

MODELS

C 12LSH

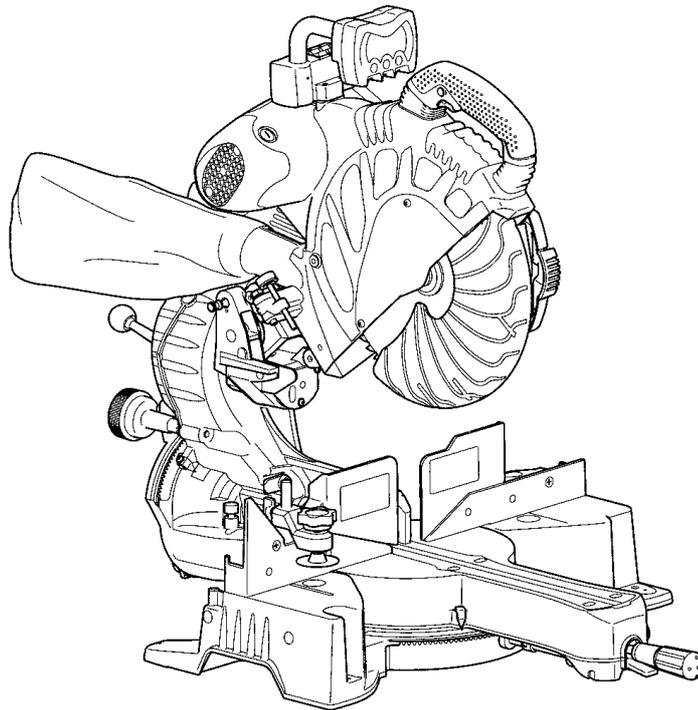
C 12RSH

Hitachi Power Tools

C

**SLIDE COMPOUND MITER SAW
C 12LSH
C 12RSH**

**TECHNICAL DATA
AND
SERVICE MANUAL**



LIST Nos. C 12LSH: E941
C 12RSH: E942

May 2005

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
P	DEWALT	DW708

CONTENTS



	Page
1. PRODUCT NAME	1
2. MARKETING OBJECTIVE	1
3. APPLICATIONS	1
4. SELLING POINTS	2
4-1. Selling Point Descriptions	3
5. SPECIFICATIONS	12
6. COMPARISONS WITH SIMILAR PRODUCTS	14
7. PRECAUTIONS IN SALES PROMOTION	16
7-1. Instruction Manual	16
7-2. Warning Labels, Warning Signs and Caution Labels	16
7-3. Relative Standards	18
7-4. Laser Marker	18
7-5. Ambient Illuminance and Visibility of Laser Line	19
7-6. Precautions Concerning Brake (For USA/CAN)	19
8. ADJUSTMENT AND OPERATIONAL PRECAUTIONS	20
8-1. Confirmation of Saw Blade Lower Limit Position	20
8-2. Confirmation for Use of Sub Fence (A) and Sub Fence (B)	21
8-3. Position Adjustment of Laser Line	22
8-4. How to Use the Vise Assembly	23
8-5. Adjustment of Table Insert Position	24
8-6. Cutting Operation	25
8-7. Digital Display Panel (Only Model C 12LSH)	32
8-8. Precautions Concerning Electronic Condition	33
9. ADJUSTMENT OF COMPONENTS	34
9-1. Bevel Angle Adjustment	34
9-2. Ball Bushing (Linear Bearing)	34
10. PACKING	35
11. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY	37
11-1. Precautions in Disassembly and Reassembly of the Laser Marker	37
11-2. Disassembly	37
11-3. Reassembly	51
11-4. Wiring Diagram	52
11-5. Checking of Insulation Distance	56



	Page
11-6. No-load Current	56
11-7. Reassembly Requiring Adjustment	56
11-8. Lubrication	57
11-9. Product Precision	57
11-10. Adjustment of Laser Marker Accuracy	58
12. REPAIR GUIDE	61
13. STANDARD REPAIR TIME (UNIT) SCHEDULES	67
Assembly Diagram for C 12LSH	
Assembly Diagram for C 12RSH	

1. PRODUCT NAME

Hitachi Slide Compound Miter Saws, Models C 12LSH/C 12RSH

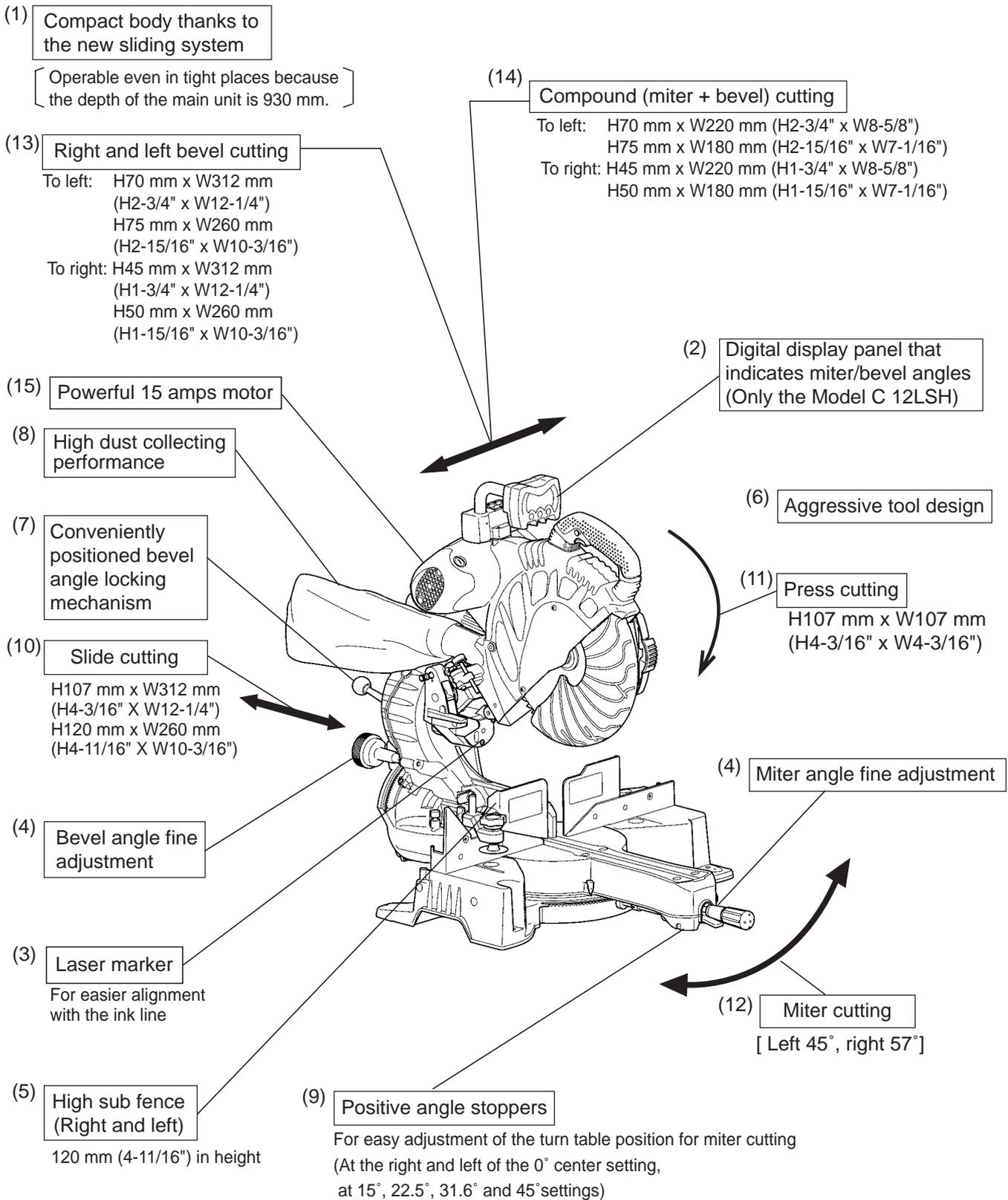
2. MARKETING OBJECTIVE

The new slide compound miter saws Models C 12LSH and C 12RSH are introduced. They are compact thanks to the new sliding system that allows only the head portion to slide from the front to the back. They are equipped with the laser marker and the digital display panel that indicates miter/bevel angles (Model C 12LSH only) for increased visibility. In addition, they incorporate many features such as the turn table and the miter/bevel angle fine adjustment function. The new Models C 12LSH and C 12RSH are more convenient than the conventional ones.

3. APPLICATIONS

- Cutting various types of wood workpieces
- Cutting workpieces of plywood, decoration panels, soft fiberboards and hard boards
- 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) Compact body thanks to the new sliding system

① Operable even in tight places

When moving the motor head, the slide pipe also moves together extending backward in the case of the conventional slide compound miter saws. The Models C 12LSH and C 12RSH are equipped with the new system that allows only the motor head to slide from the front to the back. As shown in Fig. 1, the slide pipe does not extend backward when sliding the motor head from the front to the back. Therefore, the depth of the main unit remains unchanged (930 mm). The Models C 12LSH and C 12RSH are operable even in tight places such as a place where there is a wall behind.

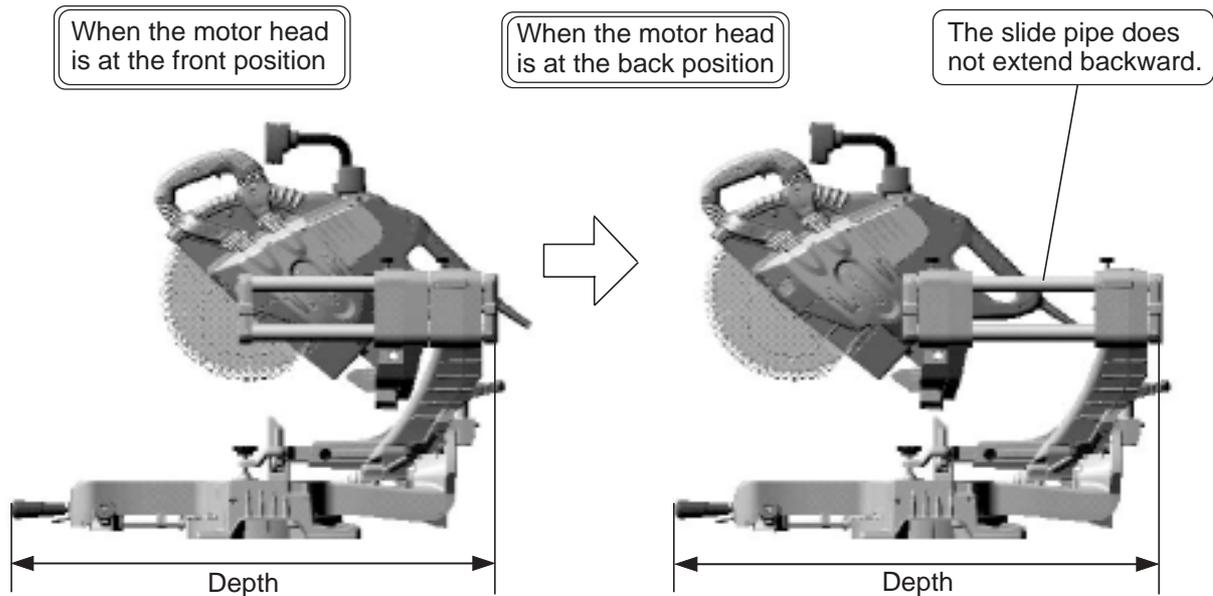


Fig. 1

Table 1

Unit: mm (inch)

Model	Dimension of the main unit (Width x Depth x Height)	
	When the motor head is at the front position	When the motor head is at the back position
HITACHI C 12LSH/C 12RSH	595 x 930 x 710 (23-7/16" x 36-5/8" x 27-15/16")	595 x 930 x 710 (23-7/16" x 36-5/8" x 27-15/16")
HITACHI C 12FSA	580 x 1,120 x 675 (22-7/8" x 44-3/32" x 29-9/16")	580 x 1,120 x 675 (22-7/8" x 44-3/32" x 29-9/16")
C	590 x 800 x 690 (23-1/4" x 31-1/2" x 27-1/4")	590 x 1,035 x 690 (23-1/4" x 40-3/4" x 27-1/4")
P	595 x 910 x 660 (23-7/16" x 35-13/16" x 26")	595 x 1,120 x 660 (23-7/16" x 44-3/32" x 26")

② Adjustable sliding amount

The sliding amount of the motor head is adjustable by loosening the slide lock knob at holder (A) side and changing the slide pipe position (Fig. 2-a). It is convenient for making continuous grooves halfway through the sliding operation (Fig. 2-b).

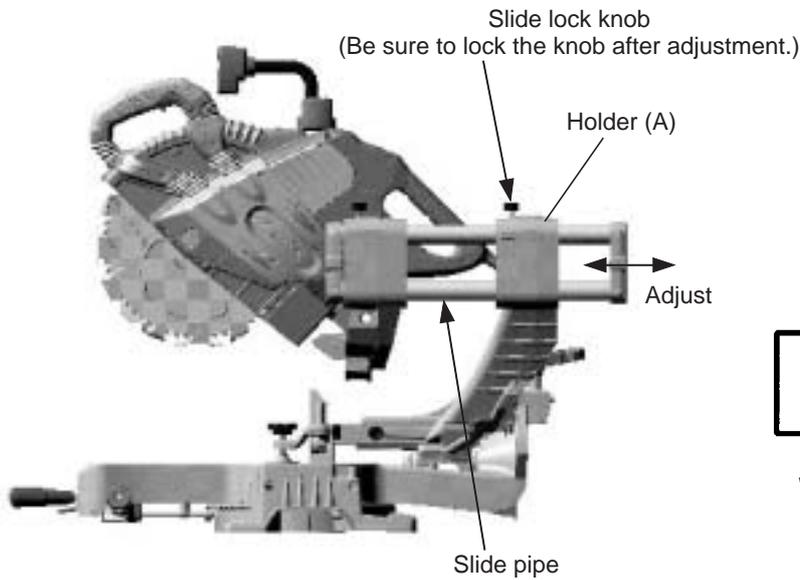


Fig. 2-a

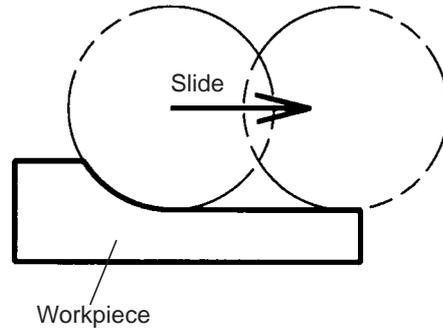


Fig. 2-b

(2) Digital display panel that indicates miter/bevel angles

(Only the Model C 12LSH)

Use the digital display panel when cutting a workpiece at an optional angle. The digital display panel indicates a miter/bevel cutting angle with a numeric value. There is no reading error caused by visual check between the indicator and the scale. The digital display indicates a miter angle or a bevel angle in increments of 0.5° . The digital display is equipped with the convenient back light ON/OFF switch that makes the display easily readable even in a dimly lit place (Fig. 3).

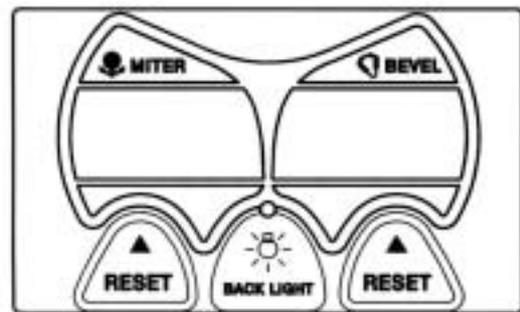


Fig. 3

(3) Laser marker

Use the laser marker for aligning with the ink line on the workpiece.

- ① Cutting position can be properly adjusted by aligning the positioning ink line with the laser line. There is no need to make a long ink line on the workpiece.
- ② There is no need to lower the motor head to align with the ink line because the laser marker makes a laser line on the workpiece. In addition, cutting position can be easily adjusted because the operator can hold the workpiece with both hands to move.

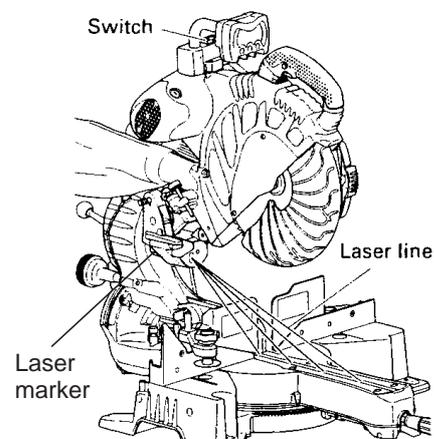


Fig. 4-a

- ③ Cutting position can be easily adjusted because the laser line can be aligned with an optionally angled ink line.
- ④ Even the workpieces such as crown moldings and base boards that have decorative surfaces and are difficult to be made an ink line can be cut just by aligning the laser line with the ink line on the fence side. The laser line is adjusted to the width of the saw blade at the time of factory shipment. Depending upon the user's cutting choice, the laser line can be aligned with the left side of the cutting width (saw blade) or the ink line on the right side. Adjust the position of the laser line according to "8-4. Position Adjustment of Laser Line" on page 23.

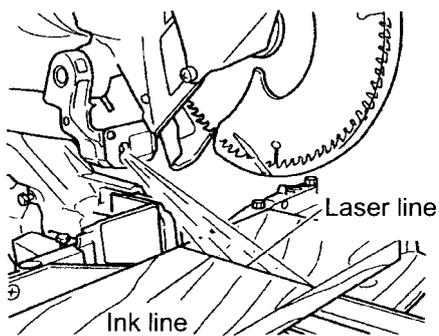


Fig. 4-b

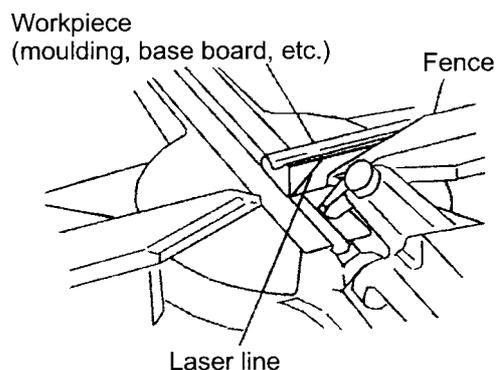


Fig. 4-c

(4) Miter and bevel angle fine adjustment

The Model C 12LSH and C 12RSH are easily and finely adjustable to an optional miter and bevel angle. Loosen the side handle and turn knob (A) while pulling up the lever to adjust the miter angle finely (Fig. 7). Loosen the clamp lever and turn knob (B) to adjust the bevel angle finely (Fig. 6).

(5) High sub fence

The Models C 12LSH and C 12RSH have a high sub fence (right and left). Use the high sub fence for miter cutting, left and right bevel cutting or crown molding cutting. The high sub fence supports the workpiece widely for stable cutting.

Table 2

Unit: mm (inch)

Height of fence		HITACHI C 12LSH C 12RSH	HITACHI C 12FSA	C	P
Fixation fence	A	Left 50 (1-15/16")	Left 49 (1-15/16")	Left 45 (1-3/4")	Left 29 (1-1/8")
	B	Left —	Left —	Left 80 (3-3/16")	Left —
	C	Left 120 (4-11/16")	Left 70 (2-3/4")	Left 115 (4-1/2")	Left —
	E	Right 45 (1-3/4")	Right 30.5 (1-3/16")	Right 30 (1-3/16")	Right 29 (1-1/8")
High sub fence	D	Left 120 (4-11/16") (Rotary type)	Left none	Left 115 (4-1/2") (Rotary type)	Left 109 (4-5/16") (Horizontally movable type)
	F	Right 120 (4-11/16") (Rotary type)	Right none	Right none	Right 109 (4-5/16") (Horizontally movable type)

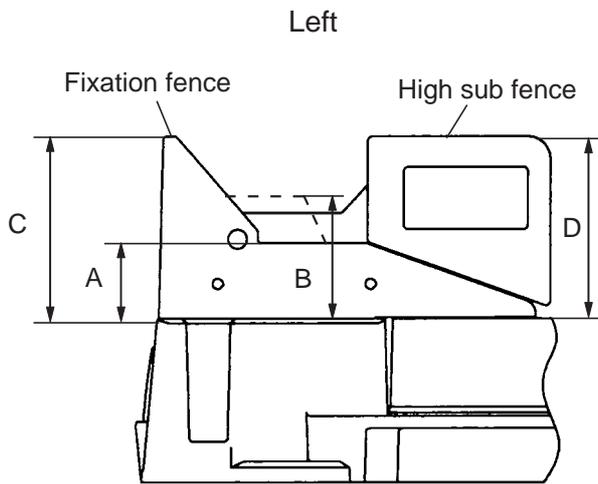


Fig. 5-a

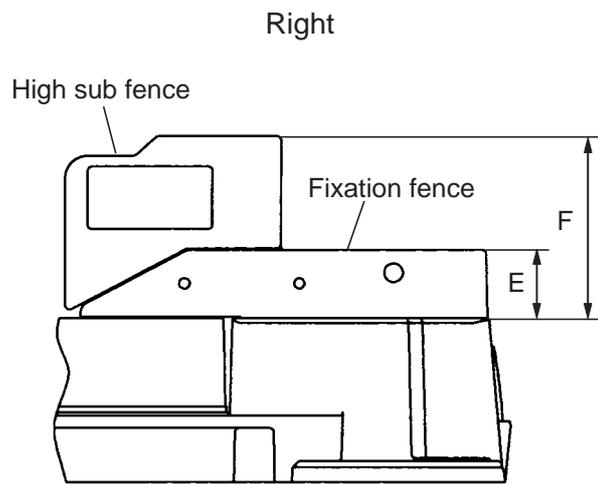


Fig. 5-b

(6) Aggressive tool design

The tool color is gunmetallic silver to give a sturdier image. The circular saw portion is of a powerful, original and aggressive design.

(7) Conveniently positioned bevel angle locking mechanism

In the case of the conventional slide compound miter saws, the clamp lever is positioned at the rear of the main unit. The Models C 12LSH and C 12RSH are equipped with the clamp lever conveniently positioned at the upper position for easier bevel angle locking.

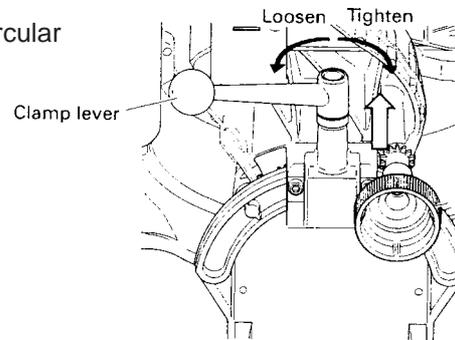


Fig. 6

(8) High dust collecting performance

The dust collecting performance of the Models C 12LSH and C 12RSH are remarkably higher than the other models thanks to the adoption of new dust guide and gear case.

Table 3

(%)

Cutting method	Maker Model	HITACHI C 12LSH C 12RSH	C	P
Press cutting *1 (Size of the workpiece: 105 mm x 105 mm (4-1/8" x 4-1/8"))		66.6	40.2	8
Slide cutting *2 (Size of the workpiece: 105 mm x 105 mm (4-1/8" x 4-1/8"))		91.2	84.8	11.0

*1: This is a method to cut a workpiece by shaking the motor head.

*2: This is a method to cut a workpiece by sliding the motor head from the front.

The dust collecting performance may vary depending on the workpiece and operating conditions.

The dust collecting performance is obtained from the following formula:

$$\text{Dust collecting performance (\%)} = \frac{\text{Weight of sawdust accumulated in the dust bag (g)}}{\text{Weight of all sawdust during cutting (g)}} \times 100$$

(9) Positive angle stoppers

The Models C 12LSH and C 12RSH have positive angle stoppers in the turn table at the right and the left of the 0° center setting, at 15°, 22.5°, 31.6° and 45° settings.

Thanks to the positive angle stoppers, positioning can be done more securely than the ball index method utilized in the current Model C 12FSA. In addition, a lever is provided at the lower tip of the turn table to secure or release the positive angle stoppers. Adjustment of the turn table and positioning can be easily done while holding the side handle.

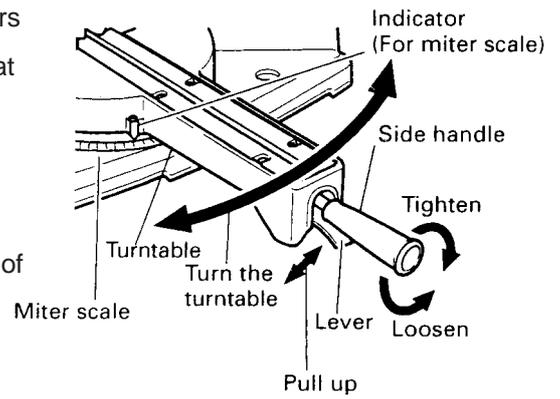


Fig. 7

(10) Slide cutting

Table 4

Unit: mm (inch)

Max. cutting dimensions	HITACHI C 12LSH C 12RSH	HITACHI C 12FSA	C	P
Height x Width (H x W)	107 x 312 (4-3/16" x 12-1/4") 120 x 260 (4-11/16" x 10-3/16") with aux. board width 25 mm (1")	107 x 305 (4-3/16" x 12") 120 x 260 (4-11/16" x 10-3/16") with aux. board width 20 mm (13/16")	98 x 310 (3-7/8" x 12-1/4") 120 x 230 (4-11/16" x 9") with aux. board width 34 mm (1-5/16")	102 x 305 (4" x 12") 115 x 299 (4-1/2" x 11-3/4")

Workpieces as wide as shown in Table 4 can be cut with the motor head sliding. The lower limit position of the saw blade is factory-adjusted so that workpieces up to 107 mm (4-3/16") high and 312 mm (12-1/4") wide can be cut as shown in Fig. 9-a. When cutting a workpiece of 120 mm (4-11/16") in height as indicated in [] in Table 4, adjust the saw so that there is a clearance of 2 to 3 mm (3/32" to 1/8") between the bottom surface of the head and the top surface of the workpiece at the lower limit position of the saw blade as shown in Fig. 9-b. (See the Instruction Manual, page 18 "4. Lower limit position of saw blade when cutting a large workpiece".) Please note that when cutting in this position, it is necessary to use an auxiliary board of 25 mm (1") wide so that the workpiece on the fence side can be cut full width.

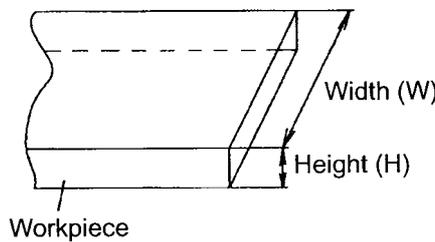


Fig. 8

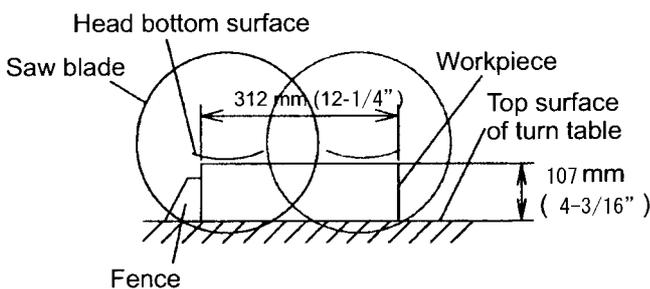


Fig. 9-a

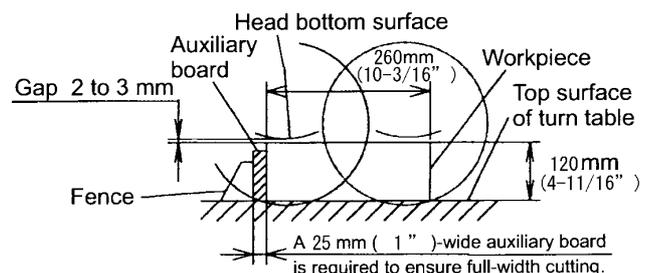


Fig. 9-b

(11) Press cutting

Table 5

Unit: mm (inch)

Max. cutting dimensions / Maker Model	HITACHI C 12LSH C 12RSH	HITACHI C 12FSA	C	P
Height x Width (H x W)	107 x 107 (4-3/16" x 4-3/16") 120 x 120 (4-11/16" x 4-11/16") with aux. board width 25 mm (1")	100 x 100 (4" x 4")	98 x 134 (3-7/8" x 5-1/4") 107 x 122 (4-1/4" x 4-13/16") [with aux. board width 34 mm (1-5/16")]	102 x 102 (4" x 4") 115 x 115 (4-1/2" x 4-1/2")

Press cutting with the head swiveling enables cutting workpieces as large as shown in Table 5 in a single sawing operation. It is convenient for cutting narrow workpieces (Fig. 10).

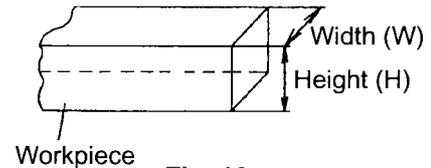


Fig. 10

(12) Miter cutting

Table 6

Unit: mm (inch)

Max. cutting dimensions / Maker Model	HITACHI C 12LSH C 12RSH	HITACHI C 12FSA	C	P
Right and left 45° Height x Width (H x W)	107 x 220 (4-3/16" x 8-5/8") 120 x 180 (4-11/16" x 7-1/16") with aux. board width 25 mm (1")	107 x 220 (4-3/16" x 8-5/8") 120 x 180 (4-11/16" x 7-1/16") with aux. board width 25 mm (1")	98 x 220 (3-7/8" x 8-5/8") 120 x 162 (4-11/16" x 6-3/8") [with aux. board width 24 mm (15/16")]	102 x 216 (4" x 8-1/2") 115 x 203 (4-1/2" x 8")
Right 57° (Hitachi C 12LSH, C 12RSH) Right and left 57° (Hitachi C 12FSA) Right 60° (C) Height x Width (H x W)	107 x 170 (4-3/16" x 6-11/16") 120 x 130 (4-11/16" x 5-1/8") with aux. board width 25 mm (1")	107 x 180 (4-3/16" x 7-1/16") 120 x 140 (4-11/16" x 5-1/2") with aux. board width 25 mm (1")	98 x 155 (3-7/8" x 6-1/8") 120 x 115 (4-11/16" x 4-1/2") with aux. board width 17 mm (11/16")	—

Workpieces as wide as shown in Table 6 can be cut by swiveling the turn table (right and left).

The maximum cutting dimensions in [] in Table 6 are those obtained by adjusting the lower limit position of the saw blade indicated in Fig. 9-b, also with an auxiliary board.

