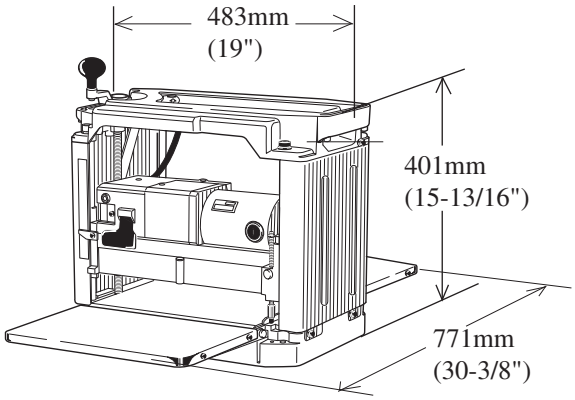
TECHNICAL INFORMATION

PRODUCT

Models No. ► 2012NB

Description ► 304mm (12") Automatic Thickness Planer

CONCEPTION AND MAIN APPLICATIONS



* Compact and light weight (27 Kg./59 lbs) automatic thickness planer for easier transport.
* Cutterhead powered by powerful 1,650W but the lowest noise motor (83db) raises and lowers on four columns for stability.
* Unique feeding mechanism assures smoother finish with minimal snipe on stock.
* Double insulated automatic thickness planer with indicator lamp ready to operate.
* Depth stop can be set in any positions from 3 mm (1/8") to 100mm (4") for desired thickness of stock.
* Large support table and detachable tool box fro standard equipment.

► Specification

Voltage (V)	Current (A)	Cycle (Hz)	Continuous Rating (W)		Max. Output(W)
			Input	Output	
100	15	50/60	1,430	960	1,900
110	15	50/60	1,650	1,140	2,100
120	15	50/60	1,650	1,140	2,100
220	8	50/60	1,650	1,140	2,100
230	7.6	50/60	1,650	1,140	2,100
240	7.3	50/60	1,650	1,140	2,100

No load speed	8,500 min^{-1} (rpm.)
Feed rate / min	8.5 m/min (0.14 m/s, 27.8 ft/min.)
Planer blade	306 mm (12-3/64")
Max.planing width	304 mm
Max.planing depth	0 - 3.0 mm
Material thickness	3 - 155mm (1/8" - 6-3/32")

► Standard equipment

Magnetic holder (2) for replacing planer blade
Socket wrench 9
Hex wrench
Blade guage
Detachable tool box

< Note > The standard equipment for the tools shown may differ from country to country.

► Optional accessories

Planer stand
Planer blade 306
Key
Hood set for connecting with Mod.410

Benefits and features

Smoother finish minimizing snipe even without head lock, by uniquely designed feeding mechanism

Fixed base providing easy work without changing your feeding position in spite of various thickness of work piece.

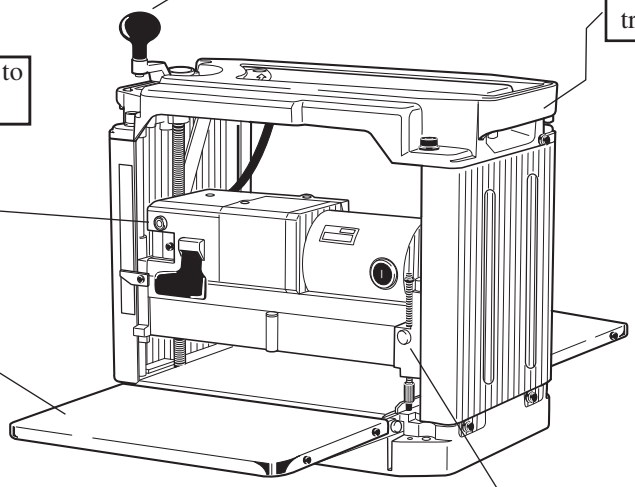
Planer blade is same as existing Model 2012.

Safety double insulation
Competitors' products such as Mod.22-560 of DELTA, Mod.DW733 of DeWALT etc. have to be grounded.

Fold-away depth control handle for easier transport and storage

Carrying handle for easier transport

Indicator lamp ready to operate



Large support table

Dust hood (optional acc.) can be mounted to rear of the machine to be connected to dust collector.

Depth stop can be set in any positions from 3mm (1/8") to 100mm (4") for desired thickness.

Considerable low noise, only 83dB (no load operation)

Manufacturer	Model No.	Noise level(dB)	Remark
MAKITA	2012NB	83	
DELTA	22-560	87	Equivalent to 2.5 units of 2012NB.
DeWALT	DW733	88	Equivalent to 3 units of 2012NB.
Ryobi	AP-12	88	Equivalent to 3 units of 2012NB.

Comparison of products

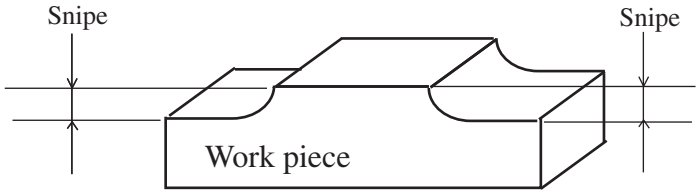
Manufacturer		MAKITA		DeWALT	DELTA	Ryobi
Model No.		2012NB	2012	DW733	22-560	AP-12
Rated Current (A) under 120V		15	12	15	15	14
Continuous Rating Input (W)		1,650	1,330	—	—	1,350 (in Japan)
Equipped Motor		94-60	94-60	94-55	100-55	94-55
No Load Speed (min-1= rpm.)		8,500	8,000	10,000	8,000	8,500
Max.Planig	Width (mm)	304 (12")	304 (12")	318 (12-1/2")	318 (12-1/2")	313 (12-3/8")
	Depth (mm)	3.0 (1/8")	2.5 (3/32")	3.0 (1/8")	3.0 (1/8")	2.5 (3/32")
Material's Max.Thickness (mm)		155 (6-3/32")	155 (6-3/32")	152 (6")	152 (6")	5-153 (3/16"- 6")
Protection from Electric Shock	by Double Insulation	○				
	by Grounding		○	○	○	○
Fixed Base		○	×	○	○	○
Weight (Kg)		27 (59.5 lbs)	24 (53 lbs)	34 (75 lbs)	29.5 (65 lbs)	28.5 (62.8 lbs)
Standard Equipment		*Magnetic Holder for replacing blade *Socket Wrench *Hex Wrench *Blade Gauge	*Magnetic Holder for replacing blade *Socket Wrench *Hex Wrench *Wrench	*Gauge for replacing blade *Socket Wrench *Hex Wrench *Wrench	*Transfer Tool for replacing blade *Hex Wrench	*Gauge for replacing blade *Socket Wrench *Hex Wrench (3mm and 5mm) *Double Ended Wrench *Lock Pin *Handle *Screwdriver * Dust cover

