....	Switch/Name Plate
52.....	82DI-KKK1-0	01.....	Base
53.....	82DI-KKK9-0	01.....	Motor base plate
54.....	06-13-0015-0	04.....	Flat washer Ø10mm
55.....	06-09-0021-0	04.....	Hex nut M10x1.5
56.....	06-04-0065-0	02.....	Hex head cap screw M10x40
57.....	06-13-0015-0	02.....	Flat washer Ø10mm
58.....	82DI-KK13-0	01.....	Motor base pivot shaft
59.....	8NAR-K112-0	01.....	Flat washer
60.....	06-04-0098-0	01.....	Hex head cap screw M10x35
61.....	06-04-0089-0	01.....	Hex head cap screw M10x50
62.....	06-09-0021-0	02.....	Hex nut M10x1.5
63.....	06-13-0015-0	02.....	Flat washer Ø10mm
64.....	06-04-0065-0	04.....	Hex head cap screw M10x40
65.....	8NPM-KK95-0	01.....	Motor pulley 60Hz
66.....	06-02-0049-0	01.....	Allen set screw M8x12
67.....	15-00-0033-0	01.....	"V" belt VA-50 Series
68.....	06-05-0059-0	06.....	Round head screw M6x16

* 82DI-K013-0 Cutterhead guard assembly

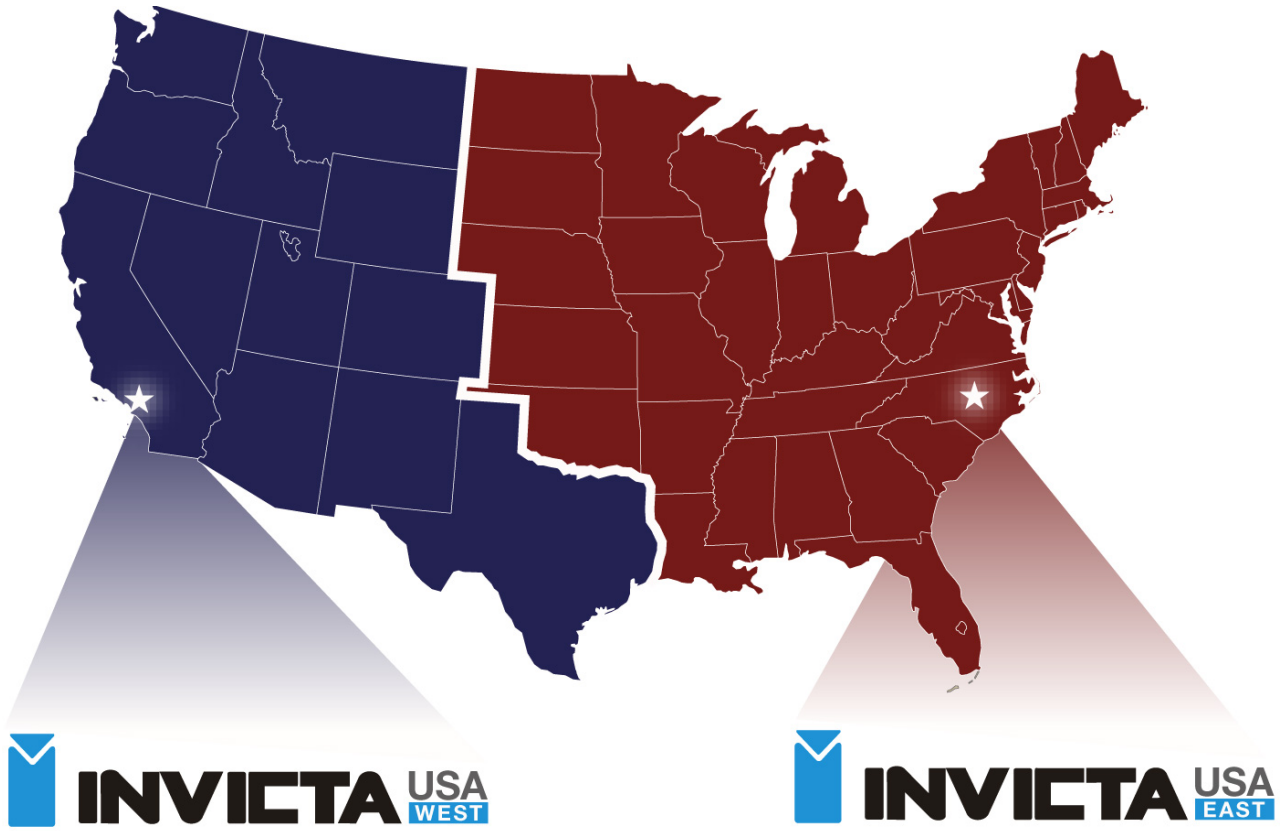
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FIG. Nº	CODE	QTY.	NAME
69……..	8NVZ-KK21-0	01…..	Rear vented cover
70……..	8NPM-K211-0	01…..	Driven pulley (cutterhead)
71……..	8NAR-KK11-0	01…..	Flat washer Ø10mm
72……..	06-04-0097-0	01…..	Hex head cap screw M10x25
73……..	06-18-0026-0	01…..	Bearing retainer clip
74……..	03-00-0054-0	01…..	Bearing 6307 2RS
75……..	8NCV-K257-0	01…..	Cutter shaft key
76……..	82DI-KK12-0	01…..	Cutterhead shaft
77……..	03-00-0079-0	01…..	Bearing 6205 2RS
78……..	06-18-0011-0	01…..	Bearing retainer clip
79……..	82DI-KKK3-0	01…..	Upper bearing casting
80……..	06-03-0082-0	02…..	Allen screw with head M10x60
*81…..	06-03-0060-0	01…..	Allen cap screw M8x80
*82…..	81DJ-KK19-0	01…..	Protector support
*83…..	07-01-0006-0	01…..	Spring
*84…..	82DI-KK20-0	01…..	Cutter safety guard
85……..	8NCV-K515-0	03…..	Knife Gibb
86……..	29-29-0001-0	01…..	Motor 3CV 2 polos
87……..	06-00-0002-0	12…..	Screw 8NPF-KK20-0
88……..	05-00-0016-0	03…..	Knife
89……..	07-00-0030-0	06…..	Spring
90……..	06-17-0002-0	02…..	Pop rivet S3.2x10.2
91……..	10-00-0076-0	01…..	Scale
92……..	82DI-K501-0	01…..	Scale pointer
93……..	26-00-0004-0	01…..	Roll pin Ø3x8mm
94……..	06-06-0028-0	01…..	Flat head screw M4-0,7x10
95……..	82DI-K502-0	01…..	Lower table shaft

* 82DI-K013-0 Cutterhead guard assembly

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Parts and Service



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