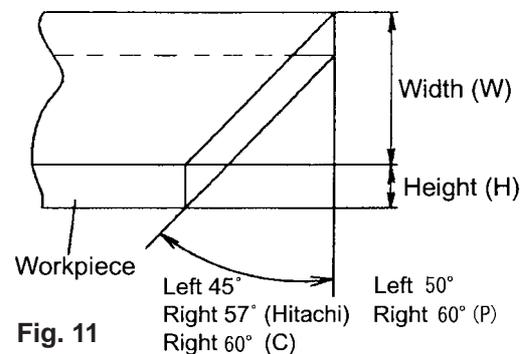


Fig. 11

(13) Right and left bevel cutting

① Maximum cutting dimension

Table 7

Unit: mm (inch)

Max. cutting dimensions	Maker Model	HITACHI C 12LSH C 12RSH	HITACHI C 12FSA	C	P
Left 45° Height x Width (H x W)		70 x 312 (2-3/4" x 12-1/4") 75 x 260 (2-15/16" x 10-3/16") with aux. board width 25 mm (1")	70 x 305 (2-3/4" x 12") 75 x 260 (2-15/16" x 10-3/16") with aux. board width 20 mm (13/16")	55 x 310 (2-3/16" x 12-1/4") 69 x 230 (2-3/4" x 9") [with aux. board 34 mm (1-5/16")]	57 x 305 (2-1/4" x 12") 79 x 200 (3-1/8" x 7-7/8")
Right 45° Height x Width (H x W)		45 x 312 (1-3/4" x 12-1/4") 50 x 260 (1-15/16" x 10-3/16") with aux. board width 25 mm (1")	40 x 305 (1-9/16" x 12") 45 x 260 (1-3/4" x 10-3/16") with aux. board width 20 mm (13/16")	35 x 310 (1-3/8" x 12-1/4") 49 x 230 (1-15/16" x 9") [with aux. board width 34 mm (1-5/16")]	28 x 305 (1-1/8" x 12") 41 x 270 (1-5/8" x 10-5/8")

Workpieces as wide as shown in Table 7 can be bevel-cut by tilting the saw blade (right and left).

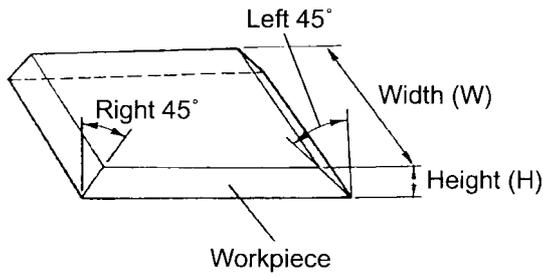


Fig. 12

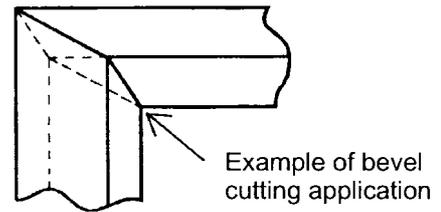


Fig. 13

② Bevel cutting

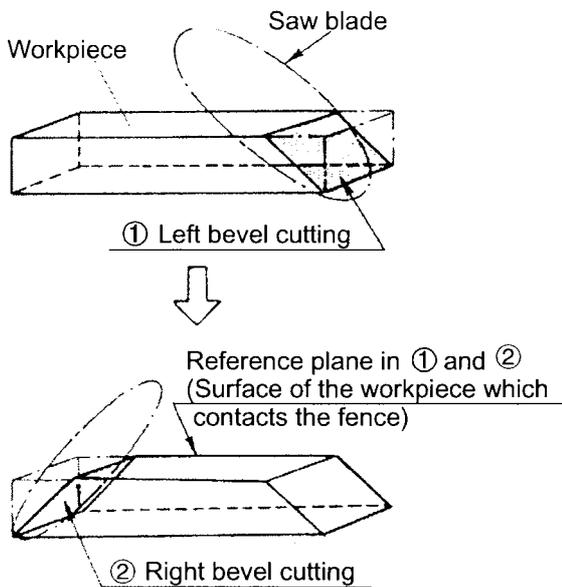


Fig. 14

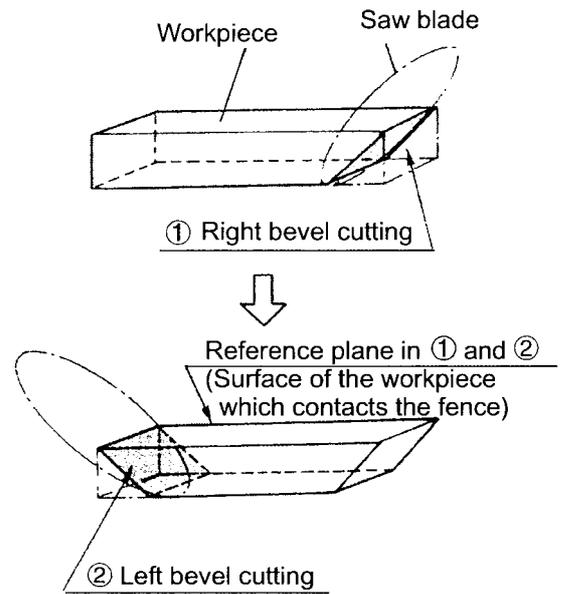


Fig. 15

Figures 14 and 15 show the right and left bevel cutting by the Models C 12LSH and C 12RSH. More accurate miter cutting is performed because the same reference plane (surface of the workpiece which contacts the fence) is used in both the left bevel cutting and the right bevel cutting (Fig. 13). Even an oddly shaped workpiece can be accurately bevel-cut in either left or right by making the wide and stable surface of the workpiece as the reference plane as shown in Fig. 16. In addition, the working efficiency is improved because there is no need to turn around the workpiece.

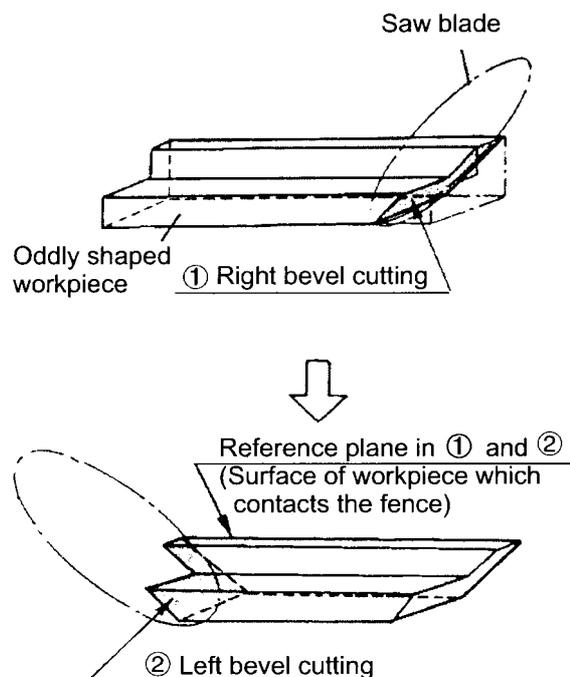


Fig. 16

(14) Compound (miter + bevel) cutting

Table 8

Unit: mm (inch)

Max. cutting dimensions	HITACHI C 12LSH C 12RSH	HITACHI C 12FSA	C	P
Left miter 45° (Hitachi C 12FSA Right and left miter 45°) ((C) Right and left miter 45°) Left bevel 45° Height x Width (H x W)	70 x 220 (2-3/4" x 8-5/8") 75 x 180 (2-15/16" x 7-1/16") with aux. board width 25 mm (1")	70 x 220 (2-3/4" x 8-5/8") 75 x 180 (2-15/16" x 7-1/16") with aux. board width 25 mm (1")	55 x 220 (2-3/16" x 8-5/8") 69 x 162 (2-3/4" x 6-3/8") with aux. board width 24 mm (15/16")	57 x 216 (2-1/4" x 8-1/2") 79 x 203 (3-1/8" x 8")
Right miter 31° Left bevel 45° Height x Width (H x W)	70 x 265 (2-3/4" x 10-7/16") 75 x 220 (2-15/16" x 8-5/8") with aux. board width 25 mm (1")	—	—	—
Right miter 45° ((C) Right and left miter 45°) Right bevel 45° Height x Width (H x W)	45 x 220 (1-3/4" x 8-5/8") 50 x 180 (1-15/16" x 7-1/16") with aux. board width 25 mm (1")	40 x 220 (1-9/16" x 8-5/8") 45 x 180 (1-3/4" x 7-1/16") with aux. board width 25 mm (1")	35 x 220 (1-3/8" x 8-5/8") 49 x 162 (1-15/16" x 6-3/8") with aux. board width 24 mm (15/16")	28 x 216 (1-1/8" x 8-1/2") 41 x 203 (1-5/8" x 8")
Left miter 31° Right bevel 45° Height x Width (H x W)	45 x 265 (1-3/4" x 10-7/16") 50 x 220 (1-15/16" x 8-5/8") with aux. board width 25 mm (1")	40 x 265 (1-9/16" x 10-7/16") 45 x 220 (1-3/4" x 8-5/8") with aux. board width 20 mm (13/16")	—	—

By turning the turn table to the left or right and inclining the saw blade section (head) to the left or right, the Models C 12LSH and C 12RSH are capable of compound cutting (bevel + miter, see Figs. 17, 18 and 19) of workpieces with the maximum dimensions shown in Table 8.

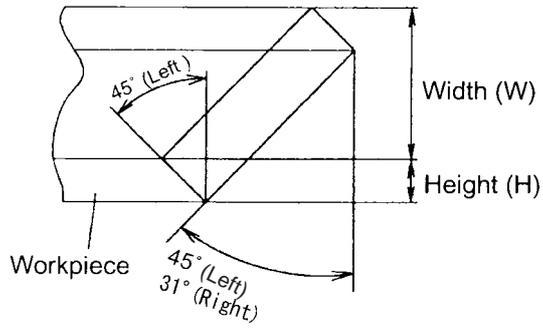


Fig. 17

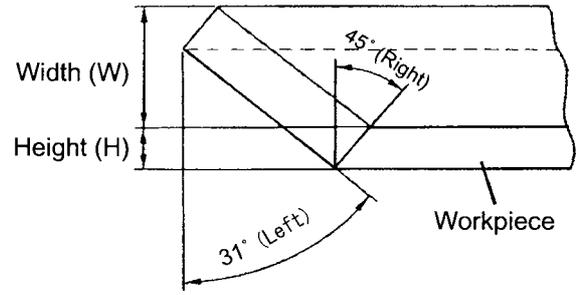


Fig. 18

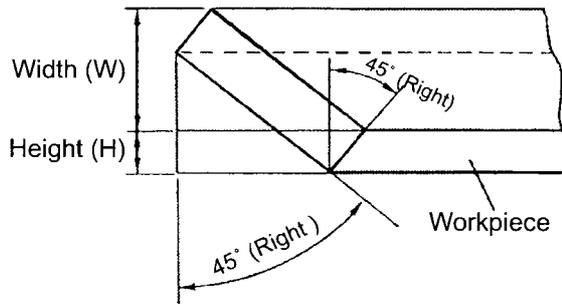


Fig. 19

(15) Powerful 15 amps motor

The Models C 12LSH and C 12RSH are equipped with a 15-ampere motor.

5. SPECIFICATIONS

Maximum cutting dimensions Height x Width (H x W)	0° (Right angle)	107 mm x 312 mm (4-3/16" x 12-1/4") 120 mm x 260 mm (4-11/16" x 10-3/16") [with aux. board 25 mm (1")]	
	Miter left/right 45°	107 mm x 220 mm (4-3/16" x 8-5/8") 120 mm x 180 mm (4-11/16" x 7-1/16") [with aux. board 25 mm (1")]	
	Miter right 57°	107 mm x 170 mm (4-3/16" x 6-11/16") 120 mm x 130 mm (4-11/16" x 5-1/8") [with aux. board 25 mm (1")]	
	Bevel	Left 45°	70 mm x 312 mm (2-3/4" x 12-1/4") 75 mm x 260 mm (2-15/16" x 10-3/16") [with aux. board 25 mm (1")]
		Right 45°	45 mm x 312 mm (1-3/4" x 12-1/4") 50 mm x 260 mm (1-15/16" x 10-3/16") [with aux. board 25 mm (1")]
	Miter left 45° + Bevel left 45°	70 mm x 220 mm (2-3/4" x 8-5/8") 75 mm x 180 mm (2-15/16" x 7-1/16") [with aux. board 25 mm (1")]	
	Miter right 31° + Bevel left 45°	70 mm x 265 mm (2-3/4" x 10-7/16") 75 mm x 220 mm (2-15/16" x 8-5/8") [with aux. board 25 mm (1")]	
	Miter right 45° + Bevel right 45°	45 mm x 220 mm (1-3/4" x 8-5/8") 50 mm x 180 mm (1-15/16" x 7-1/16") [with aux. board 25 mm (1")]	
Miter left 31° + Bevel right 45°	45 mm x 265 mm (1-3/4" x 10-7/16") 50 mm x 220 mm (1-15/16" x 8-5/8") [with aux. board 25 mm (1")]		
Miter cutting ranges		Left 0° – 46°, Right 0° – 57°	
Bevel cutting ranges		Right and left 0° – 45°	
Compound (miter + bevel) cutting ranges		Miter left 45° to right 31° + left bevel 0° to 45° Miter left 31° to right 45° + right bevel 0° to 45°	
Angle stopper positions		0°, right and left 15°, 22.5°, 31.6° and 45°	
Applicable saw blade		305 mm (12") external dia. x 25.4 mm (1") bore	
Laser marker	Maximum output	< 1 mW (CLASS II)	
	Wave length	400 nm to 700 nm	
	Laser medium	Laser diode	
Power source type and voltage		AC single phase 60 Hz, 120 V	
Type of motor		AC single phase commutator series motor	
Full-load current		15 A	
No-load rotation speed		3,800 min ⁻¹	
Max. output		Approx. 1,850 W	
Main body dimensions (Width x Depth x Height)		595 mm x 930 mm x 710 mm (23-7/16" x 36-5/8" x 27-15/16")	
Weight		C 12LSH 30 kg (66.1 lbs.) C 12RSH 29 kg (63.9 lbs.)	
Coating		Gunmetallic silver	
Packaging		Corrugated cardboard box	
Cord		Type: 2-conductor cabbire cable Length: 1.8 m (6 ft)	
Standard accessories		<ul style="list-style-type: none"> • 305 mm (12") TCT saw blade (25.4 mm (1") bore), NT60, Code No. 726100for wood cutting • Dust bag • Vise ass'y • 17 mm box wrench • Holder 	

Optional accessories	<ul style="list-style-type: none">• Extension holder and stopper (Code No. 324369)• Crown molding vise ass'y (Code No. 321434) (Including crown molding stopper (L))• Crown molding stopper (L) (Code No. 321374)• Crown molding stopper (R) (Code No. 321373)
----------------------	---

6. COMPARISONS WITH SIMILAR PRODUCTS

Item		Maker Model	HITACHI C 12LSH/C 12RSH	HITACHI C 12FSA	C	P
Max. cutting dimensions Height x Width mm (inch)	0° (Right angle)		107 x 312 (4-3/16" x 12-1/4") 120 x 260 (4-11/16" x 10-3/16") [with aux. board 25 mm (1")]	107 x 305 (4-3/16" x 12") 120 x 260 (4-11/16" x 10-3/16") [with aux. board 20 mm (13/16")]	98 x 310 (3-7/8" x 12-1/14") 120 x 230 (4-11/16" x 9") [with aux. board 34 mm (1-5/16")]	102 x 305 (4" x 12") 115 x 299 (4-1/2" x 11-3/4")
	Miter	Left/right 45°	107 x 220 (4-3/16" x 8-5/8") 120 x 180 (4-11/16" x 7-1/16") [with aux. board 25 mm (1")]	107 x 220 (4-3/16" x 8-5/8") 120 x 180 (4-11/16" x 7-1/16") [with aux. board 25 mm (1")]	98 x 220 (3-7/8" x 8-5/8") 120 x 162 (4-11/16" x 6-3/8") [with aux. board 24 mm (15/16")]	102 x 216 (4" x 8-1/2") 115 x 203 (4-1/2" x 8")
		Right 57° (C 12FSA R/L 57°) (C: R60)	107 x 170 (4-3/16" x 6-11/16") 120 x 130 (4-11/16" x 5-1/8") [with aux. board 25 mm (1")]	107 x 180 (4-3/16" x 7-1/16") 120 x 140 (4-11/16" x 5-1/2") [with aux. board 25 mm (1")]	98 x 155 (3-7/8" x 6-1/8") 120 x 115 (4-11/16" x 4-1/2") [with aux. board 17 mm (11/16")]	—
	Bevel	Left 45°	70 x 312 (2-3/4" x 12-1/4") 75 x 260 (2-15/16" x 10-3/16") [with aux. board 25 mm (1")]	70 x 305 (2-3/4" x 12") 75 x 260 (2-15/16" x 10-3/16") [with aux. board 20 mm (13/16")]	55 x 310 (2-3/16" x 12-1/4") 69 x 230 (2-3/4" x 9") [with aux. board 34 mm (1-5/16")]	57 x 305 (2-1/4" x 12") 79 x 200 (3-1/8" x 7-7/8")
		Right 45°	45 x 312 (1-3/4" x 12-1/4") 50 x 260 (1-15/16" x 10-3/16") [with aux. board 25 mm (1")]	40 x 305 (1-9/16" x 12") 45 x 260 (1-3/4" x 10-3/16") [with aux. board 20 mm (13/16")]	35 x 310 (1-3/8" x 12-1/4") 49 x 230 (1-15/16" x 9") [with aux. board 34 mm (1-5/16")]	28 x 305 (1-1/8" x 12") 41 x 270 (1-5/8" x 10-5/8")
	Miter left 45° (C 12FSA R/L 45°) ((C) R/L 45°) + Bevel left 45°		70 x 220 (2-3/4" x 8-5/8") 75 x 180 (2-15/16" x 7-1/16") [with aux. board 25 mm (1")]	70 x 220 (2-3/4" x 8-5/8") 75 x 180 (2-15/16" x 7-1/16") [with aux. board 25 mm (1")]	55 x 220 (2-3/16" x 8-5/8") 69 x 162 (2-3/4" x 6-3/8") [with aux. board 24 mm (15/16")]	57 x 216 (2-1/4" x 8-1/2") 79 x 203 (3-1/8" x 8")
	Miter right 31° + Bevel left 45°		70 x 265 (2-3/4" x 10-7/16") 75 x 220 (2-15/16" x 8-5/8") [with aux. board 25 mm (1")]	—	—	—
	Miter right 45° ((C) R/L 45°) + Bevel right 45°		45 x 220 (1-3/4" x 8-5/8") 50 x 180 (1-15/16" x 7-1/16") [with aux. board 25 mm (1")]	40 x 220 (1-9/16" x 8-5/8") 45 x 180 (1-3/4" x 7-1/16") [with aux. board 25 mm (1")]	35 x 220 (1-3/8" x 8-5/8") 49 x 162 (1-15/16" x 6-3/8") [with aux. board 24 mm (15/16")]	28 x 216 (1-1/8" x 8-1/2") 41 x 203 (1-5/8" x 8")
	Miter left 31° + Bevel right 45°		45 x 265 (1-3/4" x 10-7/16") 50 x 220 (1-15/16" x 8-5/8") [with aux. board 25 mm (1")]	40 x 265 (1-9/16" x 10-7/16") 45 x 220 (1-3/4" x 8-5/8") [with aux. board 20 mm (13/16")]	—	—
	Groove cutting width		Possible (with bolt height adjustment)	Possible (with bolt height adjustment)	Possible (with bolt height adjustment)	Possible (with screw height adjustment)
Miter cutting ranges		Left 0° — 46°, right 0° — 57°	Left 0° — 57°, right 0° — 57°	Left 0° — 47°, right 0° — 60°	Left 0° — 50°, right 0° — 60°	
Bevel cutting ranges		Left and right 0° — 45°	Left and right 0° — 45°	Left and right 0° — 45°	Left and right 0° — 48°	
Compound (miter + bevel) cutting ranges		Miter left 0° — 45°/ Miter right 0° — 31° Bevel left 0° — 45°	Miter left and right 0° — 45° Bevel left 0° — 45°	Miter left and right 0° — 45° Bevel left and right 0° — 45°	Miter left and right 0° — 45°	
		Miter left 0° — 31°/ Miter right 0° — 45° Bevel right 0° — 45°	Miter left 0° — 31°/ Miter right 0° — 45° Bevel right 0° — 45°	Miter right 0° — 60°/ Bevel left 0° — 35° Bevel right 0° — 45°	Bevel left and right 0° — 45°	
Angle stopper positions		0°, right and left 15°, 22.5°, 31.6°, 45°	0°, right and left 15°, 22.5°, 31.6°, 35.3°, 45°	0°, right and left 15°, 22.5°, 30°, 45°	0°, right 15°, 22.5°, 31.6°, 45°, 60° 0°, left 15°, 22.5°, 31.6°, 45°, 50°	
Saw blade external diameter mm (inch) (No. of teeth)		305 (12") (60 P)	305 (12") (60 P)	305 (12") (70 P)	305 (12") (60 P)	
Laser marker		Provided	Not provided	Not provided	Not provided	
Laser output		<1 mW	—	—	—	
Digital display		Provided (C 12LSH only)	None	None	None	

Maker/Model		HITACHI C 12LSH/C 12RSH	HITACHI C 12FSA	C	P
Motor	Full-load current (A)	120 V — 15 A	120 V — 12 A	120 V — 15 A	120 V — 15 A
	No-load revolution (min ⁻¹)	3,800	3,200	3,200	4,000
	Max. output (W)	Approx. 2,100	Approx. 1,940	—	Approx. 2,100
	Soft-start	Not provided	Provided (electric control)	Provided (electric control)	Not provided
	Speed control	Not provided	Provided (electric control)	Provided (electric control)	Not provided
	Poly V belt overload protector	Not provided	Provided (electric control)	Not provided	Not provided
Saw blade drive system	Poly V belt + Gear	Poly V belt + Gear	Gear	Poly V belt + 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	On top of workpiece Slide pipes x 2	
Slide clearance adjustment	Externally adjustable	Externally adjustable	Disassembly is required	Externally adjustable	
Insulation structure	Double insulation	Double insulation	Double insulation	Double insulation	
Height adjustment of workpiece holder	Possible	Possible	Possible	Impossible	
Miter scale	With angle and inclination scale	With angle and inclination scale	With angle and inclination scale	With angle scale	
Splinter guard	Provided (with ink line alignment)	Provided (with ink line alignment)	Not provided	Not provided	
Type of angle stopper	Positive stopper	Ball index	Positive stopper	Detent plate	
High fence (sub fence)	Provided (left and right)	Not provided	Provided (left)	Provided (left and right)	
Capacity of dust bag (l)	3	3	2	2	
Power cord accommodation	External	External	External	External	
Main unit dimensions [Width x Depth x Height] mm (inch)	595 x 930 x 710 (23-7/16" x 36-5/8" x 27-15/16")	580 x 1,120 x 675 (22-7/8" x 44-3/32" x 29-9/16")	590 x 800 x 690 (23-1/4" x 31-1/2" x 27-1/4")	595 x 910 x 660 (23-7/16" x 35-13/16" x 26")	
Product weight kg (lbs.)	C 12LSH 30 (66.1) C 12RSH 29 (63.9)	25 (55.1)	22 (48.4)	25.8 (57)	
Standard accessories	<ul style="list-style-type: none"> • 305 mm (12") TCT saw blade (NT60) for wood cutting 1 • Dust bag 1 • Vise ass'y 1 • 17 mm box wrench 1 • Holder 1 	<ul style="list-style-type: none"> • 305 mm (12") TCT saw blade (NT60) for wood cutting 1 • Dust bag 1 • Vise ass'y 1 • 17 mm box wrench 1 • Holder (B) 1 • 10 mm x 13 mm double head wrench 1 	<ul style="list-style-type: none"> • 305 mm (12") TCT saw blade (NT70) 1 • Dust bag 1 • Vertical vise 1 • Socket wrench #13 1 • Triangular rule 1 	<ul style="list-style-type: none"> • 305 mm (12") TCT saw blade (NT60) 1 • Dust bag 1 • Blade wrench 1 • Base stabilizer 1 	
Optional accessories	<ul style="list-style-type: none"> • Extension holder and stopper • Crown molding vise ass'y (including crown molding stopper (L)) • Crown molding stopper (L) • Crown molding stopper (R) 	<ul style="list-style-type: none"> • Extension holder and stopper • Vise (A) (horizontal) 	<ul style="list-style-type: none"> • TCT saw blade (NT96) • Sub fence R • Vise assembly (horizontal) • Holder set • Holder ass'y • Holder rod ass'y • Set plate • Crown molding stopper set 	<ul style="list-style-type: none"> • Miter saw work station • Extension set • Adjustable length stop • Material clamp (vertical) • Crown stop 	

7. PRECAUTIONS IN SALES PROMOTION

In the interest of promoting the safest and most efficient use of the Models C 12LSH and C 12RSH Slide Compound Miter Saws 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 Instruction Manual, and fully understands the meaning of the precautions listed on the Warning Labels, Warning Signs and Caution Labels attached to each machine.

7-1. Instruction Manual

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 slide compound miter 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 miter saw are listed in the Instruction Manual to enhance the safe, efficient use of the tool by the customer. Salespersons must be thoroughly familiar with the contents of the Instruction Manual to be able to offer appropriate guidance to the customer during sales promotion.

7-2. Warning Labels, Warning Signs and Caution Labels

(1) Warnings on the name plate

Each Models C 12LSH and C 12RSH are furnished with a Name Plate that lists the following warnings.

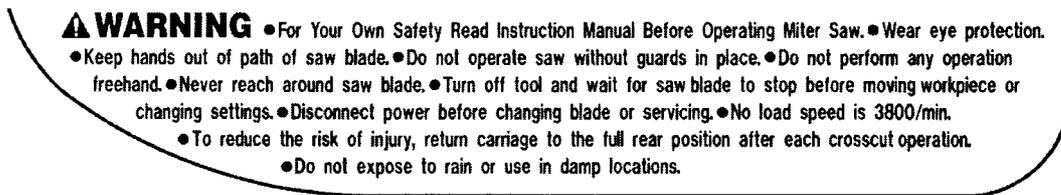


Fig. 20

The Name Plate specified by the UL is affixed on the upper portion of the housing.

Please instruct users to strictly observe the 11 contents in the Name Plate shown above. Instruct the customer to thoroughly read the Instruction Manual prior to attempting to operate the machine.

(2) Caution label (B) (at the front of holder (A))

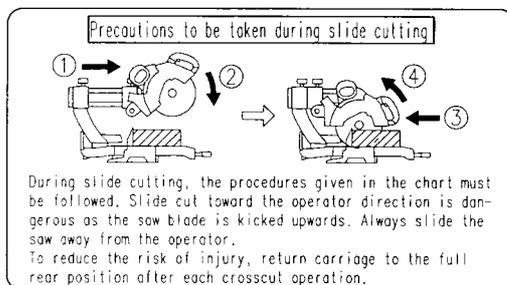


Fig. 21

(3) Warning sign (at the front of sub fence (A) and sub fence (B))

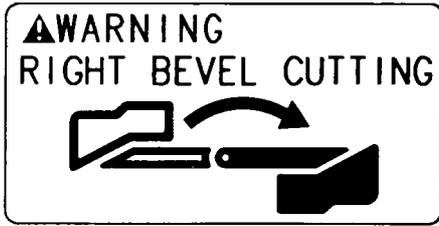


Fig. 22

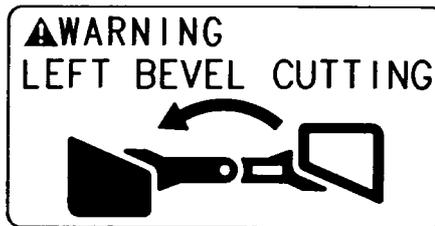


Fig. 23

(4) Caution Label (J) (at the front of the hinge) and Caution Label (K) (at the front left side of the turn table)

Do not stare into laser beam. If your eye is exposed directly to the laser beam, it can be hurt. Caution Label (J) and Caution Label (K) are adhered to each machine to comply with the standards for the safe use of laser equipment.

- Caution label (J) (at the front of the hinge)

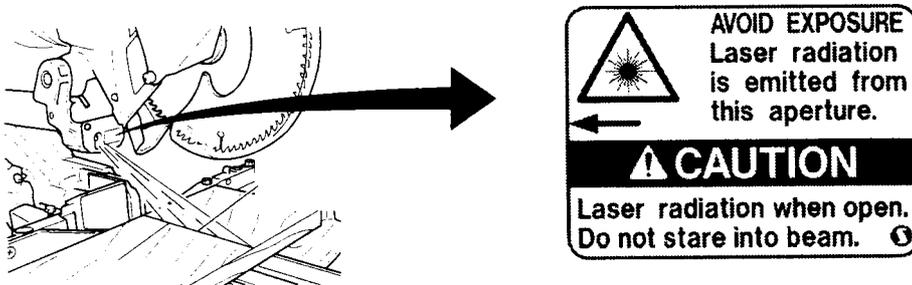


Fig. 24

- Caution label (K) (at the front left side of the turn table)

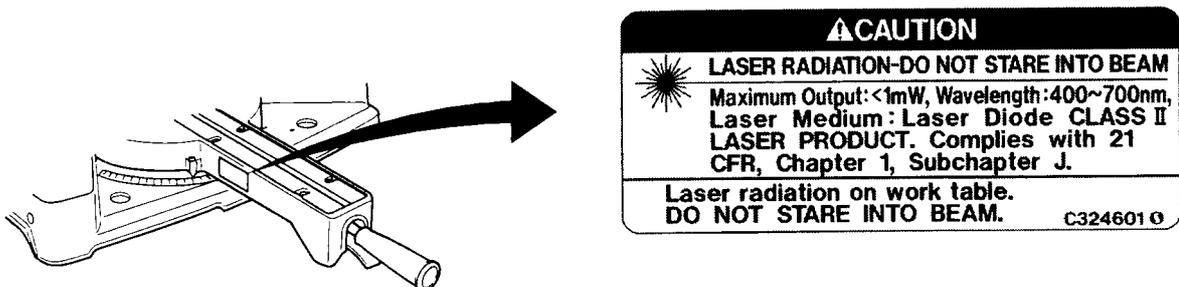


Fig. 25

7-3. Relative Standards

Standards, regulations and guidelines for the safe use of laser equipment

[The U.S.A.]

There is standard "Complies with 21 Code of Federal Regulation (21 CFR), Chapter 1, Subchapter J, Part 1010 and 1040" established by the Center for Devices and Radiological Health (CDRH) of the Food and Drug Administration (FDA). Standards, regulations and guidelines of the other countries are under investigation.