Capacity

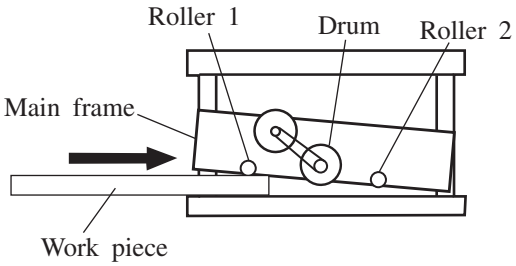
1. Max.planing width : 304 mm
2. Max.planing depth for various width of work piece

Width of work piece	Max.planing depth
smaller than 150mm (5-7/8")	3.0mm (1/8")
150mm - 240mm (5-7/8" - 9-2/1")	1.5mm (1/16")
240mm - 304mm (9-1/2" - 12")	1.0mm (3/64")

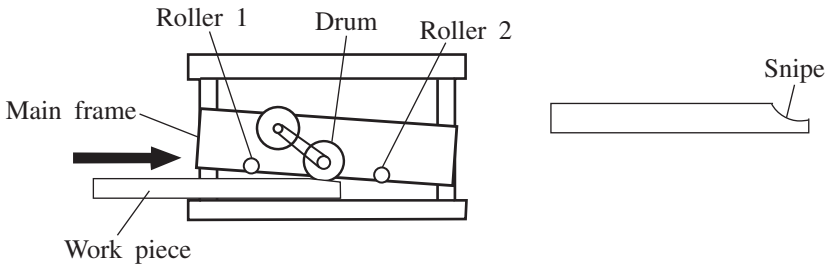
3. Minimizing snipe



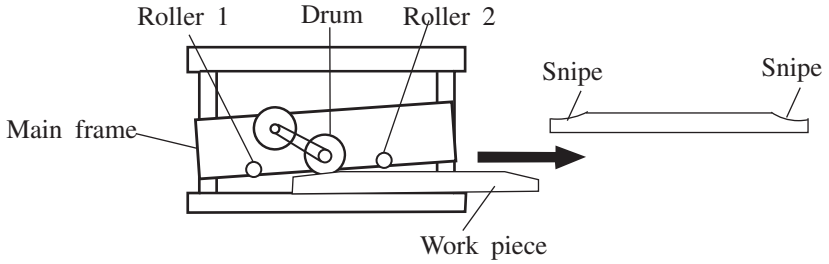
Snipe always arises on the work piece when planing, because the position of the planer blade and the table of machine is in any case changed when work piece is fed. See the following schema.



Main frame is raised when the work piece touches the roller 1.



The work piece is planed deeper than the requested depth. And the first snipe arises.

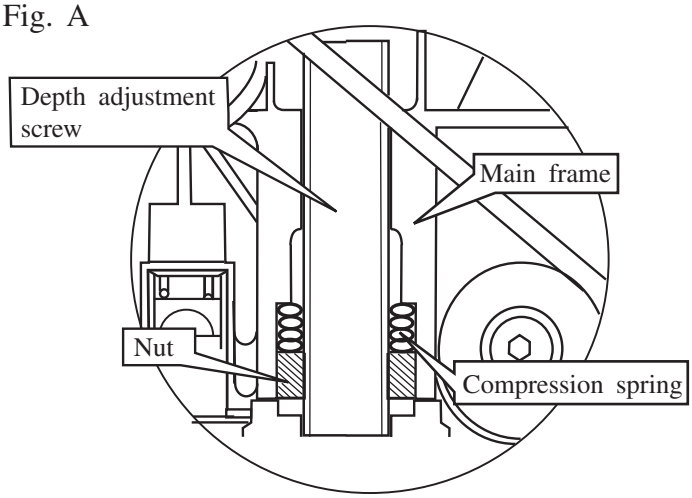


The another snipe arises, when roller 1 detaches itself from the work piece.

MAKITA has solved the above problem by minimizing the play for depth adjusting installation and by reinforcing the machine body.
Please refer to the next page in detail.

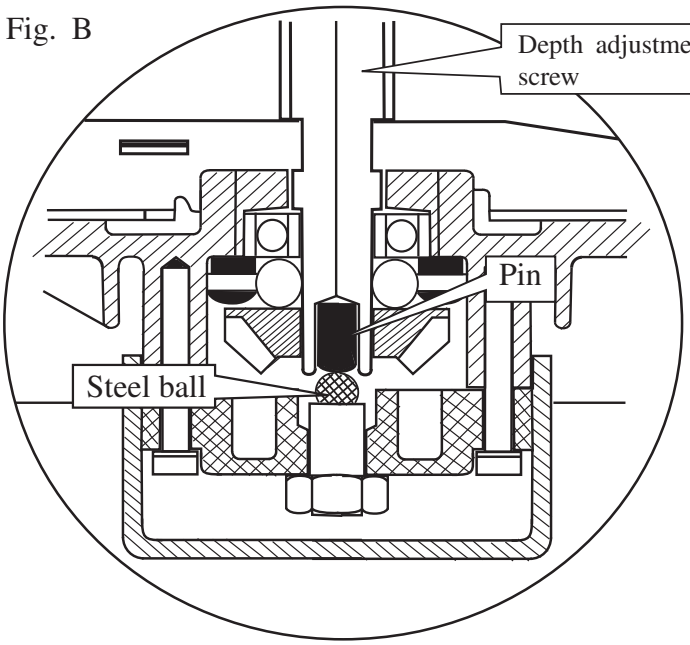
Smoother finish minimizing snipe thanks to the following installations.

