MODEL

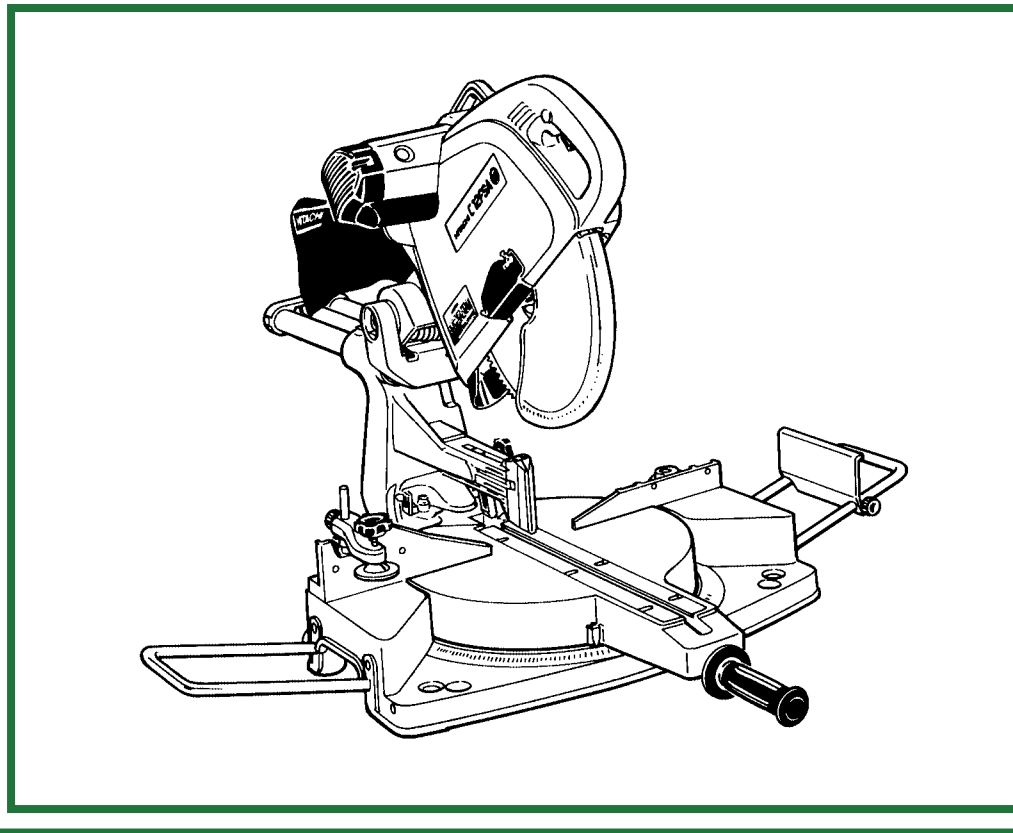
C 12FSA

HITACHI
POWER TOOLS

C

SLIDE COMPOUND SAW
C 12FSA

TECHNICAL DATA
AND
SERVICE MANUAL



LIST No. E925

Sep. 2001

REMARK:

Throughout this TECHNICAL DATA AND SERVICE MANUAL, a symbol(s) is(are) used in the place of company name(s) and model name(s) of our competitor(s). The symbol(s) utilized here is(are) as follows:

Symbols Utilized	Competitors	
	Company Name	Model Name
C	MAKITA	LS1212

CONTENTS

1. PRODUCT NAME

Hitachi Slide Compound Saw, Model C 12FSA

2. MARKETING OBJECTIVE

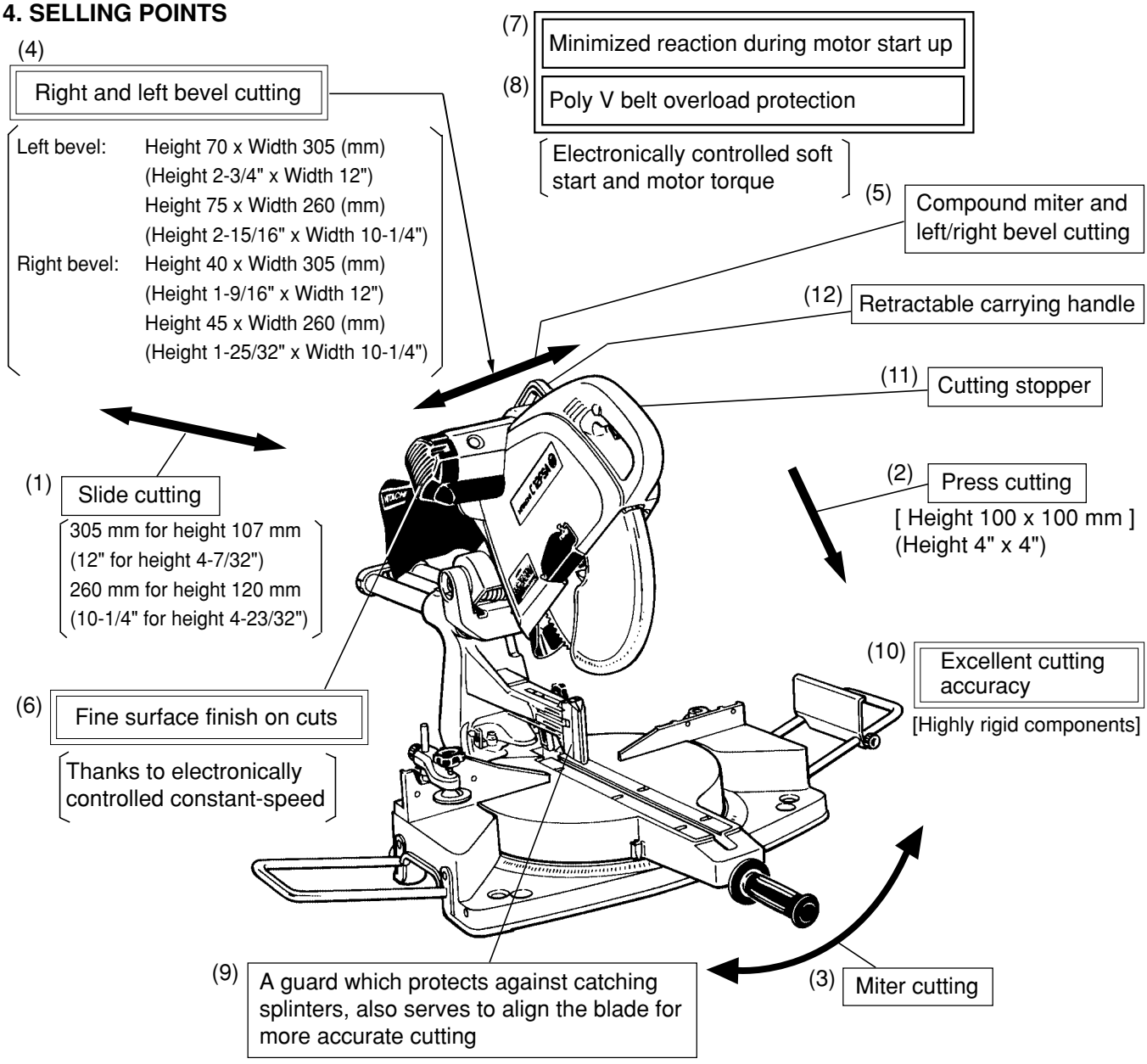
This unit is able to handle materials of 120 mm (4-23/32") height and perform right and left bevel cutting for better miter cutting performance.

Not only that, it produces a fine finish on the cut surfaces by means of constant-speed cutting with minimized revolution variation during sawing thanks to its advanced electronic control.

3. APPLICATIONS

- Cutting various types of wood workpieces
- Cutting workpieces of plywood, decoration panels, soft fiberboard and hardboard
- Cutting aluminum sashes

4. SELLING POINTS



(Note) Numerals in ( ) are identical with item numbers in "4-1. Selling Point Descriptions".

4-1. Selling Point Descriptions

(1) Slide cutting

Table 1 (Unit: mm)

Maker / Model / Max. cutting dimension	HITACHI C 12FSA
Height x Width (H x W)	107 x 305 (4-7/32" x 12") 120 x 260 (4-23/32" x 10-1/4") with aux. board width 20 (25/32")

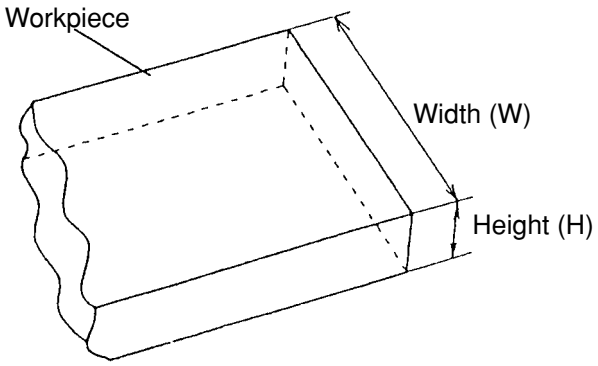


Fig. 1

Workpieces as wide as shown in Table 1 can be cut with the motor head sliding.

The lower limit position of the saw blade is set at the factory so that the maximum cutting dimensions of 107 H x 305 W (mm) (4-7/32" H x 12" W) can be achieved.

When cutting workpieces with heights up to 120 mm (4-23/32") as indicated in [ ] in Table 1, adjust the saw so that there is a clearance of 2 to 3 mm (0.079" to 0.118") between the bottom surface of the head and the top surface of the workpiece at the lower limit of the saw blade as shown in Fig. 2-2. (See the Handling Instructions.)

Please note that, when cutting in this position, it is necessary to use an auxiliary board [20 mm (25/32") thick] so that the workpiece on the fence side can be cut full width.

The sliding section of the C 12FSA employs ball bushings as in the C 10FS, which ensures not only a high machining accuracy but also superior durability.

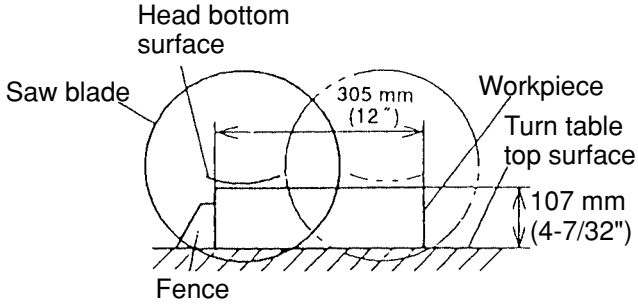


Fig. 2-1

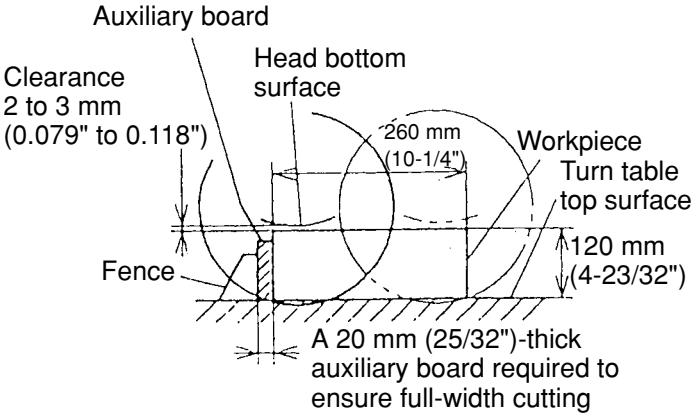


Fig. 2-2

(2) Press cutting

Table 2 (Unit: mm)

Maker / Model / Max. cutting dimension	HITACHI C 12FSA
Height x Width (H x W)	100 x 100 (4" x 4")

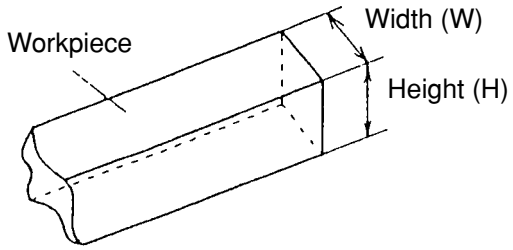


Fig. 3

Press cutting with the head swiveling enables cutting square workpieces as large as shown in Table 2 in a single sawing operation.
(See Fig. 3.)

In this case, fix the head with the slide securing knob to the position where the hinge is 20 mm (25/32") away from holder (A) as shown in Fig. 4 to obtain the greatest cutting force and then perform press cutting.

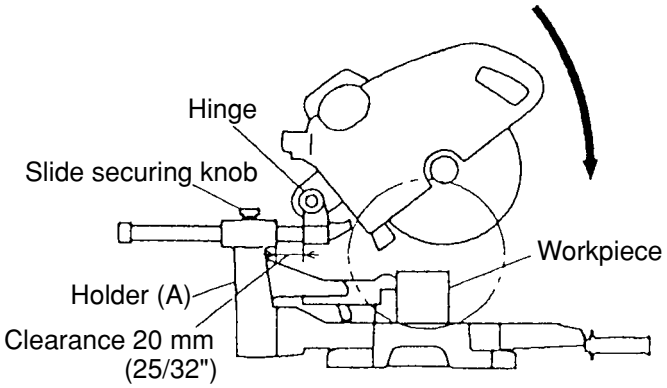


Fig. 4

(3) Miter cutting facility

Table 3 (Unit: mm)

Maker / Model / Max. cutting dimension	HITACHI C 12FSA
Right and left 45° Height x Width (H x W)	[107 x 220 (4-7/32" x 8-21/32") 120 x 180 (4-23/32" x 7-3/32") with aux. board width 25 (1")]
Right and left 57° Height x Width (H x W)	[107 x 180 (4-7/32" x 7-3/32") 120 x 140 (4-23/32" x 5-1/2") with aux. board width 25 (1")]

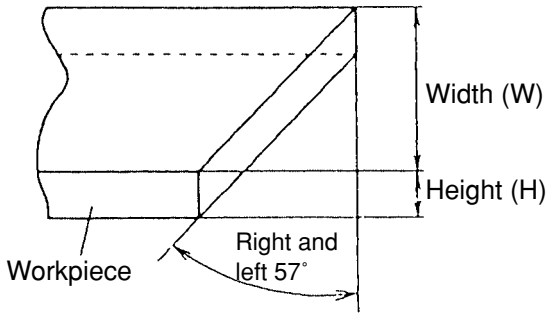


Fig. 5

Workpieces as wide as shown in Table 3 can be cut by swiveling the turn table (right and left).
The maximum cutting dimensions in [ ] in Table 3 are those obtained by adjusting the lower limit position of the saw blade as indicated in Fig. 2-2, also with an auxiliary board [of 25 mm (1") width].

(4) Right and left bevel cutting facility

① Advantage of right and left bevel cutting

Fig. 7 shows the left bevel cutting by C 8FB2 and Fig. 8 shows the right and left bevel cutting by C 12FSA.

The purpose of right and left bevel cutting is to achieve accurate 45˚ bevel cutting for better miter joint work. Generally, window frames are made by jointing 45˚ bevel (miter) cut workpieces. (See Fig. 6.)

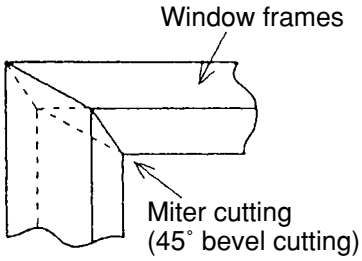


Fig. 6

(a) In the case of C 8FB2, miter cutting is performed by the left bevel cutting function only as shown in Fig. 7. Therefore, the workpiece must be turned around in the second process and the reference plane, that is, the surface of the workpiece which contacts to the fence is opposite to that of the first process.

(b) In the case of C 12FSA, more accurate miter cutting is performed because the same reference plane (surface of the workpiece which contacts to the fence) is used in both the first and second processes as shown in Fig. 8. In addition, the working efficiency is improved and long workpieces can be handled in tight places because there is no need to turn around the workpieces.

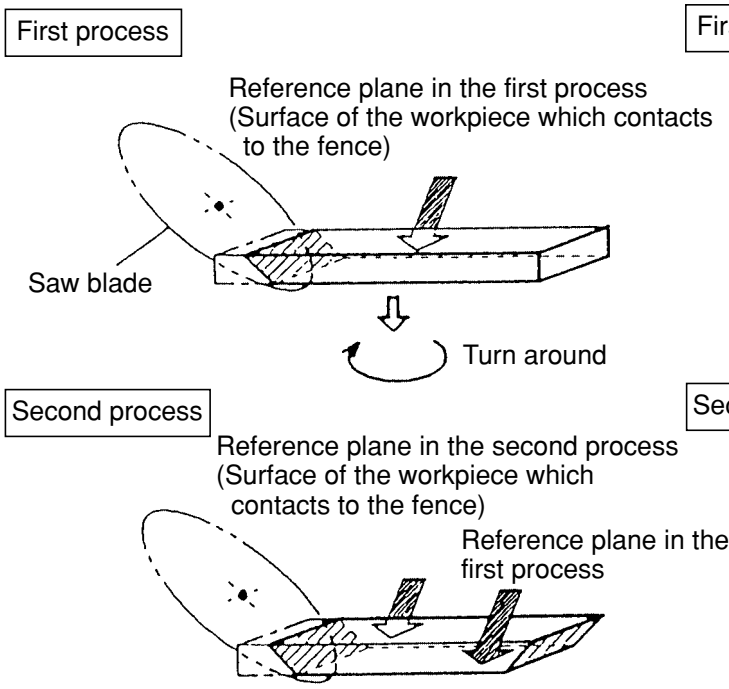


Fig. 7 Miter cutting by C 8FB2

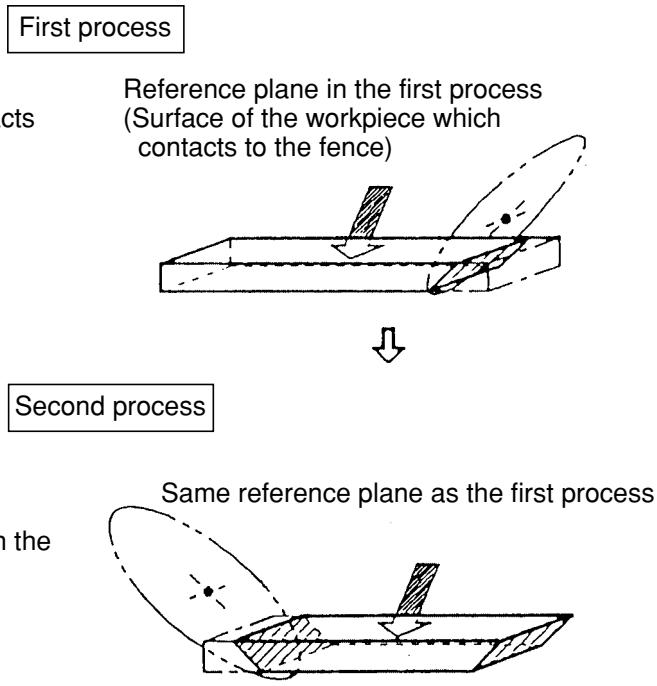


Fig. 8 Miter cutting by C 12FSA

② Maximum cutting dimension

Table 4 (Unit: mm)

Maker / Model / Max. cutting dimension	HITACHI C 12FSA
Left 45˚ Height x Width (H x W)	70 x 305 (2-3/4" x 12") 75 x 260 (2-15/16" x 10-1/4") with aux. board width 20 (25/32")
Right 45˚ Height x Width (H x W)	40 x 305 (1-9/16" x 12") 45 x 260 (1-25/32" x 10-1/4") with aux. board width 20 (25/32")

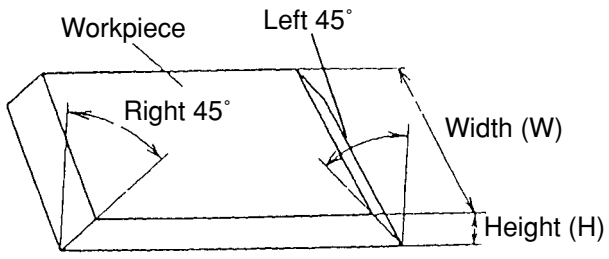


Fig. 9

Workpieces as wide as shown in Table 4 can be bevel-cut by tilting the saw blade.

The maximum cutting dimensions in [ ] in Table 4 can be obtained by adjusting the lower limit position of the saw blade as indicated in Fig. 2-2, also with an auxiliary board [of 20 mm (25/32") width].

(5) Compound cutting through use of miter and bevel cutting functions

Table 5

Maker / Model / Max. cutting dimension	HITACHI C 12FSA
Left bevel 45˚ Left/right miter 45˚ Height x Width (H x W)	70 mm x 220 mm (2-3/4" x 8-21/32") 75 mm x 180 mm (2-15/16" x 7-3/32")
Right bevel 45˚ Right miter 31˚ Height x Width (H x W)	40 mm x 265 mm (1-9/16" x 10-7/16") 45 mm x 220 mm (1-25/32" x 8-21/32")
Right bevel 45˚ Right miter 45˚ Height x Width (H x W)	40 mm x 220 mm (1-9/16" x 8-21/32") 30 mm x 211 mm (1-3/16" x 8-19/64") 45 mm x 180 mm (1-25/32" x 7-3/32")

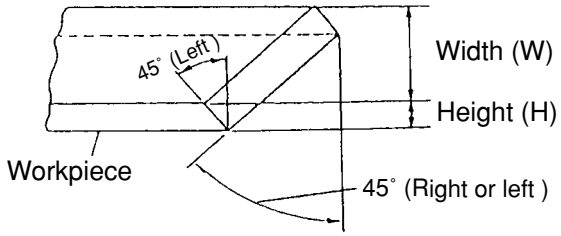


Fig. 10

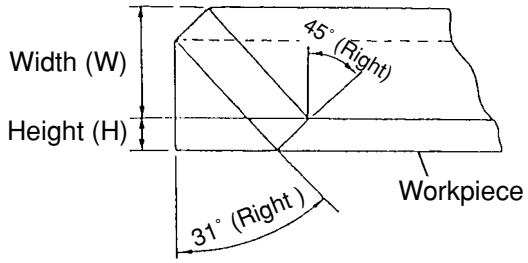


Fig. 11

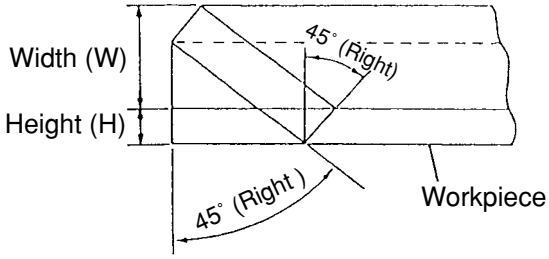


Fig. 12

By turning the turn table to the left or right and inclining the saw blade section (head) to the left or right, the Model C 12FSA is capable of compound cutting (bevel and miter, see Figs. 10, 11 and 12) of workpieces with the maximum dimensions shown in Table 5.

(6) Fine surface finish on cuts

① Constant-speed cutting is achieved by minimizing revolution variation due to changes in load during sawing by means of an electronic control, as in the C 10FS.

As indicated in Fig. 13, revolution variation during sawing is electronically held to a minimum, while providing a higher rotation speed during sawing than in the competitors'. With this considerably higher speed during sawing (over the normal load range), the amount of material cut per tooth is reduced to ensure a finer quality finish on the cut surface. Uneven cut surfaces at the start of sawing are caused by numerous runouts of the saw blade due to revolution changes dependent on load variation. In the models without electronic control, run out of the saw blade increases in a particular revolution range indicated in Fig. 14.

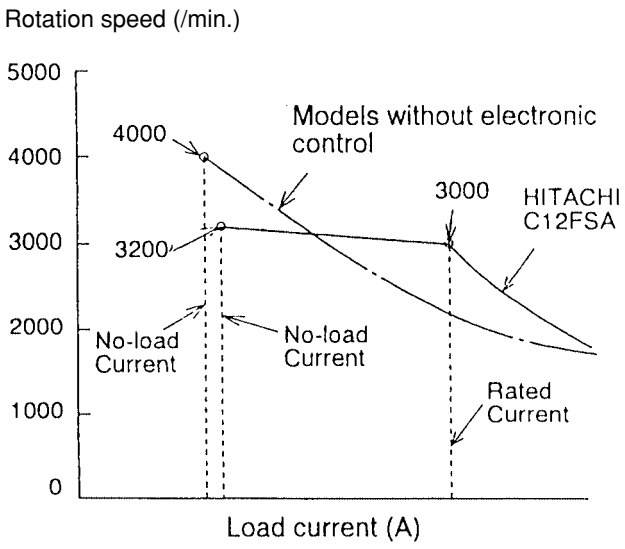


Fig. 13

Specifically, this revolution range Ⓐ lies between the no-load speed (4,000/min.) and a little lower speed. At the start of sawing, the rotations drop to within range Ⓐ, so that the saw blade vibrates locally resulting in uneven cut surfaces. The electronic control provided in the C 12FSA serves to maintain relatively constant rotation in a range at which runout of the saw blade is minimized, even at the no-load speed. This minimizes surface unevenness during the first part of the cut. Besides the outstanding feature of cutting speed which is independent of load variation over a wider range of operation (for a smooth cut surface with few saw marks), electronic control also offers advantages of eliminating the sharp metallic noise due to resonance of the saw blade as well as noises during no-load operation because the no-load speed is maintained at 3,200 rpm. (See Table 6.)

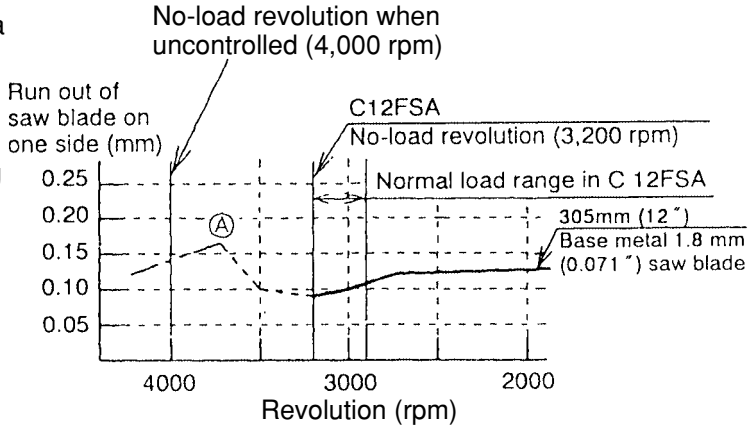


Fig. 14

Table 6 (Unit: dB (A))

Item \ Maker Model	HITACHI C 12FSA
No-load sound pressure level (1 m distance from the front)	87

② Comparison of surface roughness

Cutting conditions

Table 7

Item \ Maker Model		HITACHI C 12FSA	HITACHI C 10FS
Saw blade	Outer diameter	305 (12")	255 (10")
	No. of teeth	96	90
	Saw blade thickness	1.8 (0.071")	1.8 (0.071")
	Chip width	2.3 (0.091")	2.3 (0.091")
Workpiece material		American pine Height 45 x width 300 (Height 1-25/32" x width 11-13/16") with water content of 15 to 18%	
Cutting method		Left bevel 45° press cutting + slide cutting	
Cutting time (sec.)		15	

Measuring methods and surface roughness

Fig. 16 shows an example of roughness (extent of surface unevenness) measured at points Ⓐ,Ⓑ and Ⓒ of the workpiece (cut in the conditions indicated in Table 7) by moving the probe of the roughness gauge in the direction indicated by the arrow in Fig. 15. Table 8 shows the maximum values obtained by such measurement. As seen in Table 8, the C 12FSA produces a smoothly finished surface with minute roughness as the C 10FS.