7-4. Laser Marker

The Models C 12 LSH and C 12RSH are equipped with the laser marker that complies with the Class II requirements of the standard specified in "7-3. Relative Standards". The Class II laser is defined as follows:

- The laser power is low and it is safe by the protective measures such as blinking.
However, it is dangerous if the operator's eyes are exposed directly to the laser for a protracted period.
- The operator can use the laser equipment without particular training and instruction.
- The amount of light exposure (output) is 1 mW or less at the position where the operator can be exposed to the laser radiation during operation. (This is in the case of the U.S.A. The measuring methods and the output values are different depending on the standards.)

Table 9

Wave length (nm)	Emission duration (s)	Class II accessible emission limit		
		(Threshold value)	(Unit)	(Amount)
> 400 ≤ 710	$> 2.5 \times 10^{-1}$	1.0×10^{-3}	W	Radiant power

The saw blade unit prevents access of the operator's eye to the laser-emitting aperture less than 65 mm. In addition, the amount of light exposure (output) is 1 mW or less (about 0.4 mW) at this position. Thus the Models C 12LSH and C 12RSH satisfy the Class II requirements adequately. There is no ill effect on the operator's body if looking at the laser line on the workpiece during operation.

⚠ CAUTION: (1) Be sure to disconnect the power cord plug from the receptacle before removing the laser marker for repair. If it is unavoidable to check the operation of the removed laser marker with the power turned on, face the laser emitting aperture to the ground to show the laser line on the ground.

(2) Laser radiation when open. DO NOT STARE INTO BEAM OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS.

The life span of the laser marker in the Models C 12LCH and C 12RSH is about 3,600 hours. (About 3 years: 5 hours of use/day x 240 days/year)

7-5. Ambient Illuminance and Visibility of Laser Line

The visibility of the laser line on the workpiece changes depending on the brightness of the working environment. Instruct the customer to consider the brightness of the working environment when using the laser marker referring to the following table.

Table 10 Ambient illuminance and visibility of laser line

Illuminance (lux)		3000 or more	3000 or more	3000 - 2500	800 - 600	300 - 200	150 - 80	30 or less
Ambient conditions (reference)	Outdoor	Under direct sunlight of fine weather	Shaded area in fine weather	Cloudy weather	Shaded area in cloudy weather	Just before the sunset in cloudy weather	—	Ink line is invisible.
	Indoor	—	Near the window under fine weather	Indoor under fine weather	Near the window under cloudy weather	Indoor under cloudy weather	Near the window under cloudy weather, just before the sunset	
Laser line		Invisible	Visible	Visible	Visible	Visible	Glaring	Glaring

(The working environment where the illuminance is 200 luxes or less is dark and difficult to operate the Models C 12LSH and C 12RSH.)

The laser line is invisible under direct sunlight of fine weather. Prepare a shaded area or relocate to a shaded area to operate the Models C 12LSH and C 12RSH.

7-6. Precautions Concerning Brake (For USA/CAN)

The Models C 12LSH and C 12RSH are equipped with a "brake" that stops running when the switch is turned off. Normally the operation is stopped in 5 - 6 seconds when the switch is turned off. If it takes 10 seconds or more to stop, absolutely avoid further use of this machine. In this event, ensure that your customers bring this machine in their local Hitachi power tools dealer or Hitachi power tools center for servicing.

(1) Be sure to use the carbon brushes dedicated to the Models C 12LSH and C 12RSH (Code No. 999038).

Use of other carbon brushes will adversely affect the brake performance.

(2) If the brake should fail to work, check the carbon brushes. Replace the carbon brushes with new ones if their length is shorter than 6 mm. If the brake still does not work, replace the armature ass'y.

8. ADJUSTMENT AND OPERATIONAL PRECAUTIONS

8-1. Confirmation of Saw Blade Lower Limit Position

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 11 mm ($23/64$ " to $7/16$ ") below the upper surface of the turn table in order to cut workpieces completely without cutting the bottom of the turn table groove. Lower the saw blade and check that it stops at the correct position (Fig. 26-a). When changing the position of the 8-mm depth adjustment bolt that is the lower limit position stopper.

Change the position of the 8 mm depth adjustment bolt that is the lower limit position stopper according to the following procedure.

- (1) Make the tip of the 8 mm depth adjustment bolt contact with the hinge.
- (2) Turn the 8 mm depth adjustment bolt with a 13-mm wrench to adjust the lower limit position of the saw blade (Fig. 26-c).

⚠ CAUTION: Perform adjustment carefully to ensure that the saw blade does not cut into the turn table.

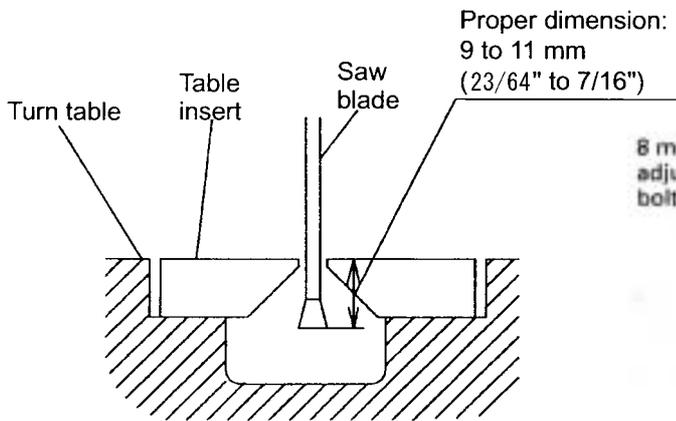


Fig. 26-a

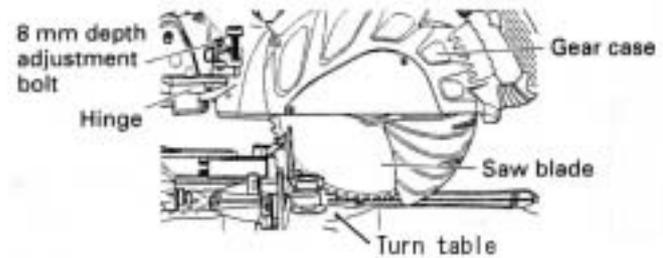


Fig. 26-b

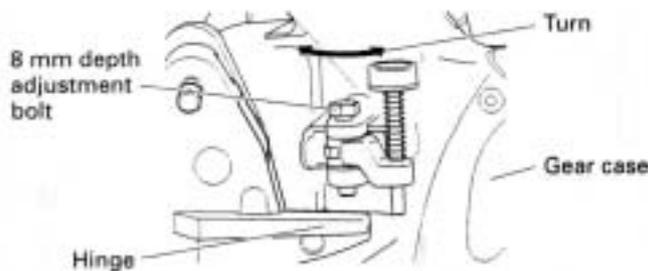


Fig. 26-c

8-2. Confirmation for Use of Sub Fence (A) and Sub Fence (B)

The Models C 12LSH and C 12RSH are equipped with sub fence (A) and sub fence (B).

Use sub fence (A) and sub fence (B) for miter cutting, left and right bevel cutting.

Sub fence (A) and sub fence (B) support the workpiece widely for stable cutting. In the case of right bevel cutting, raise sub fence (A) as illustrated in Fig. 27-a and turn it clockwise. In the case of left bevel cutting, raise sub fence (B) as illustrated in Fig. 27-b and turn it counterclockwise.

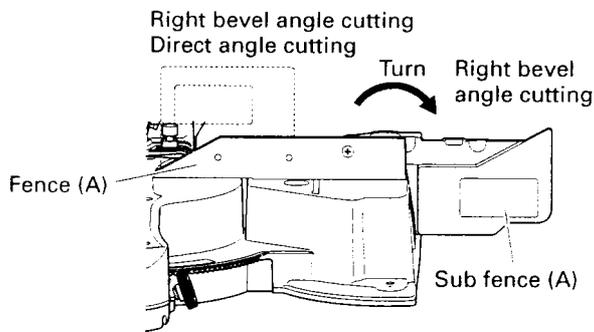


Fig. 27-a

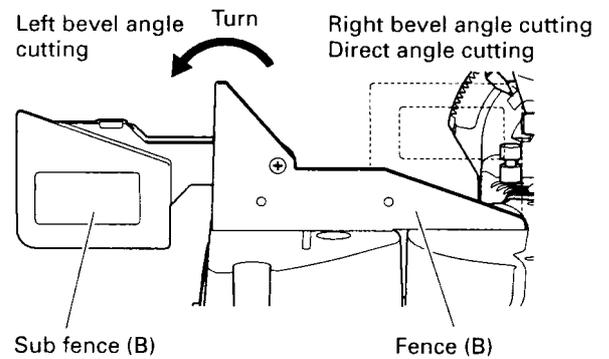


Fig. 27-b

⚠ WARNING: In the case of left bevel cutting, turn sub fence (B) counterclockwise. Unless it is turned counterclockwise, the main body or saw blade may contact sub fence (B), resulting in an injury. Be sure to instruct the customers to turn sub fence (B) counterclockwise in the case of left bevel cutting. In the case of right bevel cutting, turn sub fence (A) clockwise. Unless it is turned clockwise, the main body or saw blade may contact sub fence (A), resulting in an injury. Be sure to instruct the customers to turn sub fence (A) clockwise in the case of right bevel cutting.

8-3. Position Adjustment of Laser Line

The laser line is adjusted to the width of the saw blade at the time of factory shipment. Depending upon the cutting choice, align the laser line with the left side of the cutting width (saw blade) or the right side according to the following procedure. First, make a right-angle ink line on the workpiece that is about 20 mm (13/16") in height and 150 mm (5-7/8") in width.

To cut the right side of the ink line with the saw blade as shown in Fig. 31, align the left side of the saw blade with the ink line on the workpiece and make a groove of about 5 mm deep on the workpiece to the middle. Hold the grooved workpiece by the vise as it is and do not move it. (For grooving work, refer to the Instruction Manual "Groove cutting procedures".)

Light up the laser marker. Turn the adjuster to align the laser line with the ink line. (Turning the adjuster clockwise will shift the laser line position to the right and turning counterclockwise will shift to the left.) (Fig. 32)

Thus the cutting position matches the laser line position. Align the ink line on the workpiece with the laser line. When aligning the ink line, slide the workpiece little by little and secure it by vise at a position where the laser line overlaps with the ink line (Fig. 33). Work on the grooving again and check the position of the laser line. When the ink line and the laser line are overlapped, the strength and weakness of light will change, resulting in a stable cutting operation because you can easily discern the conformity of lines. This ensures the minimum cutting errors.

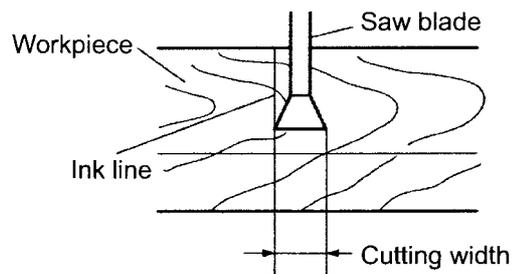


Fig. 31

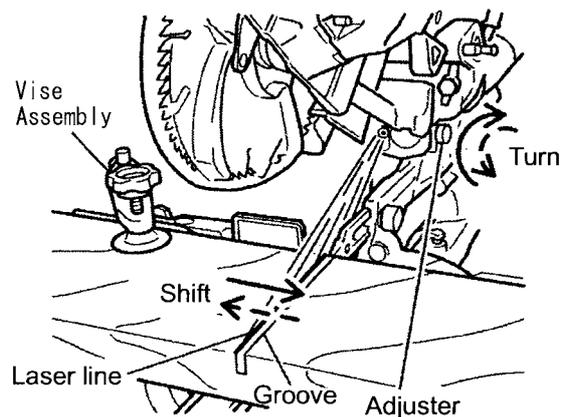


Fig. 32

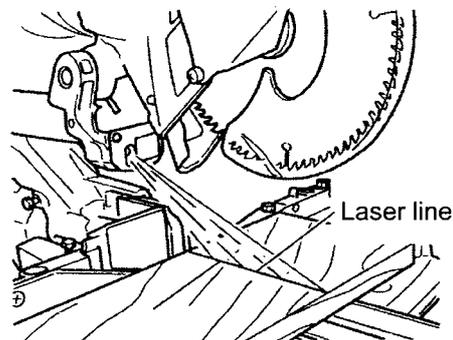


Fig. 33

⚠ WARNING:

- Make sure before plugging the power plug into the receptacle that the main body and the laser marker are turned off.
- Exercise utmost caution in handling a switch trigger for the position adjustment of the laser line, as the power plug is plugged into the receptacle during operation. If the switch trigger is pulled inadvertently, the saw blade can rotate and result in unexpected accidents.
- Do not remove the laser marker to be used for other purposes.

⚠ CAUTION:

- Laser radiation - Do not stare into beam.
- Laser radiation on work table. Do not stare into beam.
If your eye is exposed directly to the laser beam, it can be hurt.
- Do not dismantle it.
- Do not give strong impact to the laser marker (main body of tool); otherwise, the position of a laser line can go out of order, resulting in the damage of the laser marker as well as a shortened service life.
- Keep the laser marker lit only during a cutting operation. Prolonged lighting of the laser marker can result in a shortened service life.

NOTE:

- Perform cutting by overlapping the ink line with the laser line. When the ink line and the laser line are overlapped, the strength and weakness of light will change, resulting in a stable cutting operation because you can easily discern the conformity of lines. This ensures the minimum cutting errors.
- In outdoor or near-the-window operations, it may become difficult to observe the laser line due to the sunlight. Under such circumstances, move to a place that is not directly under the sunlight and engage in the operation.
- Do not tug on the cord behind the motor head or hook your finger, wood and the like around it; otherwise, the cord may come off and the laser marker may not be lit up.
Instruct the above precautions on the laser marker to the customers.

8-4. How to Use the Vise Assembly

- (1) The vise assembly can be mounted on either the left fence {fence (B)} or the right fence {fence (A)} by loosening 6 mm wing bolt (A).
- (2) The screw holder can be raised or lowered according to the height of the workpiece by loosening 6 mm wing bolt (B). After the adjustment, firmly tighten 6 mm wing bolt (B) and fix the screw holder.
- (3) Turn the upper knob and securely fix the workpiece in position (Fig. 34).

WARNING: Always firmly clamp or vise to secure the workpiece to the fence; otherwise the workpiece might be thrust from the table and cause bodily harm.

CAUTION: Always confirm that the motor head (see Fig. 1) does not contact the vise assembly when it is lowered for cutting. If there is any danger that it may do so, loosen 6 mm wing bolt (B) and move the vise assembly to a position where it will not contact the saw blade.

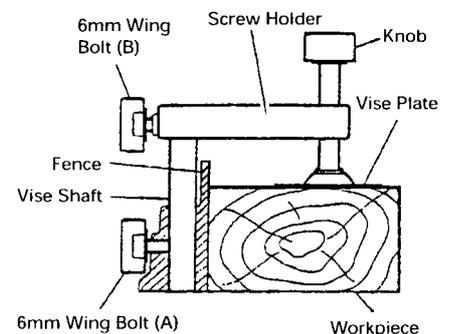


Fig. 34

8-5. Adjustment of Table Insert Position

Table inserts are installed on 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, adjust the position of the table inserts so that the sides of the saw blade align with the edges of the table inserts according to the following procedure.

First, loosen the three 5 mm machine screws that fasten the table inserts, and temporarily tighten the two outside screws (front and back). Next, clamp a workpiece (about 200 mm (7-7/8") wide) with the vise assembly and cut the workpiece. Align the cutting surfaces with the table inserts as shown in Figs. 35-a, 35-b and 35-c and securely tighten the front and back 5 mm machine screws. Finally, remove the workpiece and securely tighten the middle 5 mm machine screw.

If adjustment is done as described, workpieces can be cut precisely by aligning the appropriate side edge of the table inserts with the ink line on the workpiece. Adjust the table inserts as necessary for the type of cutting desired (right angle or left/right bevel cutting).

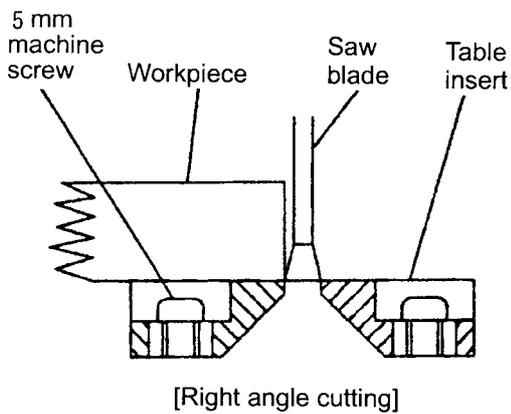


Fig. 35-a

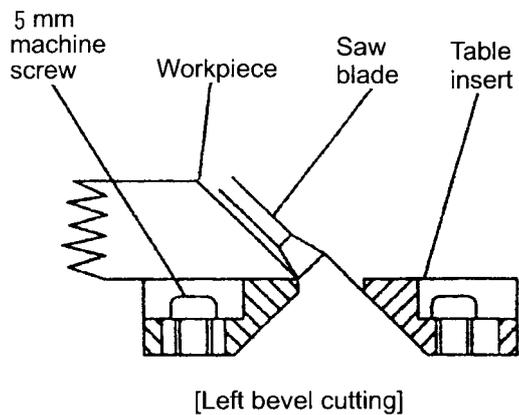


Fig. 35-b

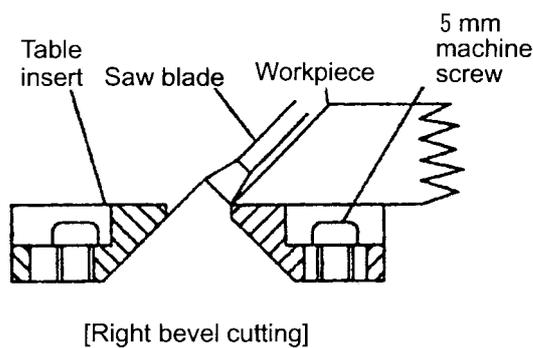


Fig. 35-c

8-6. 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, refer to the Instruction Manual "USE PROPER EXTENSION CORD".) 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. Contacting 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 in Fig. 36)

The Models C 12LSH/C 12RSH can be used for press cutting of workpieces up to 107 mm (4-3/16") square in a single operation by simply pushing the saw blade section downward in the same manner as the Model C 12FSA. Slide hinge (A) to the end of holder (A) and tighten slide securing knob (A) and slide securing knob (B) securely.

(4) Slide cutting (① to ⑤ in Fig. 36)

Slide cutting procedures and precautions are described below.

① Loosen slide securing knob (A).

② Grip the handle and pull the saw blade section in the arrow direction (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 the saw blade vibration and partial sliding which would leave unwanted cutting marks on the workpiece. Instruct the customer to slowly and carefully press down the handle.

④ While pressing down on the handle, slide the saw blade section in the arrow direction and cut 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 described in ③ above. As a guide, instruct the customer to cut a workpiece of 30 mm (1-3/16") high and 240 mm (9-7/16") wide in 10 to 15 seconds.

Carefully instruct the customer never, ever to perform slide cutting in the direction toward the operator (reverse direction of ④ above). Such operation is extremely hazardous, as the saw blade could ride up over the workpiece and cause the saw blade section to kick upward unexpectedly, causing possible serious injury.

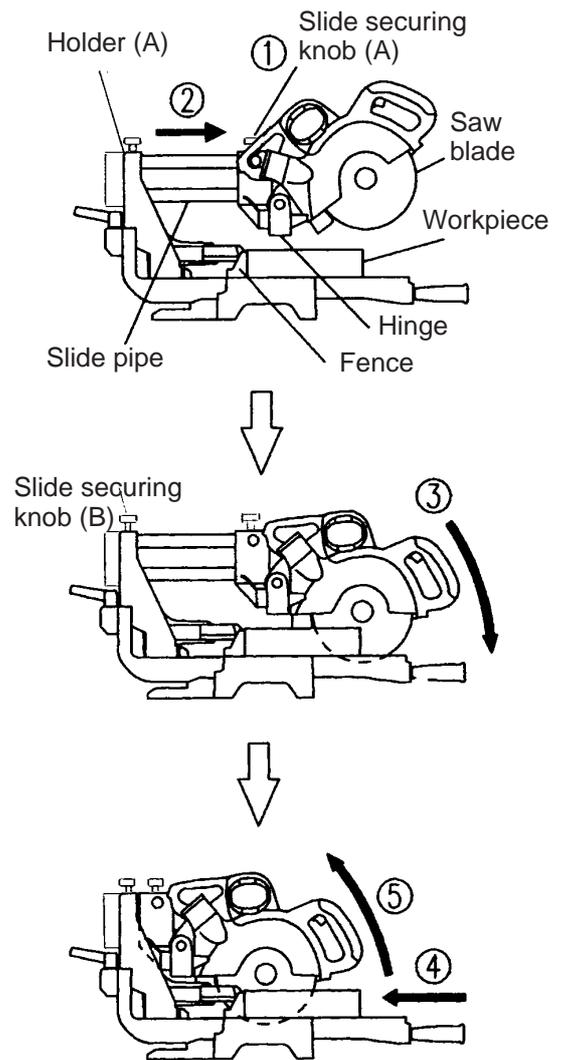


Fig. 36

Instruct the customer to always slide the saw blade section toward the fence while cutting, as shown by arrow ④ in Fig. 36.

- 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 handle to its original position. Raising the handle while the saw blade is still rotating may cause unwanted cutting marks on the workpiece.

NOTE:

Techniques to avoid unwanted cutting marks

Uneven and unwanted cutting marks can be avoided by shifting from ③ press cutting to ④ slide cutting in a single, uninterrupted motion.

Techniques to avoid burnt marks

Burnt marks can be avoided by shifting from ③ press cutting to ④ slide cutting in a single, uninterrupted motion in the same manner as the above, applying a slight lateral force toward the cut-off side. 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 Instruction Manual "Miter cutting procedures".)

(6) **Bevel cutting**

Bevel cutting of 0 – 45° to the left or right is accomplished by inclining the motor head section. (For details, refer to the Instruction Manual "Bevel cutting procedures".)

⚠ WARNING: When the workpiece is secured on the left or right side of the blade, the short cut-off portion will come to rest on the right or left side of the saw blade. Always turn the power off and let the saw blade stop completely before raising the handle from the workpiece. If the handle is raised while the saw blade is still rotating, the cut-off piece may become jammed against the saw blade causing fragments to scatter about dangerously. When stopping the bevel cutting operation halfway, start cutting after pulling back the motor head to the initial position. Starting from halfway, without pulling back, causes the protective cover to be caught in the cutting groove of the workpiece and to contact the saw blade.

⚠ CAUTION: When cutting a workpiece of 75 mm (2-15/16") height in the left 45° bevel cutting position or a workpiece of 50 mm (1-15/16") height in the right 45° bevel cutting position, adjust the lower limit position of the motor head so that the gap between the lower edge of the motor head and the workpiece will be 2 to 3 mm (3/32" to 1/8") at the lower limit position (refer to the Instruction Manual "Checking the saw blade lower limit position").

(7) Compound (miter + bevel) cutting

Compound (miter + bevel) cutting can be accomplished by combining the miter cutting and bevel cutting operations described in paragraphs (5) and (6) above. (For details, refer to the Instruction Manual "Compound cutting procedures".) When the saw blade is inclined 45° to the left, the turn table can be turned up to 45° to the left, and up to 31° to the right because hinge (A) contacts fence (B). When the saw blade 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 because hinge (A) contacts fence (A).

(8) 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 the 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 Models C 12LSH/C 12RSB.

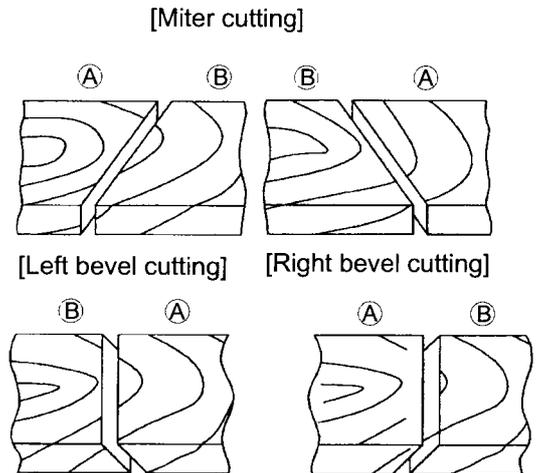


Fig. 37

In the cutting examples illustrated in Fig. 37, the cut surfaces on the sides marked (A) (cut with the grain) are better than those on the sides marked (B).

(9) Crown molding cutting

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

Fig. 38 shows two common crown molding types having angles of (θ) 38° and 45°. For the typical crown molding fittings, see Fig. 39.

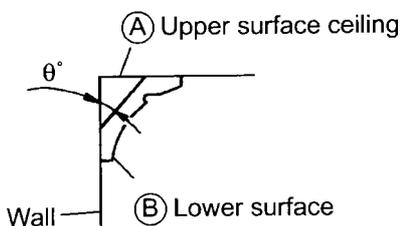


Fig. 38

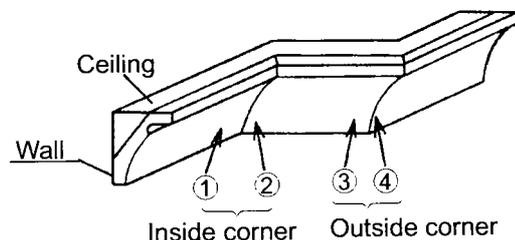


Fig. 39

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 the miter setting (left and right 31.6°) positions. (For USA/CAN)

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. Then tighten the side handle.

For bevel cut setting

Turn the clamp lever on bevel 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.

Table 11

Type of crown molding	To process crown molding at positions ① and ④ in Fig. 39			To process crown molding at positions ② and ③ in Fig. 39		
	Miter angle setting	Bevel angle setting		Miter angle setting	Bevel angle setting	
45° type	Right 35.3°	Left 30°	Right 30°	Left 35.3°	Left 30°	Right 30°
38° type	Right 31.6°	Left 33.9°	Right 33.9°	Left 31.6°	Left 33.9°	Right 33.9°

(1) Setting to cut crown moldings at positions ① and ④ in Fig. 39 (See Fig. 40, 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°
 - For 38° type crown moldings: 31.6°
- ② Turn the head to the left and set the bevel angle as follows:
 - For 45° type crown moldings: 30°
 - For 38° type crown moldings: 33.9°
- ③ Position the crown molding so that the lower surface (A in Fig. 38) contacts the fence as indicated in Fig. 42.

(2) Setting to cut crown moldings at positions ② and ③ in Fig. 39 (See Fig. 41, 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°
 - For 38° type crown moldings: 31.6°
- ② Tilt the head to the left and set the bevel angle as follows:
 - For 45° type crown moldings: 30°
 - For 38° type crown moldings: 33.9°
- ③ Position the crown molding so that the lower surface (B in Fig. 38) contacts the fence as indicated in Fig. 43.

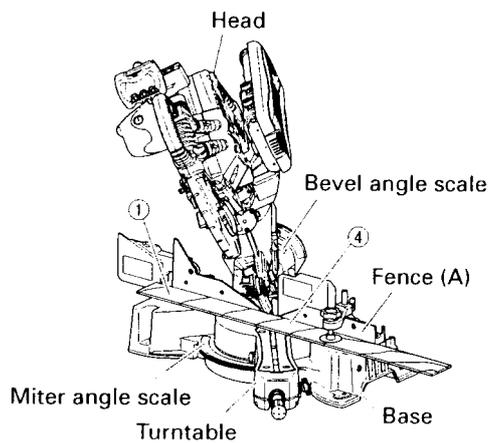


Fig. 40

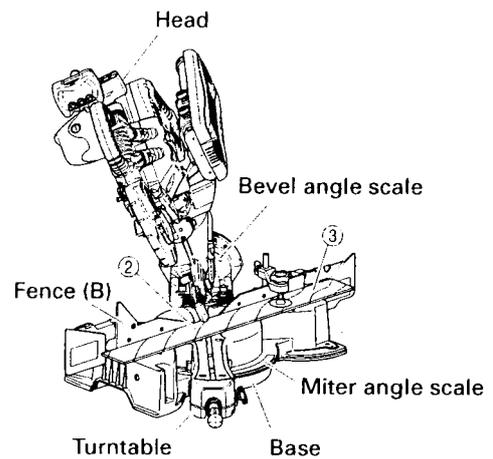


Fig. 41

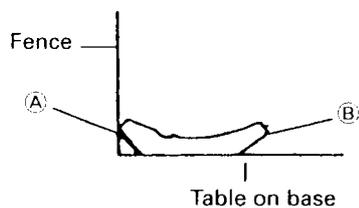


Fig. 42

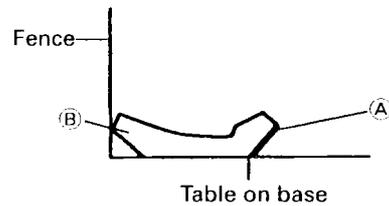


Fig. 43

(3) Setting to cut crown moldings at positions ① and ④ in Fig. 39 (See Fig. 44, 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. 38) contacts the fence as indicated in Fig. 46 .

(4) Setting to cut crown moldings at positions ② and ③ in Fig. 39 (See Fig. 45, 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. 38) contacts the fence as indicated in Fig. 47.

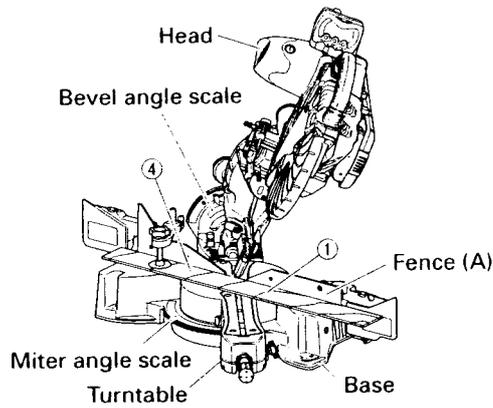


Fig. 44

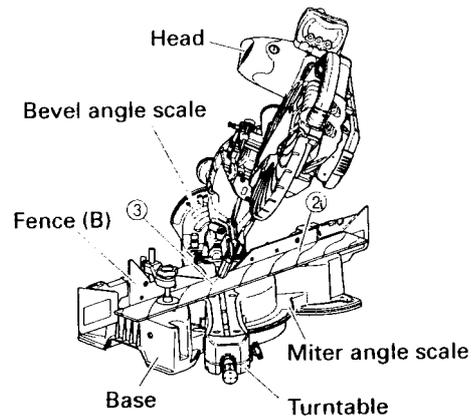


Fig. 45

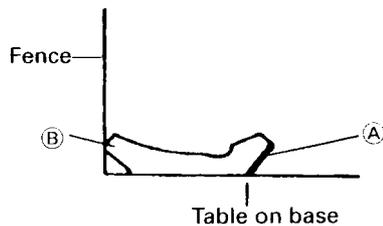


Fig. 46

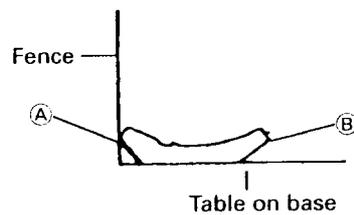


Fig. 47

Cutting method of crown molding without tilting the saw blade

(1) Crown molding stopper (L) and (R) (optional accessories) allow easier cuts of crown molding without tilting the saw blade. Install them to both sides of the base as shown in Fig. 48-a. After inserting, tighten the 6 mm knob bolts to secure the crown molding guides.