Fig. A



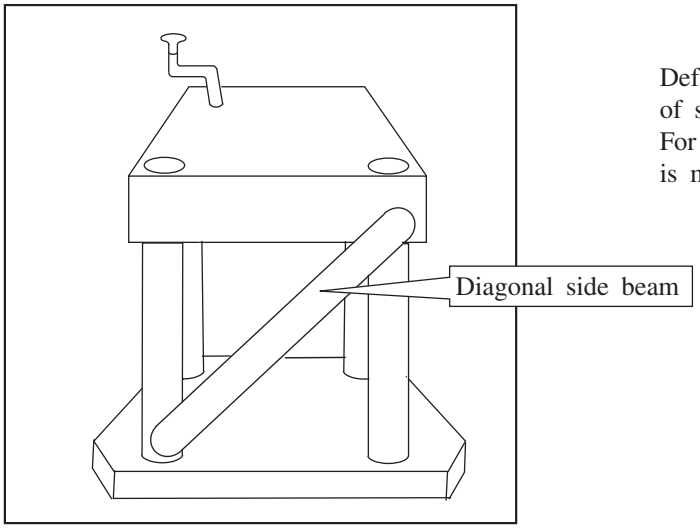
Play is needed for smooth moving of threaded part, for instance, screw, nut etc. However, snipe always arises because of the above play which changes the position of planer blade and table of the machine.
For minimizing play for threaded part, compression spring is mounted between main frame and nut which is fixed in main frame.

Fig. B



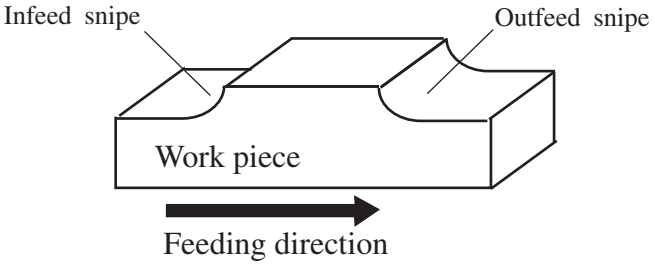
For minimizing wobble up and down, depth adjustment screw can be lifted by inserted flat washers. However, friction arises between the flat washers and the screw.
In case of Model 2012NB, steel ball and pin are installed in the bottom end of depth adjustment screw for minimizing wobble and friction.

Fig. C



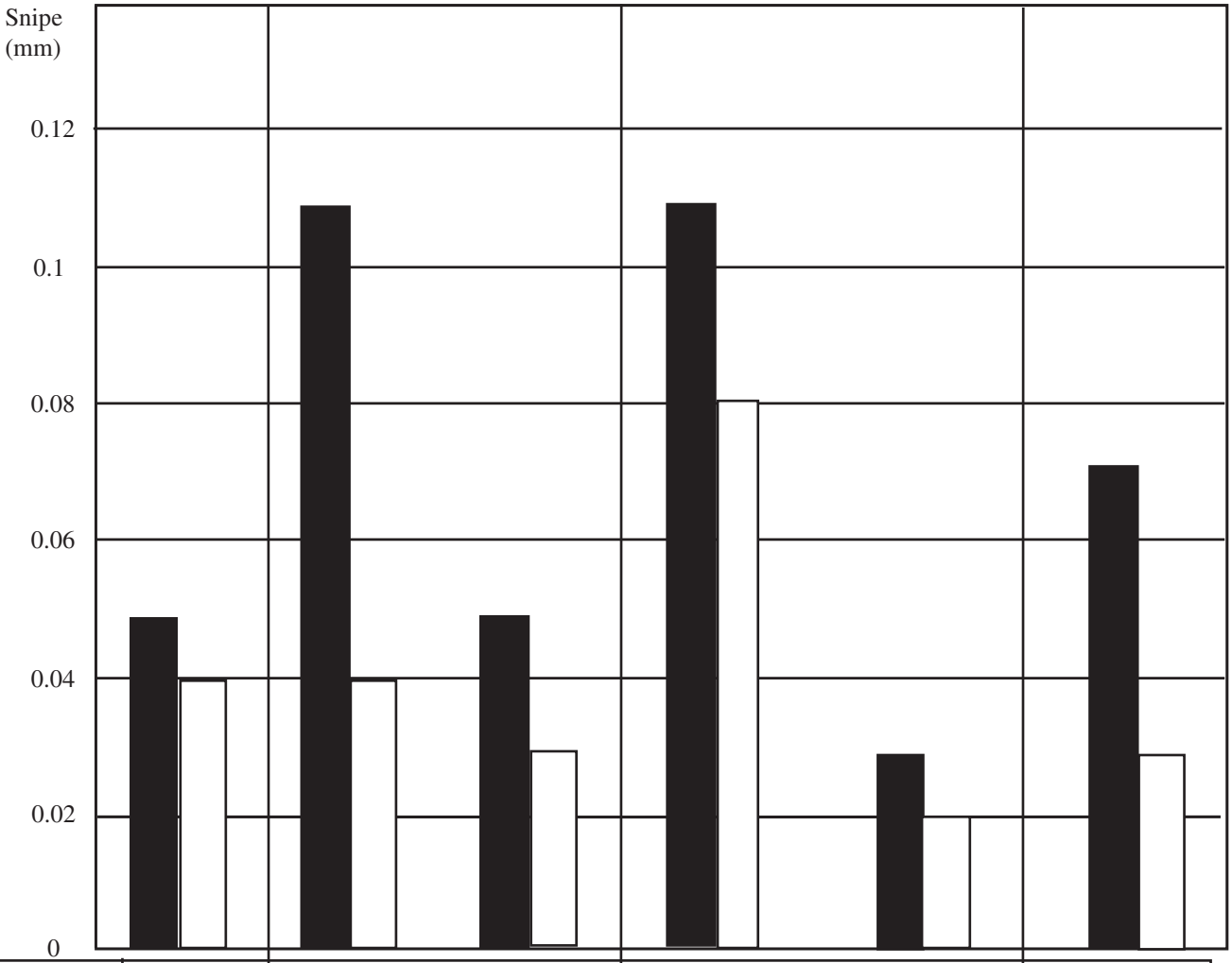
Deflection of the machine body can be cause of snipe.
For minimizing the deflection, diagonal beam is mounted.