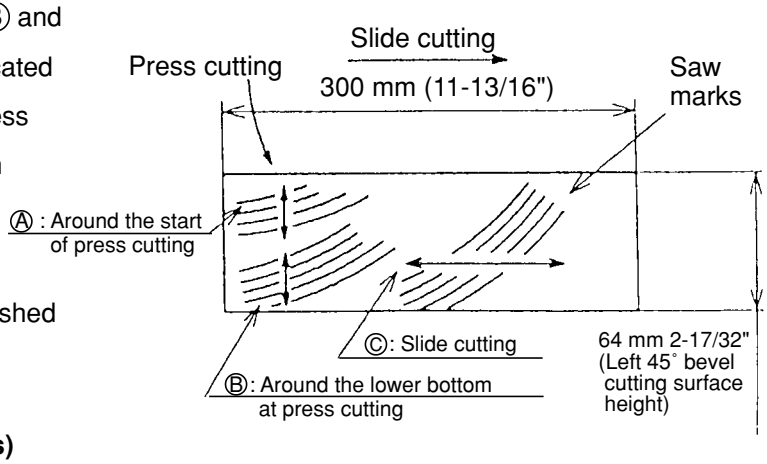


Table 8 Surface roughness (Max. values)

(Unit: μm)

Maker / Model / Measuring points	HITACHI C 12FSA	HITACHI C 10FS
Ⓐ	39	36
Ⓑ	39	38
Ⓒ	38	39

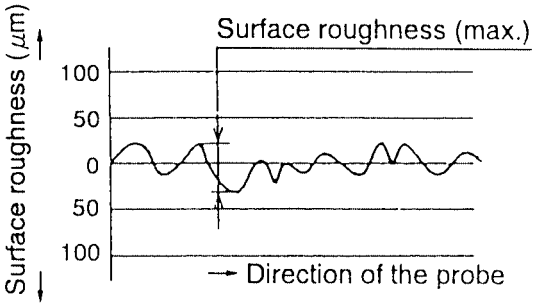


Fig. 16

(7) Minimized reaction during motor start

The C 12FSA uses the soft-start system to suppress sound pressure level when starting and reaction transmitted through the handle.

Sound pressure level and reaction when starting are as indicated in Table 9.

A normal speed is reached quickly with minimum sound pressure level when starting.

It is readily seen from Table 9 that the electronically controlled soft start is highly effective.

Table 9

Item / Maker / Model	HITACHI C 12FSA
Sound pressure level when starting (dB/A) *2	86
Reaction (P) when starting (kg) *3	0.5 or less

*2 Sound pressure level when starting: Maximum value measured at 1 m distance from the front

*3 Reaction when starting is a force exerted to the handle in the direction of lifting the handle.

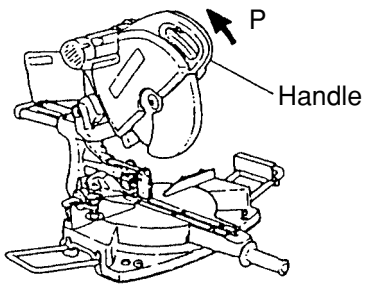


Fig. 17

(8) Poly V belt overload protection

C 12FSA utilizes the poly V belt to transmit the rotation of the motor to the saw blade instead of a conventional gear transmission system. This is to reduce noise, however, there is a fear of cutting the poly V belt during overload. To protect the poly V belt, an overload protection circuit is equipped in C 12FSA. The overload protection circuit stops the motor revolution before the motor locks when an excessive or abnormal load is applied to the poly V belt, and so protects the poly V belt.

(9) Splinter guard, also serving for cut alignment

When rip-cutting through the end of a workpiece, a splinter may drop and be caught by the saw blade to be cut into scattering pieces. The C 12FSA is equipped with a splinter guard to prevent such splinter cutting. Safe cutting is ensured also in bevel cutting because the guard is tilted with the saw blade. In addition, the guard is movable, so that mark alignment is made much easier by aligning the saw blade groove at the guard end with the marked line on the workpiece, but only if the fence's workpiece holder surface is in alignment with the guard end. Though the workpiece is pushed backward by the reaction during sawing, the guard supports the workpiece and prevents deviation because the guard is positioned just behind the saw blade.

Aligning the fence's workpiece holding surface with the guard tip end can be easily accomplished by placing the flat workpiece in tight contact with fence (A) and fence (B), hitting the guard end against the workpiece and fixing it in position.

(10) Excellent cutting accuracy

The turn table, holder (A), and gear case are stiffened to improve the cutting accuracy. (Refer to Figs. 18 and 19 for comparison of flection when the load (P) is applied to the head.) If their stiffness is low, the forward portion of the workpiece is lowered by the weight of the saw blade and the saw blade is raised gradually when sliding backward. Therefore, dimensions "A" shown in Fig. 20-1 and Fig. 20-2 are widened and the accuracy when bevel cutting becomes bad. C 12FSA can provide high accuracy as shown in Table 10 at 45˚ bevel cutting with a workpiece 240 mm (9-7/16") in width.

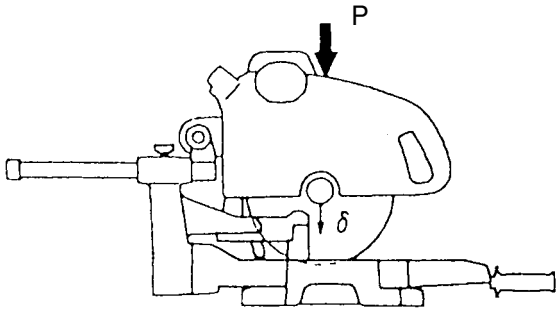


Fig. 18

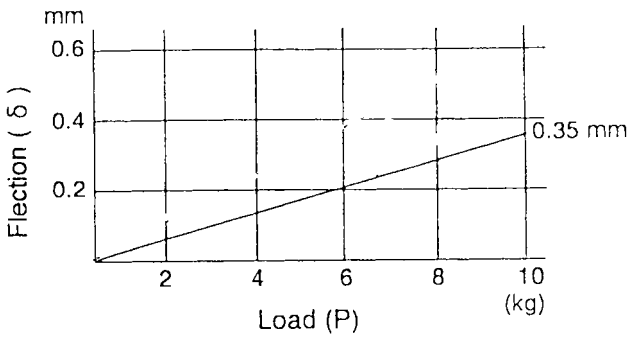


Fig. 19

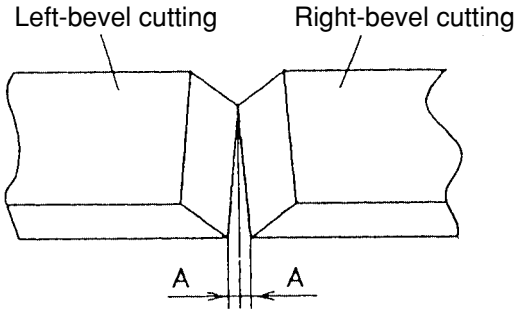


Fig. 20-1

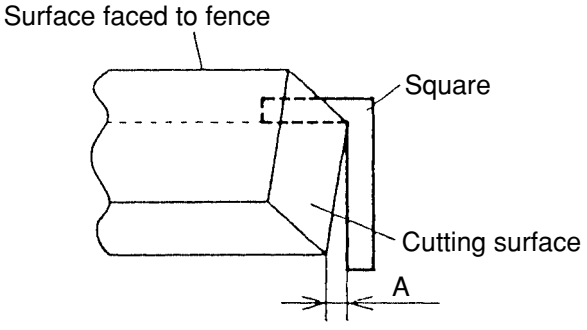


Fig. 20-2

Table 10 (Unit: mm)

Item \ Maker	HITACHI C 12FSA
Cutting accuracy (A dimensions in Fig. 20-1 and Fig. 20-2)	0.5 (0.02")

(11) Cutting depth stopper

The cutting depth stopper permits free and easy adjustment of the saw blade depth when it is pressed down into the workpiece. As illustrated in Fig. 21, first loosen the M8 wing nut, then turn the M8 cutting depth adjustment bolt by hand to change the contact of the tip of the bolt with the hinge to adjust the height of the saw blade. (See Fig. 21.)

Through appropriate adjustment of the cutting depth, grooves can be cut in the workpiece as illustrated in Fig. 22. The portion between the grooves can then be removed with a hand chisel or similar device. The two M8 nuts are precisely adjusted to serve as the lower limit stopper for the saw blade, and must not be loosened during adjustment of the cutting depth.

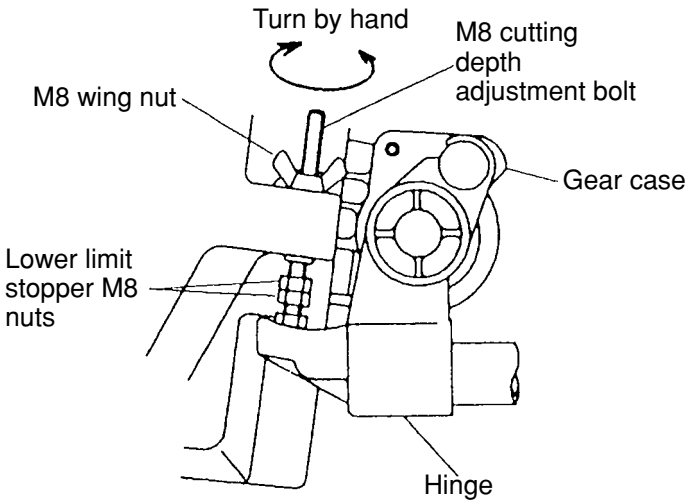


Fig. 21

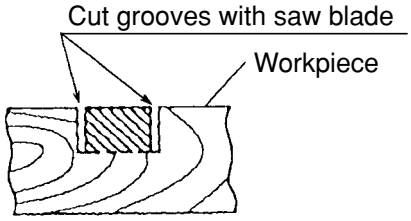


Fig. 22

(12) Retractable carrying handle

The Model C 12FSA is equipped with a retractable carrying handle that can be pushed into the main body when not in use, this convenient carrying handle does not interfere with the machine operation. (See Fig. 23.)

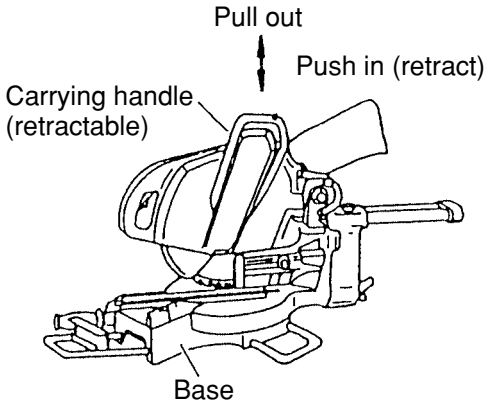


Fig. 23

4-2. Electronic Control and Its Functions

(1) Control circuit (block diagram)

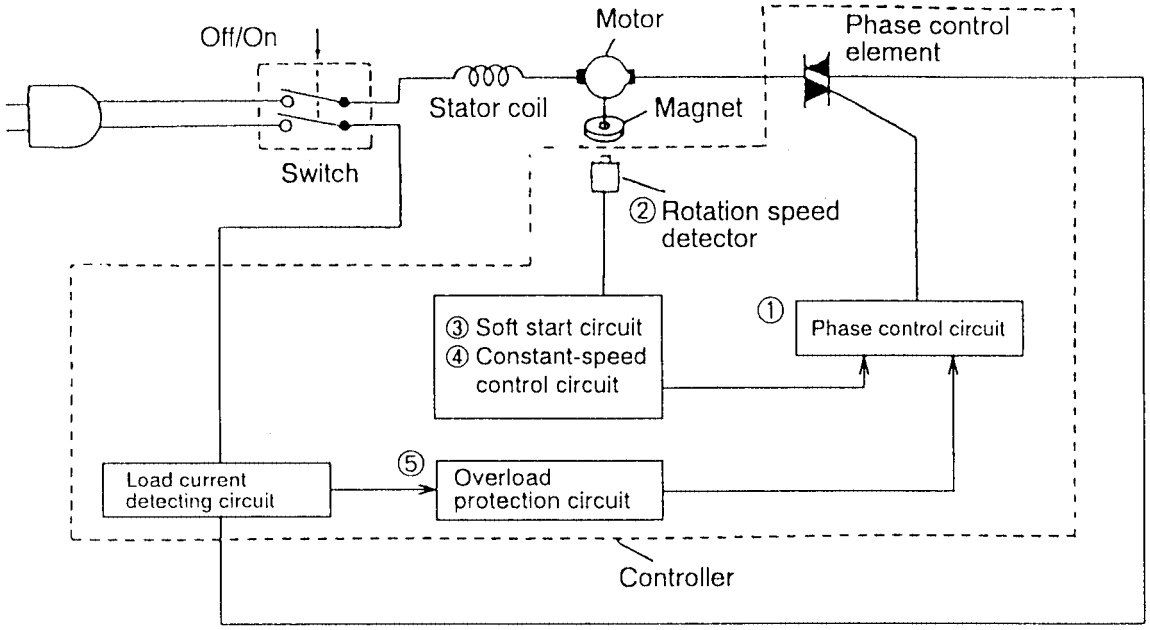


Fig. 24

(2) Functions

① Phase control circuit

As illustrated in Fig. 25, the phase control element (triac) functions to increase or decrease the time (T) of the line voltage waveform in order to control the amount of voltage applied to the motor.

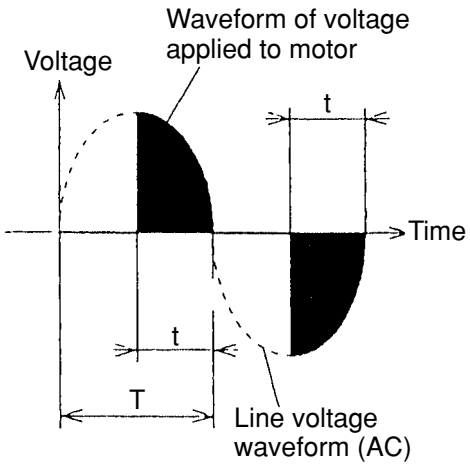
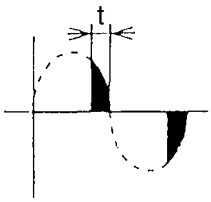
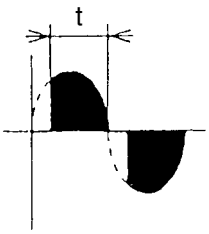


Fig. 25



When 't' becomes smaller, motor rotation speed and torque decrease.



When 't' becomes larger, motor rotation speed and torque increase.

When t = T, line voltage (full voltage) is applied.

② Rotation speed detector

The rotation speed detector detects and monitors the rotation speed of the armature by means of a magnetic sensor (magnet pick-up), incorporated in the controller, which detects flux changes generated by a magnet mounted at the end of the armature shaft.

③ Soft start circuit

When the switch is turned on, the soft start circuit functions to gradually increase the voltage applied to the motor, thereby gradually increasing motor rotation speed.

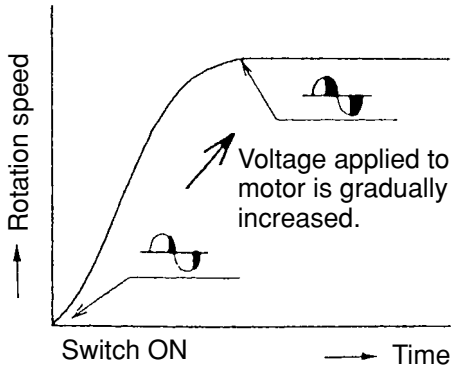


Fig. 26

④ Constant speed control circuit

The constant speed control circuit receives signals from the rotation speed detector, and adjusts the amount of voltage applied to the motor to keep the rotation speed of the motor as close as possible to a predetermined value.

⑤ Overload protection circuit

When an overload sensor detects a motor load current that exceeds the maximum load limit of the polyethylene V-belt, the overload protection circuit generates a command to cut off the power supplied to the motor. This circuit is also effective in preventing the motor and the phase control element from being damaged.

(3) Motor characteristics during electronic control

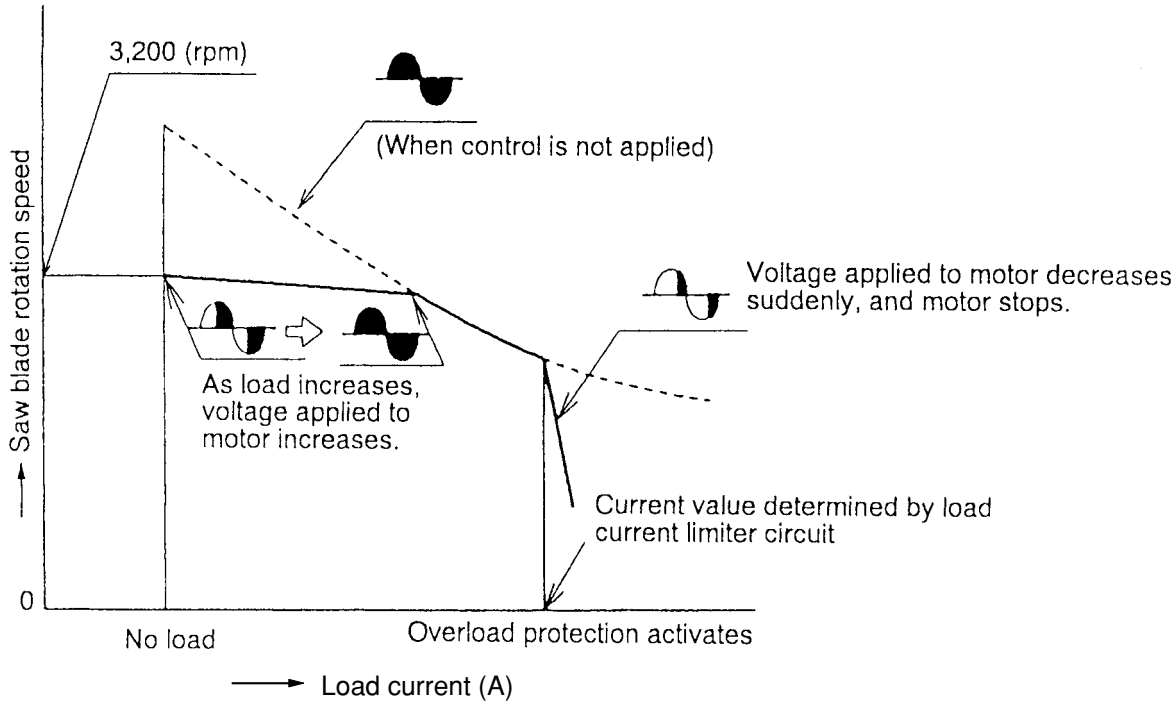


Fig. 27

5. SPECIFICATIONS

Maximum cutting dimentions Height x Width (H x W)	0˚ (Right angle)		107 mm x 305 mm (4-7/32" x 12") 120 mm x 260 mm (4-23/32" x 10-1/4") [with aux. board 20 mm (25/32")]
	Miter left/right 45˚		107 mm x 220 mm (4-7/32" x 8-21/32") 120 mm x 180 mm (4-23/32" x 7-3/32") [with aux. board 25 mm (1")]
	Miter left/right 57˚		107 mm x 180 mm (4-7/32" x 7-3/32") 120 mm x 140 mm (4-23/32" x 5-1/2") [with aux. board 25 mm (1")]
	Bevel	Left 45˚	70 mm x 305 mm (2-3/4" x 12") 75 mm x 260 mm (2-15/16" x 10-1/4") [with aux. board 20 mm (25/32")]
		Right 45˚	40 mm x 305 mm (1-9/16" x 12") 45 mm x 260 mm (1-25/32" x 10-1/4") [with aux. board 20 mm (25/32")]
	Miter left/right 45˚ + Bevel left 45˚		70 mm x 220 mm (2-3/4" x 8-21/32") 75 mm x 180 mm (2-15/16" x 7-3/32") [with aux. board 25 mm (1")]
	Miter left/right 45˚ + Bevel right 45˚		40 mm x 220 mm (1-9/16" x 8-21/32") 45 mm x 180 mm (1-25/32" x 7-3/32") [with aux. board 25 mm (1")]
Miter cutting ranges			Right and left 0˚ — 57˚
Bevel cutting range			Right and left 0˚ — 45˚
Compound (miter+bevel) cutting ranges			Miter left 45˚ to right 45˚ + left bevel 0˚ to 45˚ Miter left 31˚ to right 45˚ + right bevel 0˚ to 45˚
Angle stopper positions			Left/right 0˚, 15˚, 22.5˚, 30˚ and 45˚ Left/right 0˚, 15˚, 22.5˚, 31.6˚, 35.3˚ and 45˚ (for USA)
Applicable saw blade			305 mm (12") external dia. x 25.4 mm (1") bore
External diameter of applicable saw blades			290 mm — 305 mm (10-7/16" — 12")
Power source type			AC single phase 50/60 Hz
Type of motor			AC single phase commutator series motor
Full-load current			120 V — 12 A , 230 V — 7.6 A, 240 V — 7.2 A
No-load rotation speed			3,200/min.
Max. output			Approx. 1,940 W
Main body dimensions (Width x Depth x Height)			580 mm x 1,120 mm x 675 mm (22-27/32" x 44-1/8" x 26-9/16")
Weight			25 kg (26.5 kg with holder), Gross weight 35 kg 55 lbs.(58.4 lbs. with holder), Gross weight 77 lbs.
Coating			Metallic silver green
Packaging			Corrugated cardboard box
Cord			Type: 2-conductor cabtyre cable Nominal cross-sectional area: 1.25 mm² Length: 2.5 m (8.3 ft) External dia.: 9 mm with mold plug
Standard accessories (Different by areas)			• Dust bag • Guide ass'y • Holder (B) • 10 mm x 13 mm (13/32" x 33/64") double head wrench • 17 mm (43/64") box wrench • 305 mm (12") TCT saw blade (60 teeth, Code No. 7261001) ····· for wood cutting • Vise ass'y
Optional accessories (Different by areas)			• 305 mm (12") TCT saw blade (96 teeth, Code No. 310875) • • • • • • for wood and aluminum cutting • 305 mm (12") TCT saw blade (60 teeth, Code No. 305546) • • • • • • for wood and aluminum cutting • 305 mm (12") TCT saw blade (80 teeth, Code No. 309418) • • • • • • for aluminum cutting • 305 mm (12") TCT saw blade (90 teeth, Code No. 301721) • • • • • • for wood (press cutting) and aluminum cutting • Vise (A) (horizontal) Code No. 305174

6. COMPARISONS WITH SIMILAR PRODUCTS

Item \ Maker/Model			HITACHI C 12FSA	HITACHI C 10FS	C
Max. cutting dimensions Height x Width (H x W)	0˚ (Right angle)		107 mm x 305 mm (4-7/32" x 12") 120 mm x 260 mm (4-23/32" x 10-1/4") [With aux. board 20 mm (25/32")]	85 mm x 312 mm (3-11/32" x 12-9/32") 90 mm x 295 mm (3-17/32" x 11-5/8")	98 mm x 310 mm (3-7/8" x 12-1/4") 120 mm x 230 mm (4-23/32" x 9") [With aux. board 34 mm (1-5/16")]
	Miter	Right & left 45˚	107 mm x 220 mm (4-7/32" x 8-21/32") 120 mm x 180 mm (4-23/32" x 7-3/32") [With aux. board 25 mm (1")]	85 mm x 220 mm (3-11/32" x 8-21/32") 90 mm x 215 mm (3-17/32" x 8-15/32")	98 mm x 220 mm (3-7/8" x 8-21/32") 120 mm x 162 mm (4-23/32" x 6-3/8") [With aux. board 24 mm (15/16")]
		Right & left 57˚	107 mm x 180 mm (4-7/32" x 7-3/32") 120 mm x 140 mm (4-23/32" x 5-1/2") [With aux. board 25 mm (1")]	85 mm x 180 mm (3-11/32" x 7-3/32") 90 mm x 160 mm (3-17/32" x 6-5/16") Right 57˚	Right 60˚ 98 mm x 155 mm (3-7/8" x 6-1/8") 120 mm x 115 mm (4-23/32" x 4-1/2")
	Bevel	Left 45˚	70 mm x 305 mm (2-3/4" x 12") 75 mm x 260 mm (2-15/16" x 10-1/4") [With aux. board 20 mm (25/32")]	55 mm x 305 mm (2-5/32" x 12") 60 mm x 295 mm (2-3/8" x 11-5/8")	55 mm x 310 mm (2-5/32" x 12-1/4") 69 mm x 230 mm (2-3/4" x 9") [With aux. board 34 mm (1-5/16")]
		Right 45˚	40 mm x 305 mm (1-9/16" x 12") 45 mm x 260 mm (1-25/32" x 10-1/4") [With aux. board 20 mm (25/32")]	30 mm x 305 mm (1-3/16" x 12") 35 mm x 295 mm (1-3/8" x 11-5/8")	35 mm x 310 mm (1-3/8" x 12-1/4") 49 mm x 230 mm (1-15/16" x 9") [With aux. board 34 mm (1-5/16")]
	Miter left 45˚ + Bevel left 45˚		70 mm x 220 mm (2-3/4" x 8-21/32") 75 mm x 180 mm (2-15/16" x 7-3/32") [With aux. board 25 mm (1")]	55 mm x 220 mm (2-5/32" x 8-21/32") 60 mm x 215 mm (2-3/8" x 8-15/32")	55 mm x 220 mm (2-5/32" x 8-21/32") 69 mm x 162 mm (2-3/4" x 6-3/8") [With aux. board 24 mm (15/16")]
	Miter right 45˚ + Bevel right 45˚		40 mm x 220 mm (1-9/16" x 8-21/32") 45 mm x 180 mm (1-25/32" x 7-3/32") [With aux. board 25 mm (1")]	30 mm x 220 mm (1-3/16" x 8-21/32") 35 mm x 215 mm (1-3/8" x 8-15/32")	35 mm x 220 mm (1-3/8" x 8-21/32") 49 mm x 162 mm (1-15/16" x 6-3/8") [With aux. board 24 mm (15/16")]
Groove cutting with saw blade			Possible (with bolt adjustment)	Possible (with bolt adjustment)	Possible (with screw adjustment)
Miter cutting ranges			Left/right 0˚ — 57˚	Left 0˚ — 45˚ Right 0˚ — 57˚	Left 0˚ — 47˚ Right 0˚ — 60˚
Bevel cutting ranges			Left/right 0˚ — 45˚	Left/right 0˚ — 45˚	Left/right 0˚ — 45˚
Compound (miter + left bevel) cutting ranges			Miter: Right and left 0˚ — 45˚ Bevel: left 0˚ — 45˚	Miter: Right and left 0˚ — 45˚ Bevel: left 0˚ — 45˚	Miter: Right and left 0˚ — 45˚ Bevel: left 0˚ — 45˚
Angle stopper position			Right and left 0˚, 15˚, 22.5˚, 30˚, 45˚ 0˚, 15˚, 22.5˚, 31.6˚, 35.3˚, 45˚ (for USA)	Right and left 0˚, 15˚, 22.5˚, 30˚, 45˚ 0˚, 15˚, 22.5˚, 31.6˚, 35.3˚, 45˚ (for USA)	Right and left 0˚, 15˚, 22.5˚, 30˚, 45˚ Right 60˚
Saw blade outer diameter (mm)			305 (12")	255 (10")	305 (12")
Motor	Full-load current (A)		120 V — 12 A, 230 V — 7.6 A, 240 V — 7.2 A	115 V — 12A, 230 V — 6.6 A, 240 V — 6.3 A	———
	No-load revolution (/min.)		3,200	3,800	3,200
	Max. output (W)		Approx. 1,940	Approx. 1,400	———
	Soft-start		Provided (electronic control)	Provided (electronic control)	Provided (electronic control)

Item \ Maker/Model		HITACHI C 12FSA	HITACHI C 10FS	C
Motor	Speed control	Provided (electronic control)	Provided (electronic control)	Provided (electronic control)
	Poly V belt overload protector	Provided (electronic control)	Provided (electronic control)	No
Saw blade drive system		Poly V belt + Gear	Poly V belt + Gear	Gear
Slide drive system		On top of workpiece Slide pipes x 2	On top of workpiece Slide pipes x 2	Under workpiece Slide pipes x 2
Slide clearance adjustment		Externally adjustable	Externally adjustable	Disassemble is required.
Insulation structure		Double insulation	Double insulation	Double insulation
Bending strength (mm) (when cut at 305 mm-wide position under a measured pressure of 10 kg)		2	2	——
Base size width x depth (mm)		580 x 145 (22-27/32" x 5-23/32")	525 x 150 (20-11/16" x 5-29/32")	——
Height adjustment of workpiece holder		Available	Available	No
Splinter guard		W/angle & inclination scale	W/angle & inclination scale	——
Miter scale		Provided (with mark alignment)	Provided (with mark alignment)	No
Dust bag capacity (ℓ)		3	3	——
Power cord accommodation		External	External	External
Main unit dimensions (Width x Depth x Height) (mm)		580 x 1,120 x 675 (22-27/32" x 44-1/8" x 26-9/16")	525 x 1,045 x 560 (20-11/16" x 41-5/32" x 22-1/16")	590 x 800 x 690 (23-1/4" x 31-1/2" x 27-1/4")
Product weight (kg)		25 (55 lbs.)	20 (44 lbs.)	22 (48.5 lbs.)
Standard accessories (different by areas)		• Vise ass'y • Guide ass'y • Dust bag • Holder (B) • 17 mm (43/64") box wrench • 10 mm x 13 mm (13/32" x 33/64") double head wrench	• TCT saw blade (90P) • Vise ass'y • Guide ass'y • Dust bag • Holder (B) • 10 mm (13/32") box wrench	• TCT saw blade (80P) • Vise ass'y • Triangle • Dust bag • Socket wrench • Holder • Removable safety lock off button
Optional accessories (different by areas)		• TCT saw blade (60P) for wood and aluminum cutting • TCT saw blade (80P) for aluminum sashes • TCT saw blade (90P) for wood and aluminum cutting • TCT saw blade (96P) for wood and aluminum cutting • Vise (A) (horizontal)	• TCT saw blade (60P) for wood working • TCT saw blade (72P) for aluminum sashes	• TCT saw blade (72P) • Set plate (constant dimensioner, stopper) • Horizontal vise • Subfence R • Safety goggles • Holder rod assembly

7. PRECAUTIONS IN SALES PROMOTION

In the interest of promoting the safest and most efficient use of the Model C 12FSA slide compound saw by all of our customers, it is very important that at the time of sale the salesperson carefully ensures that the buyer seriously recognizes the importance of the contents of the Handling Instructions, and fully understands the meaning of the precautions listed on the various caution plates attached to each machine.