[Optional accessories used]

- Crown molding vise ass'y (Including crown molding stopper (L))
- Crown molding stopper (L)
- Crown molding stopper (R)

(2) The crown molding vise ass'y (optional accessory) can be mounted on either the left fence (fence (B)) or the right fence (fence (A)). It can unite with the slope of the crown molding and vise can be pressed down. Then turn the upper knob, as necessary, to securely attach the crown molding in position. To raise or lower the vise assembly, first loosen the 6 mm knob bolt. As shown in Fig. 48-b, the vise shaft has three locking grooves into which the tip of the 6 mm wing bolt is designed to fit in order to lock the screw holder in the desired position.

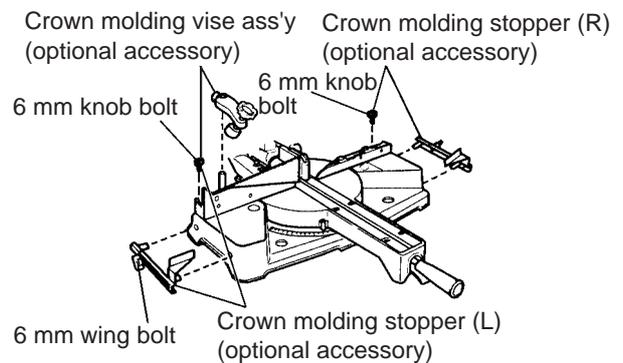


Fig. 48-a

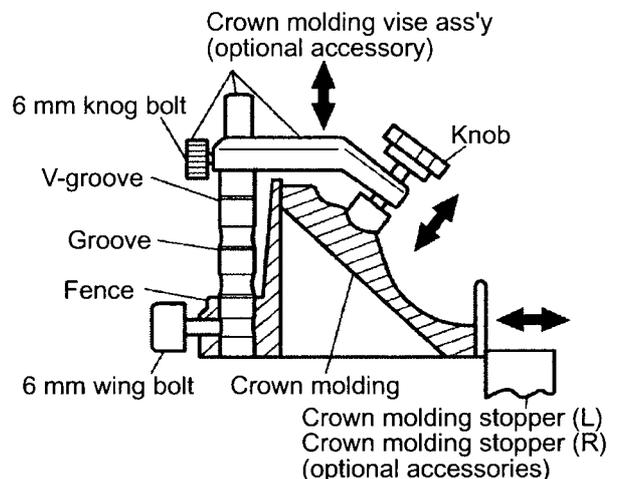


Fig. 48-b

To ensure that the tip of the 6 mm wing bolt is properly aligned with the desired locking groove on the vise shaft, simply align the upper surface of the fence to either of three v-grooves on the vise shaft surface or to the lower surface of the screw holder. Therefore, the vise assembly can be attached in either of three positions to ensure proper height.

⚠ WARNING: Always firmly clamp or vise to secure the crown molding to the fence; otherwise the crown molding might be thrust from the table and cause bodily harm. Do not perform bevel cutting. The main body or saw blade may contact the sub fence, resulting in an injury.

⚠ CAUTION: Always confirm that the motor head does not contact the crown molding vise ass'y when it is lowered for cutting. If there is any danger that it may do so, loosen the 6 mm knob bolt and move the crown molding vise ass'y to a position where it will not contact the saw blade.

Position crown molding with its WALL CONTACT EDGE against the guide fence and its CEILING CONTACT EDGE against the crown molding stoppers as shown in Fig. 48-b. Adjust the crown molding stoppers according to the size of the crown molding. Tighten the 6 mm wing bolt to secure the crown molding stoppers. Refer to Table 12 below for the miter angle.

Table 12

	Position in Fig. 36	Miter angle	Finished piece
For inside corner	①	Right 45°	Save the right side of blade.
	②	Left 45°	Save the left side of blade.
For outside corner	③		Save the right side of blade.
	④	Right 45°	Save the left side of blade.

8-7. Digital Display Panel (Only Model C 12LSH)

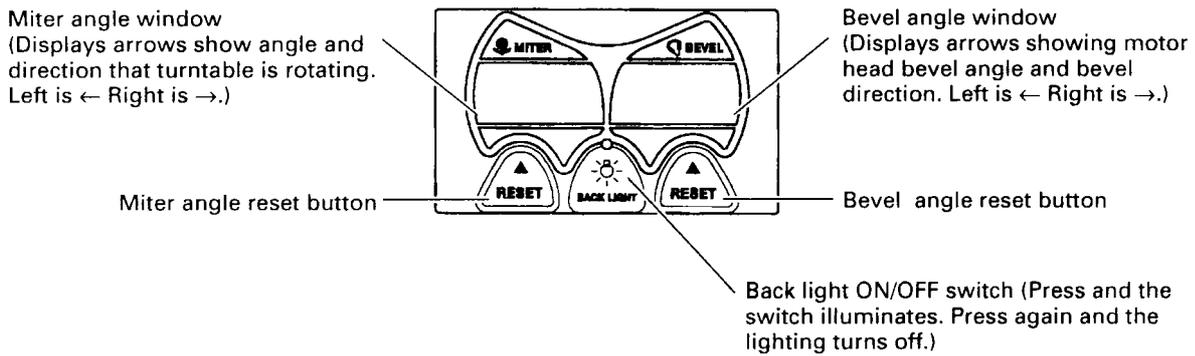


Fig. 49

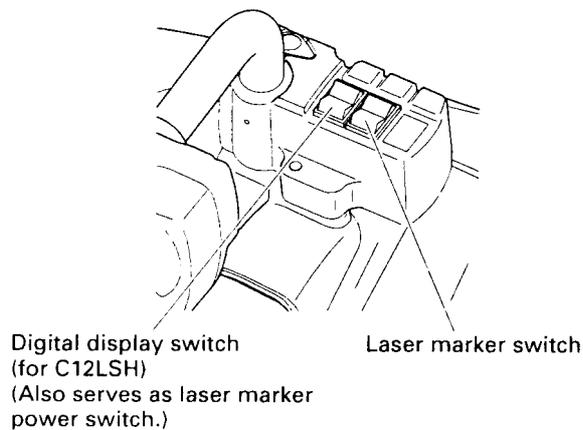


Fig. 50-a

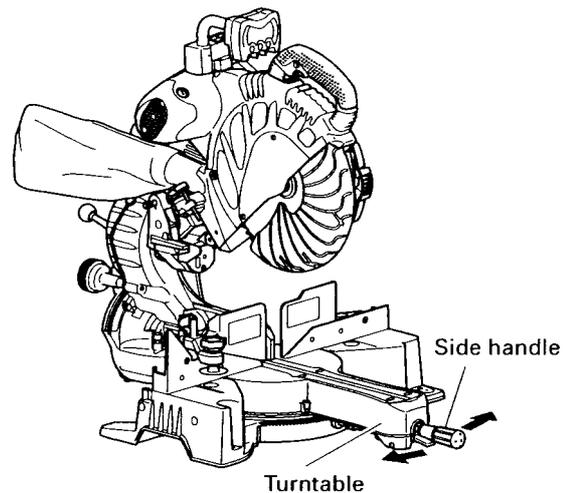


Fig. 50-b

- (1) Turning on the digital display switch shows 0° for both miter and bevel angle, regardless of main unit angle.
- (2) Align the main unit angle with the tilt angle (0°) and miter angle (0°) and hold down their reset buttons for at least 0.2 seconds.
- (3) Turning on the laser marker switch while the digital display switch is on, lights up the laser marker. (On the Model C 12RSH, only the laser marker switch.)

⚠ CAUTION: When operating the digital panel, have the motor head section at the initial position and the blade stopped.

NOTE: • Instruct the customers to align the main unit to the miter angle 0° and the bevel angle 0° and hold down their reset buttons for at least 0.2 second before starting to cut. If customers press the digital display switch to ON without aligning the main unit to 0°, then the figures appearing on the digital display and the main unit angle will not match.

- The laser marker will not light up if the digital display switch is turned off. (Only Model C 12LSH)
- Do not use the main unit near equipment that generates electrical noise such as generators. Electrical noise might cause faulty readings or operation on the digital display.
- If there is a malfunction on digital display because of power supply noise, turn the digital display switch OFF and perform the procedures (1) and (2) in 8-8 to reset it.
- The digital display may show a deviated value if the flush surfaces for the bevel angle adjustment bolt are worn.

Instruct the customers to adjust the angle according to section 9-1 in this case.

⚠ CAUTION: If the figure shown on the miter angle digital display is different from the positive stop angle (for example, 45.0° → 45.5°, 31.6° → 32.0°) then the positive stop has probably deviated slightly from its correct position.

If this happens, do as follows.

- (1) Move the turn table left and right with the side handle loosened, and set the turn table to the correct position.
- (2) If the figures on the display and positive stop still do not match, then return the turn table to the 0° position. Next move the turn table left and right with the side handle loosened as shown in Fig. 50-b. After setting it to the correct position 0°, press the reset button again.

8-8. Precautions Concerning Electronic Condition

Operate the machine with correct voltage supply. Large voltage drops caused by an unstable power supply may cause the lower 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:

If an extension cord is used, it should be kept as short as possible and within the requirements listed in the Instruction Manual "USE PROPER EXTENSION CORD".

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

9. ADJUSTMENT OF COMPONENTS

9-1. Bevel Angle Adjustment

Before the power tool is shipping from the factory, the height of 8 mm bolt (A), 8 mm bolt (B) and 8 mm set screw is 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 bolt (A), 8 mm bolt (B) and 8 mm set screw by turning them. For example, to change the 45° to the right stopper, pull set pin (A) in the direction indicated by the arrow in Fig. 51-b, and tilt the head to the right. When setting the head to 0° position, be sure to replace set pin (A) (insert it in the opposite direction from that indicated by the arrow in Fig. 51-b).

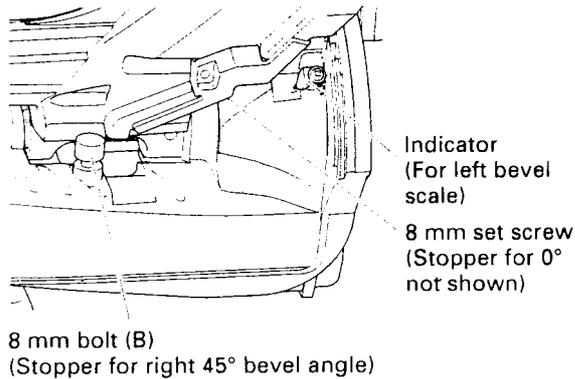


Fig. 51-a

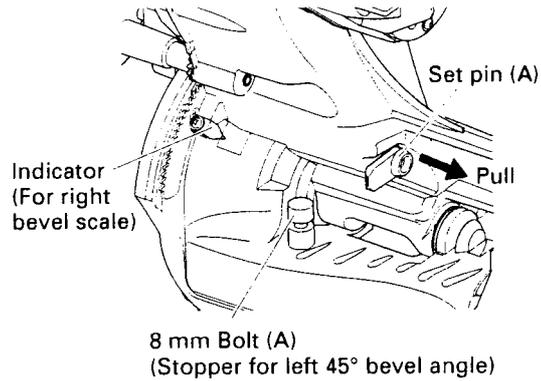


Fig. 51-b

⚠ CAUTION: If there is any clearance between the tip of 8 mm set screw (stopper for 0°) and set pin (A), the angle of the saw blade relative to the upper surface of the turn table may not be an exact right angle. (8 mm bolt (A), 8 mm bolt (B) and 8 mm set screw are located at the rear of the turn table.) Press down on holder (A) and lock it in position with the clamp lever so that there is no clearance between set pin (A) and 8 mm set screw.

9-2. Ball Bushing (Linear Bearing)

(1) Structure of the ball bushing

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. 52). This type of device is widely used in automated machine tools. The advantage of the ball bushing is that its friction coefficient remains largely unchanged even when the load is increased, ensuring smooth sliding movement.

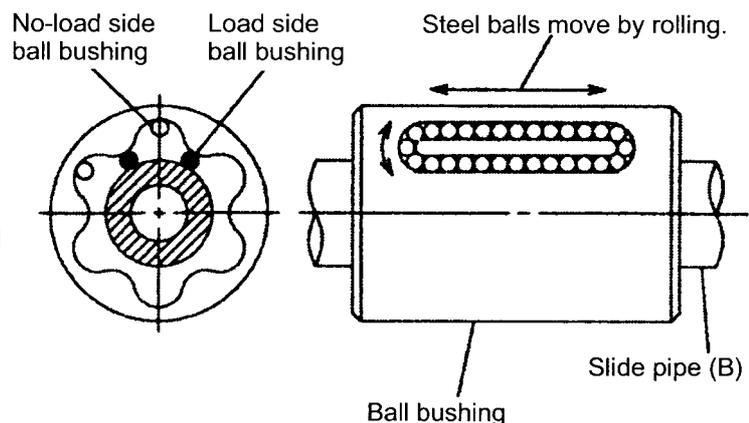


Fig. 52

In addition, slide pipe (B), made of bearing steel and heat treated to a high degree of hardness (HRC 62 to 65), is highly resistant to wear.

Sales persons 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 (0.1 oz) of grease (Nippeco SEP 3A) 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 sawdust 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

(1) Preparation before packing

Remove the dust bag from the main body. Turn the turn table to the right 57° and secure the side handle. Push the guard back (Fig. 53).

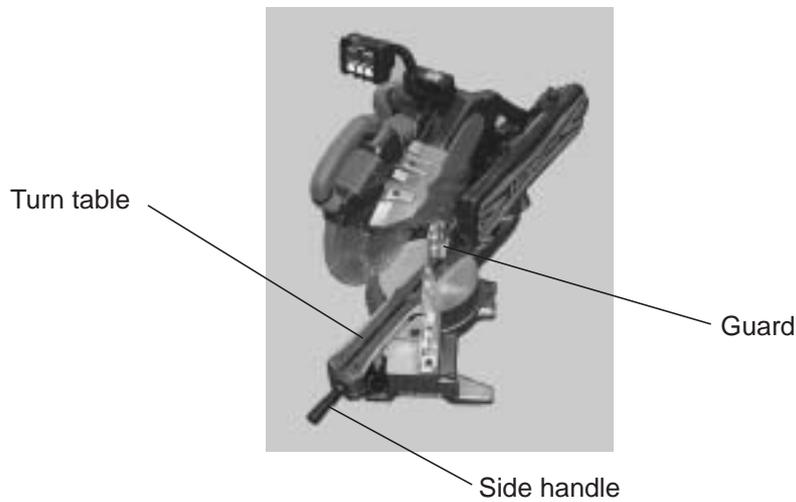


Fig. 53

(2) How to install packings (B) and (D)

Slide the head to the midpoint between holder (A) and the support at the front of the main unit, and secure it with the slide securing knob. Place packing (B) under the gear case and push the head down. Insert the locking pin while pressing packing (B) to secure the gear case in position. Insert packing (D) into the motor housing (Fig. 54).

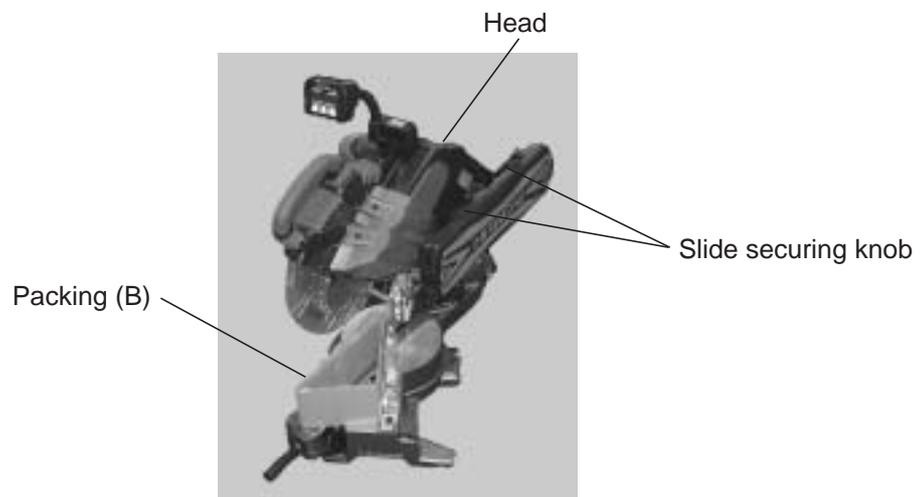


Fig. 54

(3) How to install packings (E) and (F)

Put the main body mounted with packing (B) and packing (D) in the carton box aligning with the base packing. Cover the support at the rear of the main unit, housing and switch handle with two poly sheets. Insert packing (F) into the clearance near the switch handle at the front of the main unit and packing (E) into the clearance near the support at the rear of the main unit from above. Put the cord through the groove "A" of packing (E) and insert the tip of the cord into the clearance "B" between the sleeve and packing (E). (Check that cable tag (B) is securely placed in "B" portion.) Place the accessories in the space of packing (F) (Fig. 55).

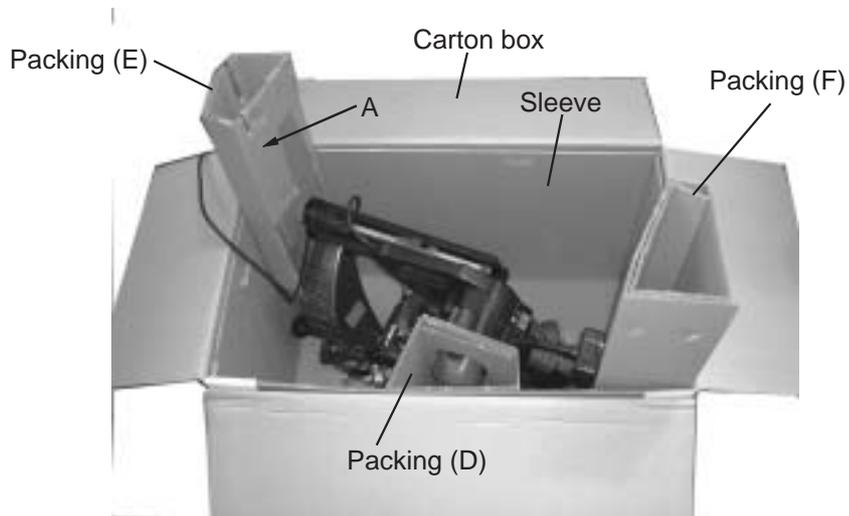


Fig. 55

(4) How to install the top pad

Put the top pad on packing (D), packing (E) and packing (F). Close the lids of the carton box and bind them together (Fig. 56).

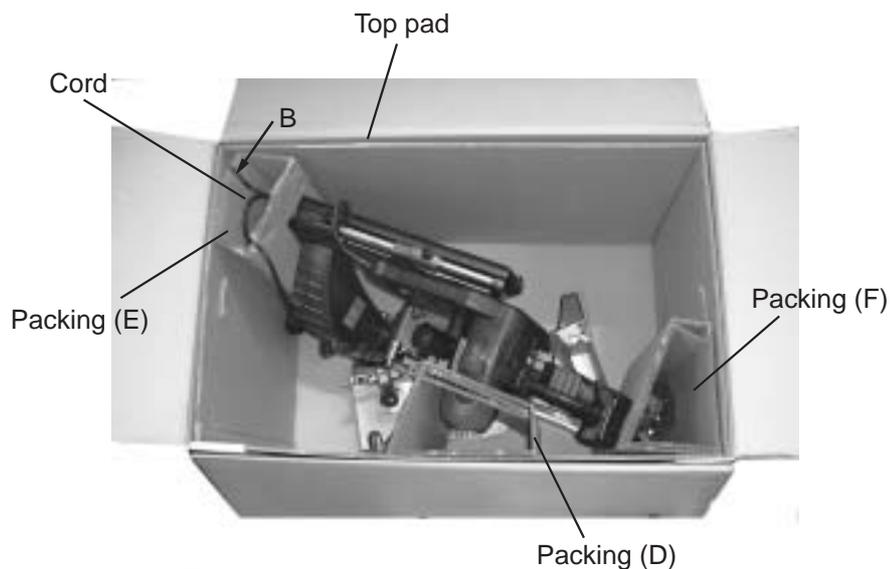


Fig. 56

11. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY

11-1. Precautions in Disassembly and Reassembly of the Laser Marker

Do not stare into the laser emitting aperture during disassembly and reassembly of the laser marker. Do not observe beam directly with an optical instrument. Use of controls or adjustments or performance of procedures other than those specified in this TECHNICAL DATA AND SERVICE MANUAL and the Instruction Manual may result in hazardous radiation exposure.

11-2. Disassembly

Special attention in disassembly should be given to the following items. The circled numbers in the figures and the **[Bold]** numbers in the descriptions below correspond to the item numbers in the parts list and exploded assembly diagram of the Model C 12LSH. For the Model C 12RSH, refer to the parts list separately.

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

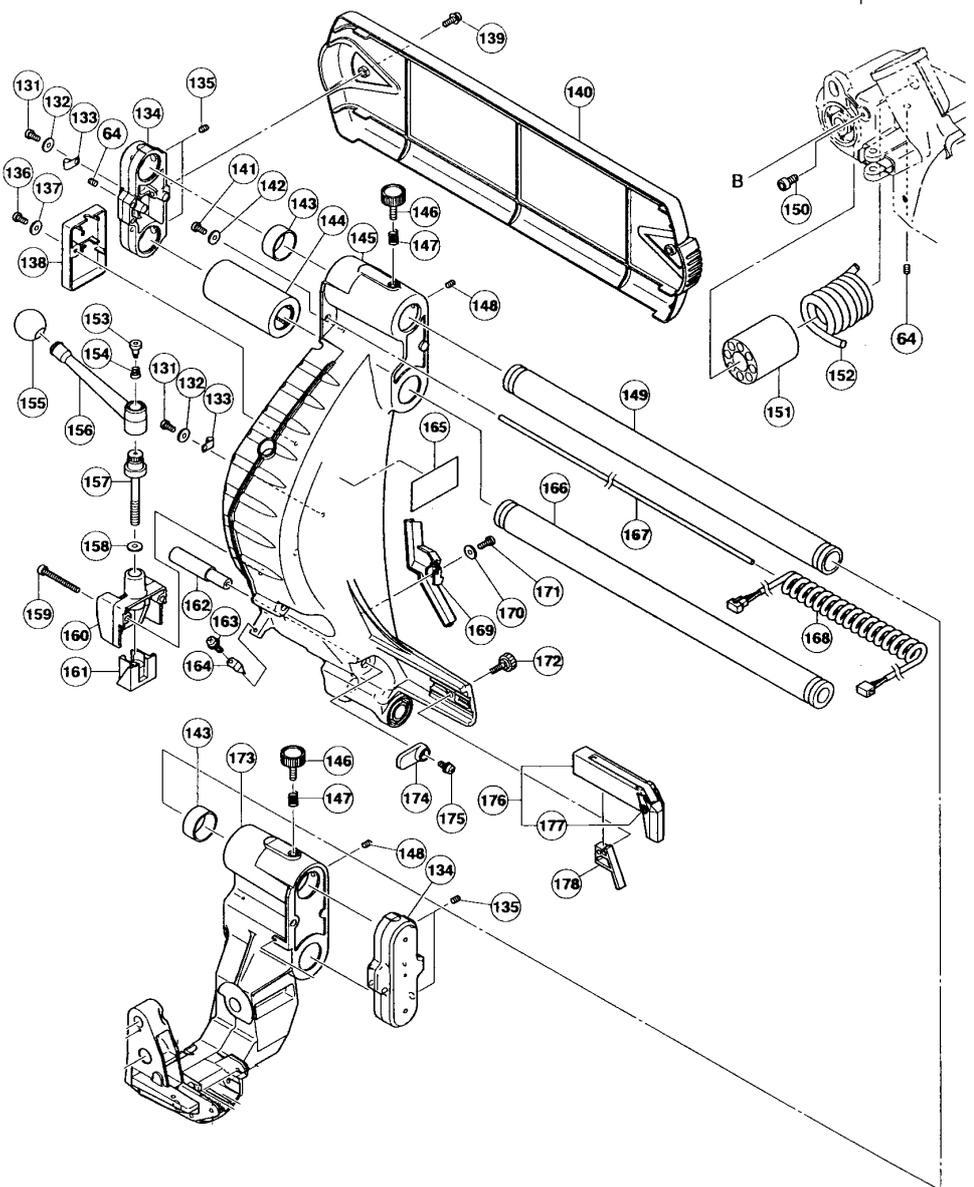
Item No.	Disassembly spots	Disassembly procedure	Necessary tools
1	Turn table, base ass'y		

Fig. 57

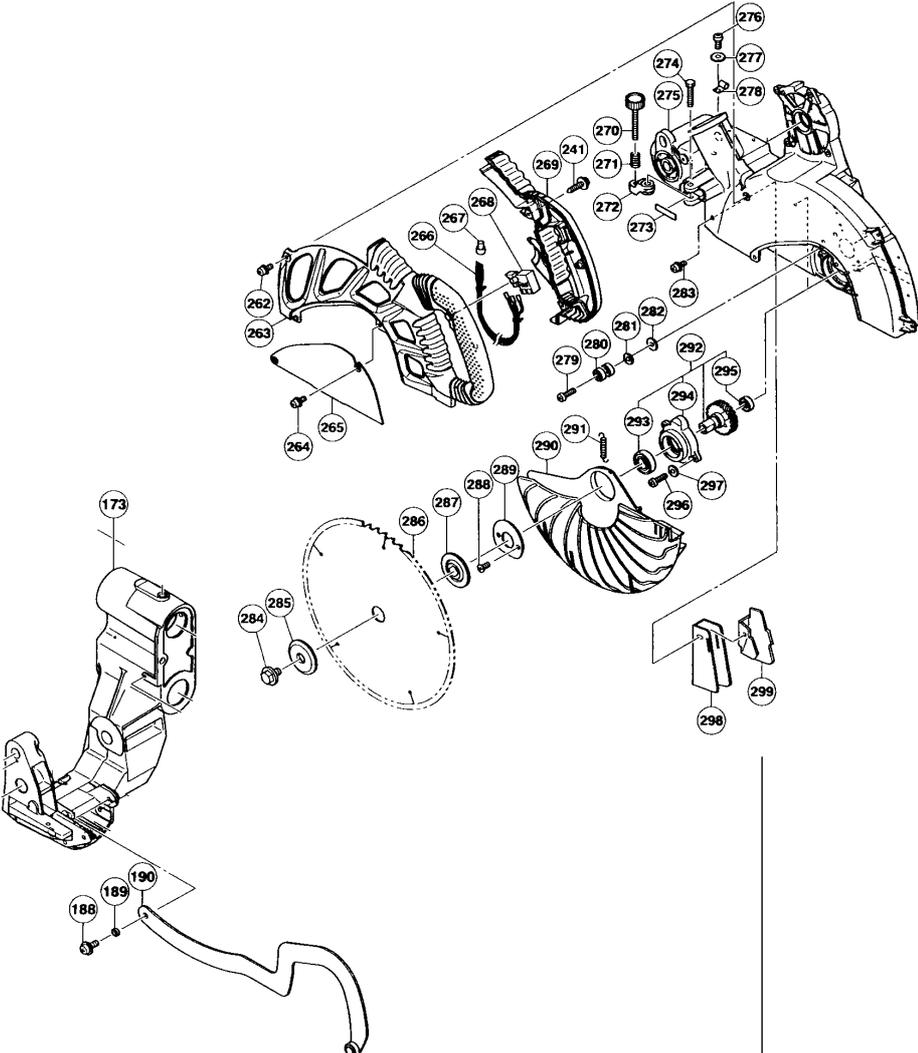
Item No.	Disassembly spots	Disassembly procedure	Necessary tools
1	Turn table, base ass'y	<p>The diagram shows an exploded view of a turntable assembly. The central component is the turntable (part 98), which is mounted on a base (part 99). Various components are numbered from 1 to 99, including screws, nuts, washers, and structural parts. A specific disassembly point is labeled 'A' on the turntable's hub. A separate sub-assembly is shown in detail on the right, labeled 'A', consisting of parts 63, 64, and 65. A screwdriver (part 92) is shown as a necessary tool for the disassembly process.</p>	

Fig. 58

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
1	Turn table, base ass'y	<p>(1) Remove the Knob Bolt [172], Guard Ass'y [176] and Guard Holder [178] from Holder (A) [145].</p> <p>(2) Remove the two Flat Hd. Screws M6 x 25 [53] by turning the Nylon Nut M6 [47] with a 10-mm wrench. Remove Plate (A) [93], Sub Fence (A) Ass'y [94], Plate (B) [48] and Sub Fence (B) Ass'y [45] from Fence (A) [96] and Fence (B) [51].</p> <p>(3) Remove the four Bolts (W/Washers) M8 x 35 (Black) [50] and remove Fence (A) [96] and Fence (B) [51] from the Base Ass'y [59].</p> <p>(4) Remove the two Machine Screws (W/Washers) M5 x 16 (Black) [139] and remove the Side Cover [140] from the Support [134].</p> <p>(5) Remove the Machine Screw M4 x 12 [136] and remove Cover (D) [138] from Holder (A) [145].</p> <p>(6) Disconnect the connector that connects Cord (B) [168] and Cord (C) [18].</p> <p>(7) Remove the Machine Screw M4 x 12 [131] and remove the Nylon Clip [133] from Holder (A) [145].</p> <p>(8) Loosen the Clamp Lever [156]. Holding the Grip [174], pull Set Pin (A) [162] forward (toward the operator) to release the right stopper and tilt the head to the right by 45 degrees.</p> <p>(9) Remove the Machine Screw (W/Washers) M5 x 16 (Black) [65] and remove Knob (B) [63] from Holder (A) [145].</p> <p>NOTE: Knob (B) [63] cannot be removed unless the head is inclined to the right by 45 degrees and the concave portion at the rear of the Turn Table [26] is aligned with the pinion of Knob (B) [63].</p> <p>(10) Return the head to the right-angle position. Holding the Grip [174], pull Set Pin (A) [162] backward to set the right stopper and secure with the Clamp Lever [156].</p> <p>(11) Remove the four Machine Screws M4 x 12 [1] and remove Cover (B) [3] from the rear of the Turn Table [26].</p> <p>(12) Disconnect the connector that connects the Encoder [16] and Cord (C) [18].</p> <p>(13) Remove the Machine Screw M5 x 20 [13] and remove the Encoder [16] from the Turn Table [26].</p>	<p>10 mm wrench</p> <p>Phillips screwdriver</p> <p>13-mm box wrench</p> <p>Phillips screwdriver</p> <p>Phillips screwdriver</p>