Comparison of snipe



Testing conditions
1. Work piece : Spruce 2x6 1m in length
2. Planing depth : 1mm

< Note >
The numbers in the diagram mentioned below can differ depending on the condition of work piece.



	MAKITA	DELTA		DeWALT		RYOBI
Model No.	2012NB	22-560		DW733		AP-12
Working mode		Normal	Head lock	Normal	Head lock	
Infeed snipe	0.05	0.11	0.05	0.11	0.03	0.07
Outfeed snipe	0.04	0.04	0.03	0.08	0.02	0.03

Repair

Contents

1. Repairing tool to be used

(1R258) V Block

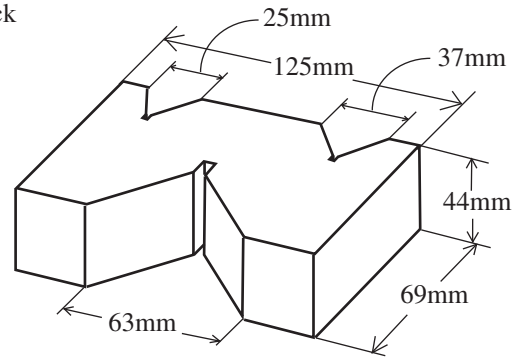


Fig.1

2. Lubrication

Parts to be lubricated	Lubricating material	Volume to be applied
Reduction gears (Gear complete 8-50 and 8-46 Helical gear 46)	MAKITA Grease N No.2	Applox. 30 g
Gears for depth adjustment (4 pcs.of straight bevel gear 15)	MAKITA Grease N No.2	Applox. 10 g
Depth adjustment screw	MAKITA Grease N No.2	Applox. 10 g
Surface of columns	Machine oil	———

3. Removing chain

(1) Loosen all of 3 hex socket head bolts on sprockets.

(2) Remove torsion spring 9 (chain tensioner) and take off chain together with sprockets.

4. Mounting tensioner

(1) Mount chain.

(2) Fasten torsion spring 9 with screw provisionally, hitching its short side of torsion spring to rib. (See Fig.2.)

(3) Hitch long side of torsion spring 9 to chain, gripping it with nippers. (See FIG.2.)

(4) Tighten torsion spring 9 with screw.

(5) Fasten 3 sprockets with hex socket head bolts firmly.

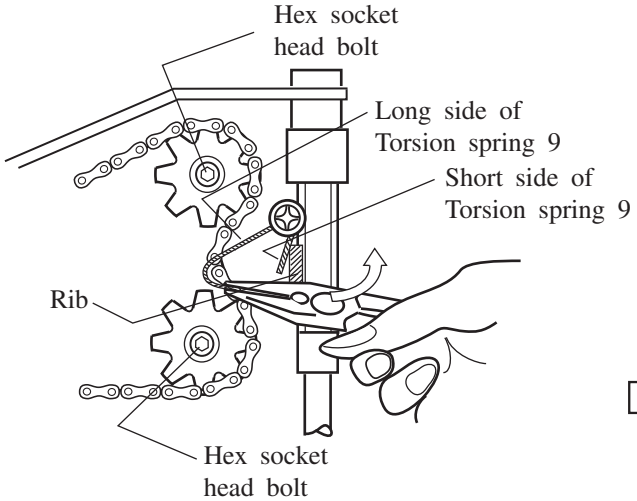


Fig.2

5. Removing motor section

(1) Lift main frame to the highest point by turning depth control handle

(2) Take off side cover, chain, and poly V-belt.

(3) Motor section is fastened with 4 tapping screws from the bottom side of main frame. They are

Tapping screw 5 x 30 for plastic : 2 pcs. on V-pulley side

Tapping screw CT 4 x 25 for aluminum : 2 pcs. on switch box side

Take off the above screws with screwdriver of short size.

< Note > Pay attention to drive them in the correct place, when assembling.

(4) Down main frame to the lowest point by turning depth control handle, and take off motor section.

(5) Loosen tapping screws, and take off switch box cover and switch box.

Tapping screw 4 x 18 for plastic : 2 pcs. for switch box cover

Tapping screw bind CT 4 x 12 for aluminum : 2 pc. for switch box

< Note > Pay attention to drive them into the correct place, when assembling.