7-1. Handling Instructions

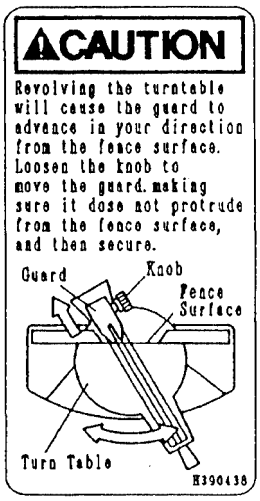
Although every effort is made in each step of design, manufacture and inspection to provide protection against safety hazards, the dangers inherent in the use of any power saw cannot be completely eliminated. Accordingly, general precautions and suggestions for the use of electric power tools, and specific precautions and suggestions for the use of the slide compound saw are listed in the Handling Instructions to enhance the safe, efficient use of the tool by the customer. Salespersons must be thoroughly familiar with the contents of the Handling Instructions to be able to offer appropriate guidance to the customer during sales promotion.

(1) Precautions on the nameplate

Be sure to check the nameplate on product as it is subject to change by areas. Each Model C 12FSA is furnished with a nameplate that lists the following precautions.

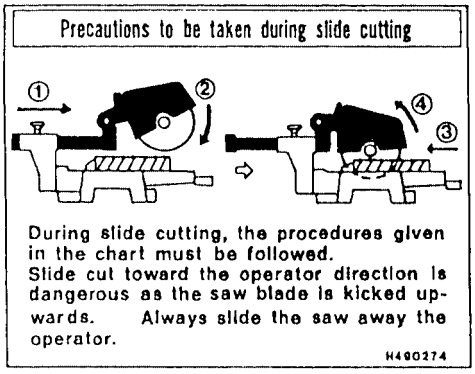
CAUTION
- Read thoroughly HANDLING INSTRUCTIONS before use.
- Use protective glasses while operating.

(2) Caution label (F)

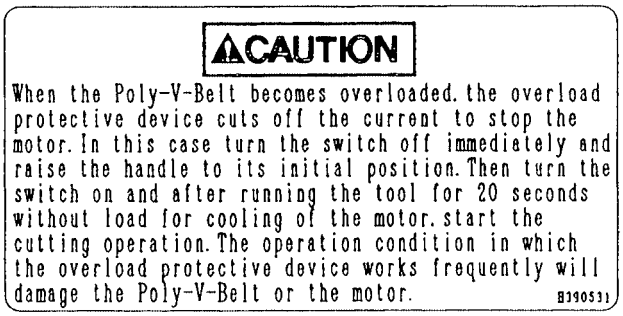


Instruct the customer to thoroughly read the Handling Instructions prior to attempting to operate the machine.

(3) Caution label (A)



(4) Caution label (G)



7.2 Precautions Concerning Brakes (100 to 120 V models)

This unit is a brake-equipped model which stops running when the switch is turned off. The unit stops operation normally in 5-6 seconds when the switch is turned off. If it takes more than 10 seconds to stop, absolutely avoid further use of this unit.

In this event, ensure that your customers bring this machine into their local Hitachi power tool dealer for servicing.

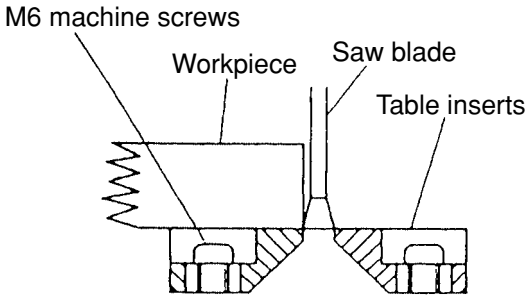
1) Be sure to use the carbon brushes dedicated to this machine (Code No. 999038).
   Using carbon brushes other than that specified will adversely affect the brake performance.
2) If the brake should fail to work, check the carbon brushes for correct function. If it is shorter than 6 mm, replace them with new ones. If the brake still does not work, replacement of other items such as the armature assembly may be required.

8. ADJUSTMENT AND OPERATIONAL PRECAUTIONS

8-1. Adjustment of Table Insert Position

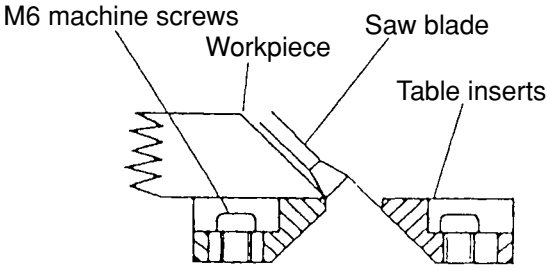
There are two adjustable table inserts mounted in the turn table. When the machine is shipped from the factory, the table inserts are positioned so that there is no chance that the saw blade will come in contact with either side of the saw blade slot even if the machine is used for 45° bevel cutting. Before operating the machine, please adjust the position of the table inserts in accordance with the following procedures.

First, loosen the three M6 machine screws that fasten the table inserts, then temporarily retighten the two outside screws (front and back). Next, clamp a workpiece [about 200 mm (7-7/8") wide] with the vise, cut the workpiece, align the table inserts with the cut surfaces as shown in Figs. 28-a, 28-b and 28-c, and fully tighten the front and back M6 machine screws. Finally, remove the workpiece and fully tighten the middle M6 machine screws. If adjustment is done as described, workpieces can be cut precisely by aligning the cutting line on the workpiece with the appropriate side edge of the table inserts. Adjust the table inserts as necessary for the type of cutting desired (right-angle cutting or left/right bevel cutting).



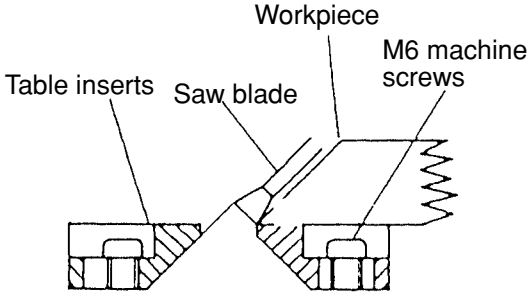
[Right angle cutting]

Fig. 28-a



[Left bevel cutting]

Fig. 28-b



[Right bevel cutting]

Fig. 28-c

8-2. Confirmation of Saw Blade Lower Limit Positioning

The lower limit of the saw blade cutting depth is factory adjusted so that when the saw blade is fully lowered, its cutting edge is 9 to 10 mm (11/32" to 13/32") below the upper surface of the turn table. Lower the saw blade and confirm that it stops at the correct position. (See Fig. 29.)

If it is necessary to adjust the saw blade lower limit, loosen the two M8 nuts on the M8 cutting depth adjustment bolt, and turn the adjustment bolt if necessary.

On completion of adjustment, ensure that the two M8 nuts are properly tightened, and then tighten the M8 wing nut. (See Fig. 30.)

[CAUTION] Perform the adjustment carefully to ensure that the saw blade does not cut into the turn table. Also, on completion of adjustment, ensure without fail that the two M8 nuts and the M8 wing nut are securely tightened.

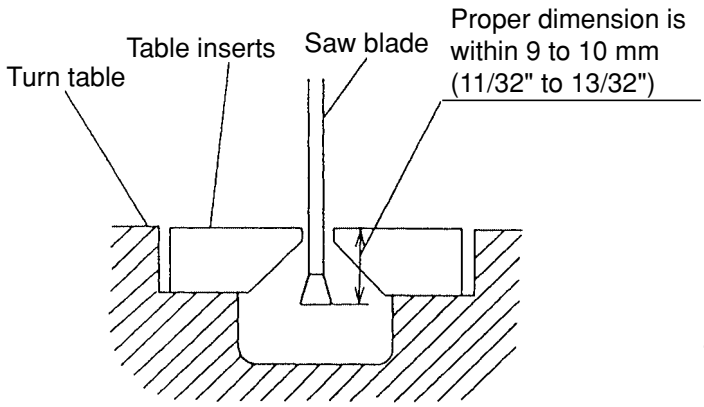


Fig. 29

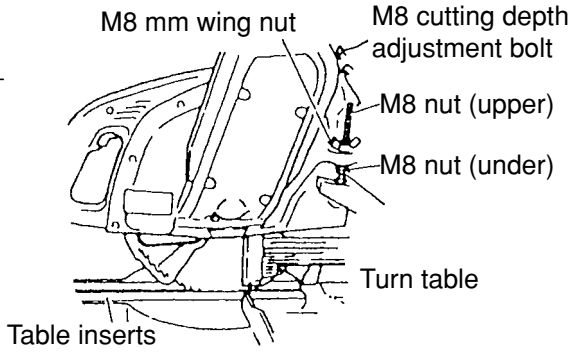


Fig. 30

8-3. How to Use the Vise Assembly

(1) The vise assembly can be mounted on either the right or left fence. The height of the vise can be adjusted in three stages by aligning either the V-grooves on the vise shaft or the bottom surface of the screw holder with the upper surface of the fence, and fitting the tip of the knob bolt M8 into the appropriate groove on the vise shaft. On completion of adjustment, tighten the knob bolt M8 to secure the vise shaft. (See Fig. 31.)

(2) After adjusting the position of the screw holder, lock it in position by tightening the knob bolt M6.

(3) Then the knob to thoroughly clamp the workpiece.

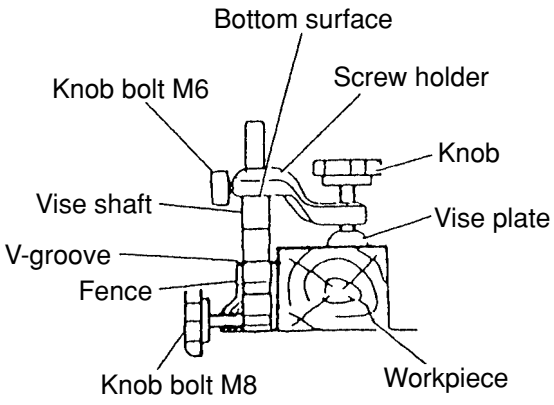


Fig. 31

[CAUTION] Ensure without fail the saw blade section (head) does not come in contact with the vise assembly when it is pushed down. In the case of left bevel cutting or compound (left bevel + left miter) cutting, attaching the vise assembly to the left-side fence allows workpieces with heights of up to 45 mm (1-25/32") to be clamped. If the height of the workpiece exceeds 45 mm (1-25/32"), attach the vise assembly to the fence on the opposite side from which the saw blade is tilted.

8-4. How to Use the Guard

(1) There is a plastic guard mounted in holder (A).

To allow accurate grooving of the guard with the saw blade that is actually going to be used on the machine, the groove is not precut at the factory. Please follow the procedures below to make a groove in the guard.

Press a workpiece against the fence, and clamp it in position with the vise. Then loosen the knob bolt M8, press the guard against the workpiece, and secure it in position. Next, turn the switch ON, and, after the saw blade has reached sufficient rotation speed, pull it out to a position where it will not contact the workpiece, slide it in as far as it will go, and press the handle down slowly to cut a groove in both the guard and the workpiece.

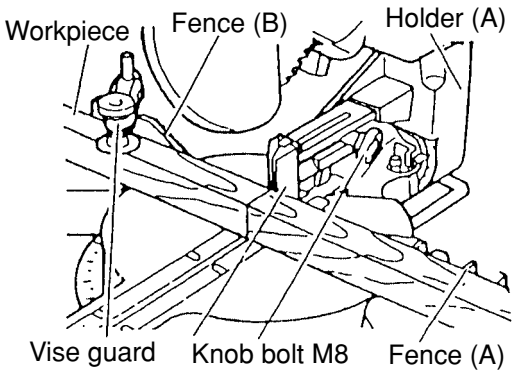


Fig. 32

[CAUTION] As the guard may be damaged or broken if the groove is cut too quickly, the customer should be advised to perform this operation slowly and smoothly.

(2) Positioning of cutting lines (guard adjustment)

① Right angle cutting or bevel cutting

Loosen the knob bolt M8, press the guard lightly against the workpiece, and secure it in position. Align the cutting line on the workpiece with the saw blade cut groove in the guard, and cut the workpiece.

② Miter cutting or compound (Miter + Bevel) cutting

Loosen the knob bolt M8, and move the guard back (in the direction indicated by the arrow mark in Fig. 34) so that it does not protrude beyond the surface of the fence. Pressing the handle downward causes the safety cover to move upward, exposing the saw blade so that it can be easily aligned with the cutting line for accurate cutting of workpiece.

[CAUTION] The guard may protrude beyond the front surface of the fence when the turn table is turned. In such case, loosen the knob bolt M8, move the guard so that it does not protrude beyond the surface of the fence, and secure it in position.

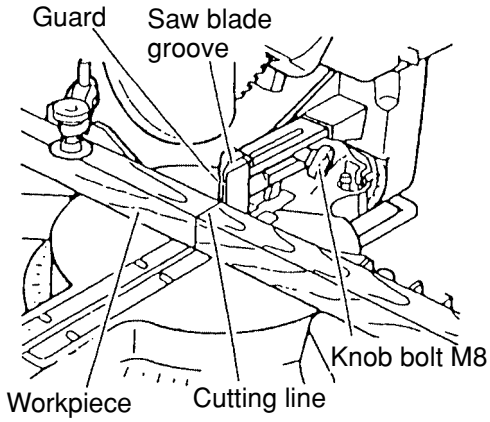


Fig. 33

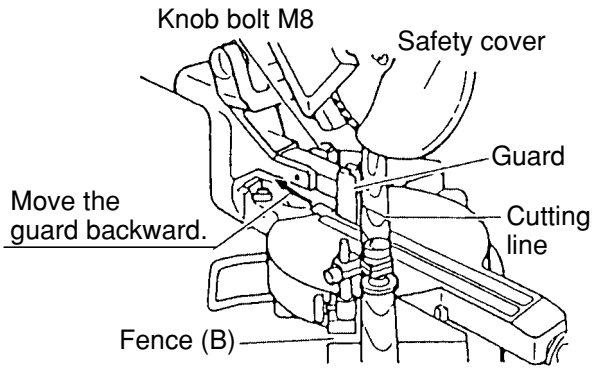


Fig. 34

[WARNING] To avoid possible serious injury, the customer should be cautioned never to raise the safety cover by hand while the saw blade is rotating.

8-5. Cutting Operation

(1) Cutting efficiency will be reduced if a dull saw blade is used, if an excessively long extension cord is used, or if the wire gauge of the extension cord is too small. (for details on extension cords, please refer to the Handling Instructions.) This is particularly important when cutting materials with dimensions which are at or near the maximum capacity for the machine.

(2) The customer should be advised to thoroughly inspect the workpiece to ensure that there are no metallic objects (nails in particular), sand, or other foreign matter in or on the workpiece. Saw blade contact with such foreign matter will not only shorten the service life of the saw blade, but could cause serious accident. Should the saw blade tips be broken off, the tips may fly toward the operator.

(3) Press cutting (③ of Fig. 35)

Like Model C 8FB2, Model C 12FSA can be used for press cutting of workpieces up to 100 mm (4") square in a single operation by simply pushing the saw blade section ③ downward. For such operation, instruct the customer to set the clearance between holder (A) and the hinge to approximately 20 mm (25/32") (see Fig. 4), and thoroughly tighten the slide securing knob bolt M8.

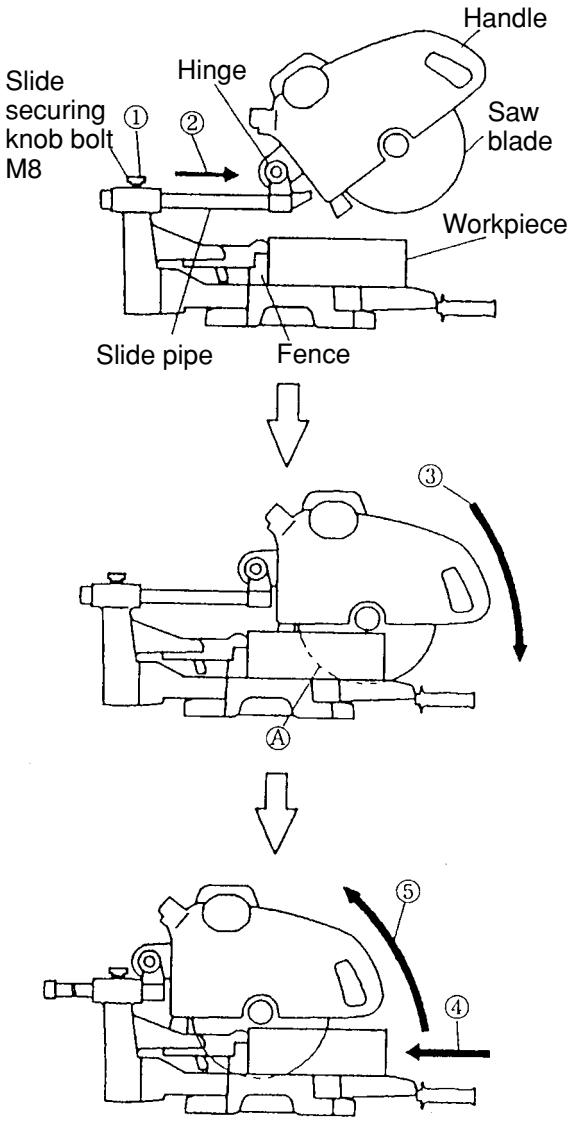


Fig. 35

(4) Slide cutting (① – ⑤ in Fig. 35)

Slide cutting procedures and precautions are described below.

① Loosen the slide securing knob bolt M8.

② Grasp the handle firmly, and pull the saw blade section (head) outward in the direction indicated by the arrow mark ② (toward the operator).

③ Push the handle downward, and cut the workpiece (press cutting).

[CAUTION] If the handle is pushed down forcibly and excessively fast, it could cause saw blade vibration and partial sliding which would leave unwanted cutting marks on the workpiece (see the area marked Ⓐ in Fig. 35). Instruct the customer to slowly and carefully press down the handle.

④ While pressing down on the handle, slide the saw blade section (head) in the direction indicated by arrow ③, and cut through the workpiece.

[CAUTION] Interrupting the cutting operation part way through the material or sliding the saw blade section in a jerky manner will produce unwanted cutting marks similar to those decribed in ③ above.

Carefully instruct the customer never, ever to perform slide cutting in the direction toward the operator. Such operation is extremely hazardous, as the saw blade could ride up over the workpiece and cause the saw blade section (head) to kick upward unexpectedly, causing possible serious injury (see arrow ⑤).

Instruct the customer to always slide the saw blade section toward the fence while cutting, as shown by arrow ④ in Fig. 35.

⑤ On completion of the cutting operation, turn the switch OFF and wait for the saw blade to come to a complete stop before raising the saw blade section (head) to its original position. Raising the saw blade section while the saw blade is rotating may cause unwanted cutting marks on the workpiece.

Techniques to avoid unwanted cutting marks

Uneven and unwanted cutting marks can be avoided throughout the cutting operation by gently and smoothly pressing down on the handle (arrow ③ in Fig. 35) and immediately sliding it forward (arrow ④ in Fig. 35) uniformly, so that the entire cutting operation is accomplished in a single, uninterrupted motion. Advise the customer that he or she will quickly develop a "feel" and skill for smooth cutting after performing two or three practice cutting operations.

(5) Miter cutting

Miter cutting is accomplished by turning the turn table. (For details, please refer to the Handling Instructions.)

(6) Bevel cutting

Bevel cutting of 0 — 45° to the left or right is accomplished by inclining the saw blade section (head). (For details, please refer to the Handling Instructions.)

[CAUTION] If bevel cutting is interrupted before cutting completely through the workpiece, the saw blade must be lifted to the initial cutting position without fail. If bevel cutting is restarted at the point where it was interrupted, the safety cover, which enters the cutting groove, may come in contact with and damage the saw blade, which could be very dangerous. Also, when bevel cutting a workpiece 75 mm (2-15/16") in height with the saw blade tilted 45° to the left, or when bevel cutting a workpiece 45 mm (1-25/32") in height with the saw blade tilted 45° to the right, adjust the saw so that there is a clearance of 2 to 3 mm (0.079" to 0.118") between the lower surface of the saw blade tip and the upper surface of the workpiece. (Please refer to paragraph 8-2, Confirmation of Saw Blade Lower Limit Positioning.)

(7) Compound (Miter + Bevel) cutting

Compound cutting can be accomplished by combining the miter cutting and bevel cutting operations described in paragraphs (5) and (6), above. (For details, please refer to the Handling Instructions.)

When the saw blade section (head) is inclined 45° to the left, the turn table can be turned up to 45° to the left and right. When the saw blade section (head) is inclined 45° to the right, the turn table can be turned up to 31° to the left, and up to 45° to the right.

(8) Crown modeling cutting

This machine can cut two types of crown molding workpieces by combining the miter and bevel cutting operations (for USA).

Fig. 36 shows two common crown molding types having angles of (θ) 38˚ and 45˚. For the typical crown molding fittings, see Fig. 37.

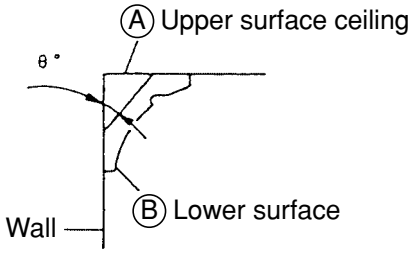


Fig. 36

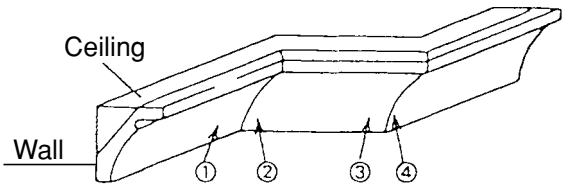


Fig. 37

The table below shows the miter angle and the bevel angle settings that are ideal for the two crown molding types.

NOTE: For convenience, positive stops are provided for both the miter setting and the bevel setting positions.

For miter cut setting

If the turn table has been set to either of the angles described, move the turn table adjusting side handle a little to the right and left to stabilize the position and to properly align the miter scale and the tip of the indicator before the operation starts.

For bevel cut setting

Move handle on miter section to the right and left and check that the position is stable and the angle scale and the tip of the indicator are properly aligned. Then tighten the clamp lever.

Type of crown molding	To process crown molding at positions ① and ④ in Fig. 37			To process crown molding at positions ② and ③ in Fig. 37		
	Miter angle setting	Bevel angle setting		Miter angle setting	Bevel angle setting	
45˚ type	Right 35.3˚ (▼ mark)	Left 30˚ (▼ mark)	Right 30˚ (▼ mark)	left 35.3˚ (▼ mark)	Left 30˚ (▼ mark)	Right 30˚ (▼ mark)
38˚ type	Right 31.6˚ (▲ mark)	Left 33.9˚ (▲ mark)	Right 33.9˚ (▲ mark)	Left 31.6˚ (▲ mark)	Left 33.9˚ (▲ mark)	Right 33.9˚ (▲ mark)

(1) Setting to cut crown molding at positions ① and ④ in Fig. 37 (See Fig. 38, tilt the head to the left.):

① Turn the turn table to the right and set the miter angle as follows:

- For 45˚ type crown moldings: 35.3˚ (▼ mark)
- For 38˚ type crown moldings: 31.6˚ (▲ mark)

② Turn the head to the left and set the bevel angle as follows:

- For 45˚ type crown moldings: 30˚ (▼ mark)
- For 38˚ type crown moldings: 33.9˚ (▲ mark)

③ Position the crown molding so that the lower surface (Ⓐ in Fig. 36) contacts the fence as indicated in Fig. 39.

(2) Setting to cut crown moldings at positions ② and ③ in Fig. 37 (See Fig. 40, tilt the head to the left.):

① Turn the turn table to the left and set the miter angle as follows:

- For 45˚ type crown moldings: 35.3˚ (▼mark)
- For 38˚ type crown moldings: 31.6˚ (▲mark)

② Tilt the head to the left and set the bevel angle as follows:

- For 45˚ type crown moldings: 30˚ (▼ mark)
- For 38˚ type crown moldings: 33.9˚ (▲ mark)

③ Position the crown molding so that the lower surface (Ⓑ in Fig. 36) contacts the fence as indicated in Fig. 41.

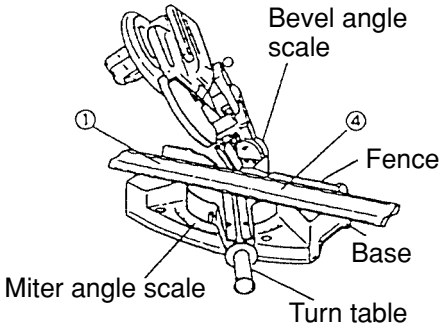


Fig. 38

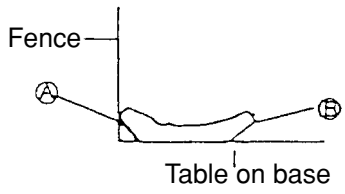


Fig. 39

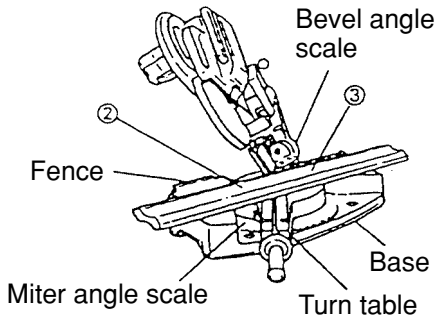


Fig. 40

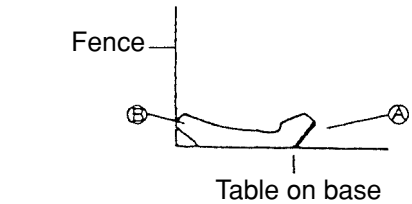


Fig. 41

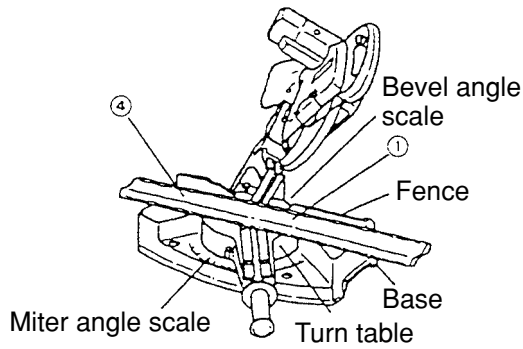


Fig. 42

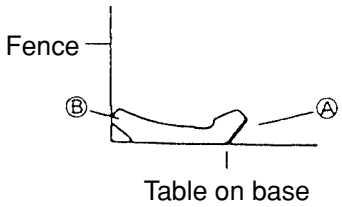


Fig. 43

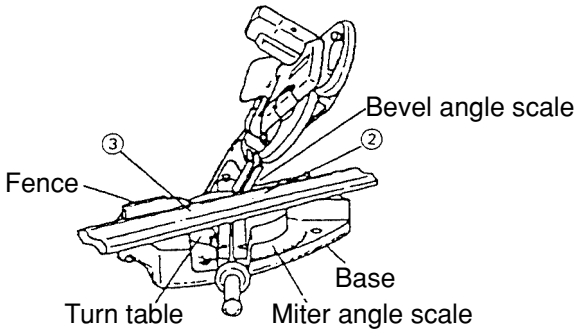


Fig. 44

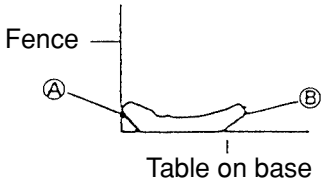


Fig. 45

(3) Setting to cut crown moldings at positions ① and ④ in Fig. 37 (See Fig. 42, tilt the head to the right.):

① Turn the turn table to the right and set the miter angle as follows:

- For 45˚ type crown moldings: 35.3˚ (▼ mark)
- For 38˚ type crown moldings: 31.6˚ (▲ mark)

② Tilt the head to the right and set the bevel angle as follows:

- For 45˚ type crown moldings: 30˚ (▼ mark)
- For 38˚ type crown moldings: 33.9˚ (▲ mark)

③ Position the crown molding so that the upper surface (Ⓑ in Fig. 36) contacts the fence as indicated in Fig. 43.