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
1	Turn table, base ass'y	<p>NOTE: Do not lose Spring (C) [15] as Spring (C) [15] pops out when removing the Encoder [16]. When reinstalling the Encoder [16] to the Turn Table [26], move the Encoder [16] away from Gear (A) [8] and secure it at this position with the Machine Screw M5 x 20 [13] temporarily. Then loosen the Machine Screw M5 x 20 [13] (about one turn) and move the Encoder [16] to mesh with Gear (A) [8].</p> <p>(14) Remove the Machine Screw M4 x 12 [10] and remove the Nylon Clip [12] from the Turn Table [26].</p> <p>(15) Loosen the Clamp Lever [156] and remove the two Hex. Socket Hd. Bolts M6 x 50 [159] to remove Stopper Holder (C) [160] and Stopper (C) [161] from Holder (A) [145].</p> <p>NOTE: The head cannot be secured at the inclined position if the Clamp Lever [156] is removed. Be careful not to incline the head to the left during disassembly.</p> <p>(16) Incline the head to the left by 45 degrees and remove the Machine Screw M4 x 16 [171] to remove the Cord Cover [169] from Holder (A) [145]. Remove the Seal Lock Hex. Socket Set Screw M6 x 10 [64] and return the head to the right-angle position. Make a flat-blade screwdriver contact with the end surface of the Holder Shaft [6] and tap the screwdriver with a plastic hammer to remove the Holder Shaft [6] from the Turn Table [26]. Then the head can be removed together with Holder (A) [145] from the Turn Table [26].</p> <p>NOTE: Be careful of handling the heavy head during disassembly.</p> <p>(17) Turn the base upside down and remove the five Machine Screws M5 x 20 [83] from the back of the Turn Table [26]. Remove Shaft Holder (A) [75] and Shaft Holder (B) [74] from the Turn Table [26].</p> <p>(18) Turn the base upside down and remove the Machine Screw M4 x 12 [66] to remove the Indicator [68] from the Turn Table [26].</p> <p>(19) Remove the three Flat Hd. Screws M4 x 16 [20] and remove Gear (A) [19] from the Turn Table [26].</p> <p>(20) Remove the six Machine Screws M5 x 16 (Black) [60] and remove Table Insert (A) [62] and Table Insert (B) [61] from the Turn Table [26].</p> <p>(21) Remove the Shaft (B) [23] and remove the Turn Table [26] from the Base Ass'y [59].</p> <p>(22) Turn the Turn Table [26] upside down and remove the Side Handle [92] to remove Shaft (A) [91] from the Turn Table [26].</p>	<p>5-mm hex. bar wrench</p> <p>Phillips screwdriver</p> <p>Flatblade screwdriver</p> <p>Plastic hammer</p> <p>Phillips screwdriver</p> <p>19-mm box wrench</p>

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
1	Turn table, base ass'y	<p>(23) Remove the Machine Screw M4 x 8 [34] and remove Spring (E) [27], Stopper (A) [28] and Pin Cover [32] from the Turn Table [26].</p> <p>(24) Remove the Machine Screw M4 x 8 [34] and pull out the Lever Shaft [85] to remove the Lever [89], Spring (D) [90] and Shaft (C) [88] from the Turn Table [26].</p> <p>(25) Remove the Machine Screw M4 x 8 [34] and remove Cover (B) [87] and Spacer (A) [69] from the Turn Table [26].</p> <p>(26) Remove the Machine Screw M4 x 8 [34] and remove the Dust Cover [97] from the Turn Table [26].</p> <p>(27) Remove the three Machine Screws M4 x 12 [10] and remove the three Nylon Clips [12] from the Turn Table [26].</p> <p>(28) Disconnect the connector that connects the Encoder [35] and Cord (C) [18].</p> <p>(29) Remove the Machine Screw M5 x 20 [31] and remove the Encoder [35] from the Turn Table [26].</p> <p>NOTE: Do not lose Spring (C) [29] as Spring (C) [29] pops out when removing the Encoder [35]. When reinstalling the Encoder [35] to the Turn Table [26], move the Encoder [35] away from Gear (A) [56] and secure it at this position with the Machine Screw M5 x 20 [31] temporarily. Then loosen the Machine Screw M5 x 20 [31] (about one turn) and move the Encoder [35] to mesh with Gear (A) [56].</p> <p>(30) Remove the two Machine Screws (W/Sp. Washer) M5 x 16 [52] and remove Gear (A) [56] from the Turn Table [26].</p> <p>(31) Remove the Bolt M6 x 10 [55] and pull out the Holder [54] from the rear of the Base Ass'y [59].</p> <p>(32) Turn the Base Ass'y [59] upside down and pull out the four Base Rubbers [58].</p>	<p>Phillips screwdriver</p> <p>10-mm wrench</p>

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
2	Protective cover, link	 <p style="text-align: center;">Fig. 59</p> <p>(1) Remove the two Machine Screws (W/Washers) M5 x 12 (Black) [264] and remove the Spindle Cover [265] from the Gear Case [275].</p> <p>(2) Remove Bolt (A) M10 [284] with the Box Wrench 17mm [501]. Remove the Washer (B) [285], TCT Saw Blade [286] and Washer (A) [287] in this order from the Spindle Ass'y [292].</p> <p>(3) Remove the two Flat Hd. Screws M4 x 10 [288]. Remove the Cover [289] and the Protective Cover [290] from the Bearing Holder [294].</p> <p>NOTE: Be sure to release the hook of Return Spring (A) [291] from the groove of the Protective Cover [290] then remove the Protective Cover [290] from the Bearing Holder [294].</p> <p>(4) Remove the Machine Screw M5 x 12 [188] and remove the Spacer [189] and the Link [190] from Hinge (A) [173].</p>	<p>Phillips screwdriver</p> <p>17-mm box wrench (standard accessory)</p>

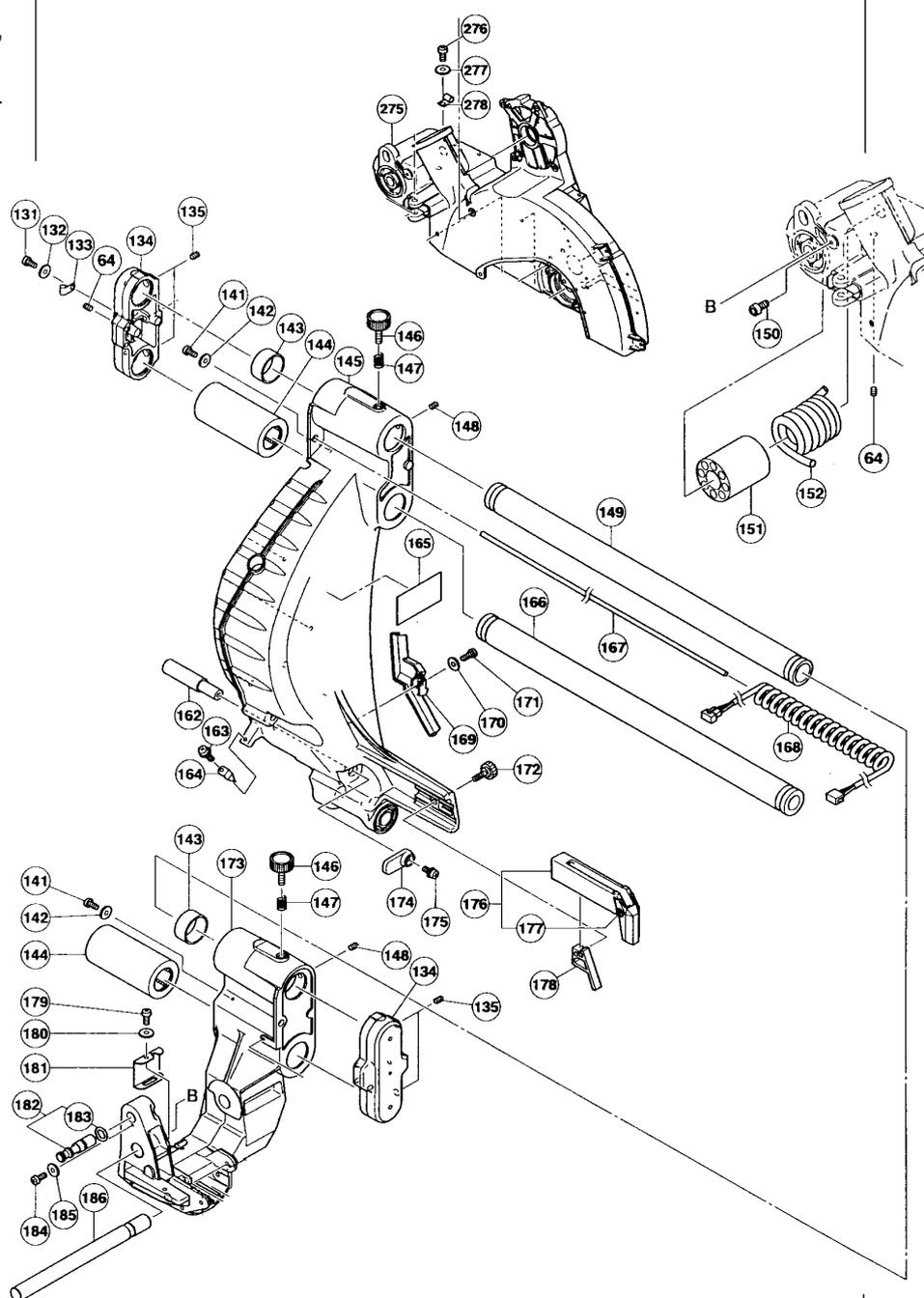
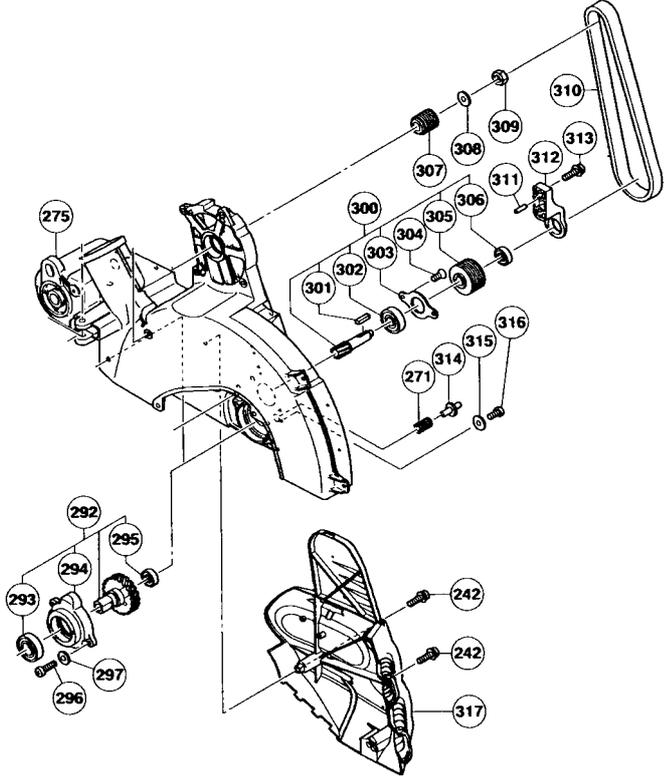
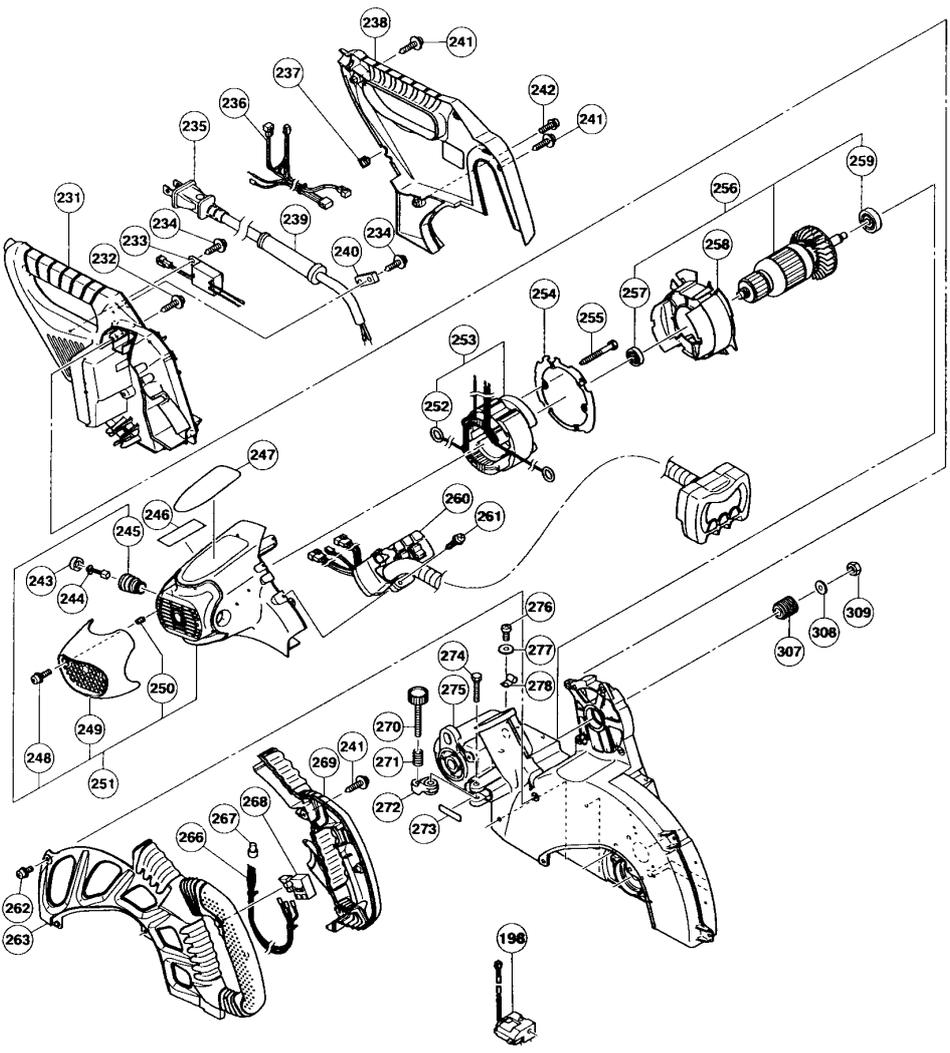
Item No.	Disassembly spots	Disassembly procedure	Necessary tools
3	Gear case, spring, support, hinge (A), ball bushing, holder (A)	 <p>The diagram shows an exploded view of a mechanical assembly. The main component is a gear case (148) with a gear (149) mounted on a shaft (146). Other parts include a spring (152), support (151), hinge (A) (134), ball bushing (141), and holder (A) (135). The diagram is annotated with numerous numbered callouts (131-278) and labels (A, B) indicating specific disassembly points and components.</p>	

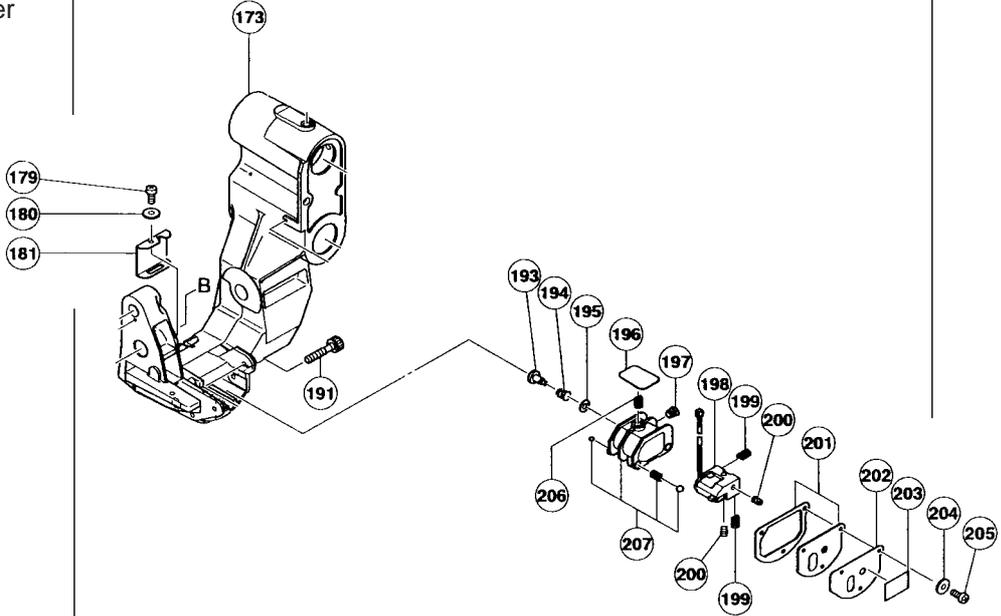
Fig. 60

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
3	Gear case, spring, support, hinge (A), ball bushing, holder (A)	<p>(1) Remove the Machine Screw M4 x 12 [276] and remove the Nylon Clip [278] from the Gear Case [275] (head).</p> <p>(2) Remove the Seal Lock Hex. Socket Hd. Bolt M5 x 10 [150].</p> <p>NOTE: The Seal Lock Hex. Socket Hd. Bolt M5 x 10 [150] acts as the upper limit stopper of the Gear Case [275] (head). Be careful that the Gear Case [275] (head) is raised by the force of the Spring [152] when the Seal Lock Hex. Socket Hd. Bolt M5 x 10 [150] is removed.</p> <p>(3) Remove the Seal Lock Hex. Socket Set Screw M6 x 10 [64]. Make a flat-blade screwdriver contact with the end surface of Hinge Shaft (A) [186] and lightly tap the screwdriver with a plastic hammer to remove Hinge Shaft (A) [186].</p> <p>NOTE: Be sure to hold the Gear Case [275] (head) with hand during disassembly to prevent the Gear Case [275] (head) from being dropped when removing Hinge Shaft (A) [186] from the hole of the Gear Case [275] (head).</p> <p>Then the Spring [152] and the Sleeve [151] can be removed from the Gear Case [275] (head).</p> <p>(4) Remove the Seal Lock Hex. Socket Set Screw M6 x 10 [64] and remove Shaft (D) [167] from the Support [134] at the rear.</p> <p>(5) Remove the two Hex. Socket Set Screws M8 x 10 [135] from the Support [134] at the front (operator side). Lightly tap the Support [134] outward with a plastic hammer to remove it from Slide Pipe (A) [149] and Slide Pipe (B) [166].</p> <p>(6) Loosen Knob Bolt M6 x 25 [146] at the top of Hinge (A) [173] and slide Hinge (A) [173] to the front (operator side) to remove it from Slide Pipe (A) [149] and Slide Pipe (B) [166]. Then slide the rear Support [134] backward with Slide Pipe (A) [149] and Slide Pipe (B) [166] mounted and remove it from Holder (A) [145].</p> <p>(7) Remove the Seal Lock Hex. Socket Set Screw M6 x 10 [148] from the side of Hinge (A) [173]. Remove the Bushing [143] from Hinge (A) [173].</p> <p>NOTE: Prepare a shaft of 31 mm in diameter and 50 mm in length. Make the shaft contact with the end surface of the Bushing [143] and lightly tap the shaft with a plastic hammer to remove the Bushing [143] from Hinge (A) [173].</p>	<p>Phillips screwdriver</p> <p>4-mm hex. bar wrench</p> <p>3-mm hex. bar wrench</p> <p>Flat-blade screwdriver</p> <p>Plastic hammer</p> <p>3-mm hex. bar wrench</p> <p>4-mm hex. bar wrench</p> <p>Plastic hammer</p> <p>3-mm hex. bar wrench</p> <p>φ31 x 50 mm shaft</p> <p>Plastic hammer</p>

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
4	Belt, pinion ass'y, spindle ass'y	 <p style="text-align: center;">Fig. 61</p> <ol style="list-style-type: none"> (1) Remove the four Machine Screws (W/Washers) M5 x 25 (Black) [242] and remove the Pulley Cover [317] from the Gear Case [275]. (2) Pull the Belt (200H13) 16 x 508 [310] outward and turn it to remove from Pulley (A) [307] and Pulley (B) [305]. (3) Remove the two Machine Screws (W/Washers) M5 x 20 (Black) [313] and remove Bearing Holder (B) [312] by lightly tapping the Gear Case [275] with a plastic hammer. (4) Remove the two Flat Hd. Screws M4 x 10 [304] and tap the Gear Case [275] lightly with a plastic hammer to remove the Pinion Ass'y [300]. (5) Remove the Machine Screw M4 x 8 [316] and remove the Stopper Pin [314] and the Lock Spring [271] from the Gear Case [275]. NOTE: Be careful when removing the Machine Screw M4 x 8 [316] because the Stopper Pin [314] and the Lock Spring [271] pop out from the Gear Case [275]. (6) Remove the two Machine Screws M5 x 20 [296] and remove the Spindle Ass'y [292] by lightly tapping the Gear Case [275] with a plastic hammer. 	<p>Phillips screwdriver</p> <p>Plastic hammer</p>

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
5	Monitor, stator ass'y, armature ass'y, pulley (A), switch, laser marker	 <p data-bbox="901 1344 997 1377" style="text-align: center;">Fig. 62</p> <ol data-bbox="438 1422 1276 1948" style="list-style-type: none"> (1) Remove the three Tapping Screws (W/Flange) D4 x 20 (Black) [241] and the Machine Screw (W/Washers) M5 x 10 [262] to remove Switch Handle (R) [269] and Switch Handle (L) [263] from the Gear Case [275]. (2) Remove the three Tapping Screws (W/Flange) D4 x 20 (Black) [241] and the Machine Screw (W/Washers) M5 x 25 (Black) [242] to remove Handle (R) [238] from the Gear Case [275]. (3) Disconnect the three connectors coming from the Monitor [260] (white: 2 pcs. black: 1 pc.) and remove the two Tapping Screws (W/Flange) D4 x 30 (Black) [261]. Then the Monitor [260] can be removed from the Housing Ass'y [251]. 	Phillips screwdriver

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
5	Monitor, stator ass'y, armature ass'y, pulley (A), switch, laser marker	<p>(4) Cut the internal wires at the root of the three Connectors 50092 [267] that crimp the internal wire coming from the Stator Ass'y 120V [253] and the internal wire at the root of one Connector 50092 [267] that crimps the Cord [235] and Internal Wire (A) [266]. Be sure to cut each internal wire at the root. Otherwise, it is impossible to perform wiring at repair because these internal wires become short.</p> <p>(5) Disconnect the connector that connects the Switching Power Supply [233] with Internal Wire (B) [236].</p> <p>(6) Disconnect the connector that connects the cord of the Laser Marker [198] with Internal Wire (B) [236].</p> <p>(7) Remove the Cord Bush [237] from Handle (L) [231]. The Cord Bush [237] can be removed from the cord of the Laser Marker [198] by opening the Cord Bush [237].</p> <p>(8) Remove the Tapping Screw (W/Flange) D4 x 16 [234] and remove the Switching Power Supply [233] from Handle (L) [231].</p> <p>(9) Remove the Tapping Screw (W/Flange) D5 x 25 (Black) [232] and remove Handle (L) [231] from the Gear Case [275].</p> <p>(10) Removal of the Stator Ass'y 120V [253]:</p> <p>(a) After the above steps from (1) to (9), remove the Brush Cap [243] with a flat-blade screwdriver and take out the Carbon Brush [244]. Then the Housing Ass'y [251] can be removed from the Gear Case [275].</p> <p>(b) Remove the Fan Guide [258] from the Housing Ass'y [251]. Remove the two Hex. Hd. Tapping Screws D5 x 50 [255] that secure the Stator Ass'y 120V [253] to the Housing Ass'y [251]. Remove the two Brush Terminals [252] from the Brush Holder [245].</p> <p>(c) Remove the End Plate [254]. Pull out the Stator Ass'y 120V [253] by lightly tapping the Housing Ass'y [251] at the surface where the Gear Case [275] is mounted with a plastic hammer.</p> <p>(11) Removal of the Armature Ass'y 120V [256]:</p> <p>(a) Remove the Housing Ass'y [251] from the Gear Case [275] according to the procedure of Item No. 5-(10).</p> <p>(b) Remove the Armature Ass'y 120V [256] by lightly tapping the Gear Case [275].</p> <p>(12) Removal of Pulley (A) [307]:</p> <p>(a) Loosen the Nut M10 [309] of the Armature Ass'y 120V [256] that was removed in the above step (11) and remove Pulley (A) [307].</p>	<p>Nippers</p> <p>Phillips screwdriver</p> <p>Flatblade screwdriver</p> <p>Phillips screwdriver</p> <p>Plastic hammer</p> <p>17-mm wrench</p>

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
5	Monitor, stator ass'y, armature ass'y, pulley (A), switch	<p>(13) Removal of the Switch (3P Faston Type) W/O Lock [268]:</p> <p>(a) Remove Switch Handle (R) [269] and Switch Handle (L) [263] from the Gear Case [275] according to the procedure of Item No. 5-(1). Then the Switch (3P Faston Type) W/O Lock [268] can be removed.</p> <p>(b) Internal Wire (A) [266] is provided with a claw to prevent coming off on its connector. When removing Internal Wire (A) [266] from the Switch (3P Faston Type) W/O Lock [268], pull out Internal Wire (A) [266] while pressing the claw.</p>	
6	Laser marker	<div style="text-align: center;">  </div> <p style="text-align: center;">Fig. 63</p> <p>(1) Remove the Machine Screw M4 x 8 [179] and remove the Cover [181] from the rear of Hinge (A) [173].</p> <p>(2) Remove the three Machine Screws M4 x 12 [205] and remove Plate (A) [202] and Cover (A) [201] from Hinge (A) [173].</p> <p>(3) Remove the Adjuster [191] and push the Clutch Screw [193] from behind Hinge (A) [173]. Then Holder (B) [207] can be removed together with the Laser Marker [198].</p> <p>NOTE: At this time, the Spring [206] and the Clutch Spring [197] pop out. Be careful not to lose them.</p> <p>(4) Remove the Clutch Screw [193]. Then the Laser Marker [198] can be removed from Holder (B) [207].</p> <p>NOTE: At this time, the two Springs [199] pop out. Be careful not to lose them.</p>	Phillips screwdriver

Item No.	Disassembly spots	Disassembly procedure	Necessary tools
7	Vise ass'y	<p>(1) Remove the Wing Bolt [38] to remove the Vise Shaft [44].</p> <p>(2) Remove the Machine Screw (W/Washers) M5 x 12 (Black) [43] to remove the Vise Plate [42] and the Washers [41].</p> <p>(3) Remove the Knob Bolt M10 [39] from the Screw Holder [40].</p>	Phillips screwdriver

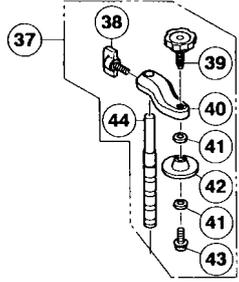


Fig. 64

11-3. 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 5 M Ω .
- (2) When replacing the Spring [152], apply 3 grams of Hitachi Motor Grease to the inner circumference of the new spring prior to assembly.
- (3) When replacing or reassembling the Liner [98], ensure it is positioned and assembled as illustrated in Fig. 65. In addition, coat 8 grams of Hitachi Motor Grease on the liner sliding portion of the Turn Table [26].

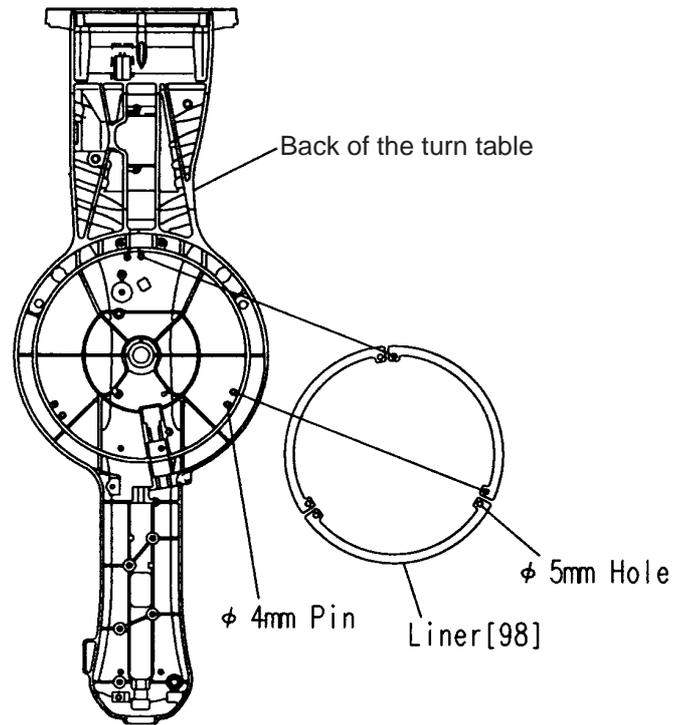
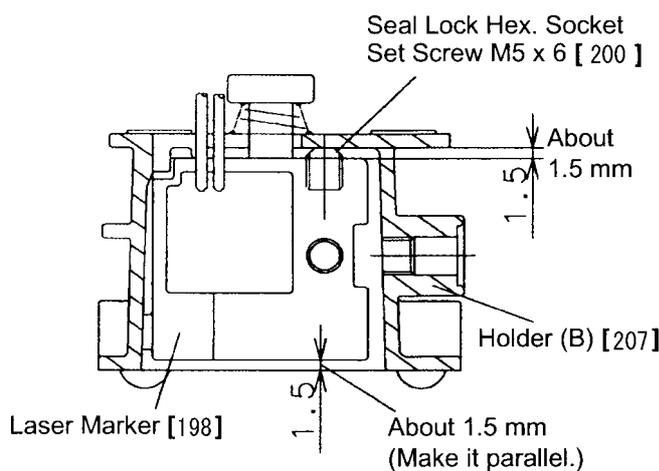


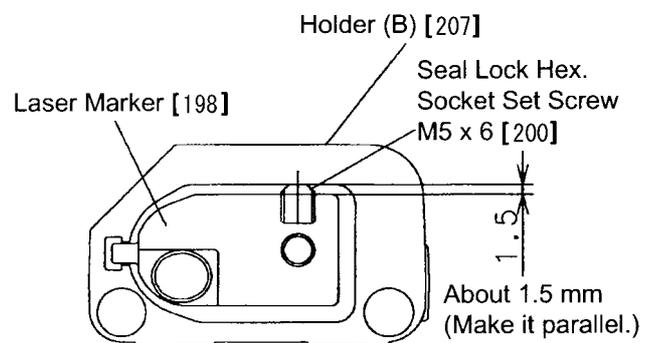
Fig. 65

- (4) When replacing the Laser Marker [198], screw the two Seal Lock Hex. Socket Set Screws M5 x 6 [200] into the Laser Marker [198]. To adjust the accuracy of the Laser Marker [198] easily, protrude the tips of the two Seal Lock Hex. Socket Set Screws M5 x 6 [200] about 1.5 mm from the Laser Marker [198] using the 2.5-mm hex. bar wrench so that Holder (B) [207] and the Laser Marker [198] become almost parallel as shown in Fig. 66-a and Fig. 66-b. Refer to "11-10. Adjustment of Lase Marker Accuracy" for adjustment of the laser marker accuracy.