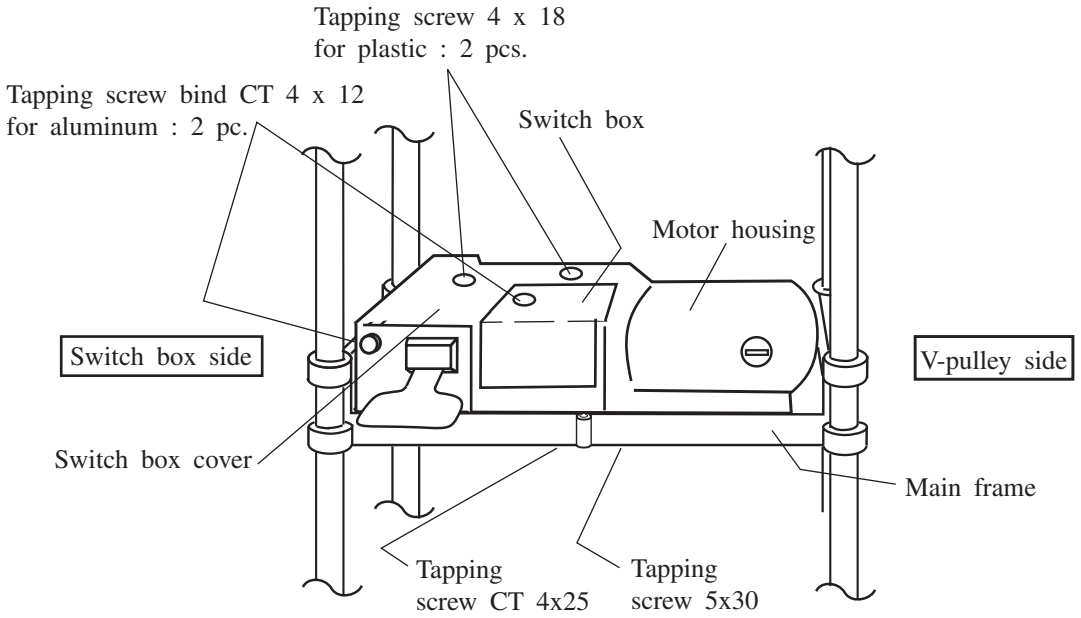


Fig.3

(6) Motor unit (consisting of motor housing, gear housing, and gear housing cover) have to be mounted so that its bottom surface is parallel to the surface of main frame.

(7) Do not forget to mount flat washer 14 to inner part of gear housing cover, for accepting drive shaft. (See Fig.4)

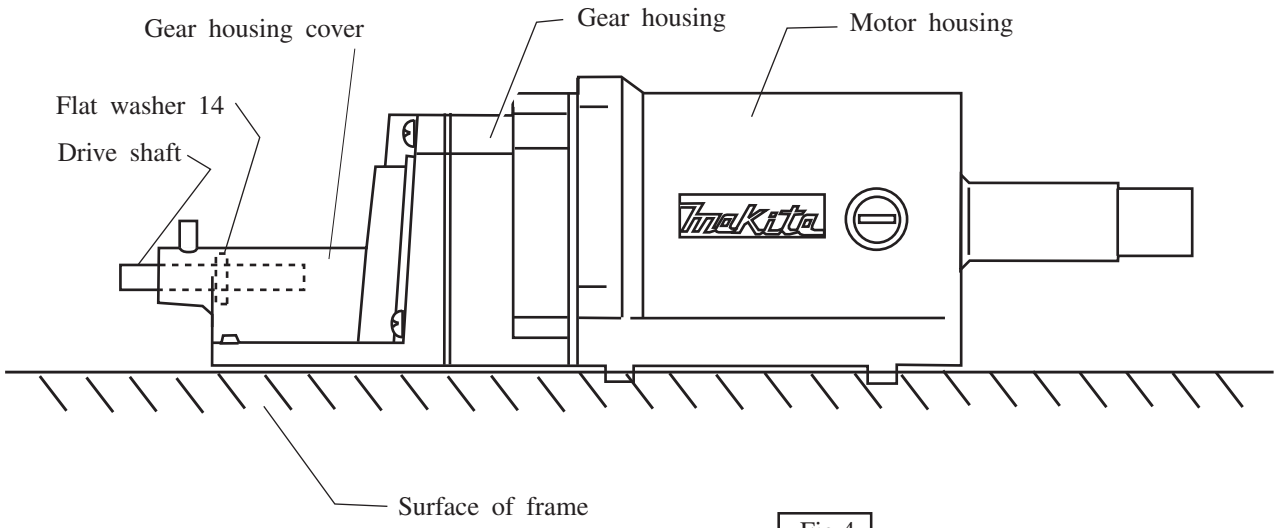


Fig.4

6. Adjusting play of steel ball mounted in the bottom end of depth adjustment screw
   (1) Remove gear cover which is mounted under table. (See Fig.5A.)
   (2) Tighten hex socket head bolt M8x16 with hex wrench. (See Fig.5B.)
   (3) Loosen the above hex socket head bolt again, and adjust it to the position where the wobble of steel ball does not arise. (See Fig.5B.)
   < Note > Be careful not to tighten too strong for smooth lift.
   (4) Fix the hex socket head bolt M8x16 with hex nut M8.