(4) Setting to cut crown moldings at positions ② and ③ in Fig. 37 (See Fig. 44, tilt the head to the right.):

① Turn the turn table to the left and set the miter angle as follows:

- For 45˚ type crown moldings: 35.3˚ (▼ mark)
- For 38˚ type crown moldings: 31.6˚ (▲ mark)

② Tilt the head to the right and set the bevel angle as follows:

- For 45˚ type crown moldings: 30˚ (▼ mark)
- For 38˚ type crown moldings: 33.9˚ (▲ mark)

③ Position the crown molding so that the lower surface (Ⓐ in Fig. 36) contacts the fence as indicated in Fig. 45.

(9) Cut surface quality during miter/bevel cutting

The quality of the cut surface depends on the type of cutting operation (miter or bevel), the type and sharpness of saw blade, whether the workpiece is cut to the left or right, and various other factors. In miter and bevel cutting in particular, cutting is performed across the wood grain, so the condition of the cut surface depends on whether the wood is cut with or against the grain. This is the same as when using electric portable planers. Customers should be advised of these phenomena so that they understand that in cases when the cut surface may not be as smooth as expected or hoped for, it is not caused by the performance of the saw blade or the Model C 12FSA.

In the cutting examples illustrated in Fig. 46, the cut surfaces on the sides marked Ⓐ are better than those on the sides marked Ⓑ.

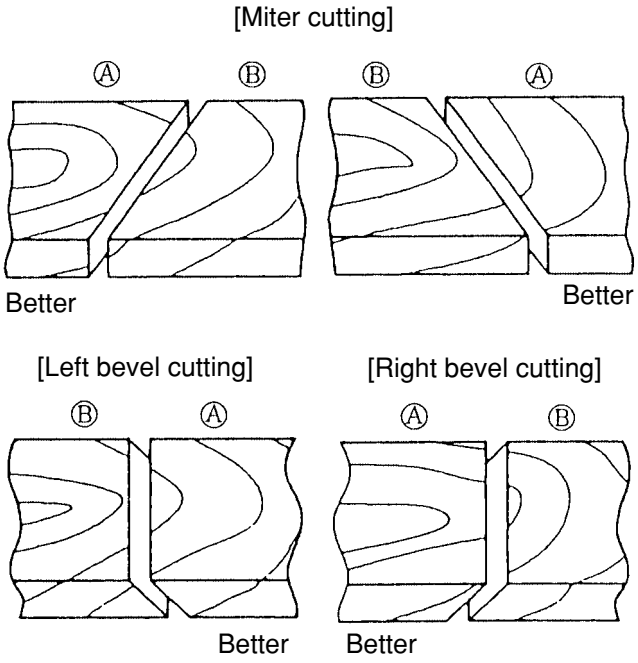


Fig. 46

8-6. Precautions Concerning Electronic Control

(1) Polyethylene V-belt overload protection

The rotation of the motor is transferred to the saw blade by a polyethylene V-belt. When an extremely heavy or abnormal load is applied to the polyethylene V-belt, the overload protection circuit functions to stop the motor, protecting the V-belt from wear or damage due to slipping.

In such a case, instruct the customer to immediately turn the switch OFF, lift up the handle, and return the saw blade section (head) to its original position. Then, turn the switch ON, and allow the machine to idle about 20 seconds so that the motor can be cooled by the motor fan. When the saw blade rotation speed returns to normal, cutting can be resumed.

In addition, the customer should be advised to give particular attention to the following points:

① Avoid cutting operations that cause the overload protection circuit to function repeatedly.

[Reason] There is a danger that the polyethylene V-belt and/or motor may be damaged.

② Do not restart cutting until the saw blade rotation speed has returned to normal.

[Reason] If cutting is restarted before the rotation speed returns to normal, the overload protection circuit will function again, even with a light load.

Even if the switch is not turned OFF after the saw blade section has been raised to its original position, the rotation speed will return to normal. However, it takes longer (4 to 10 seconds) that if the switch is turned OFF and then turned ON again so that the soft-start circuit functions.

Accordingly, turning the switch OFF and then ON again allows the operator to restart the cutting operation more quickly and more safely.

(2) Operating the Model C 12FSA near an electric welding machine may cause fluctuations in the rotation speed.

The control circuit in the Model C 12FSA contains a magnetic sensor (a flux change detecting element) and a triac (which may malfunction because of excessive electrical noise). Accordingly, customers should be advised not to operate the Model C 12FSA in the immediate vicinity of other machines that generate extremely strong magnetic fields or excessive electrical noise.

(3) Operate the machine with correct voltage supply

Large voltage drops caused by an unstable power supply may cause the overload protection circuit to function, or lower the output of the motor and affect efficient cutting. Advise the customer to check the power supply before operating the machine.

In addition, the customer should be advised to pay particular attention to the following points:

① If an extension cord is used, it should be kept as short as possible and within the requirements listed in the Handling Instructions.

[Reason] An excessively long extension cord causes voltage drop.

② Direct current (DC) cannot be used.

[Reason] The built-in controllers will only function with alternating current (AC).

9. ADJUSTMENT OF COMPONENTS

9-1. Bevel Angle Adjustment

When shipped from the factory, the height of 8 mm bolts (A), (B), and (C) are adjusted so that the saw blade section (head) will stop at 0˚ (right-angle), 45˚ to the left, and 45˚ to the right. To change the head stop positions, instruct the customer to adjust the height of 8 mm bolts (A), (B) and (C) as described below. For example, to change the 45˚ to the right stopper, pull the fixing pin out in the direction indicated by the arrow in Fig. 47-a, and tilt the head to the right.

When setting the head to the 0˚ position, be sure to replace the fixing pin (insert it in the opposite direction from that indicated by the arrow in Fig. 47-a).

[CAUTION] If there is any clearance between the upper surface of 8 mm bolt (A) (the 0˚ stopper) and the fixing pin, the angle of the saw blade relative to the upper surface of the turn table may not be an exact right angle. In such a case, press down on holder (A) and lock it in position with the clamp lever so that there is no clearance between the stopper pin and 8 mm bolt (A).

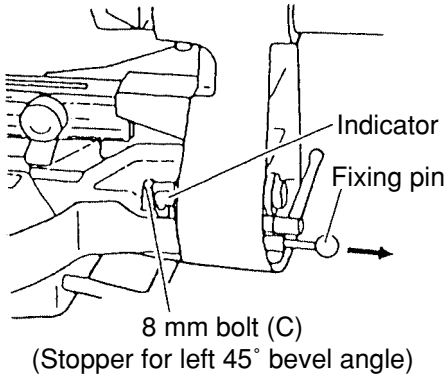


Fig. 47-a

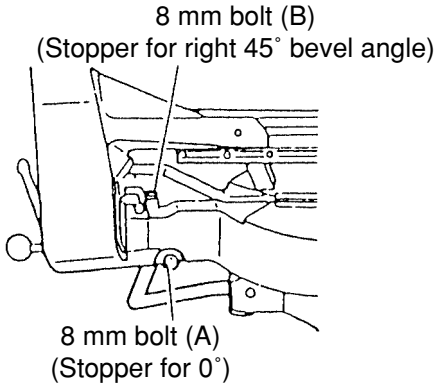


Fig. 47-b

9-2. Looseness Adjustment of the Slide Section

After extended use, there may be some looseness between slide pipe (A) and holder (A) because of worn bushings (they are made of resin material) on the slide pipe (A) portion. If abnormal looseness is noted, perform adjustment as described below. (See Figs. 48 and 49.)

(1) Loosen the four lock nuts M8, and loosen each of the four hexagon socket set screws M8 x 16 (① to ④ in Fig. 49). This will free slide pipe (A) so that it comes to rest on the lower surface of the holder (A) hole [32 mm (1.26") dia.].

(2) Gently tighten hexagon socket set screw M8 x 16 ① until it lightly contacts slide pipe (A), then turn it approximately 120˚ and lock it in position by tightening the lock nut M8. (This positions slide pipe (A) in the center of the holder in holder (A).)

(3) Next, tighten and adjust hexagon socket set screw M8 x 16 ② so that slide pipe (A) will slide smoothly, and lock it in position with the lock nut M8. [The pressing force required to slide pipe (A) should be within 2 to 3 kg. (4.4 to 6.6 lbs.)

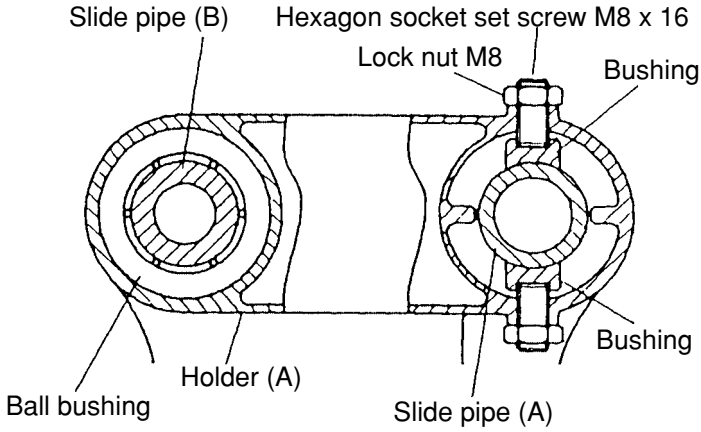


Fig. 48

(4) Then, tighten hexagon socket set screw M8 x 16 ③ and ④ to eliminate the play.

(5) Finally, check the perpendicularity of the saw blade with relation to the upper surface of the base [tolerance: 0.15/100 mm (0.006"/4")]. If it is not within tolerance, adjust 6 mm bolt (A) as necessary (see paragraph 9-1, "Bevel Angle Adjustment").

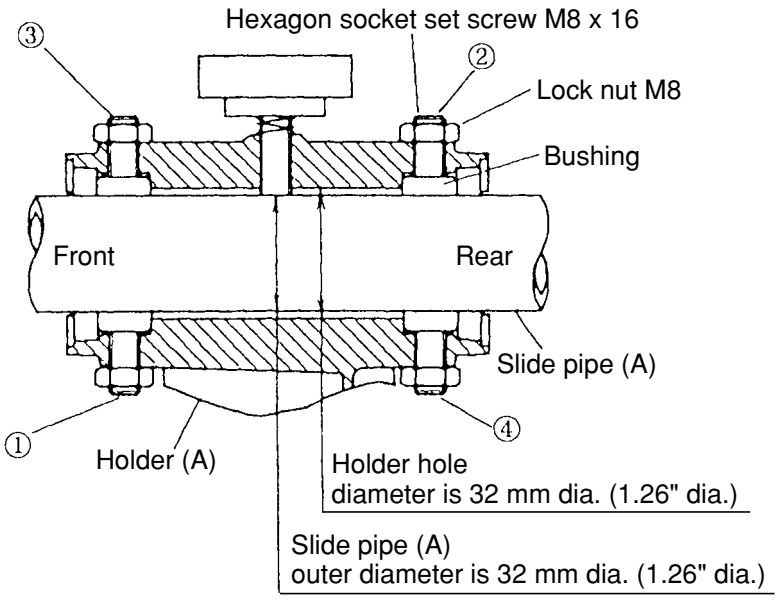


Fig. 49

9-3. Structure of the Ball Bushing (Linear Bearing)

(1) The ball bushing is commonly called a linear ball bearing. Inside the bearing is elongated guide grooves in which steel balls circulate and roll when a load is applied (as indicated by the arrow marks in Fig. 50). This type of device is widely used in automated machine tools.

The advantage of the ball bushing is that its friction coefficient remains largely uncharged even when the load is increased, ensuring smooth sliding movement.

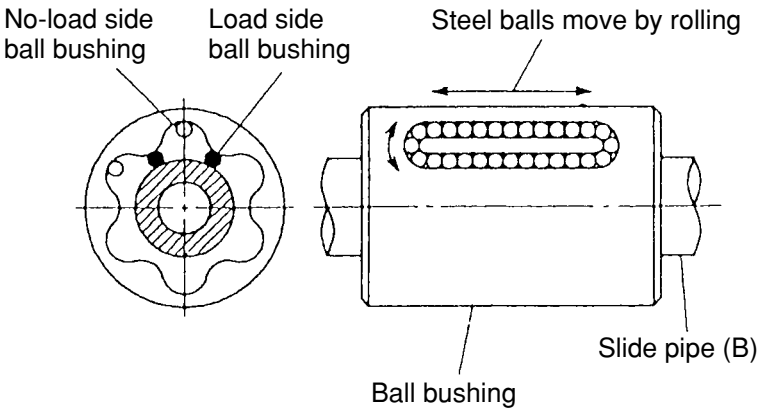


Fig. 50

In addition, slide pipe (B), made of bearing steel and heat treated to a high degree of hardness, is highly resistant to wear. Salespersons should have a good understanding of the structure and rugged characteristics of this exceptional mechanism to enhance sales promotion.

(2) Lubrication

If it is necessary to replace the ball bushing, apply approximately 2 grams (0.071 oz) of grease (Hitachi Motor Grease, Code No. 930035, is recommended) on the steel balls and within the guide grooves of the new ball bushing. If grease is not applied, it will shorten the service life of the ball bushing, and subsequent abrasive contact between the steel balls and slide pipe (B) will cause abnormal noise during slide cutting operations. Customers should be instructed to thoroughly remove saw dust and other foreign matter from slide pipe (A) and slide pipe (B) and liberally coat them with machine oil at least once a month.

10. PACKING (Different by areas)

(1) Preparation

Remove the side handle, holder, stopper, holder (B) and dust bag from the main unit.

Then swivel the turn table through 57˚ toward the right. Push the guard back.

(See Fig. 51.)

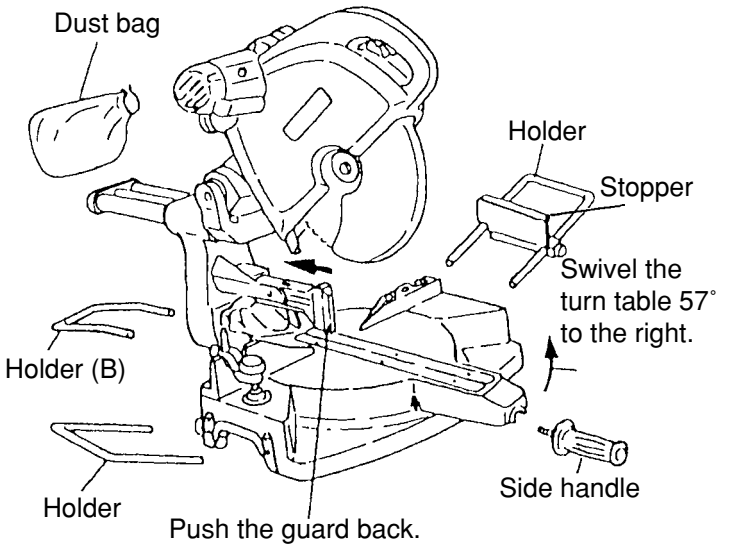


Fig. 51

(2) How to install packing (B) and (G)

Slide the head section toward the operator, insert packing (B) between the hinge and holder (A). Push the head back and secure the slide in position with packing (B) inserted by means of the 8 mm knob bolt. Then place the packing (G) under the hinge. (See Fig. 52.)

(3) How to install packing (F) and (H)

Place packing (F) under the motor and packing (H) under the head section. Push the head section down. Insert the locking pin while pressing the packings (F) and (H) to secure the head section in position. (See Figs. 53 and 54.)

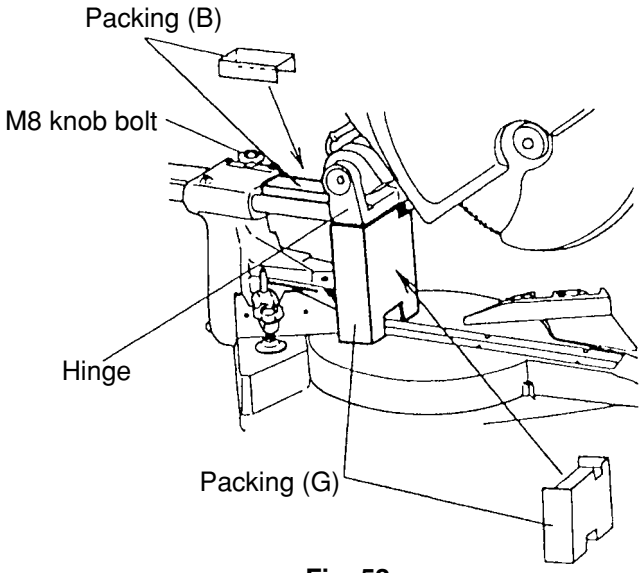


Fig. 52

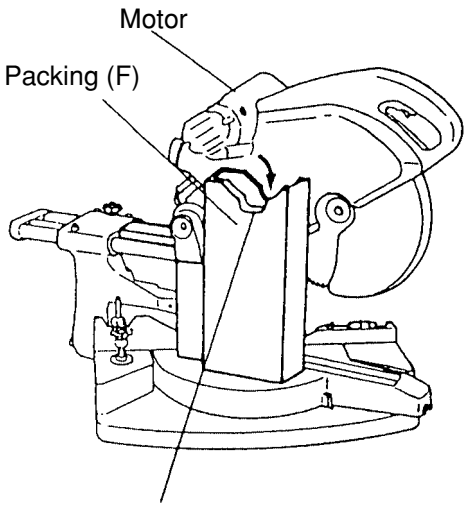


Fig. 53 Place the packing so that the motor housing fits in the groove.

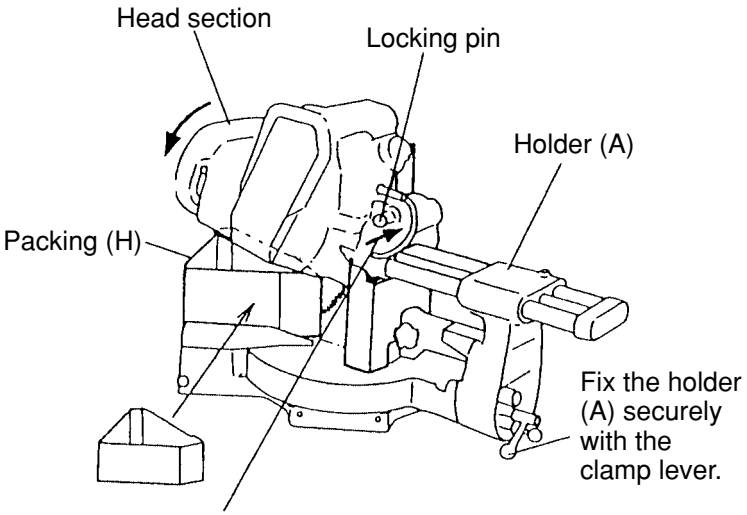


Fig. 54 Push down the head section and insert the locking pin to secure the head section at the lower position.

(4) How to install packings (A) and (D)

Put packing (D) in the U-shaped groove of the base packing in the carton box. (See Fig. 55.)

Put slide pipe (A) and slide pipe (B) in the grooves of packing (D). Insert packing (A) between the slide pipe (A) and slide pipe (B) at the rear. (See Fig. 56.)

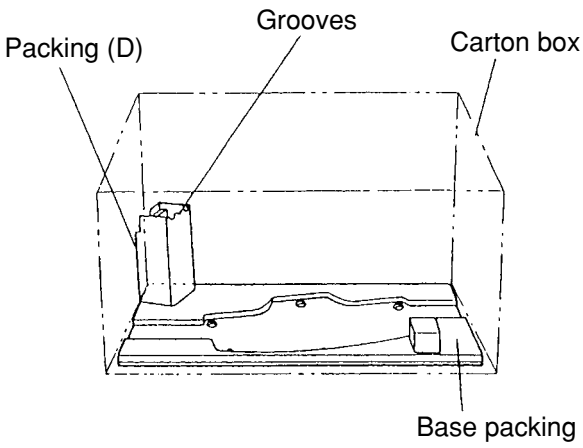


Fig. 55

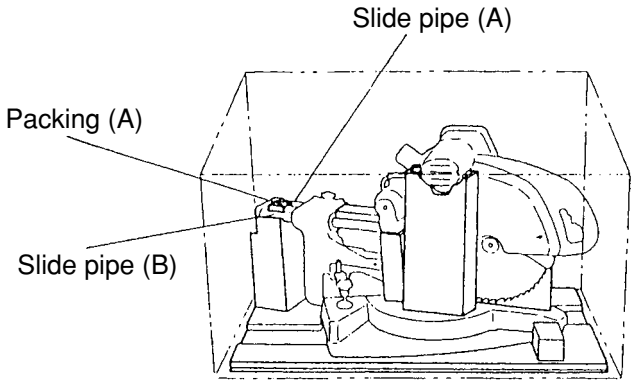


Fig. 56

(5) How to install packings (C) and (E)

Place packing (C) on packing (D) to sandwich the slide pipe. Insert packing (E) in the dust bag mounting portion at the head section. Place the dust bag (accessory) in front of packing (D). (See Fig. 57.)

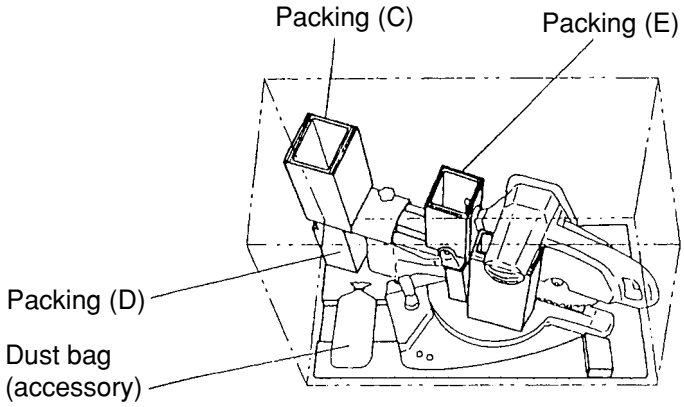


Fig. 57

(6) How to install the top pad (A)

Put the top pad (A) over the whole unit so that its projection is on the motor.

Close the lids of the carton box and bind them together. (See Fig. 58.)

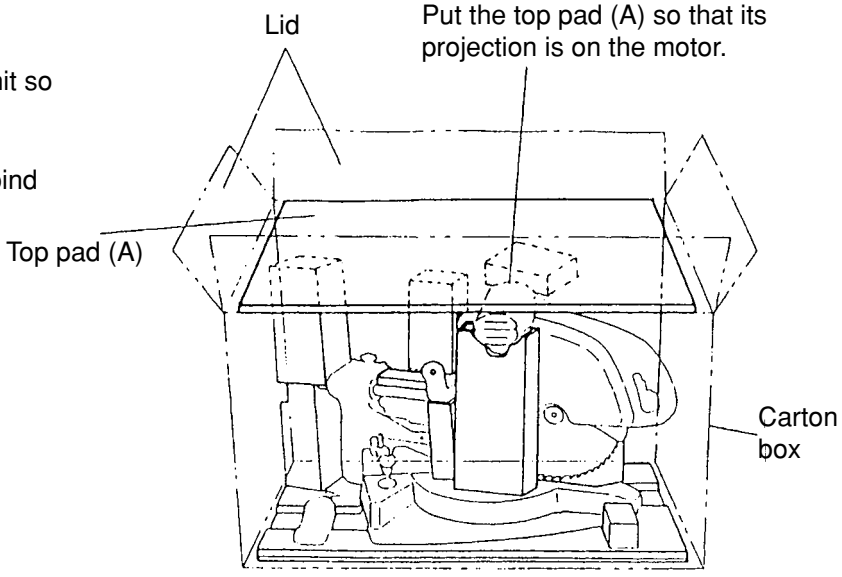


Fig. 58

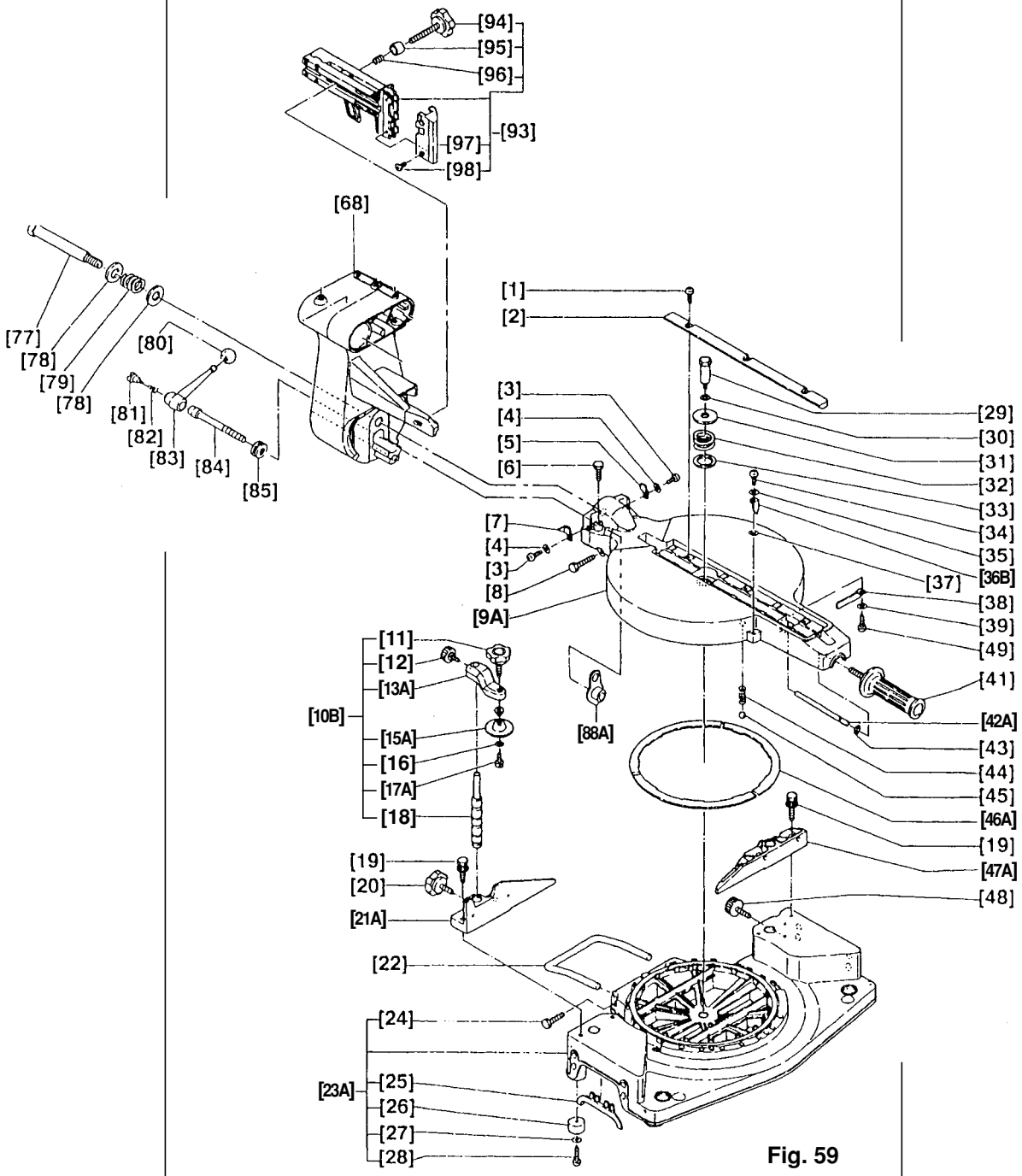
11. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY

11-1. Disassembly

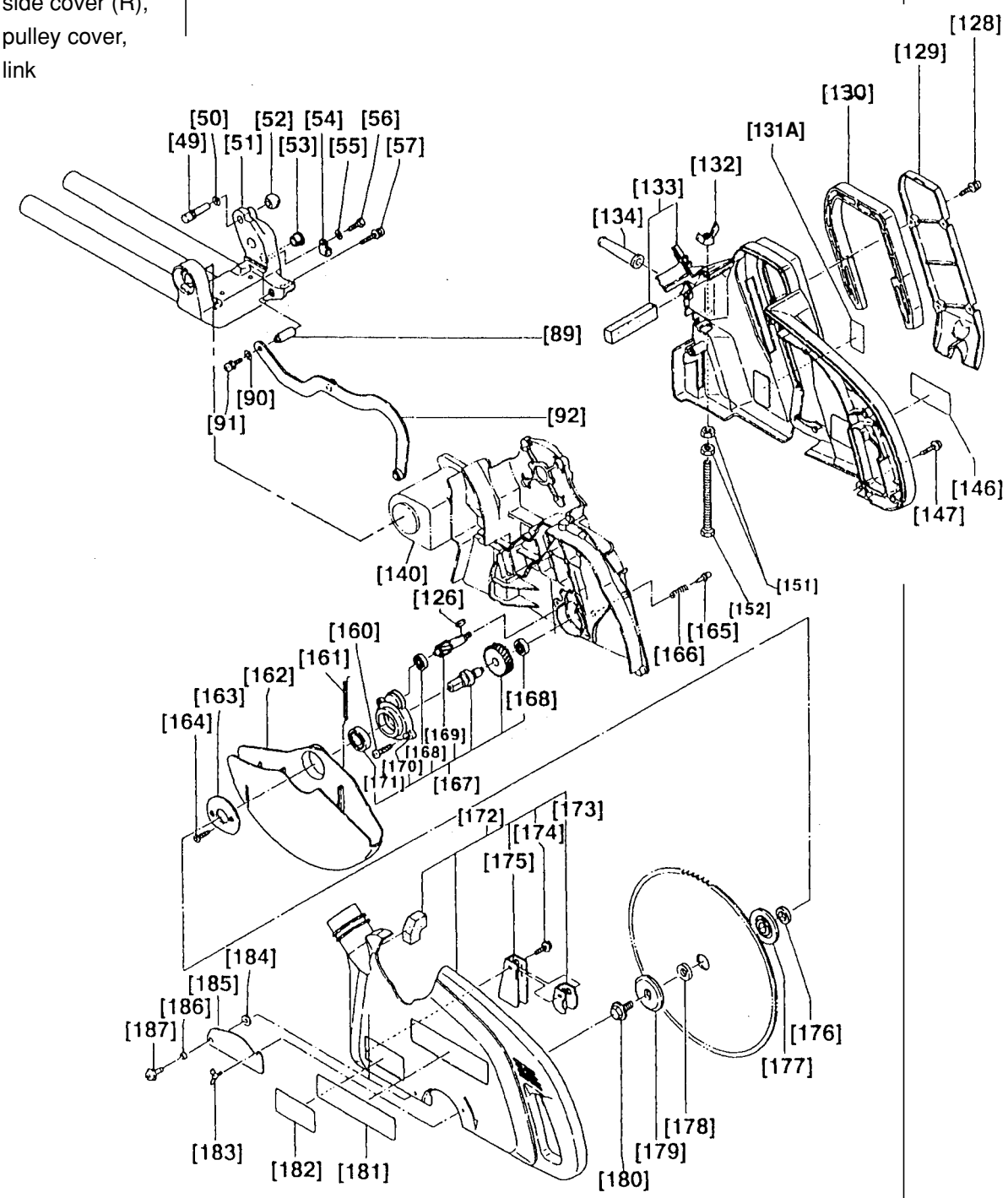
Special attention in disassembly should be given to the following items.

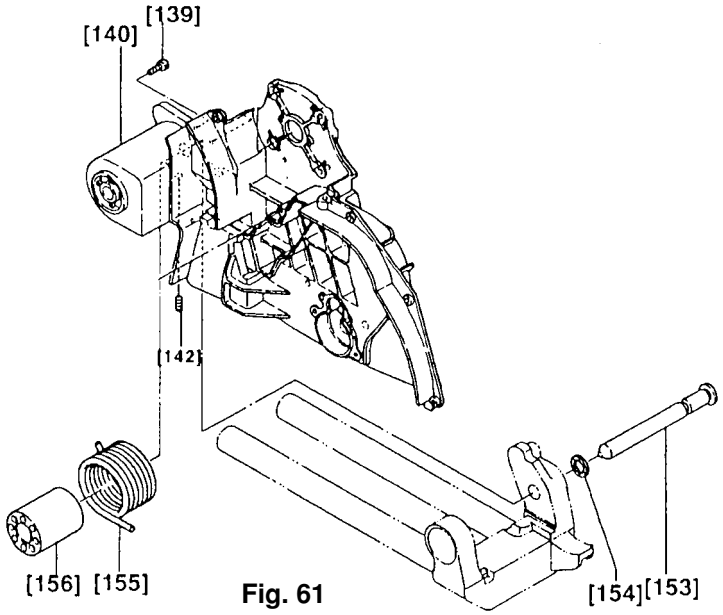
The **[Bold]** numbers in the descriptions below correspond to the item numbers in the parts list and exploded assembly diagram.

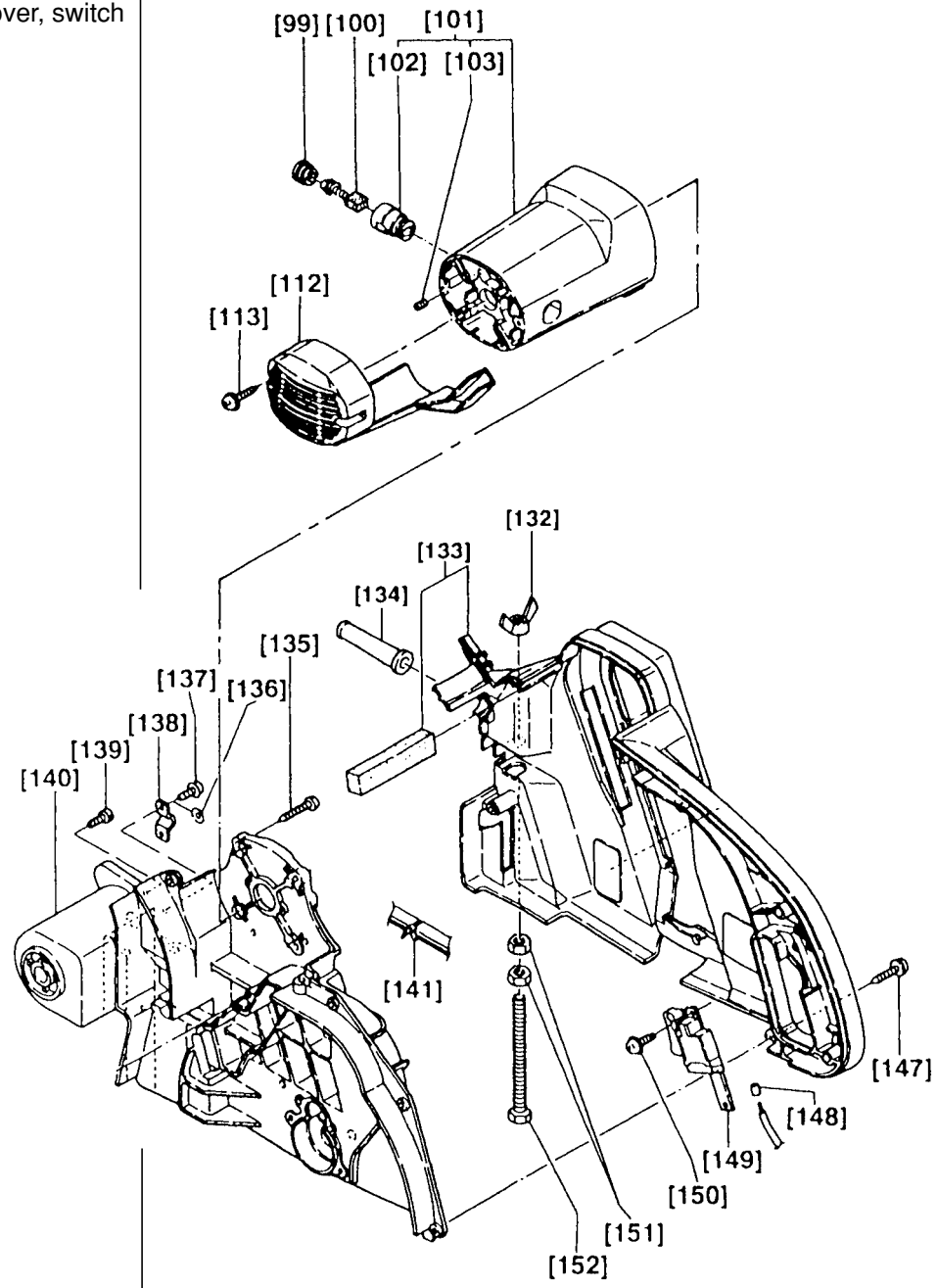
* Be sure to first disconnect the power plug when performing disassembly and replacement of the saw blade.

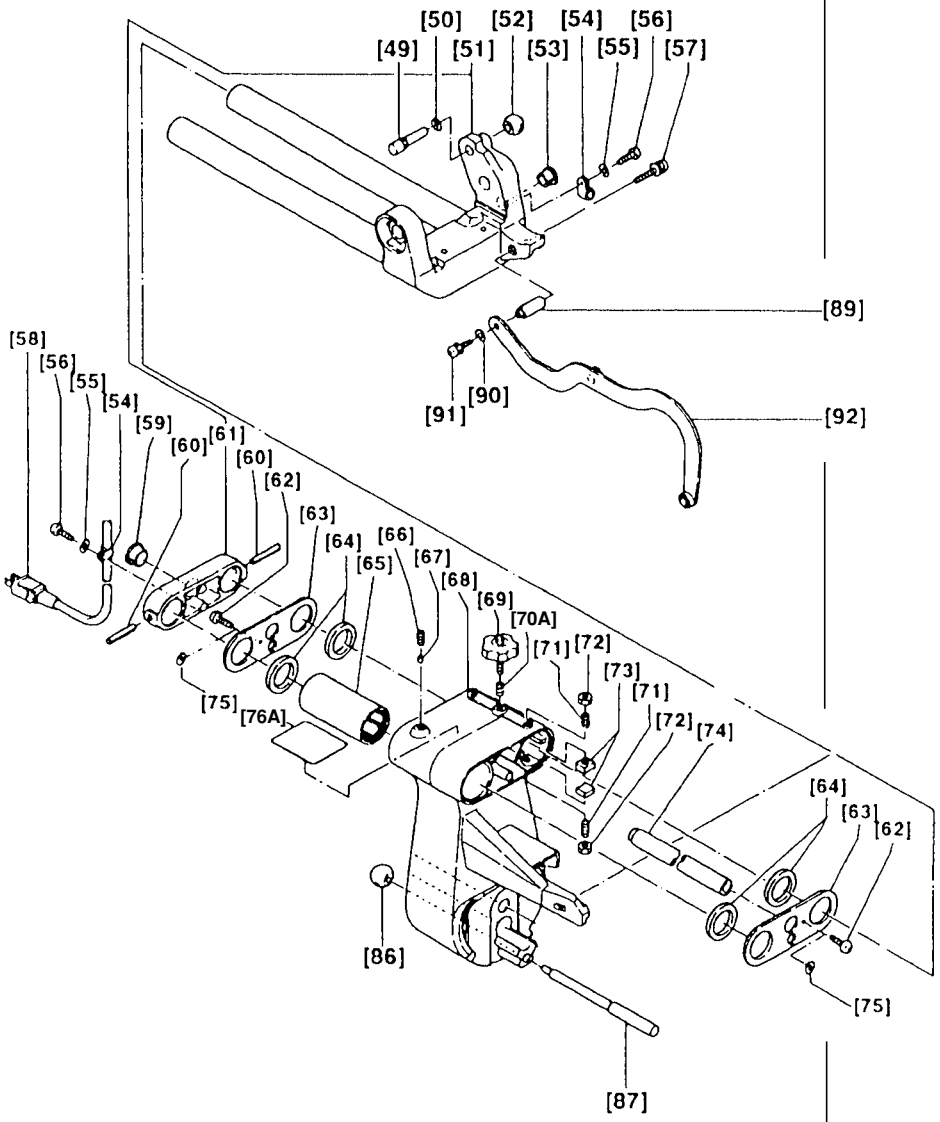
Item No.	Disassembly spots	Disassembly procedure	Necessary tools
1	Turn table, base ass'y	 Fig. 59	

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
1	Turn table, base ass'y	1. Remove the Knob Bolt M8 x 60 **[94]** and then remove Guard Ass'y (A) **[93]**.	
		2. Loosen the Clamp Lever **[83]**, remove the Clutch Screw **[81]**, turn the Bolt (Left Hand) M12 x 165 **[84]** and remove it from the Screw Holder **[88A]**. Remove the Hinge Shaft **[77]** from the Turn Table **[9A]**. This enables you to remove the head and slide mounted on Holder (A) **[68]** together from the Turn Table **[9A]**.	Flatblade screwdriver 19 mm (3/4") box wrench
		3. Remove the four Bolts (W/Washers) M8 x 35 (Black) **[19]**, Fence (A) **[47A]** and Fence (B) **[21A]**.	
		4. Remove Shaft (A) **[29]** and then remove the Turn Table **[9A]** from the Base Ass'y **[23A]**.	19 mm (3/4") box wrench Small pliers
		5. Remove the Side Handle **[41]**, pull out the Retainer Ring (E-type) for D7 Shaft **[43]** and remove the Shaft **[42A]**.	Phillips screwdriver
		6. Remove Indicator (B) **[5]**, Indicator (C) **[7]**, Indicator **[36B]**, Spacer **[38]** and Table Insert **[2]** from the Turn Table **[9A]** by removing each mounting screw.	
		7. Remove Holder (B) **[22]** and Base Rubber **[26]** from the Base Ass'y **[23A]** by removing each mounting bolt and screw.	10 mm x 13 mm (13/32" x 33/64" double-head wrench Phillips screwdriver

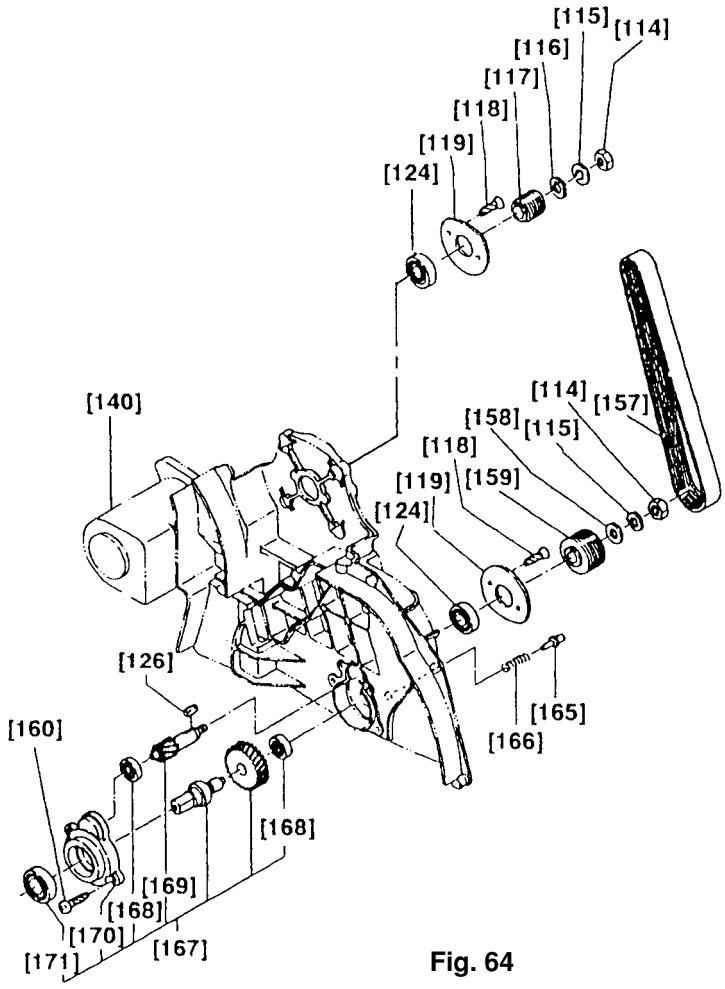
Item No.	Disassembly spots	Disassembly procedure	Necessary tools
2	Safety cover, side cover (L), side cover (R), pulley cover, link	 **Fig. 60**	
		1. Remove Side Cover (L) Ass'y **[172]** by removing the Wing Nut M8 **[132]**, Bolt M8 x 100 **[152]**, and the seven Tapping Screws (W/Flange) D4 x 25 (Black) **[147]**.	10 mm x 13 mm (13/32" x 33/64") double-head wrench Phillips screwdriver

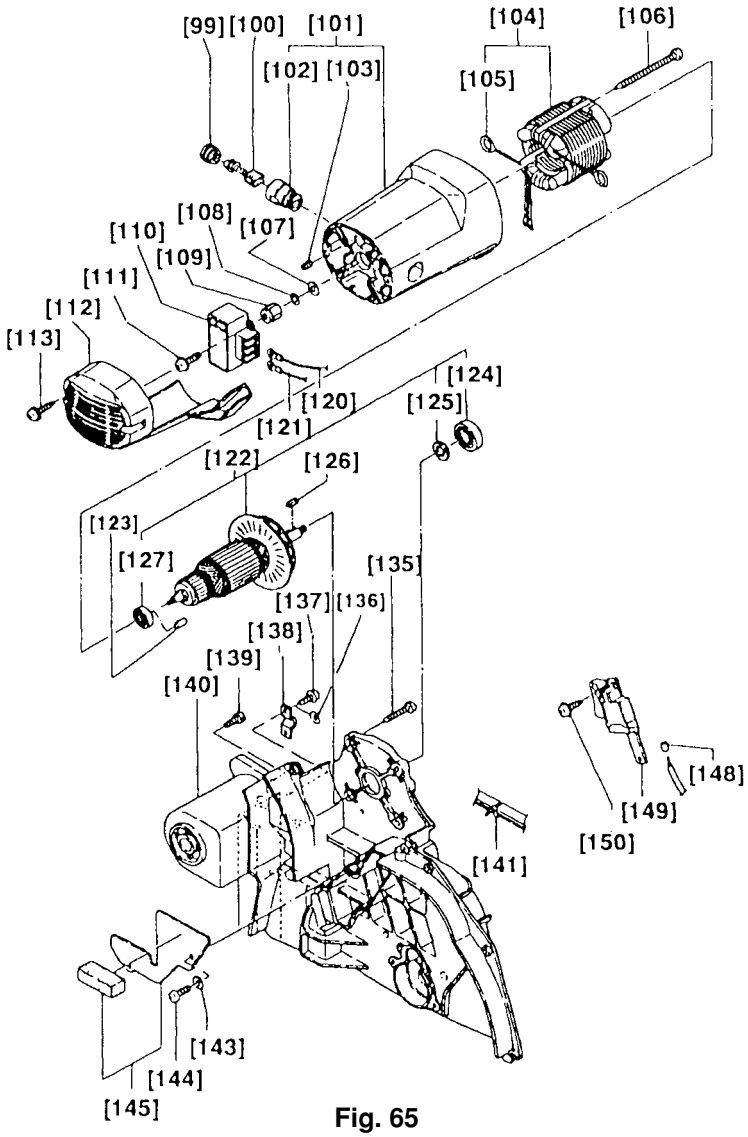
Item No.	Disassembly spots	Disassembly procedure	Necessary tools
2	Safety cover, side cover (L), side cover (R), pulley cover, link (Cont.)	2. For New Zealand: Removing the Bolt (Left Hand) M8 **[180]** with the provided box wrench allows you to remove Washer (B) **[179]**, saw blade and Washer (A) **[177]** in this order. For Australia, USA: Removing the Bolt (Left Hand) M8 **[180]** with the provided box wrench allows you to remove Washer (B) **[179]**, saw blade, Collar **[178]** and Washer (B) **[179]** in this order. 3. Removing the two Flat Hd. Screws M4 x 10 **[164]** allows you to remove the Cover **[163]** and the Safety Cover **[162]**. 4. Remove the Machine Screw (W/Washers) M5 x 16 **[91]**. Pulling the Link **[92]** inside the Gear Case **[140]** allows you to remove the Link **[92]**. 5. Removing the four Machine Screws (W/Washers) M5 x 20 (Black) **[128]** allows you to remove the Pulley Cover **[129]** and Handle **[130]** together with Side Cover (R) **[133]**. 6. Extend both the ends of Handle **[130]** and remove it from Side Cover (R) **[133]**.	17 mm (43/64") box wrench Phillips screwdriver Phillips screwdriver Phillips screwdriver
3	Hinge shaft, spring	 **Fig. 61** 1. Remove the Link **[92]** according to item No. 2. 2. Remove the Hex. Socket Hd. Bolt M5 x 10 **[139]** and Hex. Socket Set Screw M8 x 16 **[142]**. Note: The Hex. Socket Hd. Bolt M5 x 10 **[139]** serves as an upper limit stopper for the Gear Case **[140]**, so pay attention to the Gear Case **[140]** rising up when the Hex. Socket Hd. Bolt M5 x 10 **[139]** is removed. 3. Pull out the Hinge Shaft **[153]** by gently hammering it while holding the gear case. Removing the Hinge Shaft **[153]** enables you to remove the Spring **[155]** and Sleeve **[156]**.	4 mm (0.157") hex. bar wrench Plastic hammer

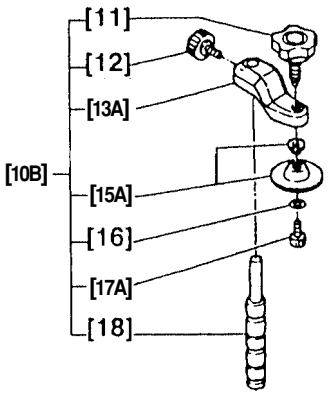
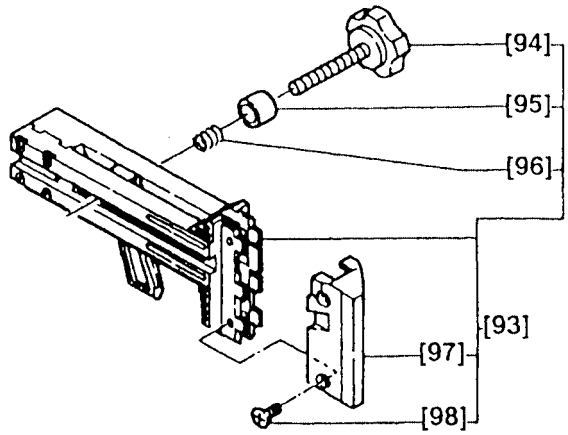
Item No.	Disassembly spots	Disassembly procedure	Necessary tools
4	Tail cover, switch		
		Fig. 62	
		1. Remove the two Tapping Screws (W/Flange) D4 x 25 (Black) **[113]** to remove the Tail Cover **[112]**.	Phillips screwdriver
		2. Remove the Tapping Screw (W/Washers) D4 x 12 **[150]** and the internal wire from the Switch **[149]** to remove the Switch **[149]**.	Phillips screwdriver
		3. Remove the two Machine Screws M4 x 8 **[137]** and Cord Clip **[138]**.	Phillips screwdriver

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
5	Cord, support, hinge ass'y, ball bushing, bushing, holder (A)	 **Fig. 63**	
		1. Remove the two Machine Screws M4 x 12 **[56]** and remove the Nylon Clips **[54]** of the Support **[61]** and the Hinge Ass'y **[51]**. 2. Pull out the One-Touch Bushing **[59]** (except for USA) by unhooking it from the inside of the Support **[61]**. 3. Pull out the Cord **[58]** together with the Pipe **[74]** (except for USA) toward the Support **[61]**.	Phillips screwdriver Flatblade screwdriver

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
5	Cord, support, hinge ass'y, ball bushing, bushing, holder (A) (Cont.)	4. Remove the two Roll Pins D6 x 40 **[60]** by hammering inward. Then gently hammer the Support **[61]** outward and remove it from Slide Pipe (A) and Slide Pipe (B). Loosen the Knob Bolt M8 x 20 **[69]** and pull out the Hinge Ass'y **[51]** by sliding it. [Note] While the Roll Pins D6 x 40 **[60]** are set at the factory to be horizontally pressed in, bore a vertical through-hole with 6 mm dia. drill and and push in the Roll Pin D6 x 40 **[60]** into the hole after pressing the Support **[61]** in. (See "Precautions in Reassembly" for details.) 5. Remove the two Machine Screws M4 x 12 **[62]** and remove the Packing Cover **[63]** and the four Felts **[64]** from Holder (A) **[68]**. Loosen the Hex. Socket Set Screw M8 x 8 **[66]** and remove the Ball Bushing **[65]** from Holder (A) **[68]** by gently hammering Holder (A) **[68]**. 6. The four Bushings **[73]** can be removed as they are as shown above. (See "Precautions in Reassembly" when reassembling the Bushing **[73]**.) 7. Pulling out the Grip **[86]** from the Set Pin **[87]** allows you to remove the Set Pin **[87]**.	Roll pin plier Plastic hammer Phillips screwdriver 4 mm (0.157") hex. bar wrench

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
6	Belt, pulley, spindle ass'y, stopper pin	 **Fig. 64**	
		1. Turn the Belt **[157]** by pulling it outward and remove it. Lock the spindle with the Stopper Pin **[165]** and pull out the pulley (B) **[159]** by removing the Nut M8 **[114]**.	13 mm (33/64") wrench
		2. Remove the two Machine Screws M5 x 16 **[160]** and then remove the Spindle Ass'y **[167]** by gently hammering the Gear Case **[140]** with a plastic hammer.	Phillips screwdriver Plastic hammer
		3. Loosen the Nut M8 **[114]** of Pulley (A) **[117]** while holding the 17 mm (43/64") wrench to the Special Washer **[116]** and removing the Nut M8 **[114]** of Pulley (A) **[117]** allows you to remove Pulley (A) **[117]**.	17 mm (43/64") wrench 13 mm (33/64") wrench
		4. Removing the four Flat Hd. Screws M4 x 10 **[118]** allows you to remove the Cover **[119]**, Stopper Pin **[165]** and Lock Spring **[166]**. Remove the Ball Bearing **[124]** by gently hammering the Gear Case **[140]** with a plastic hammer.	Phillips screwdriver Plastic hammer

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
7	Armature ass'y, stator ass'y, housing ass'y	 **Fig. 65**	
		1. Disassembly of the Armature Ass'y	Flatblade screwdriver
		(1) Remove the Brush Cap **[99]**, Carbon Brush **[100]** and four Tapping Screws (W/Flange) D5 x 25 (Black) **[135]** to remove the Housing Ass'y **[101]** from the Gear Case **[140]**.	Phillips screwdriver
		(2) Remove the Armature Ass'y **[122]** by gently hammering the Gear Case **[140]**.	Plastic hammer
		2. Cut the internal wire of the Stator Ass'y **[104]** from the Controller **[110]**. Then remove the two Tapping Screws (W/Flange) D4 x 16 (Black) **[111]** to remove the Controller **[110]**.	Phillips screwdriver

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
7	Armature ass'y, stator ass'y, housing ass'y (Cont.)	3. Disassembly of the stator ass'y (1) Remove the two Brush Terminals **[105]** of the Stator Ass'y **[104]** from the brush holder. (2) Remove the two Tapping Screws D5 x 65 **[106]** fixing the Stator Ass'y **[104]** and pull out the Stator Ass'y **[104]** by gently hammering the Gear Case **[140]** mounting surface of the Housing Ass'y **[101]** with a plastic hammer.	Plastic hammer
8	Vise ass'y	 **Fig. 66** 1. Remove the Knob Bolt M6 x 11 **[12]** to allow the Vise Shaft **[18]** to come off. 2. Remove the two Machine Screws (W/Washers) M5 x 12 (Black) **[17A]** to enable removal of the Vise Plate Set **[15A]**. 3. Remove the Knob Bolt M10 **[11]** from the Screw Holder **[13A]**.	4 mm (0.157") hex. bar wrench
9	Guard ass'y	 **Fig. 67** 1. Remove Guard Ass'y (A) **[93]** according to item No. 1-1. 2. Remove the four Flat Hd. Screws (Brass) M4 x 6 **[98]** to remove Guard (C) **[97]** by pulling it out.	Phillips screwdriver

11-2. Reassembly

Reassembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to following items.