Cross section viewed from the top

Fig. 66-a



Cross section viewed from the front

Fig. 66-b

11-4. Wiring Diagram

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.

⚠ WARNING: Be sure to turn off the two switches (w/cover) on the top of the Monitor [260] (Model C 12LSH), or turn off the switch (w/cover) on the side of Handle (R) [238] (Model C 12RSH) and unplug the power cord plug from the receptacle before replacing the Laser Marker [198] and the Switching Power Supply [233]. Do not disconnect the connector that connects the Laser Marker [198] with the Switching Power Supply [233] while the Laser Marker [198] is lighting. Otherwise, the Laser Marker [198] may be damaged due to surge (electricity stored in the Switching Power Supply [233]). Do not stare into beam while the Laser Marker [198] is lighting.

① Wiring diagram

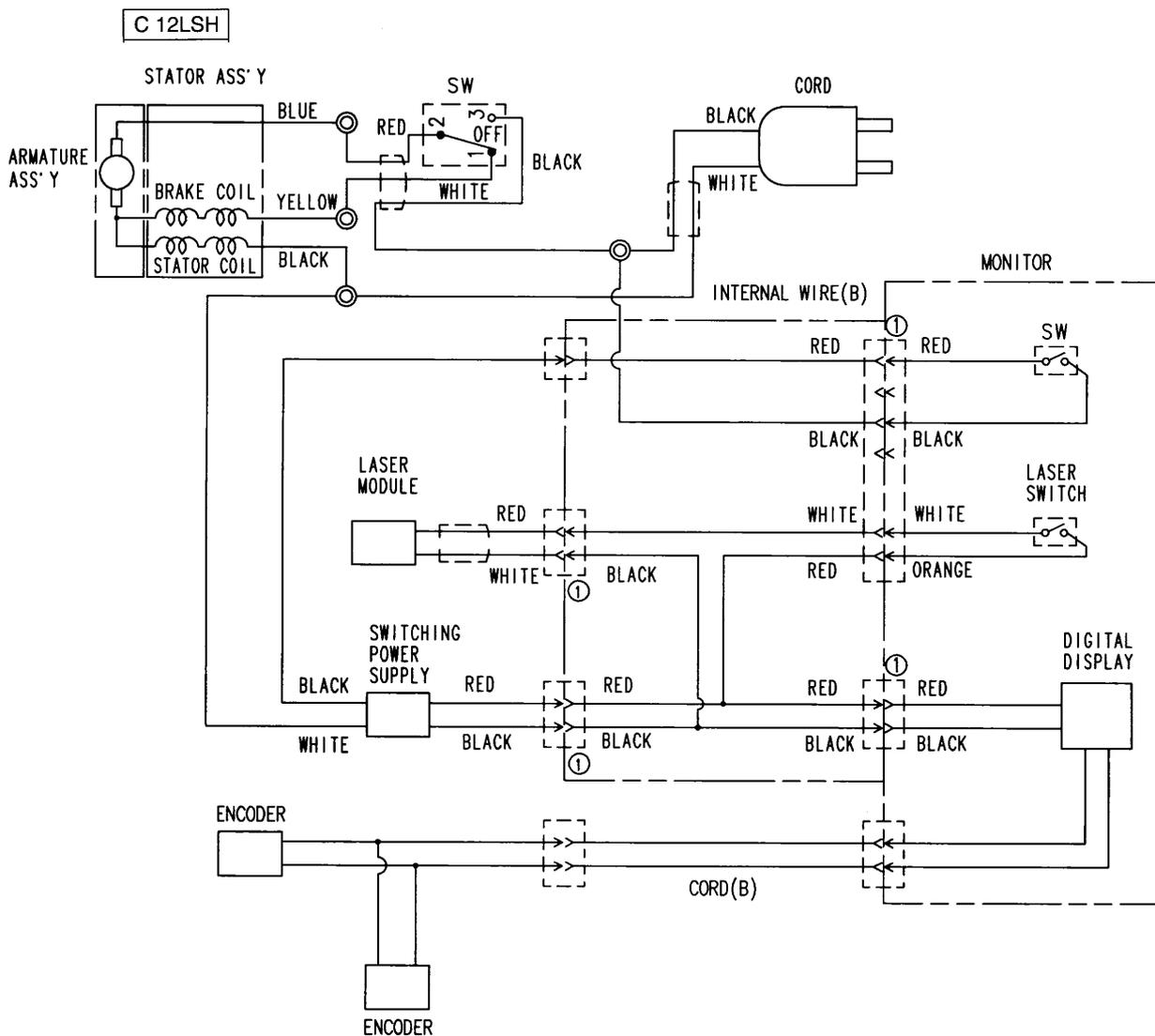


Fig. 67

C 12RSH

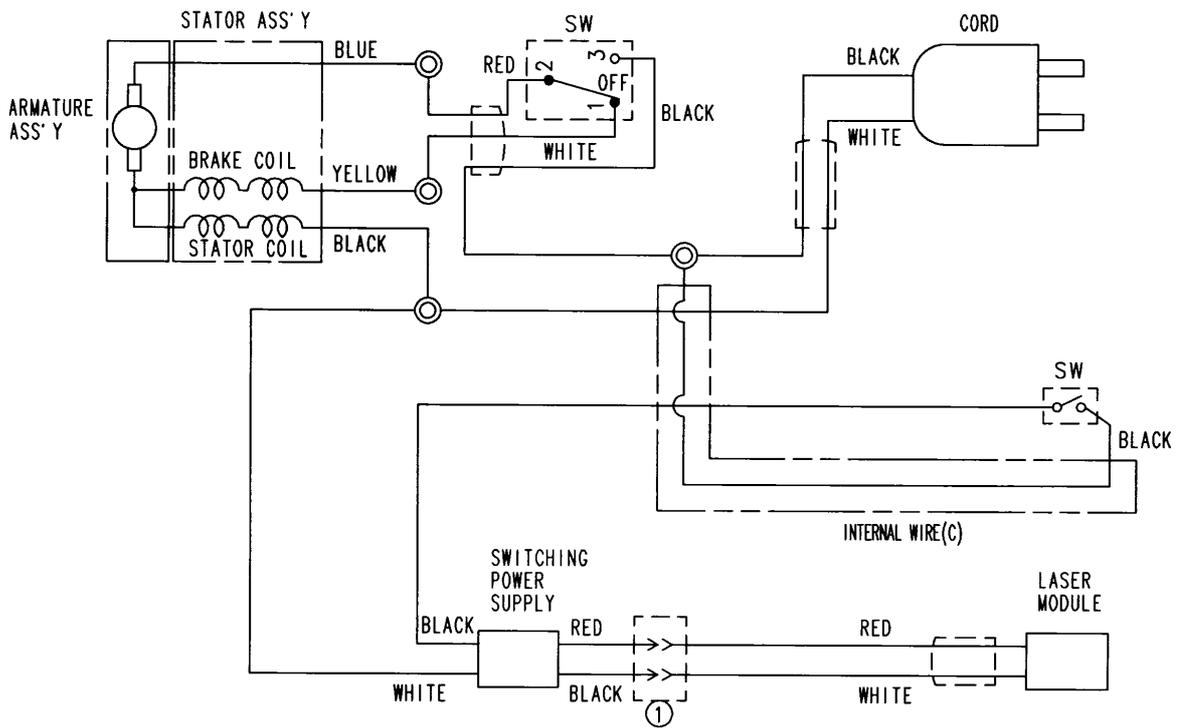


Fig. 68

② Actual wiring diagram

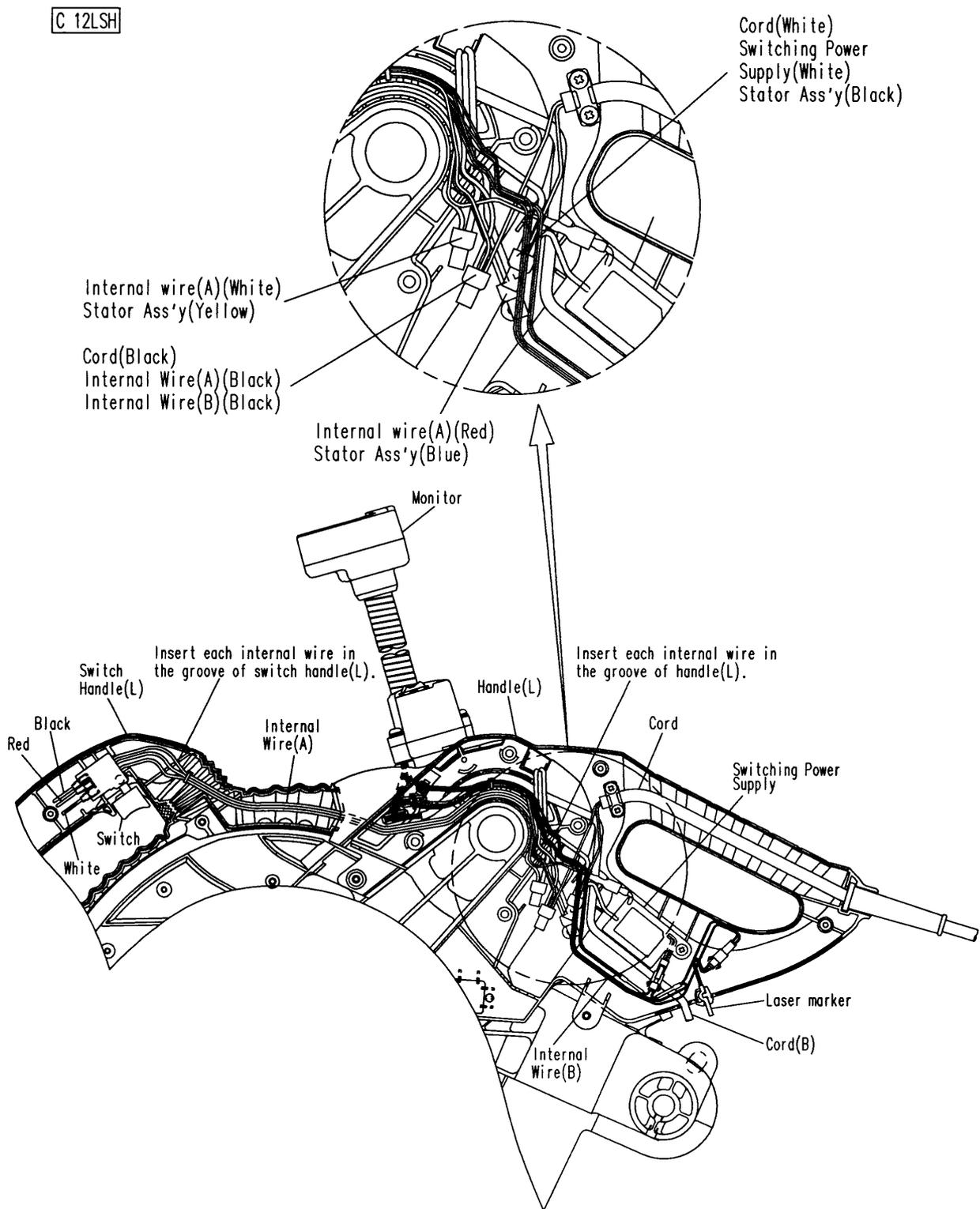


Fig. 69

C 12RSH

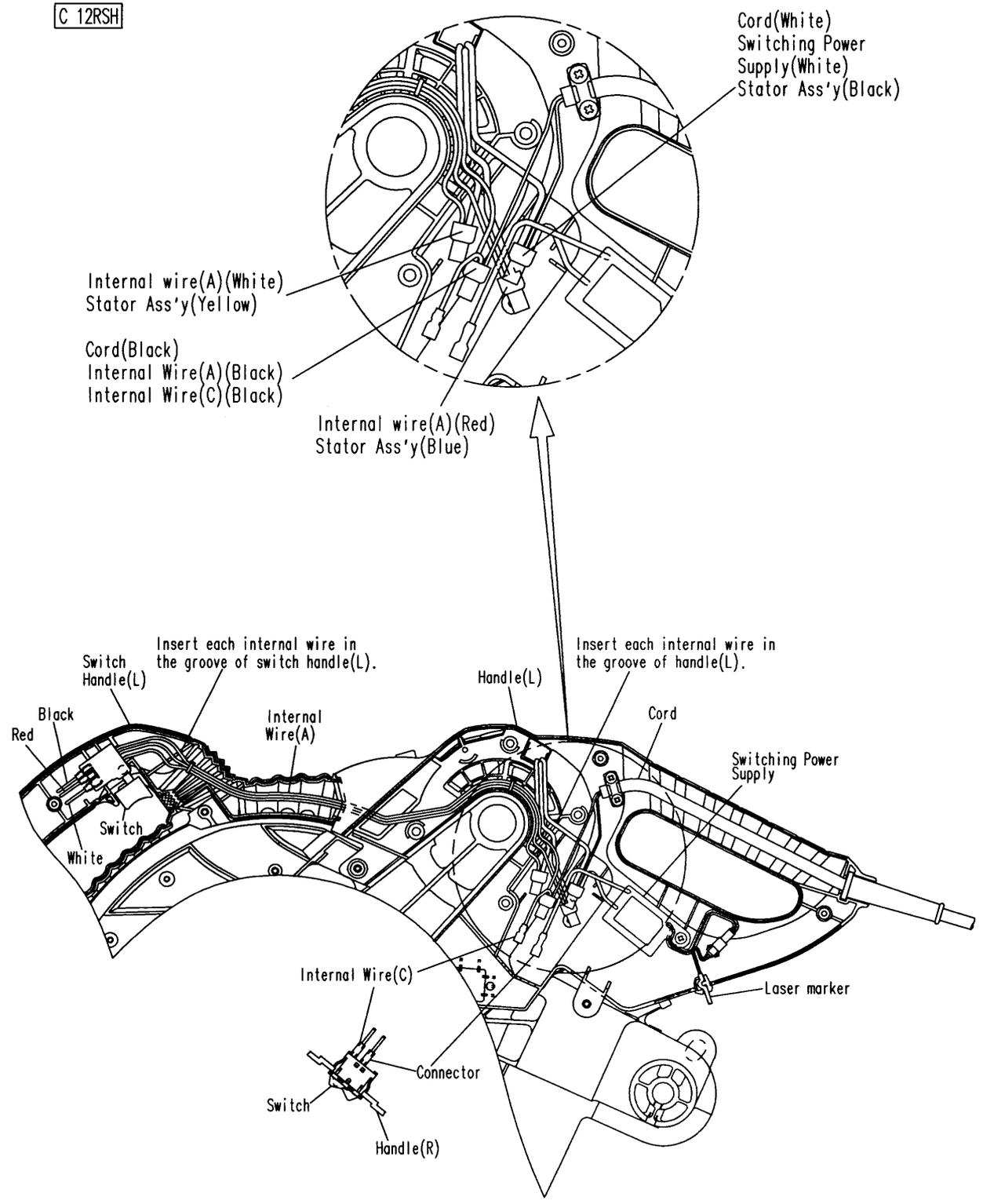


Fig. 70

11-5. 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 the Connector 50092 [267] or let the internal wires get caught in a joint between Switch Handle (R) [269] and Switch Handle (L) [263].

11-6. No-load Current

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

Voltage	120 V
No-load current	7.5 A max.

11-7. Reassembly Requiring Adjustment

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

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 [59], Turn Table [26], Fence (A) [96], Fence (B) [51], Holder (A) [145] and Hinge (A) [173] and after disassembly, reassembly and adjustment of the Ball Bushing [144]. Adjust the squareness (rated value 0.15/100 mm) by moving the fences along the saw blade (dummy disc).

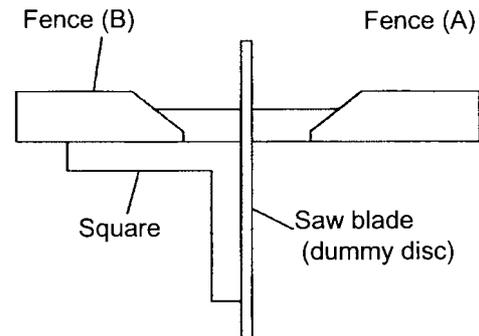


Fig. 71

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 0.15/100 mm) with the saw blade.

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

Adjust the unit so that the saw blade (305 mm (12")) is 9 to 11 mm (23/64" to 7/16") below the base surface (or top surface of the table insert). Lower the Gear Case [275] (head) and make Hinge (A) [173] contact with the Nylock Bolt M8 x 40 [274] for lower limit position adjustment. Turn the Nylock Bolt M8 x 40 [274] with a 13-mm wrench and change the height to adjust the lower limit position of the saw blade.

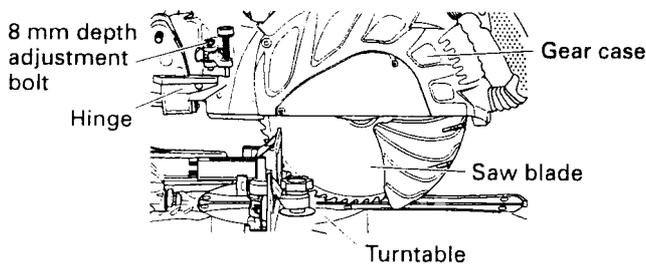


Fig. 72-a

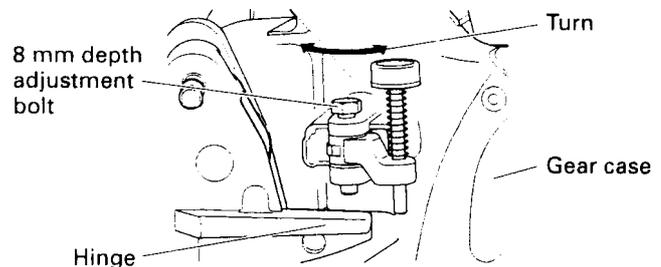


Fig. 72-b

(3) Reassembly of the ball bushing

The Ball Bushing [144], Holder (A) [145] and Hinge (A) [173] are maintained at a smooth fit. When placing the Ball Bushing [144] into Holder (A) [145] and Hinge (A) [173] gently hammer it with a plastic hammer so that the Ball Bushing [144] is seated into Holder (A) [145] and Hinge (A) [173] in parallel. After reassembly, lubricate around the steel balls inside the Ball Bushing [144] with 2 grams of Nippeco SEP 3A grease. Apply machine oil to Slide Pipe (A) [149] and Slide Pipe (B) [166]. When reassembling, put the Ball Bushing [144] inside Holder (A) [145] and Hinge (A) [173] as indicated in (A) of Fig. 73. Visual observation will do for this insertion. Layout in (A) offers about 30% higher rated load in (B).

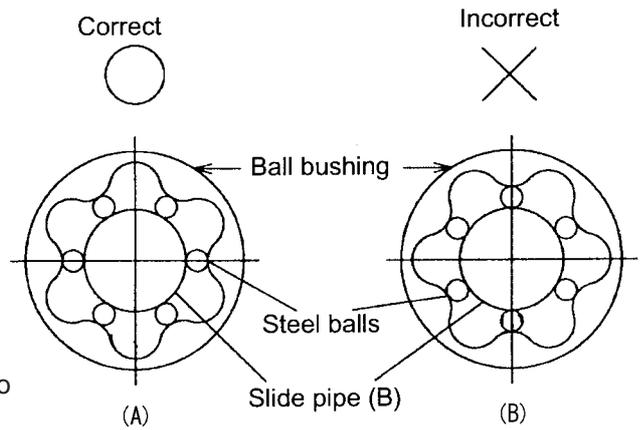


Fig. 73

11-8. Lubrication

Advise the customer to lubricate the machine as indicated below 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 cloth.

(1) Swiveling section of the gear case

Coat machine oil on the swiveling and sliding portions of the Gear Case [275] and Hinge (A) [173].

(2) Vise section

Coat machine oil on the screw thread portion of the Knob Bolt M10 [39] of the Vise Ass'y [37].

(3) Holder (A)

Coat machine oil on the swiveling and sliding portions of Holder (A) [145] and the Holder Shaft [6].

11-9. Product Precision

On completion of reassembly, confirm precision tolerances.

Item	Tolerance
Deflection of dummy disc	0.2/φ295
Squareness between base and fence (A) and fence (B)	0.1/50 (Height of fence)
Flatness of fence (A) and fence (B)	0.15
Squareness between dummy disc and fence (A) and fence (B)	0.15/100
Squareness between fence (A) and fence (B) and slide pipes (Place a square against fences (see Fig. 71), slide the head and check for any clearance between the dummy disc and the square.)	0.15/180
Squareness between dummy disc and turn table	0.15/100
Surface alignment of base and turn table (Use the upper surface of the base as a reference.)	⊕ 0.2 ⊖ 0.2

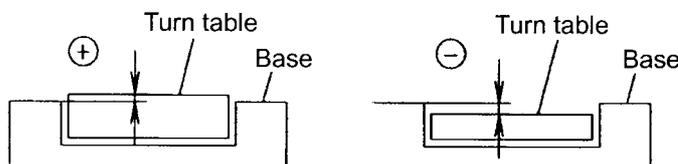


Fig. 74

11-10. Adjustment of Laser Marker Accuracy

(1) Construction of laser marker and functions of each component

The Adjuster [191] located at the side of Hinge (A) [173] is a screw used for moving the Laser Marker [198] horizontally. The laser line can be aligned with the left side of the cutting width (saw blade) or the ink line on the right side by means of the Adjuster [191]. The accuracy of the Laser Marker [198] is adjusted by the two Seal Lock Hex. Socket Set Screws M5 x 6 [200]. The Seal Lock Hex. Socket Set Screw M5 x 6 [200] located at the front is mainly used for adjusting the squareness with the fence surface. The Seal Lock Hex. Socket Set Screw M5 x 6 [200] located under the Laser Marker [198] is mainly used for adjusting the squareness with the base surface (Fig. 75-a). The laser line will shift to the right in parallel when the Adjuster [191] is turned clockwise, and shift to the left when turned counterclockwise.

⚠ CAUTION Exercise utmost caution in handling a switch trigger for the position adjustment of the laser line, as the power plug is plugged into the receptacle during operation. If the switch trigger is pulled inadvertently, the saw blade can rotate and result in unexpected accidents.

Do not stare into beam while the laser marker is lighting.

Do not observe beam directly with an optical instrument.

If your eye is exposed directly to the laser beam, it can be hurt.

Instruct the customer not to stare into beam. In addition, instruct the customer not to give strong impact to the laser marker (main body of tool) and not to dismantle the laser marker.

Use of controls or adjustments or performance of procedures other than those specified in this TECHNICAL DATA AND SERVICE MANUAL and the Instruction Manual may result in hazardous radiation exposure.

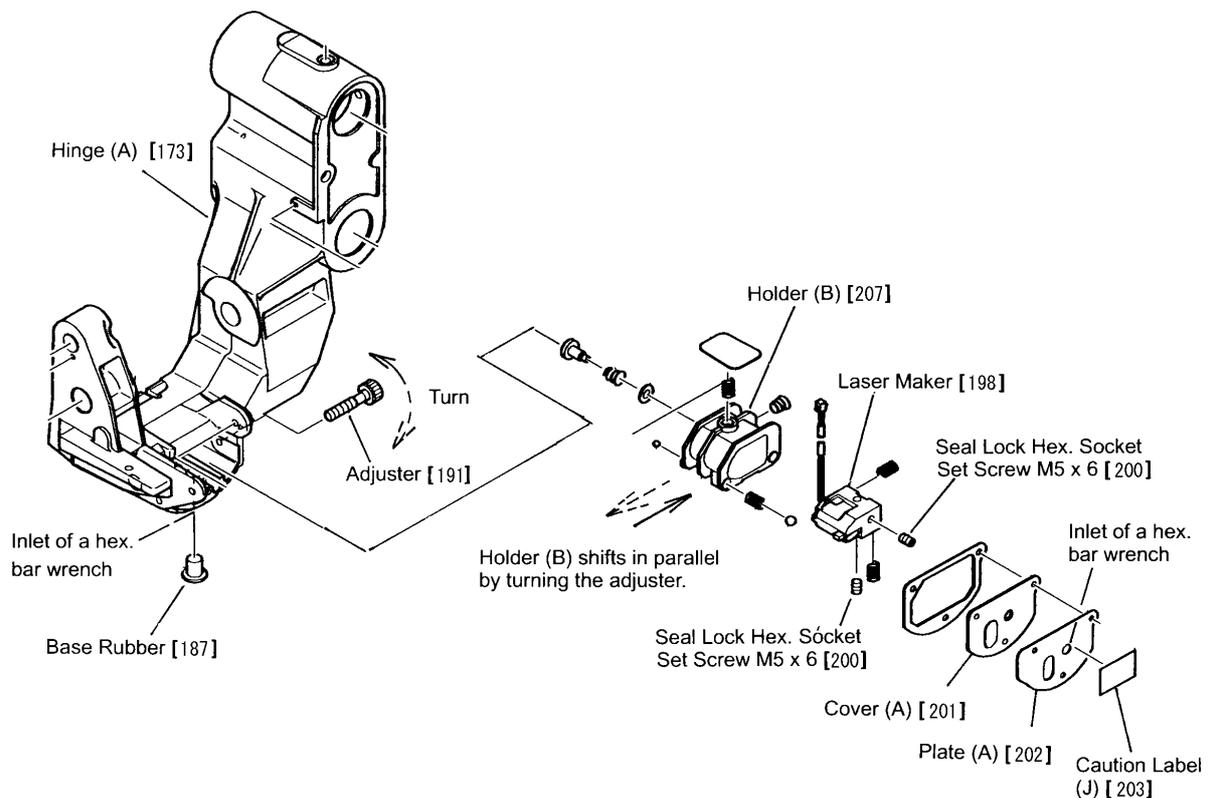
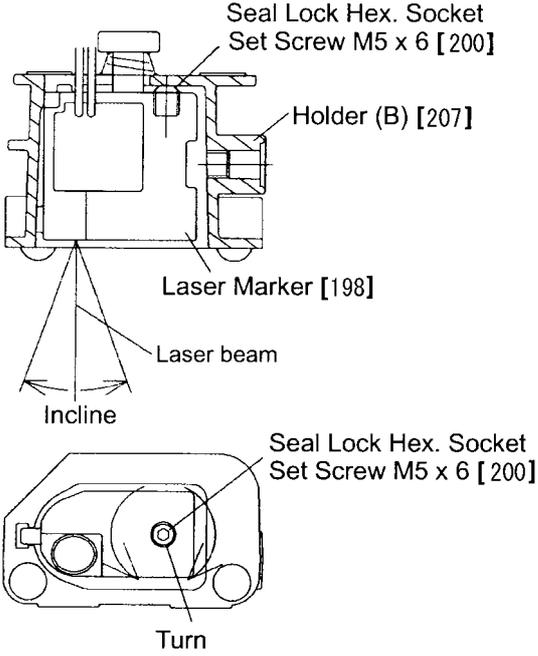
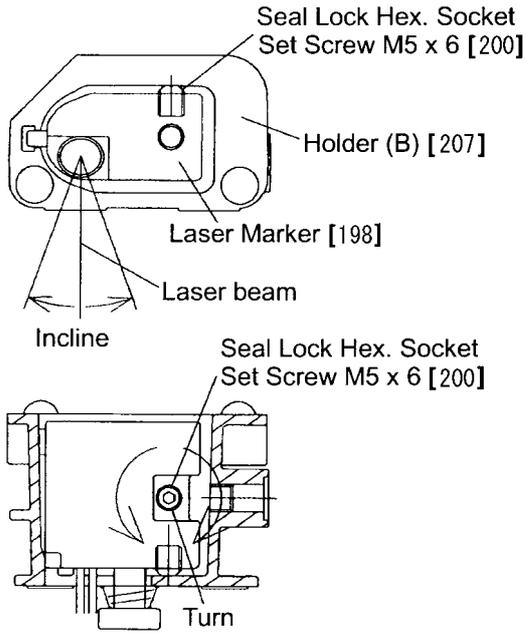


Fig. 75-a

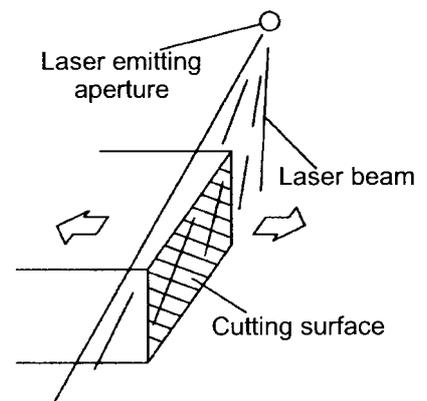
Adjustment of squareness with the fence surface	Adjustment of squareness with the base surface
 <p style="text-align: center;">Fig. 75-b</p>	 <p style="text-align: center;">Fig. 75-c</p>
<p>The laser line inclines to the left by turning the Seal Lock Hex. Socket Set Screw M5 x 6 [200] clockwise and inclines to the right by turning counterclockwise. The squareness of the laser line with the fence surface can be adjusted in this manner.</p>	<p>The laser line inclines to the right by turning the Seal Lock Hex. Socket Set Screw M5 x 6 [200] clockwise and inclines to the left by turning counterclockwise. The squareness of the laser line with the base surface can be adjusted in this manner.</p>

(2) Adjustment of the laser marker

Adjust the laser marker according to the following steps from ① to ⑤ .

Adjust the product accuracy first because the accuracy of the laser marker is adjusted aligning the cut surface of the workpiece.

- ① First, hold a workpiece of 60 mm (2-3/8") in height and 150 mm (5-15/16") in width with the vise and perform right-angle cutting. At this time, check that Plate (A) [202], Cover (A) [201] and the inlet of a hex. bar wrench at Hinge (A) [173] (Fig. 75-a) are closed to prevent saw dust from entering the laser marker. If they are not closed, block them with tapes.
- ② Light up the Laser Marker [198] with the workpiece held in the vise. Turn the Adjuster [191] to shift the laser line onto the cutting surface, top edge or rear edge of the cutting surface.



- Cut the workpiece and light up the laser marker.