Bottom view of Gear section for depth adjustment

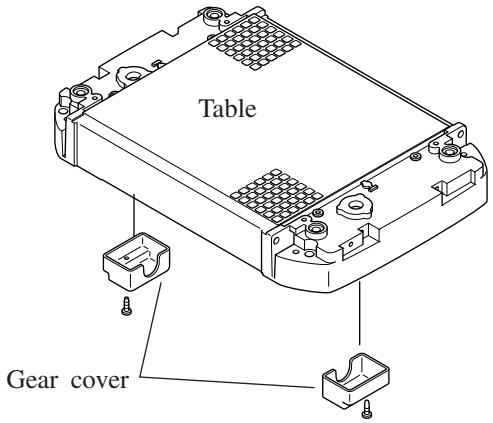


Fig.5A

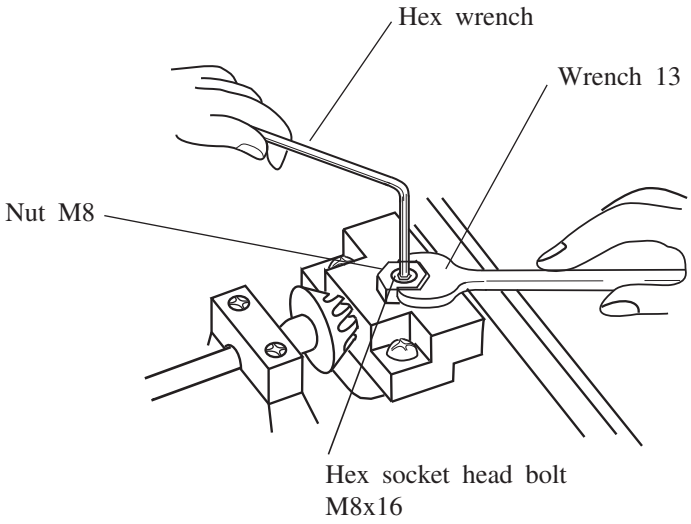


Fig.5B

7. Adjusting nut M14 and M14L mounted for minimizing play on depth adjustment screw

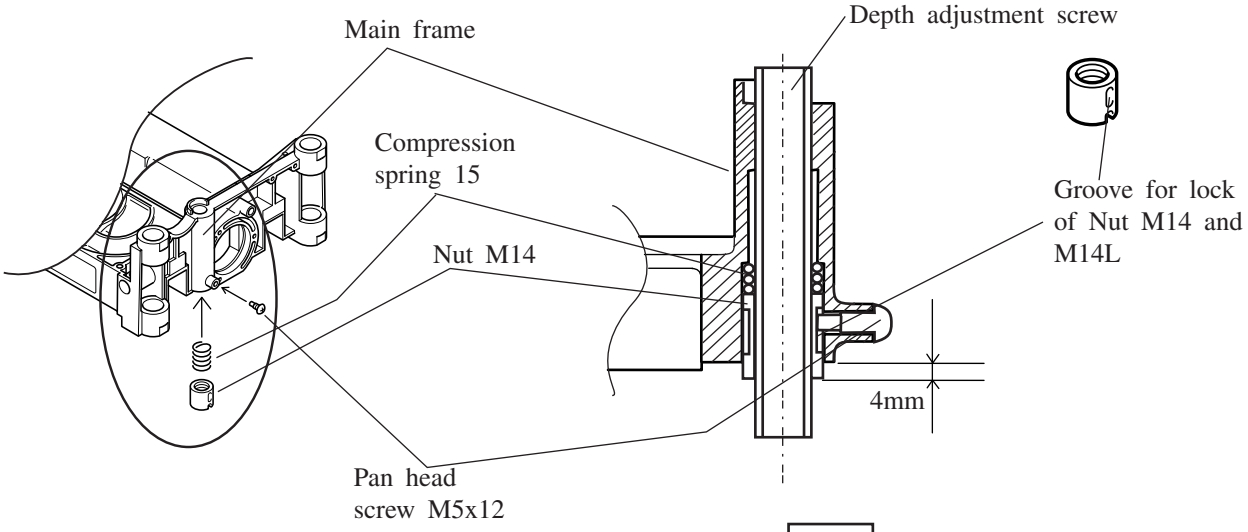


Fig.6

Drive nut M14 and M14L protruding approx. 4mm from the edge of main frame. (See Fig.6)
And after facing the groove for lock to the screw hole on main frame, tighten pan head screw M5x12.

8. Depth adjustment of planer blade unit
   (1) Upset the machine.
   (2) Turn drum after taking off side cover of pulley side and face the round section of drum to table. (See FIG.7)

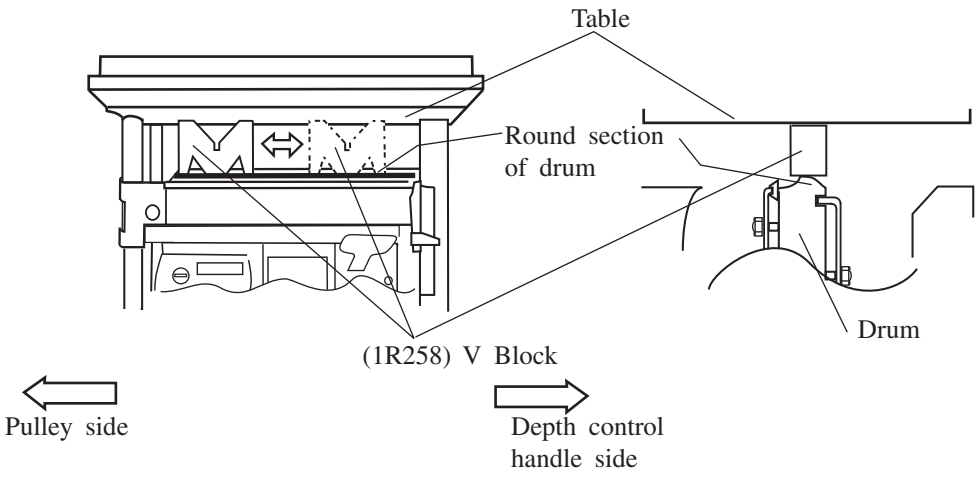


Fig.7

   (3) Insert V block between table and round section of drum and check the distance of drum's round section and table on left and right side. (See FIig.7)
   (4) Remove gear cover on depth control handle side. (See Fig.8A.)
   (5) Loosen screw on shaft retainer and take off bevel gears' engagement. (See Fig.8B.)
   (6) Adjust the distance between table and round section of drum by turning depth control handle. Movement by one tooth is equivalent to 0.13mm up and down. (See Fig.8B and Fig.9)