(1) Prior to reassembly, measure the insulation resistance of the armature, stator, switch and other electrical components and confirm that the insulation resistance of each part is more than 7 M Ω.

(2) When replacing the Spring **[155]**, apply approximately 5 grams of Hitachi Motor Grease to the inner circumference of the new spring prior to assembly.

(3) When replacing or reassembling the Liner **[46A]**, ensure it is positioned and assembled as illustrated in Fig. 68. In addition, coat approximately 8 grams of Hitachi Motor Grease on the liner sliding portion of the Turn Table **[9A]**.

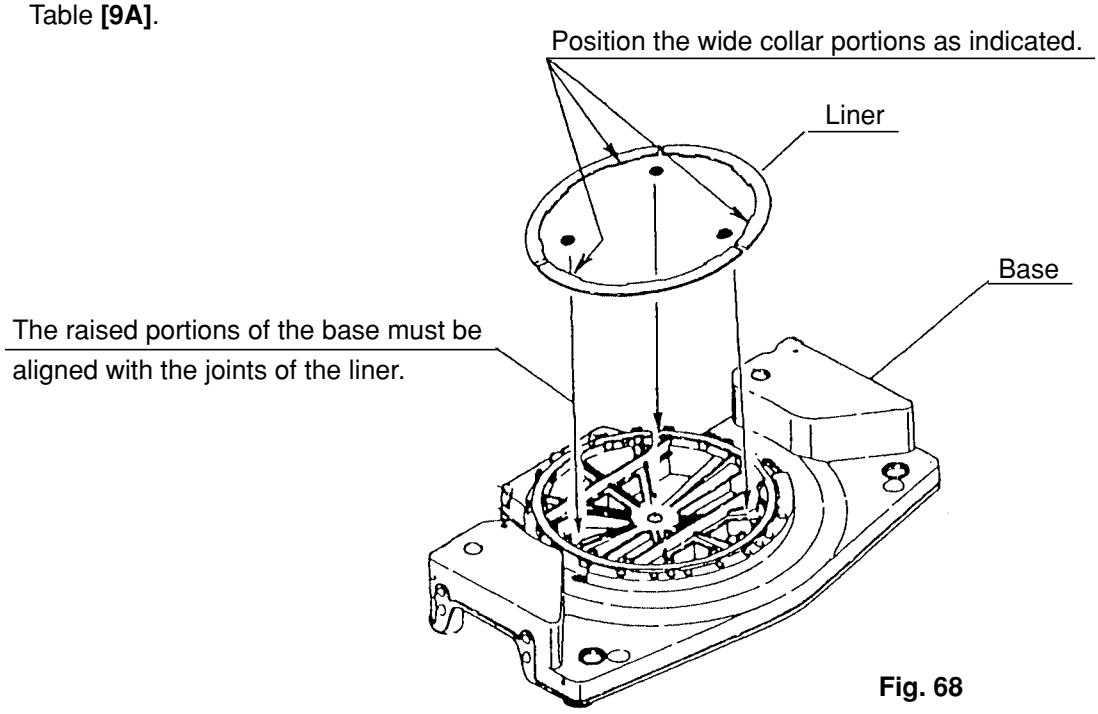


Fig. 68

(4) When replacing the Hinge Ass'y **[51]** or Support **[61]**, after press-fitting the Hinge Ass'y **[51]** onto slide pipe (A) and slide pipe (B), drill dia. 6 mm vertical holes for insertion of the two Roll Pins D6 x 40 **[60]**.

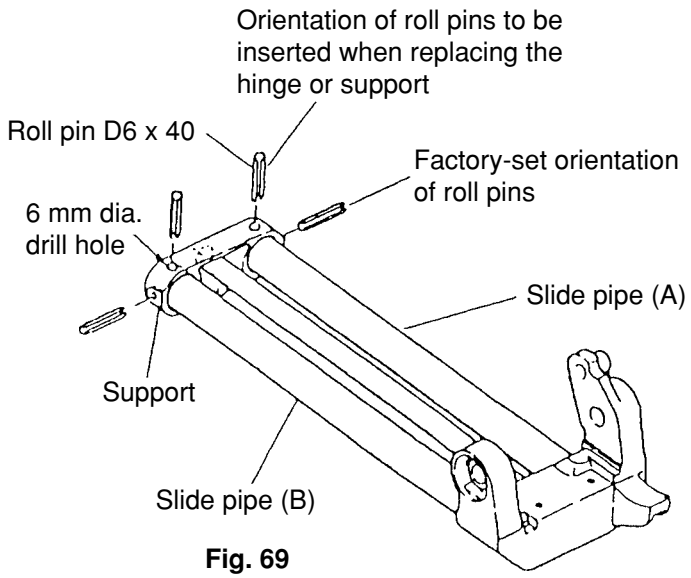


Fig. 69

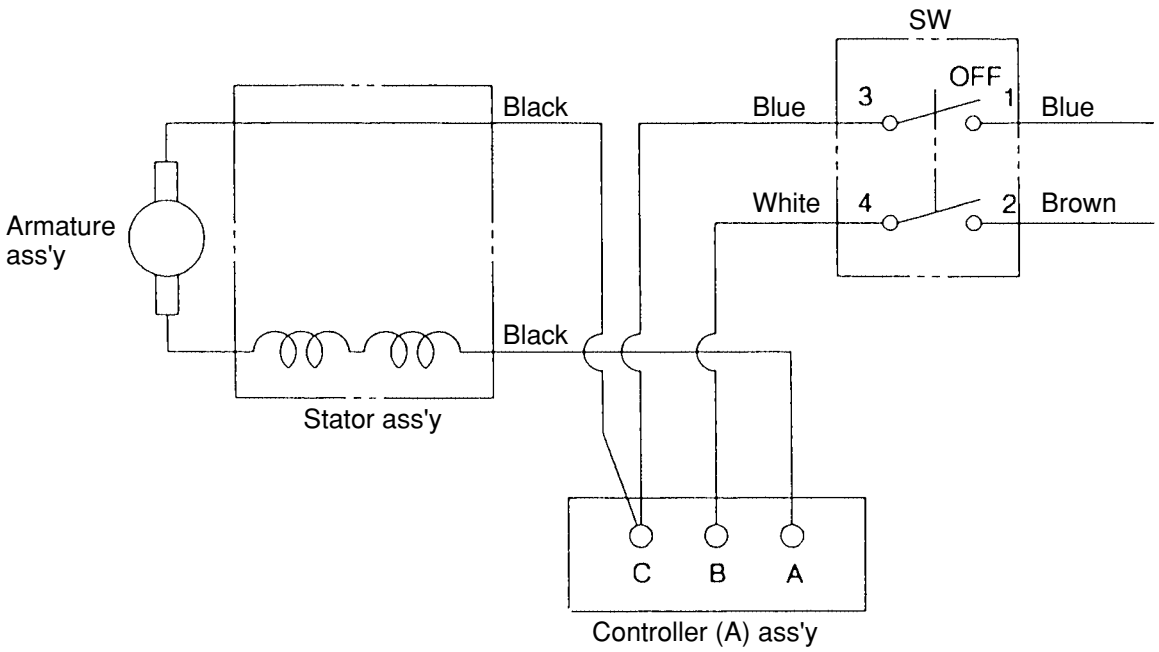
This process is necessary to prevent slide pipe (A) and slide pipe (B) from twisting in the holes. (For later reassembly, new dia. 6 mm holes need not be drilled. Insert the Roll Pins D6 x 40 **[60]** through the dia. 6 mm holes drilled before.)

11-3. Wiring Diagram

The Model C 12FSA is equipped with an overload protection circuit.

Carefully ensure that wiring is accomplished as illustrated below. As incorrect wiring will result in lack of rotation, reverse rotation or other malfunctions, close attention is absolutely necessary.

① Wiring diagram



② Actual wiring diagram

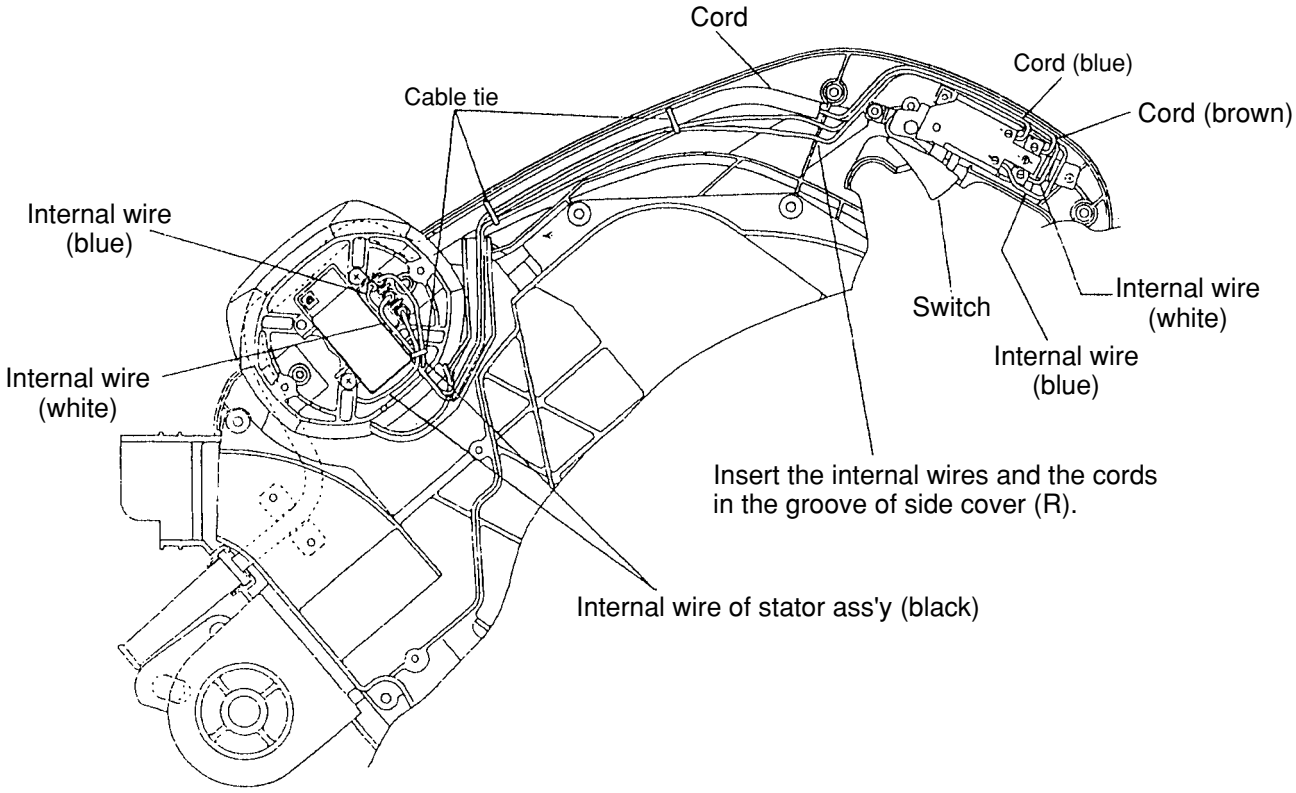
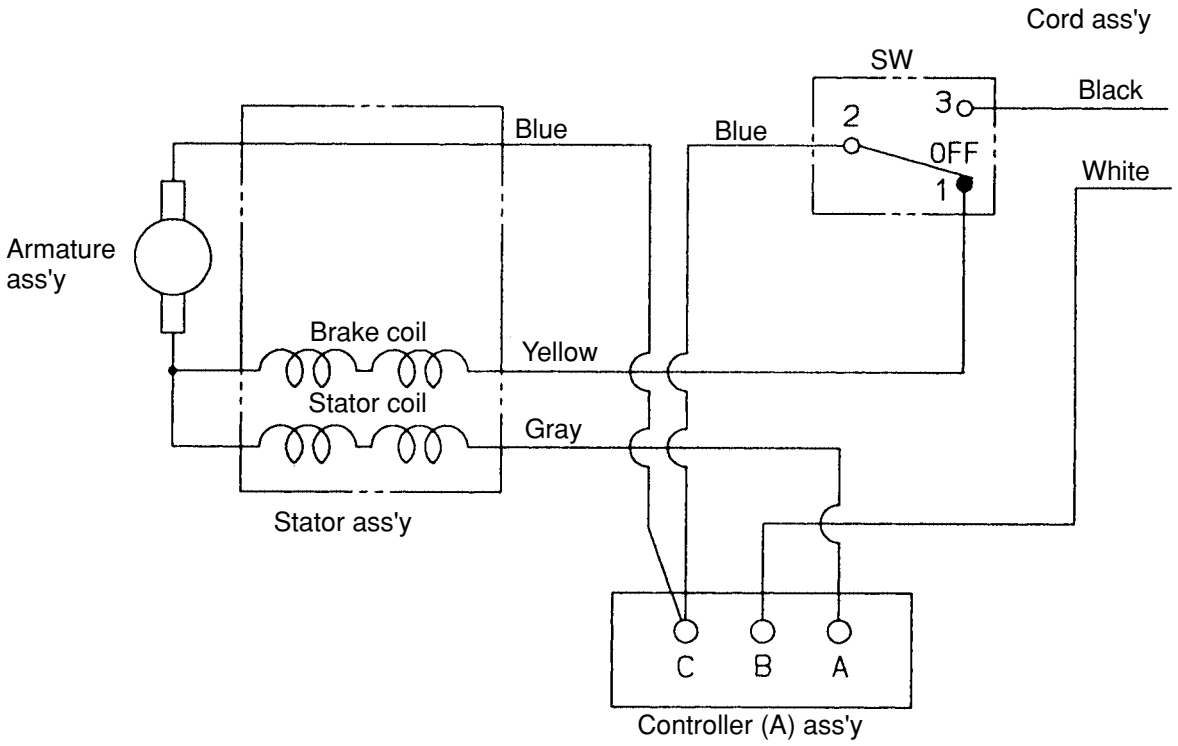


Fig. 70

① Wiring diagram (with 100 - 120 V brake)



② Actual wiring diagram

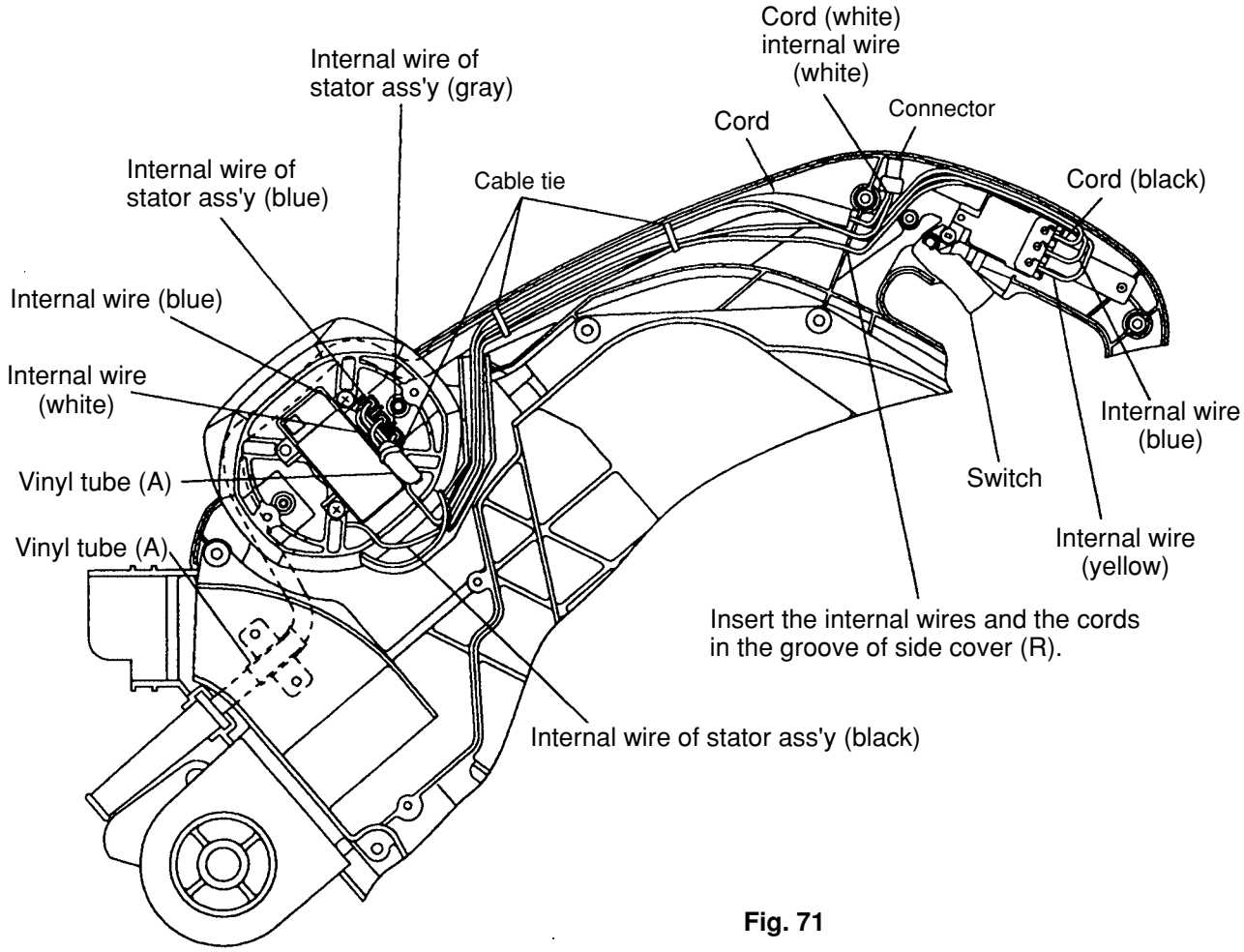


Fig. 71

11-4. Checking of Insulation Distance

Do not remove too much of the insulation coating at the internal wire connection. Take care not to let the core of the internal wire stick out Tube (D) **[148]** or let the internal wires get caught in a joint between the Side Cover (L) Ass'y **[172]** and Side Cover (R) **[133]**.

11-5. No-load Current

After no-load operation for 30 minutes, the no-load current values should be as follows.

Voltage, frequency	100 — 120 V, 60 Hz	230 — 240 V, 50 Hz
No-load current	8.5 A max.	2.7 A max.

11-6. Reassembly Requiring Adjustment

(1) Adjustment of squareness between the saw blade (dummy disc) and the fence

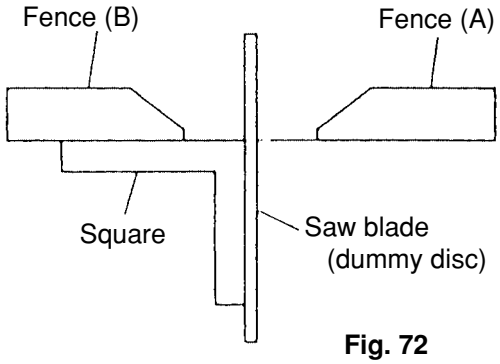


Fig. 72

It is necessary to check and adjust the right-angle orientation between the saw blade (dummy disc) and the fence after disassembly and replacement of the Base Ass'y **[23A]**, Turn Table **[9A]**, Fence (A) **[47A]**, Fence (B) **[21A]**, Holder (A) **[68]** and Hinge Ass'y **[51]** and after disassembly, reassembly and adjustment of the Bushing **[73]**.

Adjust the squareness [rated value of 0.15/100 mm (0.006"/4")] by moving the fences along the saw blade (dummy disc).

First adjust the squareness between the saw blade and either fence. Then adjust flatness of the two fences by applying a straight edge to the right and left fence surfaces. Finally, apply a square to the fence surface that has not been checked yet and make sure it forms squareness [rated value of 0.15/100 mm (0.006"/4")] with the saw blade.

(2) Adjustment of the lower limit position of the saw blade

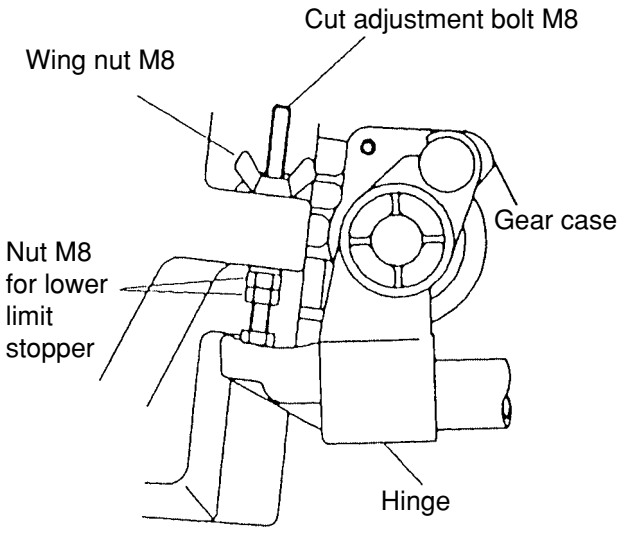


Fig. 73

Adjust the unit so that the saw blade [305 mm (12")] is 9 to 10 mm (11/32" to 13/32") below the base surface (or top surface of Table Insert **[2]**).

Loosen the Wing Nut M8 **[132]** and Nut M8 **[151]** and turn the Bolt M8 x 100 **[152]** to change the contacting portion between the Nut M8 **[151]** and the Gear Case **[140]**. The saw blade position is rised by rising the Wing Nut M8 **[132]** fitted on the Bolt M8 x 100 **[152]**, and lowered by lowering the Nut M8 **[151]**. After adjustment, tighten the Wing Nut M8 **[132]** securely to prevent loosening of the Bolt M8 x 100 **[152]**.

(3) Reassembly of the ball bushing

Ball Bushing **[65]** and Holder (A) **[68]** are maintained at a smooth fit. When placing the Ball Bushing **[65]** into Holder (A) **[68]**, gently hammer it with a plastic hammer so that the Ball Bushing **[65]** is seated into Holder (A) **[68]** in parallel. After reassembly, tighten the Hex. Socket Set Screw M8 x 8 **[66]** to prevent disconnection of the Ball Bushing **[65]**. Then lubricate around the steel balls inside the Ball Bushing **[65]** with 2 grams of BC 4 made by Nippon Koyu Corp. Apply machine oil to slide pipe (A) and slide pipe (B).

When reassembling, put the Ball Bushing **[65]** inside Holder (A) **[68]** as indicated in (A) of Fig. 74. Visual observation will do for this insertion. Layout in (A) offers about 30 % higher rated load than in (B).

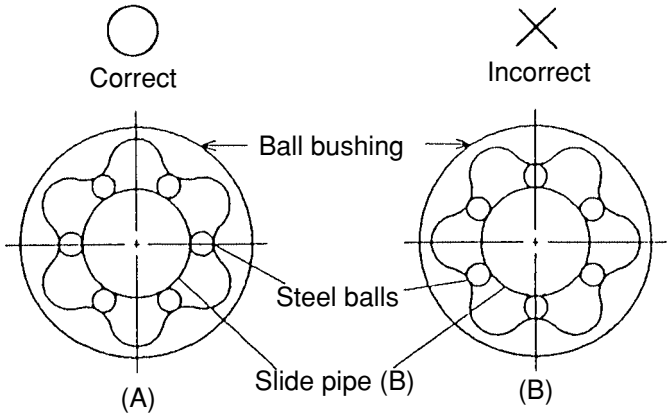


Fig. 74

(4) Reassembly of the bushing

Refer to "9. Adjustment", "9-2. Looseness Adjustment of the Slide Section".

When inserting slide pipe (A) into Holder (A) **[68]**, keep the four Bushings **[73]** out of contact with slide pipe (A). At this time, apply grease to the contact area between the Hex. Socket Set Screw M8 x 16 **[71]** and Bushing **[73]** to prevent drop-off. After reassembly, adjust the clearance at slide pipe (A) by tightening Hex. Socket Hd. Set Screw M8 x 16 **[71]**.

After adjustment, check the slide load [2 to 3 kg (4.4 to 6.6 lbs.)], the squareness [0.15 /100 mm (0.006"/4")] between the saw blade and the Turn Table **[9A]**, the squareness [0.15/100 mm (0.006"/4")] between the saw blade and the fence and the squareness [0.15/180 mm (0.006"/7-3/32")] between Fence (B) **[21A]** and the slide pipe.

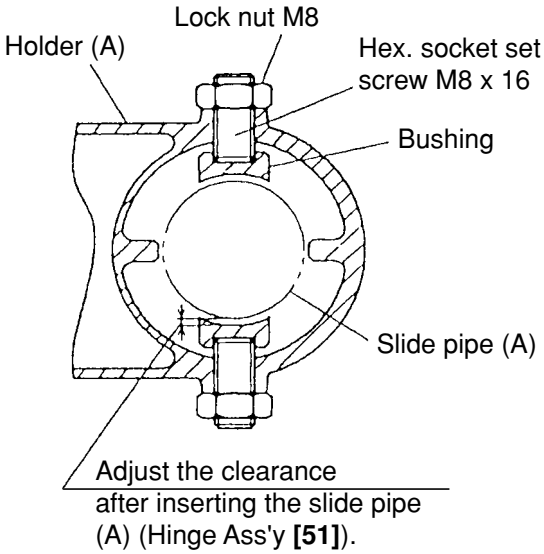


Fig. 75

11-7. Lubrication

Advise the customer to lubricate the machine as indicated at least once a month. Also, prior to applying lubricant, any sawdust, dirt or other foreign matter should be thoroughly wiped away with a soft rag.

(1) Swiveling section of the gear case

Coat machine oil on the swivelling and sliding portions of the Gear Case **[140]** and Hinge Ass'y **[51]**.

(2) Vise section

Coat machine oil on the screw thread portion of the Knob Bolt M10 **[11]** of the Vise Ass'y **[10B]**.

(3) Slide pipe section

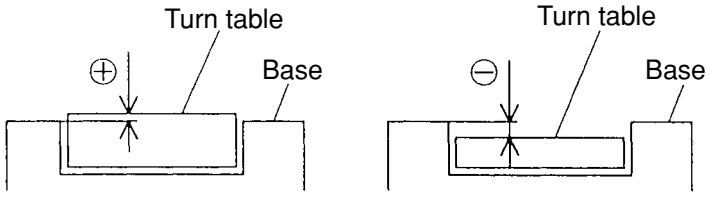
Coat machine oil on slide pipe (A) and slide pipe (B) portions of the Hinge Ass'y **[51]**.

(4) Holder (A)

Coat machine oil on the swiveling and sliding portions of Holder (A) **[68]** and Turn Table **[9A]**.

11-8. Product Precision

On completion of assembly, confirm precision tolerances.

Item	Tolerance
Deflection of saw blade (or dummy disc)	0.2/295 mm (0.008"/11-5/8")
Squareness between base and fence (A) and fence (B)	0.1/40 mm (0.004"/1-9/16")
Flatness of fence (A) and fence (B)	0.1 mm (0.004")
Squareness between saw blade (or dummy disc) and fence (A) and fence (B)	0.15/100 mm (0.006"/4")
Squareness between fences (B) and slide pipes [Place a square against fence (B) (see Fig. 72), slide the saw blade section (head), and check for any clearance between the saw blade (or dummy disc) and the square.]	0.15/180 mm (0.006"/7-3/32")
Squareness between saw blade (or dummy disc) and turn table	0.15/100 mm (0.006"/4")
Surface alignment of base and turn table (Use the upper surface of the base as a reference)  	⊕ 0.1 mm (⊕0.004") ⊖ 0.2 mm (⊖0.008")

11-9. Cutting Accuracy

Cut appropriate workpieces, measure the squareness with a square or other measuring devices and confirm that accuracy is within the standards listed below.