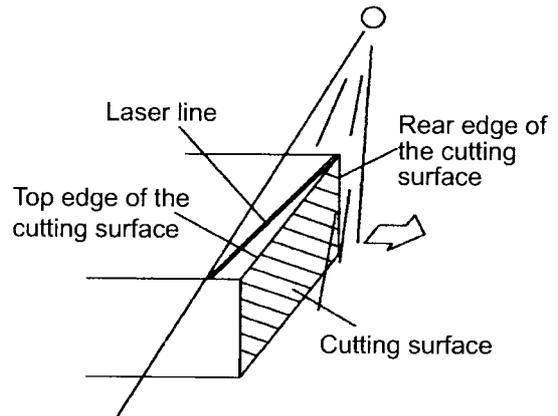
Fig. 76-a

③ Next, insert a 2.5-mm hex. bar wrench into the inlet and adjust the two Seal Lock Hex. Socket Set Screws M5 x 6 [200] so that laser beam is applied to the entire cutting surface. (Before adjustment of the Laser Marker [198] using a 2.5-mm hex. bar wrench, remove the Caution Label (J) [203], Base Rubber [187] and the tape adhered to the inlet.)

If the laser line gets out of the cutting surface during the laser line adjustment using the two Seal Lock Hex. Socket Set Screws M5 x 6 [200], turn the Adjuster [191] to shift the laser line onto the cutting surface, top edge or rear edge of the cutting surface then adjust the accuracy of the laser line. (Repeat this operation 3 or 4 times depending on the adjusting conditions of the laser marker.) Refer to the above "(1) Construction of laser marker and functions of each component" for the relation between the two Seal Lock Hex. Socket Set Screws M5 x 6 [200] and the laser line.

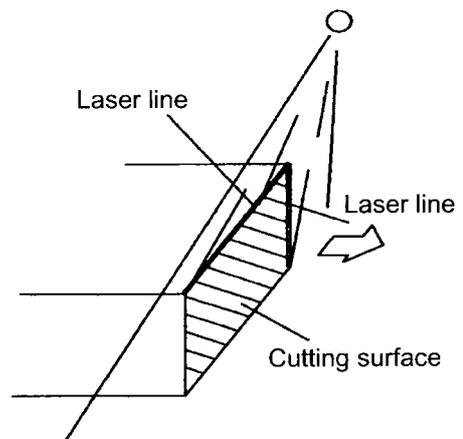
④ To check the accuracy of the Laser Marker [198], move the Laser Marker [198] horizontally using the Adjuster [191] again and check that the laser beam is applied to the entire cutting surface. If the laser beam is applied to the cutting surface in parallel, the fine fuzz reflects the laser beam and the entire cutting surface becomes bright.

⑤ Make a right-angle ink line on the workpieces of 20 mm (13/16") in height and 150 mm (5-15/16") in width and 60 mm (2-3/8") in height and 150 mm (5-15/16") in width respectively. Adjust the laser marker and perform cutting. If the ink line matches the cutting position, the accuracy adjustment is completed. (Visually check that the laser marker accuracy is 0.35/100 or less for both the squareness with the base surface and the squareness with the fence surface.)



- Turn the adjuster to shift the laser line onto the cutting surface, top edge or rear edge of the cutting surface.

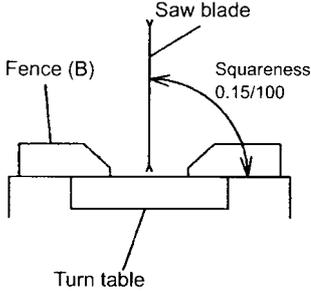
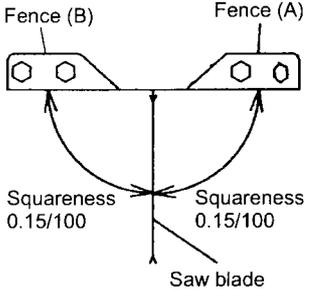
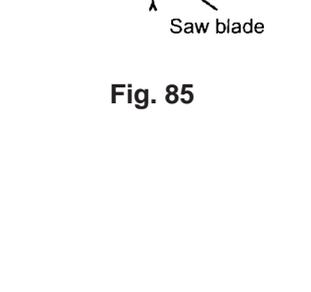
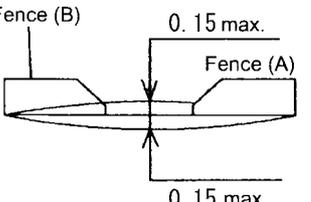
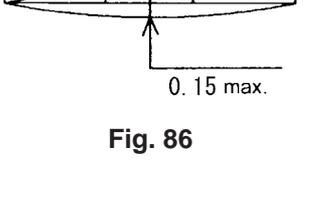
Fig. 76-b

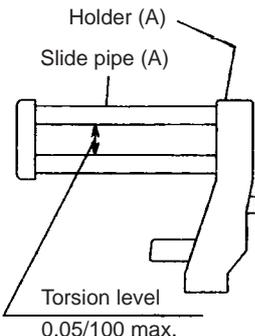
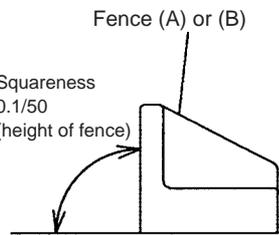


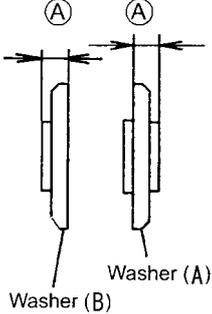
- Adjust the two Seal Lock Hex. Socket Set Screws M5 x 6 [200] or the adjuster to apply laser beam to the entire cutting surface.

Fig. 76-c

12. REPAIR GUIDE

Item	Phenomenon	Cause (s)	Factory standard	Inspection, repair or adjustment
1	<p>Inaccurate cutting</p> <p>… Inaccurate squareness of the cut surface</p> <p>… Cut surfaces do not fit together properly.</p>	<p>(a) Inaccurate squareness between the turn table and the saw blade causes the saw blade to cut into the workpiece at an angle.</p>	<p>0.15/100 (Dummy disc) (Fig. 84)</p> <p>When sliding (tip) 0.25/100 (Dummy disc)</p>	<ul style="list-style-type: none"> • Readjust squareness with the Nylock Hex. Socket Set Screw M8 x 16 [17]. • Replace Hinge (A) [173] or Gear Case [275] or Turn Table [26] or Base Ass'y [59] (if deformed).
	 <p>Fig. 84</p>	<p>(b) Excessive deflection of the saw blade (Excessive vibration)</p>	<p>0.2/ φ 295 (Dummy disc)</p>	<ul style="list-style-type: none"> • Replace the TCT Saw Blade [286]. • Check for surface defects on Washer (A) [287] or Washer (B) [285] and repair with a file as necessary. • Replace Washers (A) [287] or Washer (B) [285].
	 <p>Fig. 85</p>	<p>(c) Inaccurate squareness between fence (A) and fence (B) and the saw blade</p>	<p>0.15/100 (Fig. 85)</p>	<ul style="list-style-type: none"> • Loosen the Bolt (W/Washers) M8 x 35 (Black) [50] and adjust as necessary. • Replace Fence (A) [96] and Fence (B) [51].
	 <p>Fig. 86</p>	<p>(d) Surfaces of fence (A) and fence (B) are not accurately aligned, causing workpiece to deviate from proper squareness.</p>	<p>0.15 or less (Fig. 86)</p>	<ul style="list-style-type: none"> • Loosen the Bolt (W/Washers) M8 x 35 (Black) [50] and adjust surface alignment of Fence (A) [96] and Fence (B) [51] as necessary. • Replace Fence (A) [96] or Fence (B) [51].
	 <p>Fig. 86</p>	<p>(e) Inaccurate surface flatness of the turn table.</p>	<p>0.15/ φ 250</p>	<ul style="list-style-type: none"> • Replace the Turn Table [26].
	 <p>Fig. 86</p>	<p>(f) Squareness between the saw blade and the turn table is changed when sliding.</p>	<p>Same as (a) (Fig. 87)</p>	<ul style="list-style-type: none"> • Press-fit Slide Pipe (A) [149] and Slide Pipe (B) [166] into the Support [134]. Tighten the Hex. Socket Set Screw M8 x 10 [135] and check the accuracy (maximum torsion level 0.05/100). If it is not accurate, replace Slide Pipe (A) [149] and Slide Pipe (B) [166] with new ones (Fig. 87).

Item	Phenomenon	Cause (s)	Factory standard	Inspection, repair or adjustment
1	 <p>Fig. 87</p>  <p>Fig. 88</p>	<p>(g) Inaccurate squareness between fences (A) and (B), turn table and base causes the workpiece to tilt at an angle and prevent accurate cutting.</p> <p>(h) Loose fitting of swiveling portion of hinge (A) 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.</p> <p>(i) Excessively fast cutting speed causes deflection of saw blade and inaccurate cutting.</p> <p>(j) Excessive cutting force (pressure) is required because of dull saw blade.</p> <p>(k) The workpiece moves during cutting because it is bent or deformed.</p>	<p>0.1/50 (height of fence) (Fig. 88)</p> <p>—</p> <p>—</p> <p>—</p> <p>—</p>	<ul style="list-style-type: none"> • Adjust the clearance between the Bushing [143] and slide pipe (A) [149] with the Seal Lock Hex. Socket Set Screw M6 x 10 [148]. Ensure that slide pipe section slides smoothly with a slide load of within 3 kgf. • Replace Fence (A) [96] or Fence (B) [51] as necessary. • Check the fitting surfaces of Hinge (A) [173], Gear Case [275] and Hinge Shaft (A) [186] for any foreign substance (such as cutting dust) and remove it as necessary. • Reduce the cutting speed (appropriately 10 seconds for a square wood workpiece of 90 mm (3-9/16")). • Sharpen the saw blade again. • Correct bend, flex or other deformation by planing and try cutting.

Item	Phenomenon	Cause (s)	Factory standard	Inspection, repair or adjustment
2	Rough cut surface Parallelism $\textcircled{A} = 0.02/54$  Washer (A) Washer (B) Fig. 89	(a) Large deflection of saw blade. (Causes rough cut surface.)	0.2/ ϕ 295 (Dummy disc)	<ul style="list-style-type: none"> • Same as Item 1- (b).
		(b) Poor movement of slide pipe section prevents smooth cutting.	Slide load should be within 3 kgf.	<ul style="list-style-type: none"> • Apply machine oil to the slide pipe section. • Check the slide pipe section for any scratches or the like. Repair as necessary.
		(c) Excessive clearance at the slide pipe section.	—	<ul style="list-style-type: none"> • Readjust the Bushing [143]. • Replace Slide Pipe (A) [149], Slide Pipe (B) [166] or Ball Bushing [144] as necessary.
		(d) Surface parallelism of washers (A) or washer (B) are inaccurate due to surface defects such as impact marks and scratches.	0.02/54 (Fig. 89)	<ul style="list-style-type: none"> • Repair impact marks or scratches at Washer (A) [287] or Washer (B) [285]. • Replace them if necessary.
		(e) Improper slide cutting technique.	—	<ul style="list-style-type: none"> • See paragraph 8-7 "(4) Slide Cutting". Do not apply unnecessary force for successful slide cutting.
		(f) Inaccurate squareness between turn table and saw blade, causing saw blade to cut at an improper angle and make cutting marks.	0.15/100 (Fig. 84)	<ul style="list-style-type: none"> • Same as Item 1- (a).
		(g) Excessively fast cutting speed.	—	<ul style="list-style-type: none"> • Reduce cutting speed.
		(h) Improper clamping of workpiece.	—	<ul style="list-style-type: none"> • Properly clamp workpiece with Vise Ass'y [37].
		(i) Turn table is not fixed with side handle.	—	<ul style="list-style-type: none"> • During cutting, fix the Turn Table [26] in position with Side Handle [92] without fail.
		(j) Loose fitting of swiveling portion of hinge and gear case, or sluggish movement.	—	<ul style="list-style-type: none"> • Same as Item 1- (h).
		(k) Cutting operation becomes sluggish because workpiece is warped or bent.	—	<ul style="list-style-type: none"> • Correct warp or bend with planer.
		(l) Excessive vibration	—	<ul style="list-style-type: none"> • Recheck items (a), (c), (d) and (i).

Item	Phenomenon	Cause (s)	Factory standard	Inspection, repair or adjustment
3	Saw blade is locked.	(a) Excessively fast cutting speed	—	• Reduce cutting speed.
		(b) Core diameter of extension cord is too small.	—	• Use a thicker and shorter extension cord.
		(c) Excessive cutting force is applied due to dull saw blade.	—	• Resharpen saw blade.
		(d) 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.
		(e) The 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.	(a) Power cord is not connected to power supply.	—	• Check power supply voltage. • Connect the power cord to power supply.
		(b) Carbon brush wear exceeds allowable limit (6 mm).	—	• Check the Carbon Brushes [244] for wear. • Replace the Carbon Brushes [244].
		(c) Contact failure of the switch	—	• Check the Switch [268] for conductivity. • Replace the Switch [268].
5	Saw blade runs too slow (3,800 min ⁻¹ or less).	(a) Power supply voltage is lower than rated voltage.	—	• Check for power supply voltage. • Check if extension cord is appropriate. See Instruction Manual for appropriate extension cords.

Item	Phenomenon	Cause (s)	Factory standard	Inspection, repair or adjustment
6	Laser marker does not light.	(a) Improper wiring	—	• Check the wiring.
		(b) Switch failure	—	<ul style="list-style-type: none"> • Check the laser switch (w/cover) on the top of the Monitor [260] for conductivity. (Model C 12LSH) • Replace the Monitor [260]. (Model C 12LSH) • Check the Laser Switch (W/Cover) [319] on the side of Handle (R) [238] for conductivity. (Model C 12RSH) • Replace the Switch (W/Cover) [319]. (Model C 12RSH)
		(c) Switching power supply failure	—	<ul style="list-style-type: none"> • Check the Switching Power Supply [233] for conductivity, input and output referring to "11-4. Wiring Diagram". • Replace the Switching Power Supply [233].
		(d) Laser marker failure	—	• Replace the Laser Marker [198].
7	Laser light is poor or strong.	(a) Switching power supply failure	—	• Same as item 6- (c) .
		(b) Laser marker failure	—	• Same as item 6- (d) .
8	Laser line does not match the ink line.	(a) Ink line is not right angle.	—	• Make a correct ink line again.
		(b) Laser marker accuracy is not adjusted properly.	0.2/100 (Fig. 90 and Fig. 91)	• Readjust the accuracy of the laser marker. (Refer to "11-10. Adjustment of Laser Marker Accuracy".)
		(c) Product accuracy is not good.	—	<ul style="list-style-type: none"> • Readjust the accuracy of product and the laser marker. • If the forward position of the laser line is different from the backward position when sliding, Slide Pipe (A) [149] is not parallel with Slide Pipe (B) [166]. Replace Slide Pipe (A) [149] or Slide Pipe (B) [166].

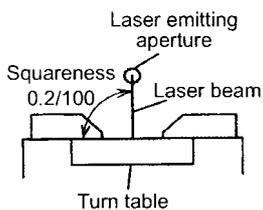


Fig. 90

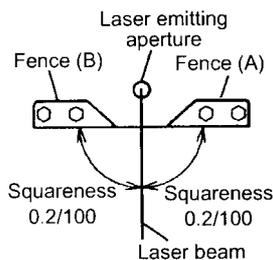


Fig. 91

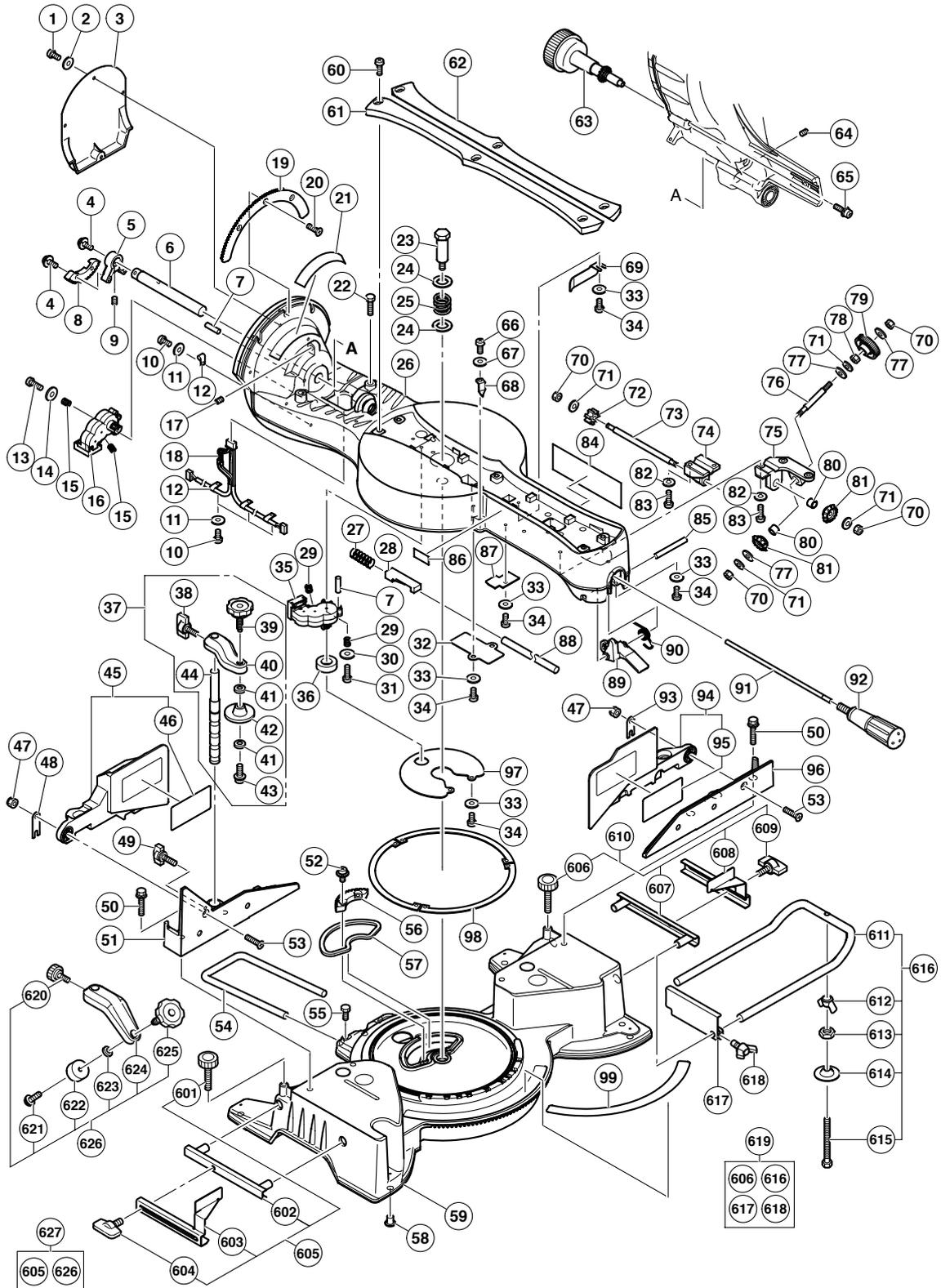
Item	Phenomenon	Cause (s)	Factory standard	Inspection, repair or adjustment
9	Laser line does not match the cutting position.	Ⓐ Laser marker is horizontally deviated from the saw blade.	—	<ul style="list-style-type: none"> Adjust the position of the laser line. (Refer to "8-4. Position Adjustment of Laser Line".)
		Ⓑ Laser marker accuracy is not adjusted properly.	0.2/100 (Figs. 90 and 91)	<ul style="list-style-type: none"> Same as item 8- Ⓑ.
10	Digital display does not indicate anything. (Only Model C 12LSH)	Ⓐ Improper wiring in the monitor, break in the internal wiring, monitor failure, or controller failure	—	<ul style="list-style-type: none"> Check the wiring. Replace Monitor [260].
		Ⓑ Switching power supply failure	—	<ul style="list-style-type: none"> Check the Switching Power Supply [233] for conductivity, input and output referring to "11-4. Wiring Diagram". Replace the Switching Power Supply [233].
11	Digital display does not indicate properly. (Only Model C 12LSH)	Ⓐ Same as item 10- Ⓐ to Ⓑ.	—	<ul style="list-style-type: none"> Same as item 10- Ⓐ to Ⓑ.
	(Miter angle)	Ⓑ Encoder failure	—	<ul style="list-style-type: none"> Replace the Encoder [35].
	(Bevel angle)			<ul style="list-style-type: none"> Replace the Encoder [16].
	(Miter angle)	Ⓒ Cord (B) or Cord (C) are disconnected.	—	<ul style="list-style-type: none"> Replace Cord (C) [18] or Cord (B) [168].
	(Bevel angle)			
12	Angle indicated on the digital display can not be reset. (Only Model C 12LSH)	Ⓐ Faulty switch on the circuit board in the monitor, monitor failure, or controller failure	—	<ul style="list-style-type: none"> Replace Monitor [260].
13	Back light of digital display can not be turned on/off. (Only Model C 12LSH)	Ⓐ Faulty switch on the circuit board in the monitor, monitor failure, or controller failure	—	<ul style="list-style-type: none"> Replace Monitor [260].

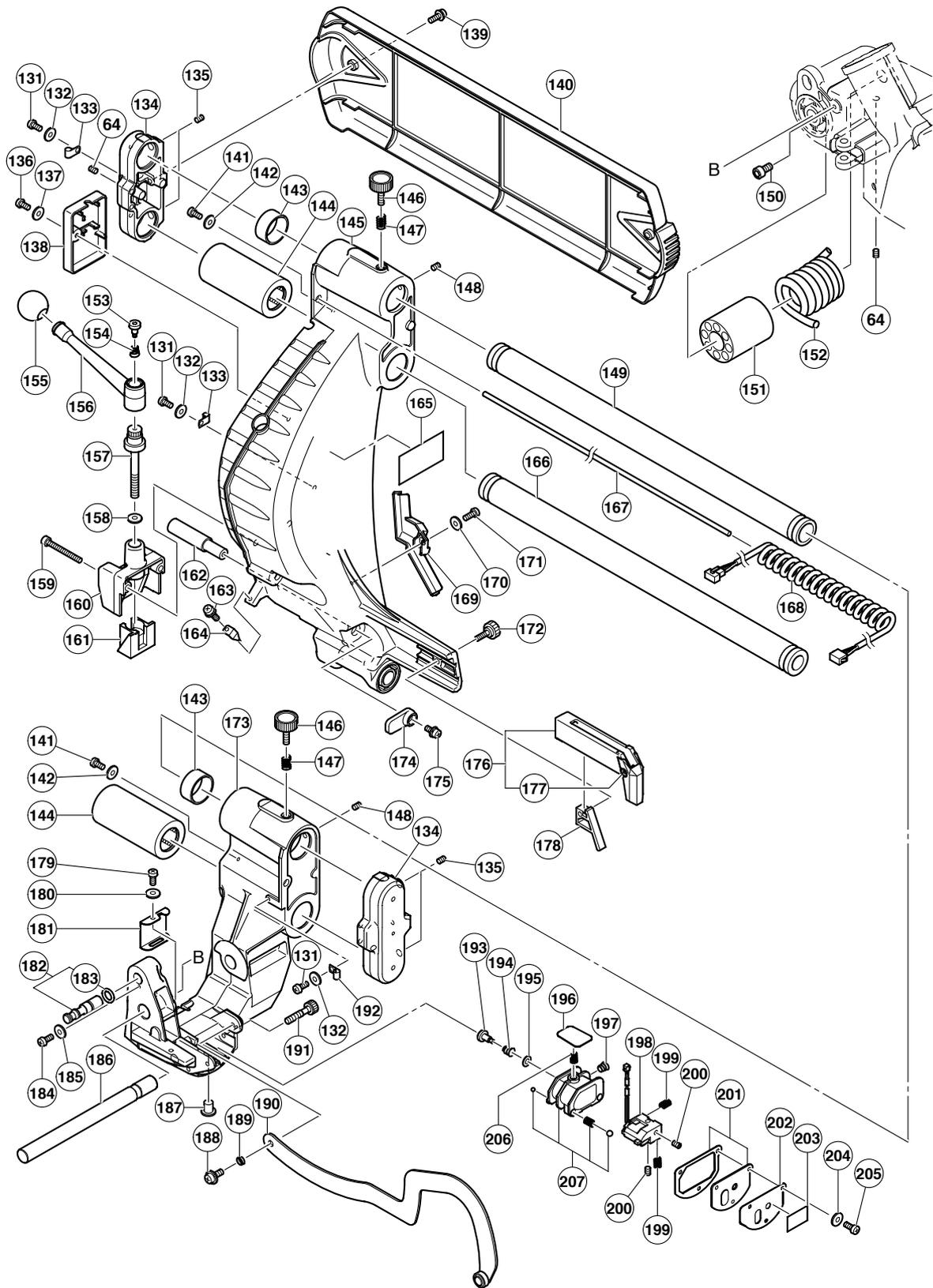
13. STANDARD REPAIR TIME (UNIT) SCHEDULES

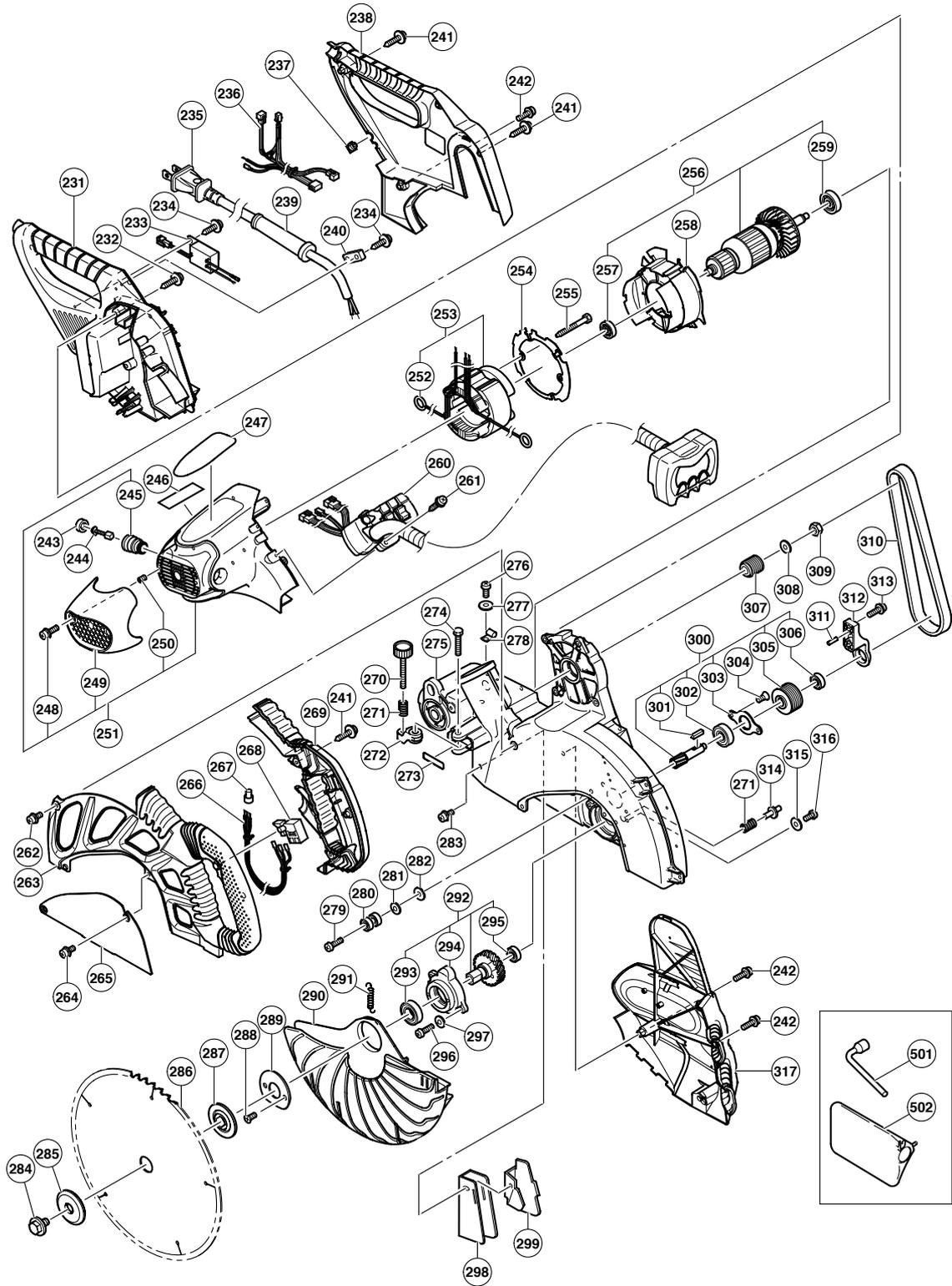
MODEL	Variable Fixed	10	20	30	40	50	60 min.
<div style="border: 1px solid black; border-radius: 10px; padding: 2px; display: inline-block;">C 12RSH</div> <div style="border: 1px solid black; border-radius: 10px; padding: 2px; display: inline-block;">C 12LSH</div>		Work Flow					
		Switch Handle (L) Switch Handle (R)	Switch				
		Link Ball Bearing (606ZZ) Cover Safety Cover (B) Return Spring Dust Guide Guide Holder	Spindle Ass'y	Ball Bearing (6003DD) Bearing Holder Ball Bearing (608VV)			
	General Assembly	Cord Armor Handle (R) Switch (W/Cover) [C 12RSH] Pulley Cover Belt Monitor [C 12LSH]	Cord Spring Sleeve Shaft (C) Pulley (A) Bearing Holder (B) Pulley (B) Ball Bearing (608VV) Stopper Pin	Switching Power Supply Handle (L) Armature Ass'y Ball Bearing (6201VV) Pinion Ass'y	Ball Bearing (6000VV) Ball Bearing (6201VV)	Stator Ass'y Housing Ass'y	Gear Case
		Clamp Lever Bolt Stopper Holder (C) Cover Stopper Pin Ass'y Side Cover	Holder Shaft Shaft (C) Support (E) [C 12LSH] Gear (A) [C 12LSH]	Support Shaft (D) [C 12LSH] Cord (B) [C 12LSH]		Holder (A) Hinge (A) Bushing Ball Bushing Laser Marker Holder (B) Slide Pipe (A) Slide Pipe (B)	
		Table Insert (B) Table Insert (A)	Shaft (B) Spring (B) Fence (B) Fence (A) Sub Fence (A) Ass'y Sub Fence (B) Ass'y	Liner Encoder [C 12LSH]		Turn Table Base Ass'y	
		Spacer (A) Guard Ass'y Guard Holder	Shaft (A)				
		Vise Plate Vise Shaft					

ELECTRIC TOOL PARTS LIST

SLIDE COMPOUND MITER SAW 2005 · 5 · 20 Model C 12LSH (E1)