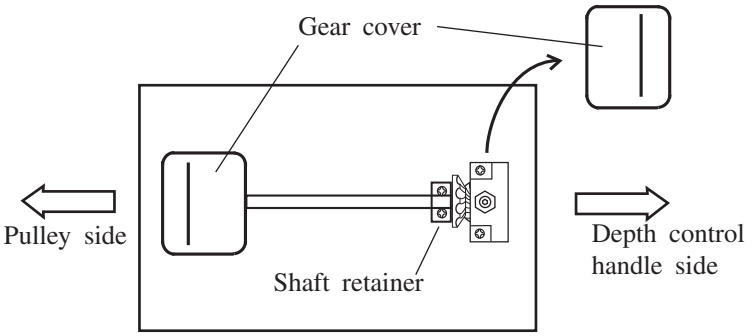


Fig.8A

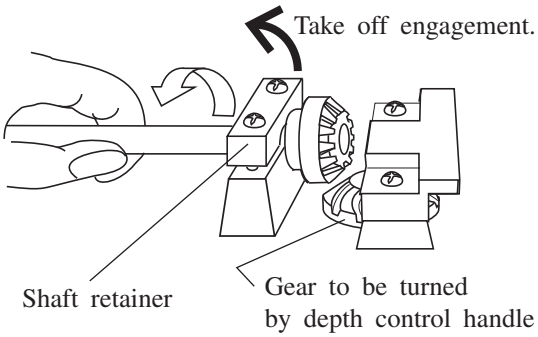


Fig.8B

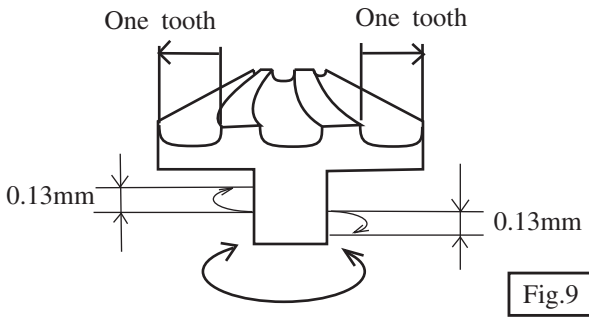
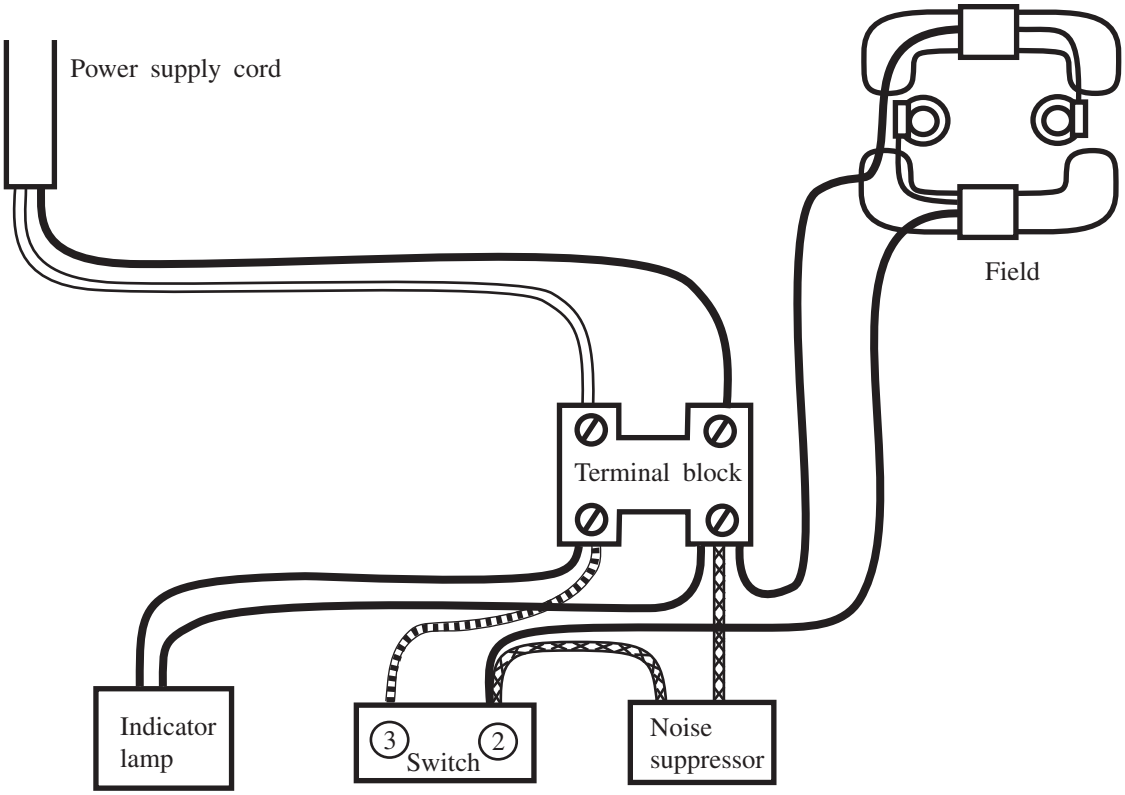