[CAUTION] **The test workpieces must be processed with a planer, and their rectangularity and surface flatness must be checked carefully prior to cutting tests. Improper or inaccurate workpieces are useless for checking the cutting accuracy of the machine.**

(1) Press cutting

Cutting conditions:

① Test piece : Yellow pine 90 mm (3-17/32") square piece ····· All surface squarely planed.
[Test piece for 45˚ miter cutting: 90 x 65 mm (3-17/32" x 2-9/16")]

② Saw blade : 305 mm (12") TCT saw blade, number of teeth: 96 (Code No. 310875)

③ Cutting time : 0˚ cutting ····· 10 secs.
45˚ cutting ····· 15 secs.

④ Measurement points

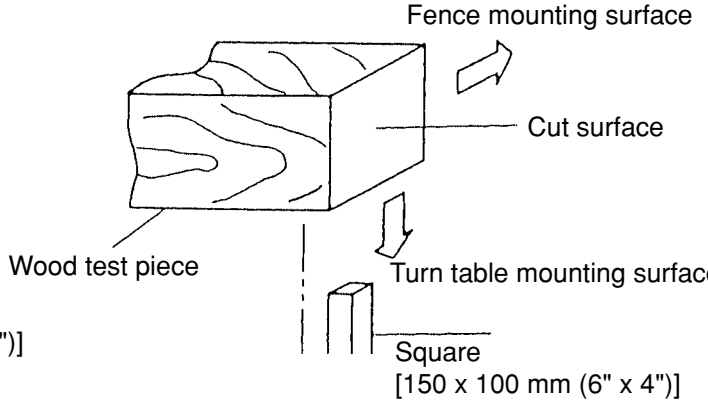


Fig. 76

⑤ Cutting accuracy:

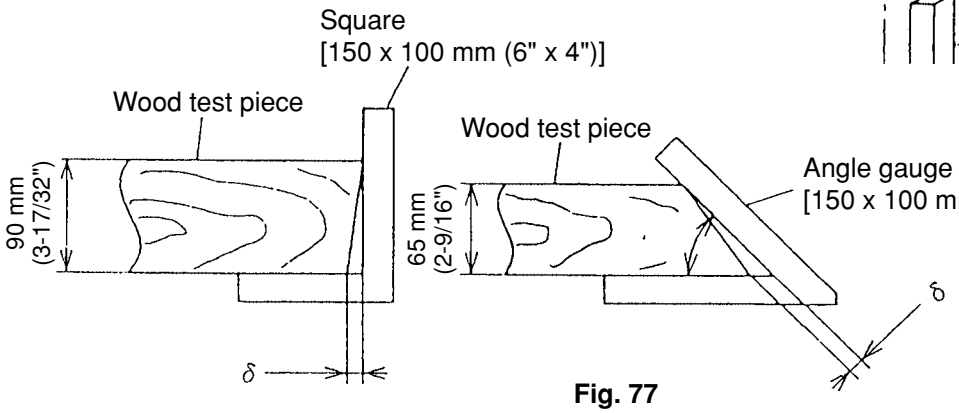


Fig. 77

Accuracy / Angle	δ
0˚	0.1 mm (0.004") Maximum
45˚	0.15 mm (0.006") Maximum

(1) Slide cutting

Cutting conditions:

① Test piece : Yellow pine H 30 mm (1-3/16") x W 240 mm (9-7/16") ····· All surfaces squarely planed.

② Saw blade : 305 mm (12") TCT saw blade, number of teeth: 96 (Code No. 310875)

③ Cutting time : 0˚ cutting ····· 10 secs., 45˚ cutting ····· 15 secs.

④ Measurement points

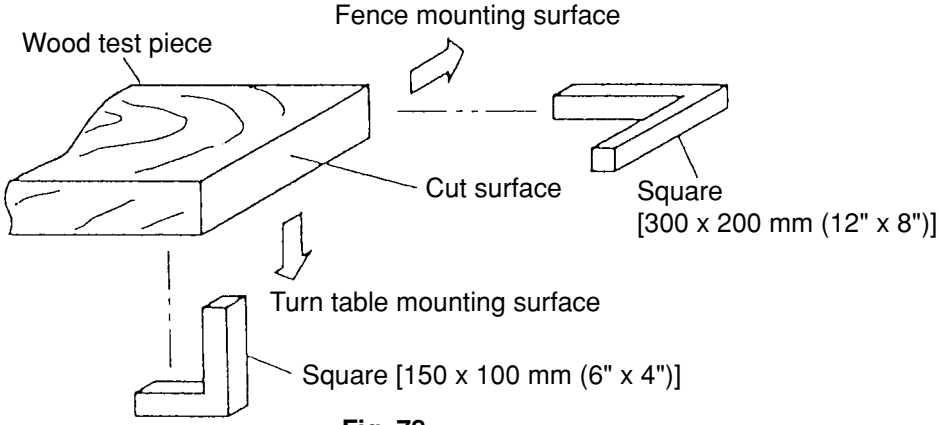


Fig. 78

⑤ Cutting accuracy:

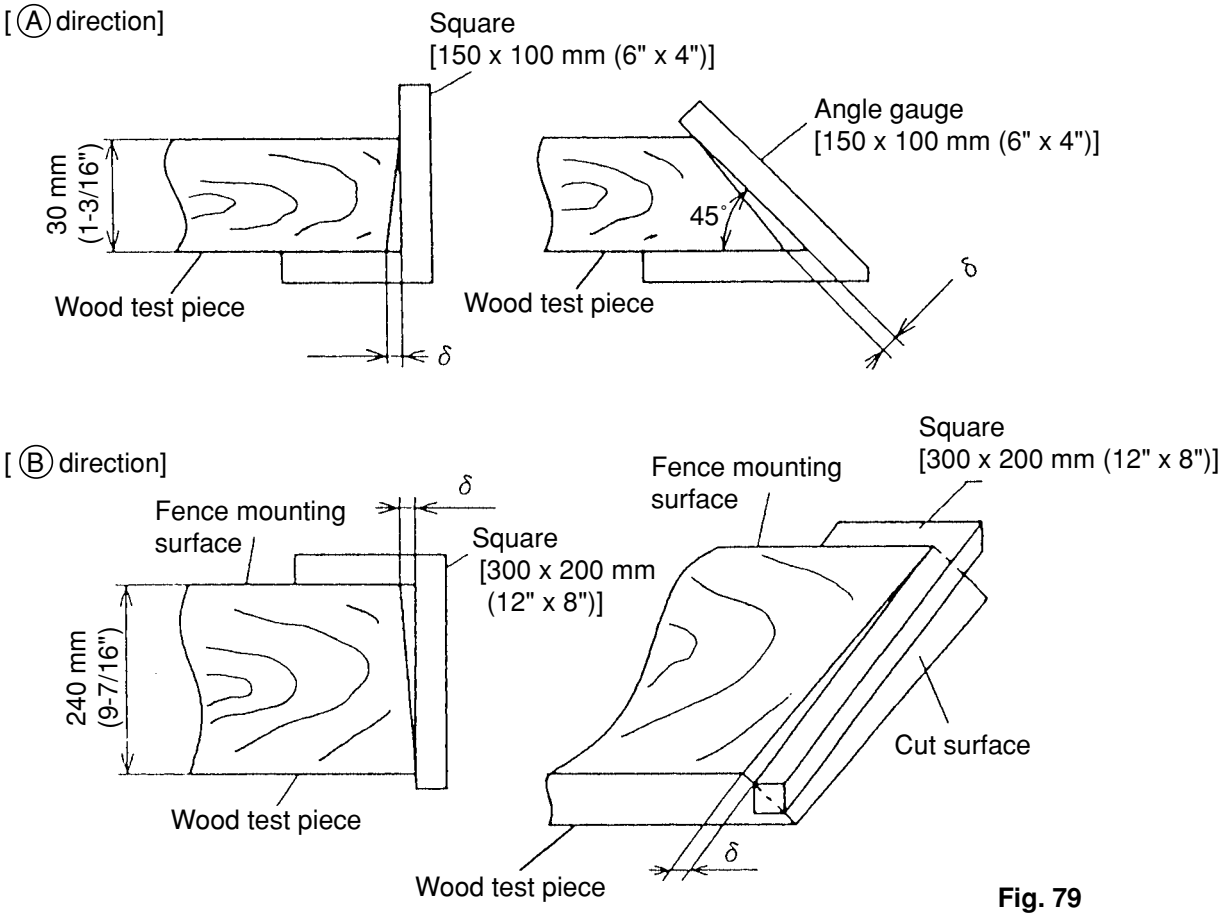


Fig. 79

Angle \ Accuracy		δ
Ⓐ	0°	0.06 mm (0.0025")
	45°	0.085 mm (0.0035")
Ⓑ	0°	0.5 mm (0.02")
	Bevel surface	0.5 mm (0.02")

Note: In the case of bevel cutting, there will be uneven edges of the cut surface if the surface of workpiece is rough. Check roughness of workpiece. This is significant especially for the surfaces of workpiece cut with a band saw.

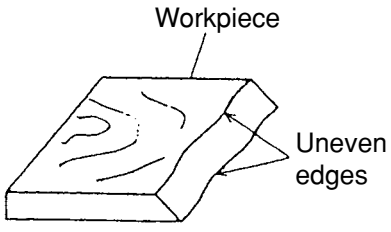


Fig. 80

(3) Miter cutting

Cutting conditions:

① Test piece: Yellow pine H 30 mm (1-3/16") x W 210 mm (8-17/64") ····· All surfaces squarely planed.

② Saw blade: 305 mm (12") TCT saw blade, number of teeth: 96 (Code No. 310875)

③ Cutting time: 10 secs.

④ Measuring points:

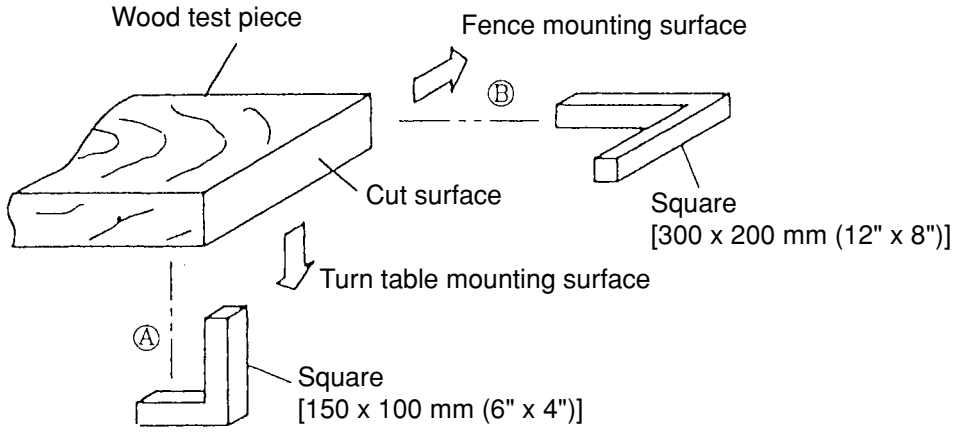


Fig. 81

Direction \ Accuracy	δ
Ⓐ	0.06 mm (0.0025") Maximum
Ⓑ	0.6 mm (0.025") Maximum

⑤ Cutting accuracy

[Ⓐ direction] [Ⓑ direction]

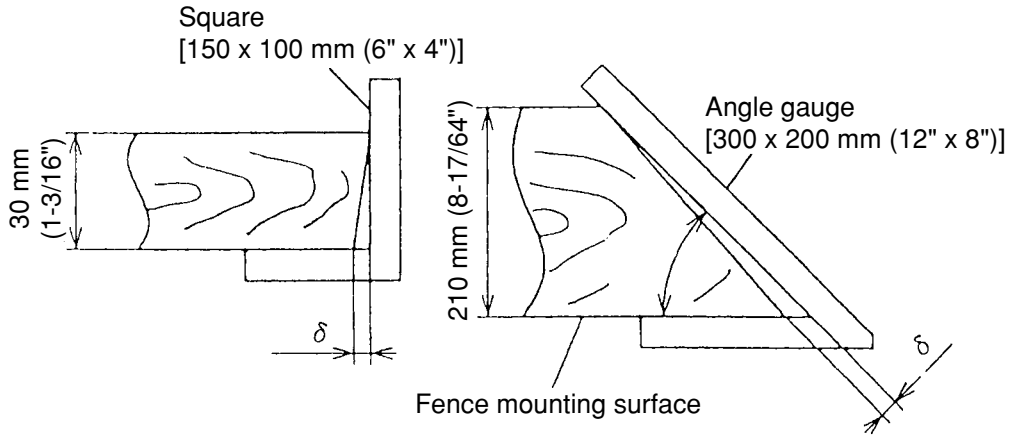
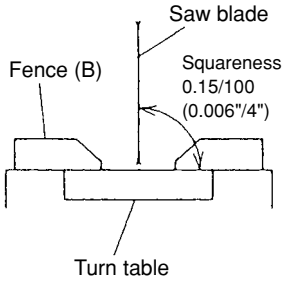
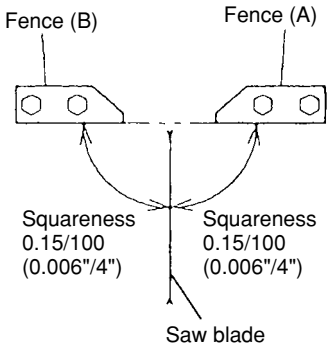
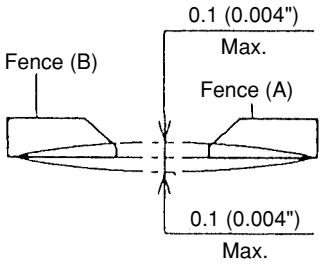
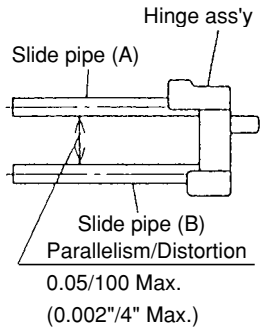
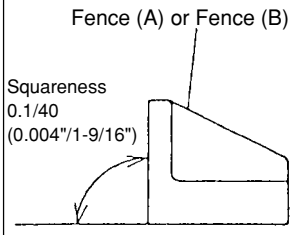


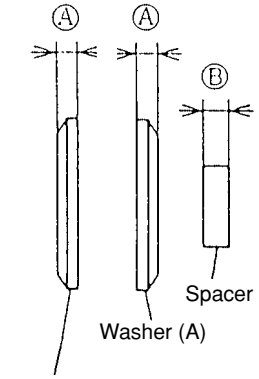
Fig. 82

12. REPAIR GUIDE

Unit: (mm) The bracketed numbers correspond to the item numbers in the parts list.

Item	Phenomenon	Cause (s)	Factory standard	Inspection • Repair •Adjustment
1	Inaccurate cutting ···Inaccurate squareness of the cut surface. ···Cut surfaces do not fit together properly.  **Fig. 83**	ⓐ Inaccurate squareness between the turn table and saw blade causes the saw blade to cut into the workpiece at an angle.	0.15/100 (0.006"/4") (Dummy disc) (Fig. 83) When slide (tip) 0.25/100 (0.1"/4") (Dummy disc)	• Adjust squareness with the Nylock Bolt M8 x 40 **[8]**. • Adjust the clearance between the Bushing **[73]** and slide pipe (A) with the Hex. Socket Set Screw M8 x 16 **[71]**. • Replace Hinge Ass'y **[51]**, or Gear Case **[140]** or Turn Table **[9A]** .
		ⓑ Excessive deflection of saw blade. (Excessive vibration)	0.2/295 (0.008"/11-5/8") (Dummy disc)	• Replace the saw blade. • Check for surface defects on Washer (A) **[177]** and Washer (B) **[179]**, and repair with a file as necessary. • Replace Washer (A) **[177]** and/or Washer (B) **[179]** as necessary.
	 **Fig. 84**	ⓒ Inaccurate squareness and fence (B) and saw blade.	0.15/100 (0.006"/4") (Fig. 84)	• Loosen the Bolt (W/Washers) M8 x 35 (Black) **[19]**, and adjust as necessary. • Replace Fence (A) **[47A]** and Fence (B) **[21A]** as necessary.
		ⓓ Surfaces of fence (A) and fence (B) are not accurately aligned, causing workpiece to deviate from proper squareness.	0.15 (0.006") max. (Fig. 85)	• Loosen the Bolt (W/Washers) M8 x 35 (Black) **[19]** and adjust surface alignment of Fence (A) **[47A]** and fence (B) **[21A]** as necessary. • Replace Fence (A) **[47A]** and Fence (B) **[21A]** as necessary.
	 **Fig. 85**	ⓔ Inaccurate surface flatness of turn table.	0.15 (0.006") Max.	• Replace Turn Table **[9A]**.
		ⓕ Squareness between saw blade and turn table is lost (changed) during slide cutting.	Same as ⓐ (Fig. 86)	• Check precision after press fitting slide pipe (A) and slide pipe (B) of Hinge Ass'y **[51]**. If precision is poor, replace them as necessary. (Fig. 86) • Adjust the clearance between the Bushing **[73]** and slide pipe (A) with the Hex. Socket Set Screw M8 x 16 **[71]**.

Item	Phenomenon	Cause (s)	Factory standard	Inspection • Repair •Adjustment
1	 **Fig. 86**		—	• Ensure that slide pipe (A) slides smoothly with slide load of 2 to 3 kgf (4.4 to 6.6 lbs.) without looseness.
		ⓖ Inaccurate squareness between fence (A) and fence (B) and turn table and base causes the workpiece to tilt at an angle and prevent accurate cutting.	0.1/40 (0.004"/1-9/16") (Fig. 79)	• Replace Fence (A) **[47A]** and Fence (B) **[21A]** as necessary.
	 **Fig. 87**	ⓗ Loose fitting of swiveling portion of hinge ass'y and gear case, or sluggish movement. As a result, components may be deformed because of unstable gear case or because the operator must apply excessive pressure during operation.	—	• Check the fitting surfaces of the Hinge Ass'y **[51]**, Gear Case **[140]** and Hinge Shaft **[153]** for any foreign substance (such as cutting dust) and remove it as necessary. • Reduce cutting speed. Appropriately 10 secs. for a square wood workpiece of 90 mm (3-17/32").
		ⓘ Excessive cutting force (pressure) is required because of dull saw blade.	—	• Sharpen the saw blade again.
		ⓙ Excessively fast cutting speed causes deflection of saw blade and inaccurate cutting.	—	• Correct bend, flex or other deformation by planing and try cutting.

Item	Phenomenon	Cause (s)	Factory standard	Inspection • Repair •Adjustment
2	Rough cut surface Parallelism Ⓐ = 0.02/60 (0.0008"/2-3/8") Parallelism Ⓑ = 0.01/20 (0.0004"/25/32")  **Fig. 88**	ⓐ Large deflection of saw blade. (Causes rough cut surface.)	0.2/295 (0.008/11-5/8"). (Dummy disc)	• See as Item 1- ⓑ .
		ⓑ Poor movement of slide pipe section prevents smooth cutting.	Slide load (Pushing force) should be within 2 to 3 kgf (4.4 to 6.6 lbs.)	• Apply machine oil to the slide pipe section • Check the slide pipe section for any scratches or the like. Repair as necessary.
		ⓒ Excessive clearance at the slide pipe section.	—	• Adjust the Bushing **[73]**. • Replace the Hinge Ass'y **[51]** and Ball Bushing **[65]** as necessary.
		ⓓ Each surface parallelism of washer (A), washer (B) and spacer is inaccurate due to surface defects (such as impact marks and scratches).	0.02/60 (0.0008/2-3/8"). (Fig. 88)	• Repair impact marks or scratches at Washer (A) **[177]**, Washer (B) **[179]** and Spacer **[176]** or replace them if necessary.
		ⓔ Improper slide-cutting technique.	—	• See paragraph 8.5, (4) "Slide cutting". Do not apply unnecessary force for successful slide cutting.
		ⓕ Inaccurate squareness between turn table and saw blade, causing saw blade to cut at an improper angle and make cutting marks.	0.15/100 (0.006"/4"). (Fig. 83)	• See as item 1- ⓐ.
		ⓖ Excessively fast cutting speed.	—	• Reduce cutting speed.
		ⓗ Improper clamping of workpiece.	—	• Properly clamp workpiece with vise ass'y.
		ⓘ Turn table is not fixed with side handle.	—	• During cutting, fix Turn Table **[9A]** in position with Side Handle **[41]** without fail.
		ⓙ Loose fitting of swiveling portion of hinge and gear case, or sluggish movement.	—	• Same as item 1- ⓗ .
		ⓚ Cutting operation becomes sluggish because workpiece is warped or bent.	—	• Correct warp or bend with planer.
		ⓛ Excessive vibration	—	• Recheck items ⓐ, ⓒ, ⓓ and ⓘ.

Item	Phenomenon	Cause (s)	Factory standard	Inspection • Repair •Adjustment
3	Saw blade is locked.	ⓐ Excessively fast cutting speed.	—	• Reduce cutting speed.
		ⓑ Core diameter of extension cord is too small.	—	• Use a thicker and shorter extension cord.
		ⓒ Excessive cutting force is applied due to dull saw blade.	—	• Resharpen saw blade.
		ⓓ Incorrect saw blade is used.	—	• Use a suitable Hitachi-supplied saw blade. • An increased number of teeth on the saw blade increases the cutting resistance. When using a saw blade with a large number of teeth, reduce the cutting speed.
		ⓔ Saw blade binds in workpiece during cutting because workpiece is warped or bent.	—	• Correct workpiece deformation with planer.
4	Saw blade does not rotate when switch is triggered.	ⓐ Power cord is not connected to power supply.	—	• Check power supply voltage. • Connect the power cord to power supply.
		ⓑ Carbon brush wear exceeds allowable limit (6 mm).	—	• Check the Carbon Brushes **[100]** for wear. • Replace the Carbon Brush (es) **[100]**.
		ⓒ Contact failure of the switch.	—	• Check the Switch **[149]** for conductivity. • Replace the switch.
		ⓓ Controller failure.	—	• Replace the Controller **[110]**.
5	Saw blade runs too slow. (Not within 2,900 to 3,500/min.)	ⓐ Power supply voltage is lower than rated voltage.	—	• Check for power supply voltage. • Check if extension cord is appropriate. See the Handling Instructions for appropriate extension cords.
		ⓑ Controller failure.	—	• Replace the Controller **[110]**.

Item	Phenomenon	Cause (s)	Factory standard	Inspection • Repair •Adjustment
6	Saw blade runs too fast. Saw blade revolution exceeds 3,850/min.	ⓐ Defective magnet.	—	• Replace the Magnet **[109]**.
		ⓑ Controller failure.	—	• Replace the Controller **[110]**.
7	Overload protection circuit continuously functions.	ⓐ Power supply voltage is lower than rated voltage.	—	• Same as item 5-ⓐ.
		ⓑ Defective controller failure.	—	• Replace the Controller **[110]**.

13. STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable / Fixed	10	20	30	40	50	60
C 12FSA	General Assembly Fixed Cost Washer Saw Blade Safety Cover Table Insert Guard Ass'y Vise Ass'y Pulley Cover Handle Side Cover (L) Set Pin Tail Cover 0 min. Cord ····· 10 min. Other ····· 20 min.	Pulley Cover Handle	Side Cover (R) Belt Pulley				
		Bolt (Left) Washer Saw Blade 10E Cover (L) Swirce	Safety Cover Spring	Spindle Ass'y BB (608) BB (6003) Cord Set Pin	BB Holder		
		Tail Cover	Controller	Armature Ass'y	BB (608) BB (6201) Stator Ass'y Housing Ass'y		Gear Case
		Guard Ass'y	Spring Hinge Shaft		Felt Packing Cover Support	Hinge	Holder (A) Ball Bushing
		Table Insert Vise Ass'y	Fence (A) (B) Shaft (A)		Turn Table Liner Shaft Spring (D) Steel Ball	Base Ass'y	
		Hinge shaft Spring (B) Clamp Lever Bolt (Left)					

HITACHI

LIST NO. E925

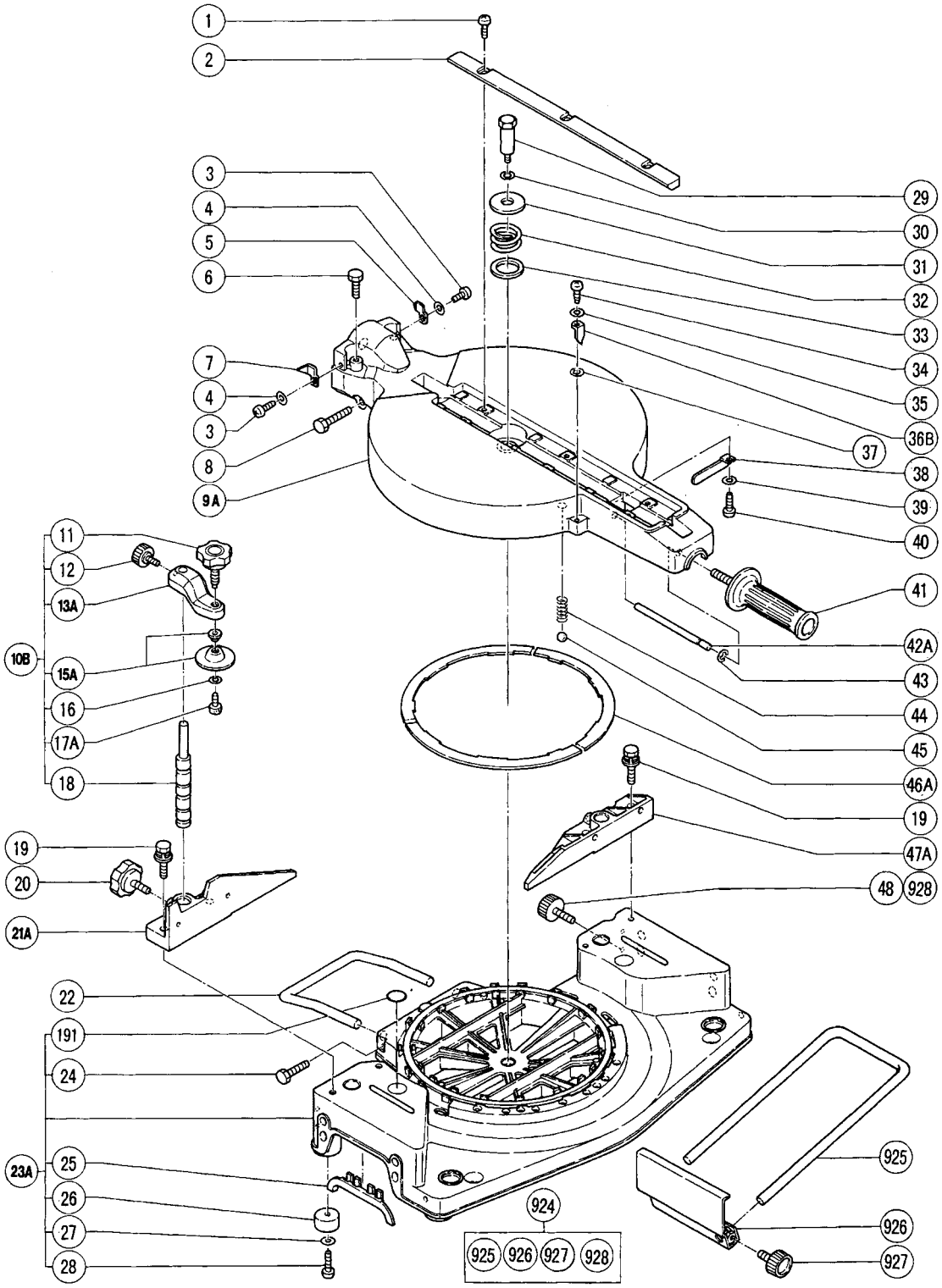
ELECTRIC TOOL PARTS LIST

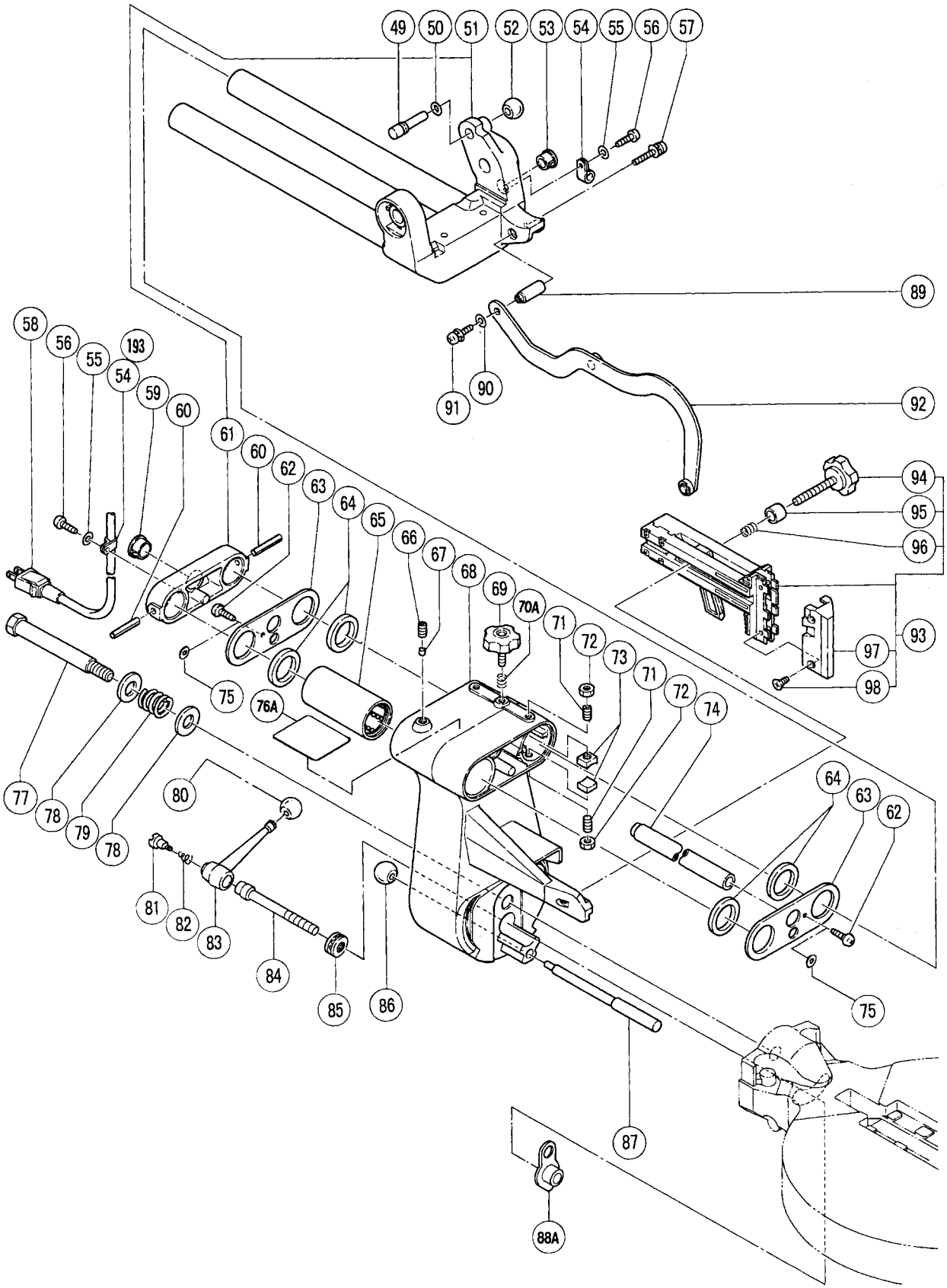
■ SLIDE COMPOUND SAW

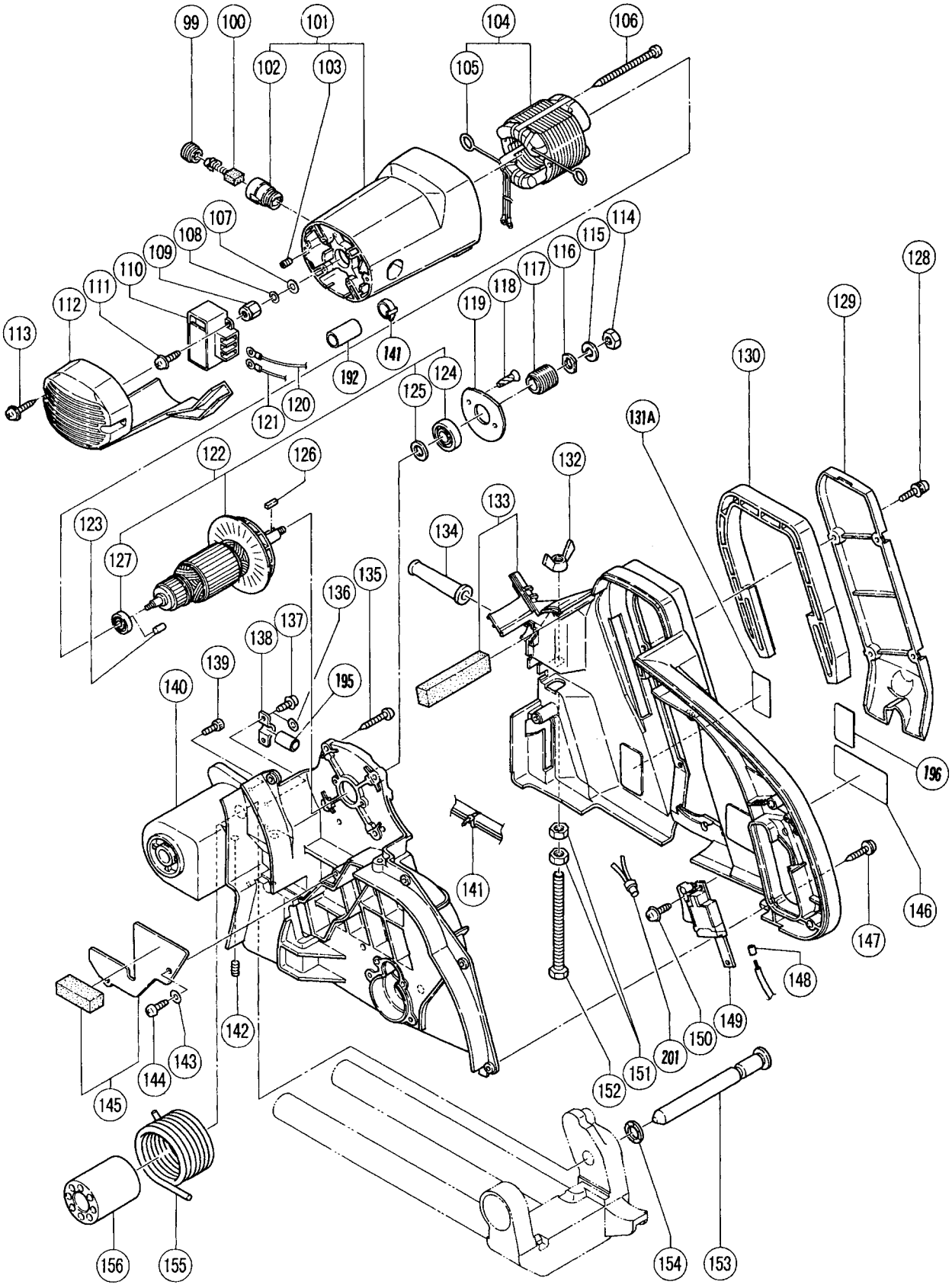
2001· 9 · 14

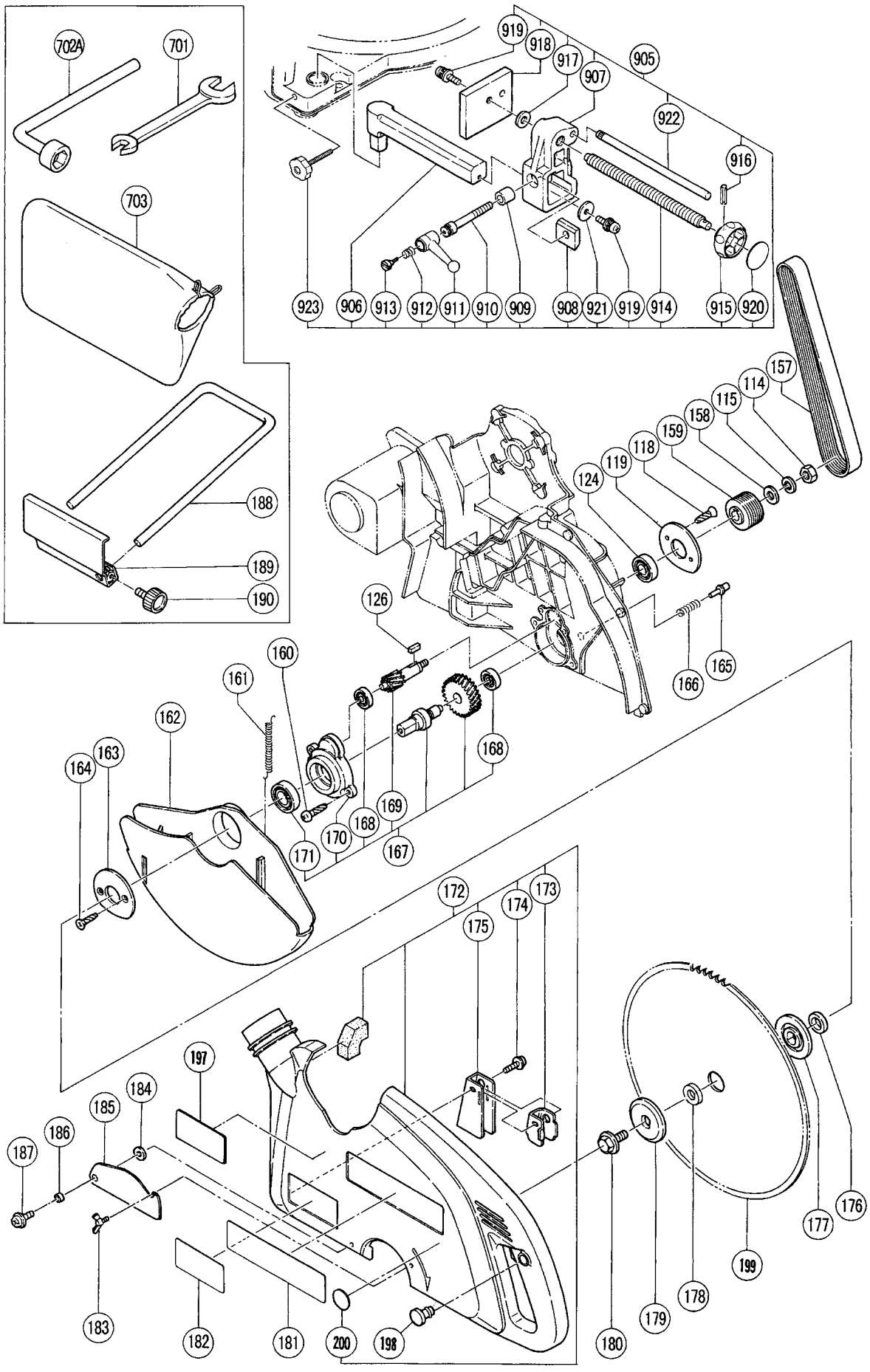
Model C 12FSA

(E2)




49
50
51
52
53
54
55
56
57
89
58
56
55
193
54
59
60
91
90
92
61
60
62
63
64
65
66
67
68
69
70A
71
72
73
71
72
74
94
95
96
93
97
98
75
76A
77
78
79
78
80
64
63
62
81
82
83
84
85
86
75
87
88A


99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131A
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
192
195
196
201


702A
701
703
188
189
190
919
918
917
907
905
922
916
923
906
913
912
911
910
909
908
921
919
914
915
920
157
114
115
158
159
118
119
124
126
160
161
162
163
164
168
169
170
171
167
166
165
172
174
173
175
197
184
185
186
187
183
182
181
200
198
180
179
178
199
177
176

	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
	1	949-258	MACHINE SCREW M6X20 (10 PCS.)	6		
	2	998-818	TABLE INSERT	2		
	3	949-215	MACHINE SCREW M4X8 (10 PCS.)	2		
	4	949-429	BOLT WASHER M4 (10 PCS.)	2		
	5	310-718	INDICATOR (B)	1		
	6	303-409	NYLOCK BOLT M8X25	2		
	7	310-719	INDICATOR (C)	1		
	8	303-410	NYLOCK BOLT M8X40	1		
	9A	310-733	TURN TABLE	1		
	10B	310-747	VISE ASS'Y	1	INCLUD.11-13A,15A-18	
	11	308-396	KNOB BOLT M10	1		
	12	998-836	KNOB BOLT M6X11	1		
	13A		SCREW HOLDER	1		
	15A	319-974	VISE PLATE SET	1		
	16	996-722	WASHER	1		
	17A	996-247	MACHINE SCREW (W/WASHERS) M5X12 (BLACK)	1		
	18	310-748	VISE SHAFT	1		
	19	307-221	BOLT (W/WASHERS) M8X35 (BLACK)	4		
	20	303-450	KNOB BOLT M8X20	1		
	21A	310-732	FENCE (B)	1		
	22	310-886	HOLDER (B)	1		
*	23A	305-133	BASE ASS'Y	1	INCLUD.24-28	
*	23A	320-289	BASE ASS'Y	1	INCLUD.24,26-28,191 FOR USA	
	24	949-616	BOLT M6X25 (10 PCS.)	1		
*	25	303-434	BASE GRIP	2	EXCEPT FOR USA	
	26	964-851	BASE RUBBER	5		
	27	949-431	BOLT WASHER M5 (10 PCS.)	5		
	28	949-241	MACHINE SCREW M5X20 (10 PCS.)	5		
	29	303-736	SHAFT (A)	1		
	30	949-457	SPRING WASHER M8 (10 PCS.)	1		
	31	967-143	WASHER (R)	1		
	32	306-086	SPRING (E)	1		
	33	967-779	WASHER (G)	1		
	34	949-215	MACHINE SCREW M4X8 (10 PCS.)	1		
	35	949-429	BOLT WASHER M4 (10 PCS.)	1		
	36B	318-822	INDICATOR	1		
	37	949-429	BOLT WASHER M4 (10 PCS.)	1		
	38	998-814	SPACER	1		
	39	949-429	BOLT WASHER M4 (10 PCS.)	1		
	40	949-217	MACHINE SCREW M4X12 (10 PCS.)	1		
	41	307-746	SIDE HANDLE	1		
	42A	998-815	SHAFT	1		
	43	974-577	RETAINING RING (E-TYPE) FOR D7 SHAFT	1		
	44	305-684	SPRING (D)	1		
	45	959-153	STEEL BALL D12.7 (10 PCS.)	1		
	46A	303-399	LINER	3		
	47A	310-731	FENCE (A)	1		
*	48	302-503	KNOB BOLT M6X22	2	EXCEPT FOR USA	
	49	303-411	SET PIN (A)	1		
	50	872-645	O-RING (P-9)	1		
*	51	312-694	HINGE ASS'Y	1	INCLUD.61	

PARTS

	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
*	51	320-290	HINGE ASS'Y	1	INCLUD.61 FOR USA	
	52	967-896	GRIP	1		
*	53	305-152	ONE-TOUCH BUSHING	1	EXCEPT FOR USA	
*	54	948-193	NYLON CLIP	2	EXCEPT FOR USA	
*	55	949-429	BOLT WASHER M4 (10 PCS.)	2		
*	55	949-429	BOLT WASHER M4 (10 PCS.)	1	FOR USA	
*	56	949-217	MACHINE SCREW M4X12 (10 PCS.)	2		
*	56	949-217	MACHINE SCREW M4X12 (10 PCS.)	1	FOR USA	
	57	986-274	MACHINE SCREW (W/WASHERS) M5X25	1		
*	58	500-439Z	CORD	1	(CORD ARMOR D10.1)	
*	58	500-407Z	CORD	1	(CORD ARMOR D8.8) FOR USA	
*	59	975-012	ONE-TOUCH BUSHING	1	EXCEPT FOR USA	
	60	949-686	ROLL PIN D6X40 (10 PCS.)	2		
*	61	305-170	SUPPORT	1		
*	61	307-222	SUPPORT	1	FOR USA	
	62	949-217	MACHINE SCREW M4X12 (10 PCS.)	2		
*	63	305-140	PACKING COVER	2		
*	63	310-863	PACKING COVER (C)	2	FOR USA	
	64	996-226	FELT	4		
	65	998-825	BALL BUSHING	1		
	66	966-458	HEX. SOCKET SET SCREW M8X8	1		
	67	976-301	BEARING LOCK	1		
	68	310-734	HOLDER (A)	1		
	69	996-225	KNOB BOLT M8X20	1		
	70A	947-859	LOCK SPRING	1		
	71	974-500	HEX. SOCKET SET SCREW M8X16	4		
	72	949-568	LOCK NUT M8 (10 PCS.)	4		
	73	996-223	BUSHING	4		
*	74	310-737	PIPE	1	EXCEPT FOR USA	
	75	949-429	BOLT WASHER M4 (10 PCS.)	2		
	76A		CAUTION LABEL (A)	1		
	77	310-712	HINGE SHAFT	1		
	78	949-438	BOLT WASHER M16 (10 PCS.)	2		
	79	310-887	SPRING (B)	1		
	80	968-636	GRIP (B)	1		
	81	305-180	CLUTCH SCREW	1		
	82	305-179	CLUTCH SPRING	1		
	83	310-890	CLAMP LEVER	1		
	84	310-888	BOLT (LEFT HAND) M12X165	1		
	85	939-381	THRUST BEARING (51101)	1		
	86	967-896	GRIP	1		
	87	310-711	SET PIN	1		
	88A	310-889	SCREW HOLDER	1		
	89	309-990	SHAFT (B)	1		
	90	998-987	WASHER	1		
	91	990-541	MACHINE SCREW (W/WASHERS) M5X16	1		
	92	310-723	LINK	1		
	93	315-277	GUARD ASS'Y (A)	1	INCLUD.94-98	
	94	303-408	KNOB BOLT M8X60	1		
	95	303-404	SLEEVE	1		
	96	873-923	GOVERNOR SPRING	1		

	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
	97	303-403	GUARD (C)	1		
	98	998-850	FLAT HD. SCREW (BRASS) M4X6	4		
	99	996-259	BRUSH CAP	2		
	100	999-038	CARBON BRUSH (1 PAIR)	2		
	101	315-547	HOUSING ASS'Y	1	INCLUD.102,103	
	102	976-807	BRUSH HOLDER	2		
	103	966-426	HEX. SOCKET SET SCREW M5X6	2		
*	104	340-336	STATOR ASS'Y 100V-120V	1	INCLUD.105	
*	104	340-410E	STATOR ASS'Y 230V	1	INCLUD.105	
*	104	340-410F	STATOR ASS'Y 240V	1	INCLUD.105	
	105	976-831	BRUSH TERMINAL	2		
	106	958-422	TAPPING SCREW D5X65	2		
	107	949-432	BOLT WASHER M6 (10 PCS.)	1		
	108	307-735	SUPER LOCK WASHER	1		
	109	307-743	MAGNET	1		
*	110	315-550	CONTROLLER	1		
*	110	315-709	CONTROLLER	1	FOR USA	
	111	305-812	TAPPING SCREW (W/FLANGE) D4X16 (BLACK)	2		
	112	310-726	TAIL COVER	1		
	113	304-035	TAPPING SCREW (W/FLANGE) D4X25 (BLACK)	2		
	114	949-558	NUT M8 (10 PCS.)	2		
	115	978-559	SUPER LOCK WASHER	2		
	116	307-744	SPECIAL WASHER	1		
	117	310-728	PULLEY (A)	1		
	118	949-322	FLAT HD. SCREW M4X10 (10 PCS.)	4		
	119	307-731	COVER	2		
	120	310-743	INTERNAL WIRE (BLUE)	1		
*	121	315-551	INTERNAL WIRE (WHITE)	1		
*	121	310-744	INTERNAL WIRE (WHITE)	1	FOR USA	
*	122	360-386	ARMATURE ASS'Y 100V-120V	1	INCLUD.124,125,127	
*	122	360-462E	ARMATURE ASS'Y 230V-240V	1	INCLUD.124,125,127	
	123	976-441	BEARING LOCK	1		
	124	620-1VV	BALL BEARING 6201VVCMPS2L	2		
	125	976-244	WASHER M12	1		
	126	948-919	FEATHER KEY 4X4X15	2		
	127	608-DDM	BALL BEARING 608DDC2PS2L	1		
	128	995-096	MACHINE SCREW (W/WASHERS) M5X20 (BLACK)	4		
	129	315-552	PULLEY COVER	1		
	130	307-740	HANDLE	1		
	131A	310-866	CAUTION LABEL (F)	1		
	132	949-312	WING NUT M8 (10 PCS.)	1		
	133	315-548	SIDE COVER (R)	1		
*	134	988-855	CORD ARMOR D8.8	1		
*	134	994-565	CORD ARMOR D10.1	1		
	135	305-558	TAPPING SCREW (W/FLANGE) D5X25 (BLACK)	4		
	136	949-429	BOLT WASHER M4 (10 PCS.)	2		
*	137	949-215	MACHINE SCREW M4X8 (10 PCS.)	2		
*	137	949-217	MACHINE SCREW M4X12 (10 PCS.)	2	FOR USA	
	138	934-028	CORD CLIP	1		
	139	949-819	HEX. SOCKET HD. BOLT M5X10 (10 PCS.)	1		
	140	310-720	GEAR CASE	1		

	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
	141	975-144	CABLE TIE	3		
	142	996-281	HEX. SOCKET SET SCREW M8X16	1		
	143	949-429	BOLT WASHER M4 (10 PCS.)	2		
	144	949-217	MACHINE SCREW M4X12 (10 PCS.)	2		
	145	310-725	COVER (A)	1		
	146		NAME PLATE	1		
	147	304-035	TAPPING SCREW (W/FLANGE) D4X25 (BLACK)	7		
*	148	988-894	TUBE (D)	2		
*	148	988-894	TUBE (D)	1	FOR USA	
*	149	976-450	SWITCH (A) (2P PILLAR TYPE) W/O LOCK	1		
*	149	988-925	SWITCH (B) (1P PILLAR TYPE) W/LOCK	1	FOR USA	
	150	301-771	TAPPING SCREW (W/WASHERS) D4X12	1		
	151	949-558	NUT M8 (10 PCS.)	2		
	152	952-013	BOLT M8X100	1		
	153	305-130	HINGE SHAFT	1		
	154	301-760	WAVE WASHER	1		
	155	310-898	SPRING	1		
	156	305-128	SLEEVE	1		
	157	310-727	BELT (200H13)	1		
	158	949-433	BOLT WASHER M8 (10 PCS.)	1		
	159	310-729	PULLEY (B)	1		
	160	949-239	MACHINE SCREW M5X16 (10 PCS.)	2		
	161	307-739	RETURN SPRING	1		
	162	310-724	SAFETY COVER	1		
	163	307-731	COVER	1		
	164	949-322	FLAT HD. SCREW M4X10 (10 PCS.)	2		
	165	307-732	STOPPER PIN	1		
	166	988-821	LOCK SPRING	1		
	167	310-721	SPINDLE ASS'Y	1	INCLUD.168-171	
	168	608-VVM	BALL BEARING 608VVC2PS2L	2		
	169		PINION	1		
	170	310-722	BEARING HOLDER	1		
	171	600-3DD	BALL BEARING 6003DDCMPS2S	1		
*	172	315-549	SIDE COVER (L) ASS'Y	1	INCLUD.173-175	
*	172	320-291	SIDE COVER (L) ASS'Y	1	INCLUD.173-175,200 FOR USA	
	173	310-184	GUIDE HOLDER	1		
	174	305-812	TAPPING SCREW (W/FLANGE) D4X16 (BLACK)	1		
	175	310-741	DUST GUIDE	1		
	176	310-745	SPACER	1		
*	177	301-777	WASHER (A)	1	FOR NZL	
*	177	301-778	WASHER (B)	1	FOR AUS,USA	
*	178	976-819	COLLAR (B) FOR D25.4 HOLE	1	FOR AUS,USA	
*	178	974-663Z	COLLAR (A) FOR D30 HOLE	1	FOR AUS	
	179	301-778	WASHER (B)	1		
	180	976-811	BOLT (LEFT HAND) M8	1		
	181		HITACHI LABEL	1		
	182		CAUTION LABEL (G)	1		
*	183	949-397	WING BOLT M5X10 (10 PCS.)	1	FOR AUS,USA	
*	184	949-429	BOLT WASHER M4 (10 PCS.)	1	FOR AUS,USA	
*	185	310-148	SPINDLE COVER	1	FOR AUS,USA	
*	186	998-980	SPACER	1	FOR AUS,USA	

	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
*	187	305-812	TAPPING SCREW (W/FLANGE) D4X16 (BLACK)	1	FOR AUS,USA	
*	188	303-397	HOLDER	2	EXCEPT FOR USA	
*	189	303-757	STOPPER	1	EXCEPT FOR USA	
*	190	998-836	KNOB BOLT M6X11	1	EXCEPT FOR USA	
*	191		CAUTION LABEL (J)	1	FOR USA	
*	192		VINYL TUBE (A) (I.D.12XT1.5X80)	1	FOR USA	
*	193	948-193	NYLON CLIP	1	FOR USA	
*	195		VINYL TUBE (A) (I.D.9.5XT0.7X30)	4	FOR USA	
*	196		WARNING LABEL (A)	1	FOR USA	
*	197		WARNING LABEL (B)	1	FOR USA	
*	198	951-895	LOCK-OFF BUTTON	1	FOR USA	
*	199		TCT SAW BLADE 305MM-D25.4 HOLE NT60	1	FOR USA	
*	200		WARNING LABEL (E)	1	FOR USA	
*	201	959-141	CONNECTOR 50092 (10 PCS.)	1	FOR USA	

STANDARD ACCESSORIES

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
701	972-043	WRENCH 10/13MM	1		
702A	985-051	BOX WRENCH 17MM	1		
703	998-845	DUST BAG	1		

OPTIONAL ACCESSORIES

	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
	901	305-546	TCT SAW BLADE 305MM-D25.4 HOLE-NT60	1		
	902	309-418	TCT SAW BLADE 305MM-D25.4 HOLE-NT80	1		
	903A	301-721	TCT SAW BLADE 305MM-D25.4 HOLE-NT90	1		
	904A	310-875	TCT SAW BLADE 305MM-D25.4 HOLE-NT96	1		
	905	305-174	VISE (A) ASS'Y	1	INCLUD.905-923	
	906	305-175	VISE HOLDER	1		
	907	305-184	SCREW HOLDER	1		
	908	305-176	HOLDER PLATE	1		
	909	305-177	SLEEVE (A)	1		
	910	305-178	CLAMP BOLT M10	1		
	911	996-219	CLAMP LEVER	1		
	912	305-179	CLUTCH SPRING	1		
	913	305-180	CLUTCH SCREW	1		
	914	305-181	SCREW	1		
	915	996-263	KNOB	1		
	916	949-548	ROLL PIN D4X25 (10 PCS.)	1		
	917	949-434	BOLT WASHER M10 (10 PCS.)	1		
	918	305-182	VISE (A)	1		
	919	997-314	MACHINE SCREW (W/WASHERS) M6X10	2		
	920	998-832	LABEL (A)	1		
	921	996-246	WASHER (C)	1		
	922	305-183	SHAFT (B)	1		
	923	305-419	KNOB BOLT M6X51	1		
*	924	320-277	GUIDE ASS'Y	1	INCLUD.925-928 FOR USA	
*	925	303-397	HOLDER	2	FOR USA	
*	926	303-757	STOPPER	1	FOR USA	
*	927	998-836	KNOB BOLT M6X11	1	FOR USA	
*	928	302-503	KNOB BOLT M6X22	2	FOR USA	

* ALTERNATIVE PARTS

Printed in Japan 9 – 01
(010914N)

Hitachi Koki Co., Ltd.
Tokyo Japan