Fig.9

► Circuit diagram

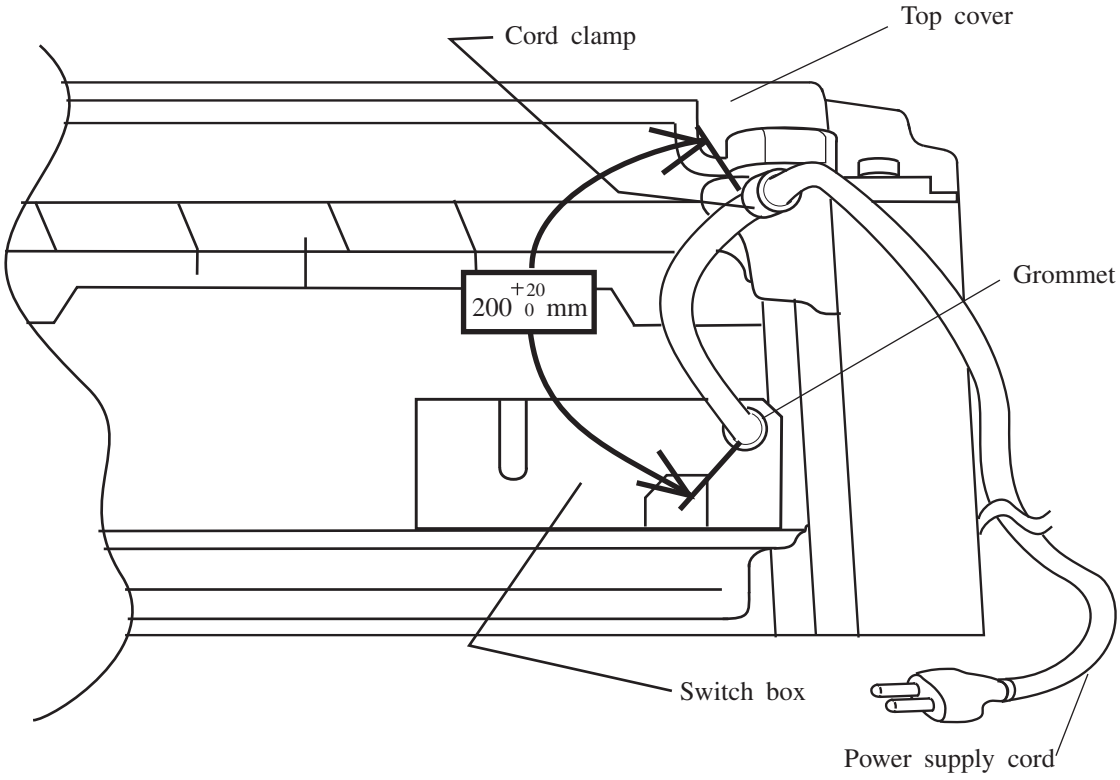


< Note > Noise suppressor is not used in some countries.

► Wiring diagram

(1) Power supply cord has to be set as illustrated in Fig.10.

Fig.10



(2) Terminal 1 and 2 has to be connected to switch as illustrated in Fig.11.

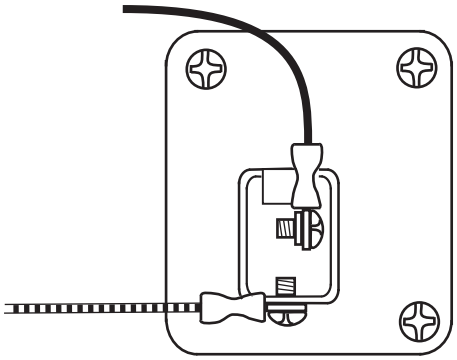


Fig.11

(3) Leas wire to field has to be set so careful that they would not be pinched by ribs as illustrated in Fig.12.

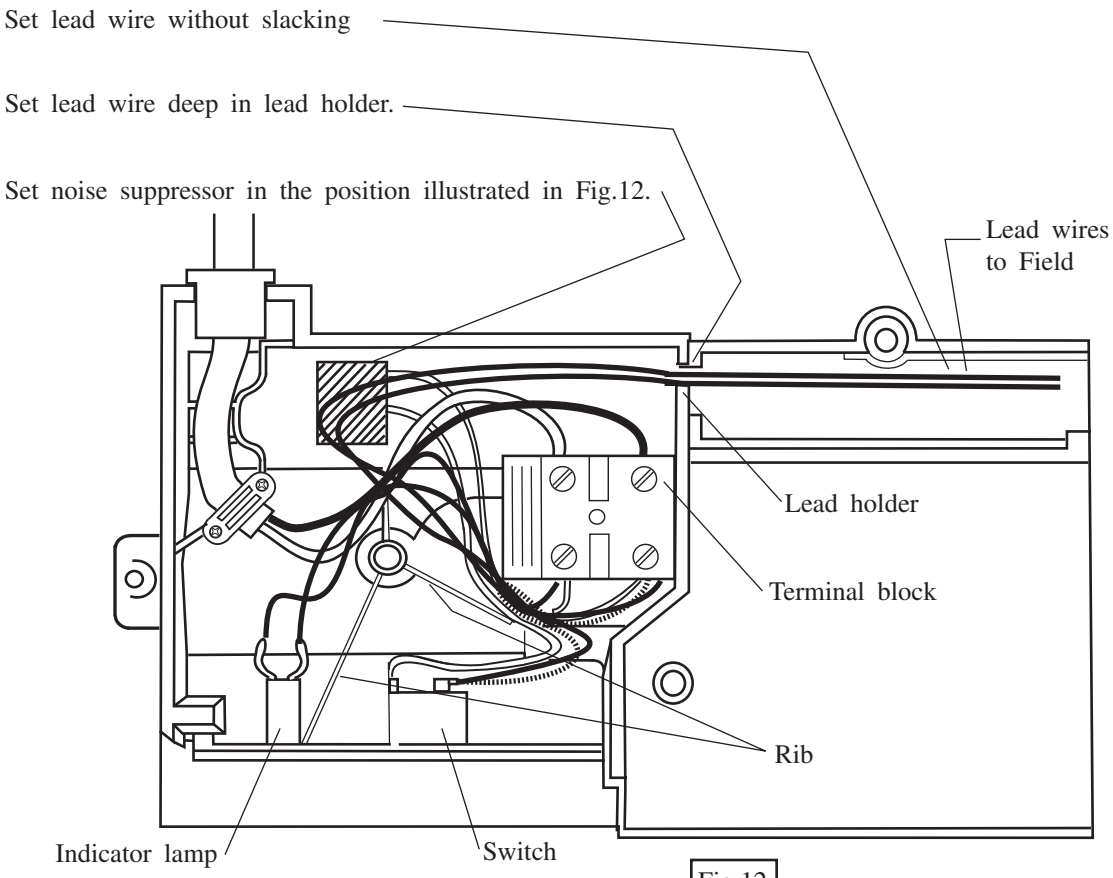


Fig.12