PARTS

C 12LSH

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
1	949-217	MACHINE SCREW M4X12 (10 PCS.)	4	
2	949-429	BOLT WASHER M4 (10 PCS.)	4	
3	324-371	COVER (B)	1	
4	987-512	MACHINE SCREW (W/SP. WASHER) M5X16	3	
5	324-390	SUPPORT (E)	1	
6	324-391	HOLDER SHAFT	1	
7	305-592	NEEDLE D5X19.8	2	
8	323-604	GEAR (A)	1	
9	307-956	SEAL LOCK HEX. SOCKET SET SCREW M6X10	1	
10	949-217	MACHINE SCREW M4X12 (10 PCS.)	4	
11	949-429	BOLT WASHER M4 (10 PCS.)	4	
12	973-313	NYLON CLIP	4	
13	949-241	MACHINE SCREW M5X20 (10 PCS.)	1	
14	949-432	BOLT WASHER M6 (10 PCS.)	1	
15	324-392	SPRING (C)	2	
16	323-619	ENCODER	1	
17	324-612	NYLOCK HEX. SOCKET SET SCREW M8X16	1	
18	324-398	CORD (C)	1	
19	324-399	GEAR (A)	1	
20	949-325	FLAT HD. SCREW M4X16 (10 PCS.)	3	
21	324-416	SCALE (B)	1	
22	303-409	NYLOCK BOLT M8X25	2	
23	324-401	SHAFT (B)	1	
24	955-818	BOLT WASHER M16	2	
25	324-402	SPRING (B)	1	
26	324-394	TURN TABLE	1	
27	321-417	SPRING (E)	1	
28	322-280	STOPPER (A)	1	
29	324-392	SPRING (C)	2	
30	949-432	BOLT WASHER M6 (10 PCS.)	1	
31	949-241	MACHINE SCREW M5X20 (10 PCS.)	1	
32	321-336	PIN COVER	1	
33	949-429	BOLT WASHER M4 (10 PCS.)	5	
34	949-215	MACHINE SCREW M4X8 (10 PCS.)	5	
35	323-619	ENCODER	1	
36	323-622	PACKING (B)	1	
37	324-378	WISE ASS'Y	1	INCLUD. 38-44
38	307-947	WING BOLT	1	
39	308-396	KNOB BOLT M10	1	
40		SCREW HOLDER	1	
41	996-722	WASHER	2	
42	322-047	WISE PLATE	1	
43	996-247	MACHINE SCREW (W/WASHERS) M5X12 (BLACK)	1	
44	324-380	WISE SHAFT	1	
45	324-454	SUB FENCE (B) ASS'Y	1	INCLUD. 46
46		WARNING LABEL (J)	1	
47	311-144	NYLON NUT M6	2	
48	324-377	PLATE (B)	1	
49	302-459	WING BOLT M6X17	1	
50	307-221	BOLT (W/WASHERS) M8X35 (BLACK)	4	
51	324-385	FENCE (B)	1	

PARTS

C 12LSH

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
52	987-512	MACHINE SCREW (W/SP. WASHER) M5X16	2	
53	949-342	FLAT HD. SCREW M6X25 (10 PCS.)	2	
54	998-834	HOLDER	1	
55	949-610	BOLT M6X10 (10 PCS.)	1	
56	323-604	GEAR (A)	1	
57	323-603	PACKING (A)	1	
58	312-672	BASE RUBBER	4	
59	324-393	BASE ASS'Y	1	INCLUD. 52, 56-58, 99
60	302-317	MACHINE SCREW M5X16 (BLACK)	6	
61	324-411	TABLE INSERT (B)	1	
62	324-410	TABLE INSERT (A)	1	
63	324-370	KNOB (B)	1	
64	307-956	SEAL LOCK HEX. SOCKET SET SCREW M6X10	3	
65	307-294	MACHINE SCREW (W/WASHERS) M5X16 (BLACK)	1	
66	949-217	MACHINE SCREW M4X12 (10 PCS.)	1	
67	949-429	BOLT WASHER M4 (10 PCS.)	1	
68	321-329	INDICATOR	1	
69	321-342	SPACER (A)	1	
70	949-567	LOCK NUT M6 (10 PCS.)	4	
71	949-455	SPRING WASHER M6 (10 PCS.)	4	
72	324-407	GEAR (D)	1	
73	324-405	BEVEL SHAFT (B)	1	
74	324-404	SHAFT HOLDER (B)	1	
75	324-403	SHAFT HOLDER (A)	1	
76	324-408	BEVEL SHAFT (A)	1	
77	949-432	BOLT WASHER M6 (10 PCS.)	3	
78	949-556	NUT M6 (10 PCS.)	1	
79	324-409	KNOB (A)	1	
80	950-817	METAL D8X10	2	
81	324-406	BEVEL GEAR	2	
82	949-454	SPRING WASHER M5 (10 PCS.)	4	
83	949-241	MACHINE SCREW M5X20 (10 PCS.)	4	
84		LABEL (A)	1	
85	321-339	LEVER SHAFT	1	
86		CAUTION LABEL (K)	1	
87	324-395	COVER (B)	1	
88	324-396	SHAFT (C)	1	
89	321-338	LEVER	1	
90	321-340	SPRING (D)	1	
91	322-282	SHAFT (A)	1	
92	322-283	SIDE HANDLE	1	
93	324-381	PLATE (A)	1	
94	324-455	SUB FENCE (A) ASS'Y	1	INCLUD. 95
95		WARNING LABEL (H)	1	
96	324-384	FENCE (A)	1	
97	323-623	DUST COVER	1	
98	324-400	LINER	3	
99	315-210	SCALE (A)	1	
131	949-217	MACHINE SCREW M4X12 (10 PCS.)	1	
132	949-429	BOLT WASHER M4 (10 PCS.)	1	
133	948-193	NYLON CLIP	2	

PARTS

C 12LSH

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
134	324-417	SUPPORT	2	
135	961-554	HEX. SOCKET SET SCREW M8X10	4	
136	949-217	MACHINE SCREW M4X12 (10 PCS.)	1	
137	949-429	BOLT WASHER M4 (10 PCS.)	1	
138	324-389	COVER (D)	1	
139	307-294	MACHINE SCREW (W/WASHERS) M5X16 (BLACK)	2	
140	324-383	SIDE COVER	1	
141	949-215	MACHINE SCREW M4X8 (10 PCS.)	2	
142	949-429	BOLT WASHER M4 (10 PCS.)	2	
143	324-415	BUSHING	2	
144	324-414	BALL BUSHING	2	
145	324-413	HOLDER (A)	1	
146	324-418	KNOB BOLT M6X25	2	
147	947-859	LOCK SPRING	2	
148	307-956	SEAL LOCK HEX. SOCKET SET SCREW M6X10	2	
149	324-465	SLIDE PIPE (A)	1	
150	877-839	SEAL LOCK HEX. SOCKET HD. BOLT M5X10	1	
151	324-388	SLEEVE	1	
152	310-898	SPRING	1	
153	305-180	CLUTCH SCREW	1	
154	305-179	CLUTCH SPRING	1	
155	968-636	GRIP (B)	1	
156	310-890	CLAMP LEVER	1	
157	323-903	BOLT M8X65	1	
158	949-433	BOLT WASHER M8 (10 PCS.)	1	
159	949-782	HEX. SOCKET HD. BOLT M6X50 (10 PCS.)	2	
160	323-904	STOPPER HOLDER (C)	1	
161	323-905	STOPPER (C)	1	
162	324-420	SET PIN (A)	1	
163	935-196	MACHINE SCREW (W/WASHERS) M4X12 (BLACK)	2	
164	321-329	INDICATOR	2	
165		CAUTION LABEL (B)	1	
166	324-466	SLIDE PIPE (B)	1	
167	324-386	SHAFT (D)	1	
168	324-423	CORD (B)	1	
169	324-382	CORD COVER	1	
170	949-429	BOLT WASHER M4 (10 PCS.)	1	
171	949-219	MACHINE SCREW M4X16 (10 PCS.)	1	
172	998-879	KNOB BOLT	1	
173	324-467	HINGE (A)	1	
174	324-421	GRIP	1	
175	307-294	MACHINE SCREW (W/WASHERS) M5X16 (BLACK)	1	
176	324-372	GUARD ASS'Y	1	INCLUD. 177
177	998-850	FLAT HD. SCREW (BRASS) M4X6	2	
178	321-394	GUARD HOLDER	1	
179	949-215	MACHINE SCREW M4X8 (10 PCS.)	1	
180	949-429	BOLT WASHER M4 (10 PCS.)	1	
181	320-183	COVER	1	
182	324-419	STOPPER PIN ASS'Y	1	INCLUD. 183
183	872-645	O-RING (P-9)	1	
184	949-215	MACHINE SCREW M4X8 (10 PCS.)	1	

PARTS

C 12LSH

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
185	949-429	BOLT WASHER M4 (10 PCS.)	1	
186	324-387	HINGE SHAFT (A)	1	
187	312-672	BASE RUBBER	1	
188	949-237	MACHINE SCREW M5X12 (10 PCS.)	1	
189	303-854	SPACER	1	
190	324-376	LINK	1	
191	319-270	ADJUSTER	1	
192	973-313	NYLON CLIP	1	
193	305-180	CLUTCH SCREW	1	
194	305-179	CLUTCH SPRING	1	
195	962-614	ADJUSTING WASHER (B) T0.5	1	
196	319-268	PLATE (B)	1	
197	305-179	CLUTCH SPRING	1	
198	321-348	LASER MARKER	1	
199	319-267	SPRING	2	
200	319-541	SEAL LOCK HEX. SOCKET SET SCREW M5X6	2	
201	319-271	COVER (A)	1	
202	322-291	PLATE (A)	1	
203		CAUTION LABEL (J)	1	
204	949-429	BOLT WASHER M4 (10 PCS.)	3	
205	949-217	MACHINE SCREW M4X12 (10 PCS.)	3	
206	319-267	SPRING	1	
207	319-269	HOLDER (B)	1	
231	324-446	HANDLE (L)	1	
232	305-558	TAPPING SCREW (W/FLANGE) D5X25 (BLACK)	4	
233	322-911	SWITCHING POWER SUPPLY	1	
234	984-750	TAPPING SCREW (W/FLANGE) D4X16	3	
235	500-453Z	CORD	1	(CORD ARMOR D10.1)
236	324-422	INTERNAL WIRE (B)	1	
237	319-349	CORD BUSH	1	
238	324-447	HANDLE (R)	1	
239	938-051	CORD ARMOR D10.1	1	
240	937-631	CORD CLIP	1	
241	301-653	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	6	
242	880-734	MACHINE SCREW (W/WASHERS) M5X25 (BLACK)	5	
243	945-161	BRUSH CAP	2	
244	999-038	CARBON BRUSH (1 PAIR)	2	
245	938-241	BRUSH HOLDER	2	
246		CAUTION LABEL (A)	1	
247		NAME PLATE	1	
248	990-541	MACHINE SCREW (W/WASHERS) M5X16	2	
249	324-445	TAIL COVER	1	
250	938-477	HEX. SOCKET SET SCREW M5X8	2	
251	324-444	HOUSING ASS'Y	1	INCLUD. 245, 248-250
252	937-623	BRUSH TERMINAL	2	
253	340-626C	STATOR ASS'Y 120V	1	INCLUD. 252
254	324-397	END PLATE	1	
255	953-121	HEX. HD. TAPPING SCREW D5X50	2	
256	360-711U	ARMATURE ASS'Y 120V	1	INCLUD. 257, 259, 307-309
257	600-0VV	BALL BEARING 6000VVCMP2L	1	
258	324-442	FAN GUIDE	1	

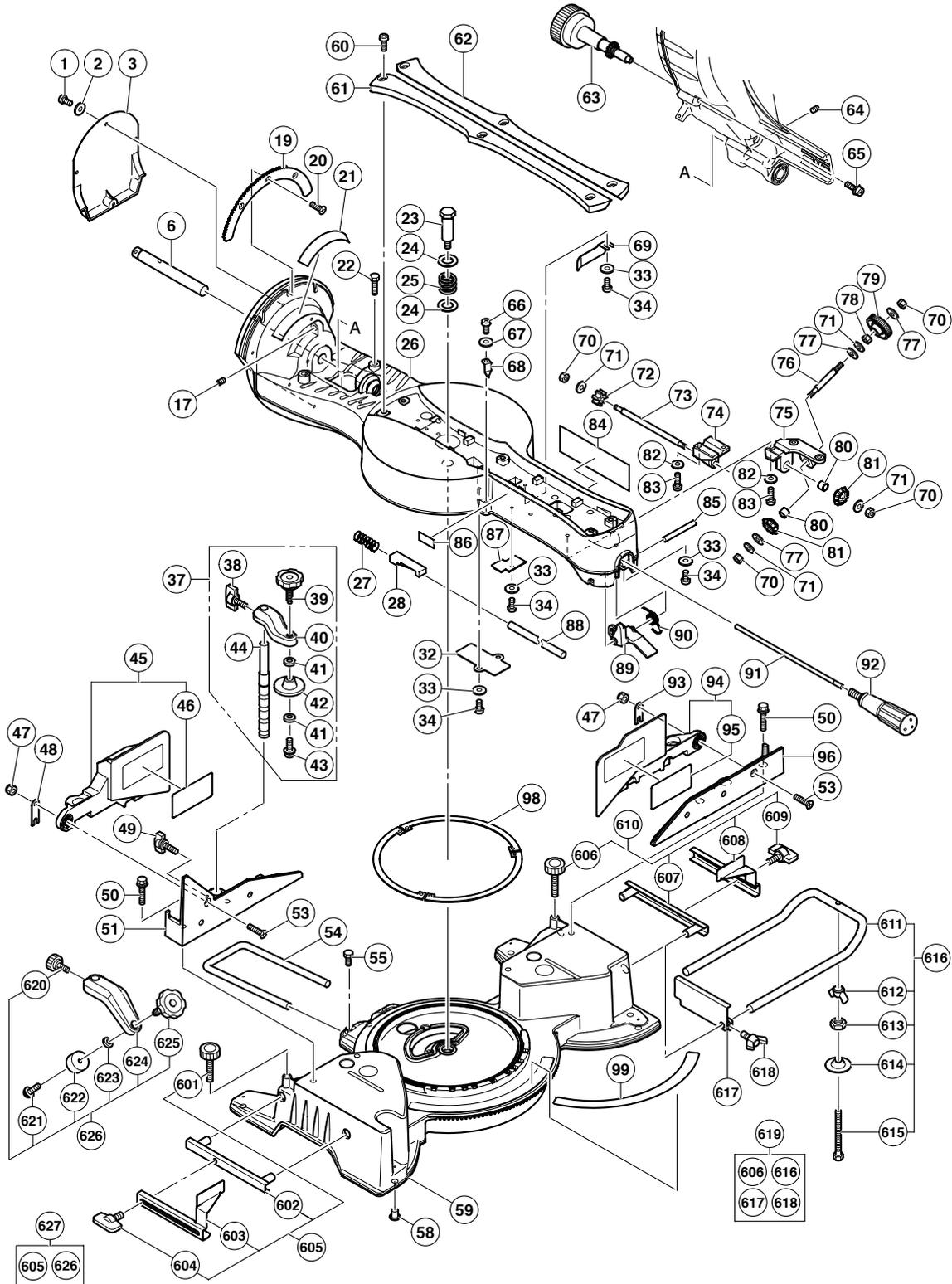
PARTS

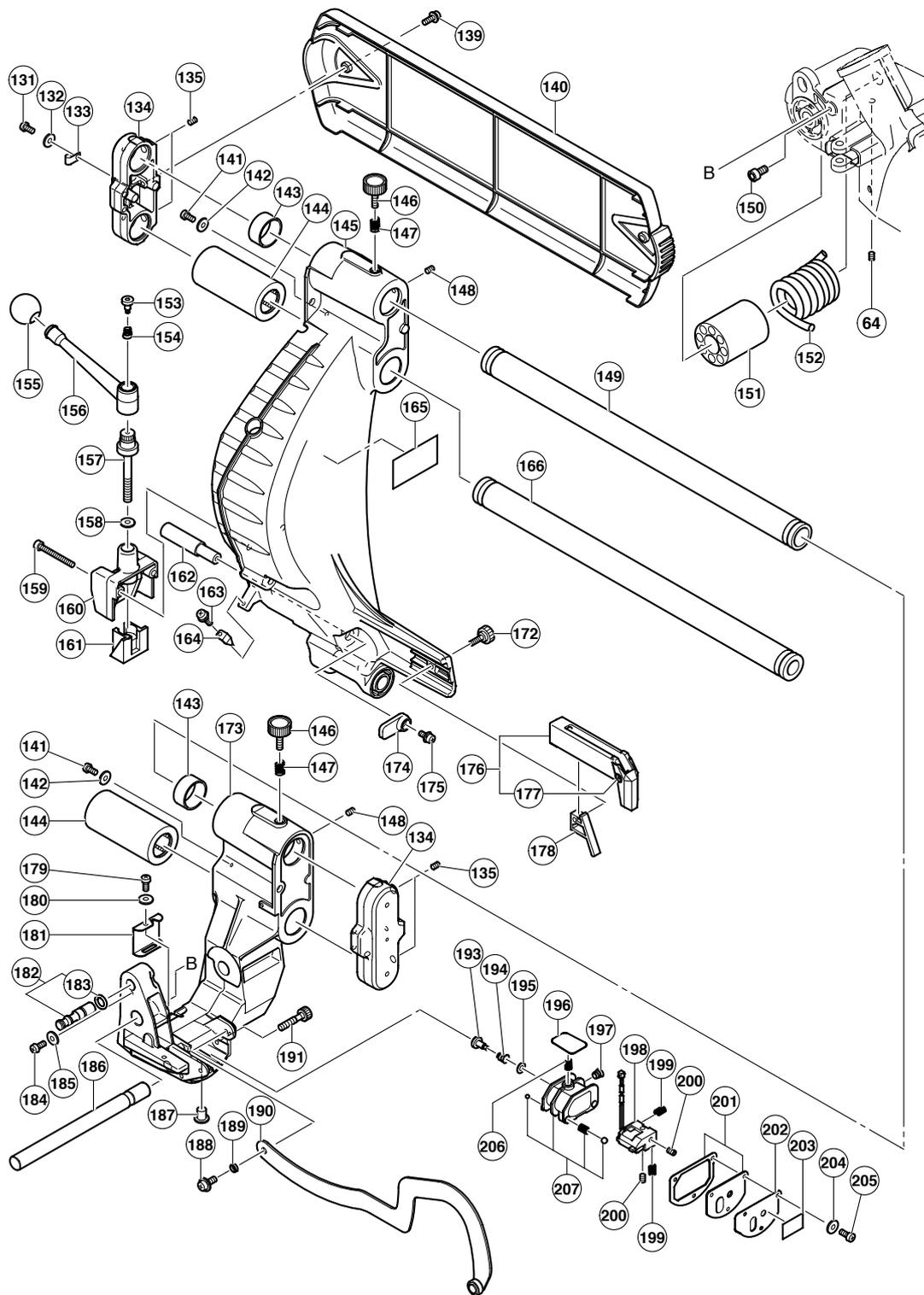
C 12LSH

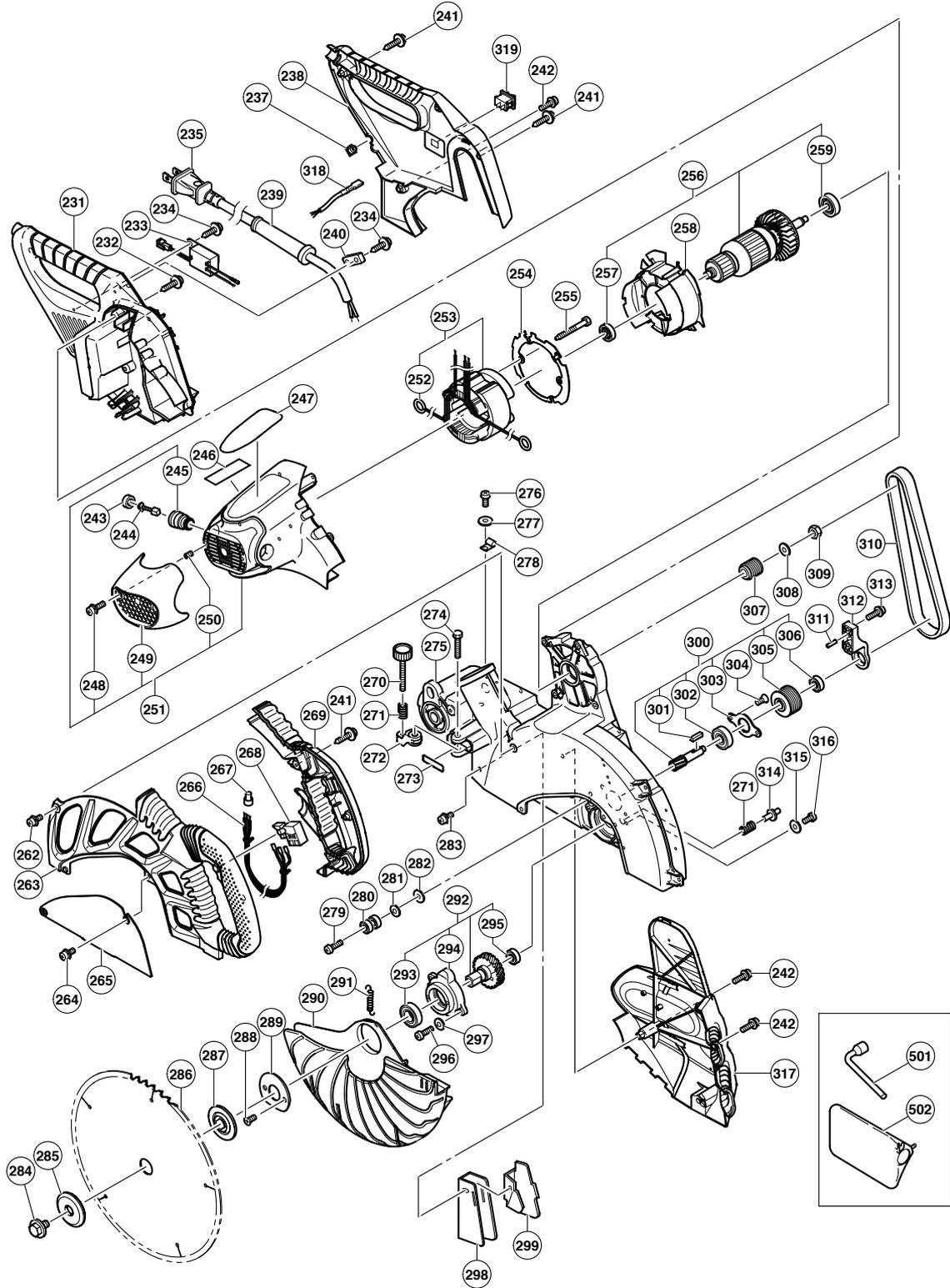
ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
259	620-1VV	BALL BEARING 6201VVCMP2L	1	
260	324-426	MONITOR	1	
261	305-490	TAPPING SCREW (W/FLANGE) D4X30 (BLACK)	2	
262	976-706	MACHINE SCREW (W/WASHERS) M5X10	1	
263	324-448	SWITCH HANDLE (L)	1	
264	996-247	MACHINE SCREW (W/WASHERS) M5X12 (BLACK)	2	
265	324-453	SPINDLE COVER	1	
266	324-425	INTERNAL WIRE (A)	1	
267	959-141	CONNECTOR 50092 (10 PCS.)	4	
268	324-424	SWITCH (3P FASTON TYPE) W/O LOCK	1	
269	324-449	SWITCH HANDLE (R)	1	
270	961-468	KNOB BOLT M6X37	1	
271	988-821	LOCK SPRING	2	
272	322-314	STOPPER HOLDER	1	
273	322-313	SPRING PLATE	1	
274	303-410	NYLOCK BOLT M8X40	1	
275	324-437	GEAR CASE	1	
276	949-217	MACHINE SCREW M4X12 (10 PCS.)	1	
277	949-429	BOLT WASHER M4 (10 PCS.)	1	
278	973-313	NYLON CLIP	1	
279	949-260	MACHINE SCREW M6X25 (10 PCS.)	1	
280	606-ZZM	BALL BEARING 606ZZC2PS2L	2	
281	949-455	SPRING WASHER M6 (10 PCS.)	1	
282	949-425	WASHER M6 (10 PCS.)	1	
283	935-196	MACHINE SCREW (W/WASHERS) M4X12 (BLACK)	1	
284	988-101	BOLT (A) M10	1	
285	323-652	WASHER (B)	1	
286		TCT SAW BLADE 305MM-D25.4 HOLE-NT60	1	
287	324-452	WASHER (A)	1	
288	949-322	FLAT HD. SCREW M4X10 (10 PCS.)	2	
289	307-731	COVER	1	
290	324-375	PROTECTIVE COVER	1	
291	322-453	RETURN SPRING (A)	1	
292	324-438	SPINDLE ASS'Y	1	INCLUD. 293-295
293	600-3DD	BALL BEARING 6003DDCMPS2S	1	
294	324-439	BEARING HOLDER	1	
295	608-VVM	BALL BEARING 608VVC2PS2L	1	
296	949-241	MACHINE SCREW M5X20 (10 PCS.)	2	
297	949-454	SPRING WASHER M5 (10 PCS.)	2	
298	321-364	DUST GUIDE	1	
299	312-492	GUIDE HOLDER	1	
300	324-440	PINION ASS'Y	1	INCLUD. 301-303, 305, 306
301	948-919	FEATHER KEY 4X4X15	1	
302	620-1VV	BALL BEARING 6201VVCMP2L	1	
303	322-301	COVER (C)	1	
304	949-322	FLAT HD. SCREW M4X10 (10 PCS.)	2	
305	324-441	PULLEY (B)	1	
306	321-399	BALL BEARING 608VVC2NS7L	1	
307	324-443	PULLEY (A)	1	
308	961-157	SUPER LOCK WASHER	1	
309	949-560	NUT M10 (10 PCS.)	1	

ELECTRIC TOOL PARTS LIST

SLIDE COMPOUND MITER SAW 2005 · 5 · 20 Model C 12RSH (E1)







PARTS

C 12RSH

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
1	949-217	MACHINE SCREW M4X12 (10 PCS.)	4	
2	949-429	BOLT WASHER M4 (10 PCS.)	4	
3	324-371	COVER (B)	1	
6	324-391	HOLDER SHAFT	1	
17	324-612	NYLOCK HEX. SOCKET SET SCREW M8X16	1	
19	324-399	GEAR (A)	1	
20	949-325	FLAT HD. SCREW M4X16 (10 PCS.)	3	
21	324-416	SCALE (B)	1	
22	303-409	NYLOCK BOLT M8X25	2	
23	324-401	SHAFT (B)	1	
24	955-818	BOLT WASHER M16	2	
25	324-402	SPRING (B)	1	
26	324-394	TURN TABLE	1	
27	321-417	SPRING (E)	1	
28	322-280	STOPPER (A)	1	
32	321-336	PIN COVER	1	
33	949-429	BOLT WASHER M4 (10 PCS.)	4	
34	949-215	MACHINE SCREW M4X8 (10 PCS.)	4	
37	324-378	WISE ASS'Y	1	INCLUD. 38-44
38	307-947	WING BOLT	1	
39	308-396	KNOB BOLT M10	1	
40		SCREW HOLDER	1	
41	996-722	WASHER	2	
42	322-047	WISE PLATE	1	
43	996-247	MACHINE SCREW (W/WASHERS) M5X12 (BLACK)	1	
44	324-380	WISE SHAFT	1	
45	324-454	SUB FENCE (B) ASS'Y	1	INCLUD. 46
46		WARNING LABEL (J)	1	
47	311-144	NYLON NUT M6	2	
48	324-377	PLATE (B)	1	
49	302-459	WING BOLT M6X17	1	
50	307-221	BOLT (W/WASHERS) M8X35 (BLACK)	4	
51	324-385	FENCE (B)	1	
53	949-342	FLAT HD. SCREW M6X25 (10 PCS.)	2	
54	998-834	HOLDER	1	
55	949-610	BOLT M6X10 (10 PCS.)	1	
58	312-672	BASE RUBBER	1	
59	324-456	BASE ASS'Y	1	INCLUD. 58, 99
60	302-317	MACHINE SCREW M5X16 (BLACK)	6	
61	324-411	TABLE INSERT (B)	1	
62	324-410	TABLE INSERT (A)	1	
63	324-370	KNOB (B)	1	
64	307-956	SEAL LOCK HEX. SOCKET SET SCREW M6X10	2	
65	307-294	MACHINE SCREW (W/WASHERS) M5X16 (BLACK)	1	
66	949-217	MACHINE SCREW M4X12 (10 PCS.)	1	
67	949-429	BOLT WASHER M4 (10 PCS.)	1	
68	321-329	INDICATOR	1	
69	321-342	SPACER (A)	1	
70	949-567	LOCK NUT M6 (10 PCS.)	4	
71	949-455	SPRING WASHER M6 (10 PCS.)	4	
72	324-407	GEAR (D)	1	

PARTS

C 12RSH

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
73	324-405	BEVEL SHAFT (B)	1	
74	324-404	SHAFT HOLDER (B)	1	
75	324-403	SHAFT HOLDER (A)	1	
76	324-408	BEVEL SHAFT (A)	1	
77	949-432	BOLT WASHER M6 (10 PCS.)	3	
78	949-556	NUT M6 (10 PCS.)	1	
79	324-409	KNOB (A)	1	
80	950-817	METAL D8X10	2	
81	324-406	BEVEL GEAR	2	
82	949-454	SPRING WASHER M5 (10 PCS.)	4	
83	949-241	MACHINE SCREW M5X20 (10 PCS.)	4	
84		LABEL (A)	1	
85	321-339	LEVER SHAFT	1	
86		CAUTION LABEL (K)	1	
87	324-395	COVER (B)	1	
88	324-396	SHAFT (C)	1	
89	321-338	LEVER	1	
90	321-340	SPRING (D)	1	
91	322-282	SHAFT (A)	1	
92	322-283	SIDE HANDLE	1	
93	324-381	PLATE (A)	1	
94	324-455	SUB FENCE (A) ASS'Y	1	INCLUD. 95
95		WARNING LABEL (H)	1	
96	324-384	FENCE (A)	1	
98	324-400	LINER	3	
99	315-210	SCALE (A)	1	
131	949-217	MACHINE SCREW M4X12 (10 PCS.)	1	
132	949-429	BOLT WASHER M4 (10 PCS.)	1	
133	948-193	NYLON CLIP	1	
134	324-417	SUPPORT	2	
135	961-554	HEX. SOCKET SET SCREW M8X10	4	
139	307-294	MACHINE SCREW (W/WASHERS) M5X16 (BLACK)	2	
140	324-383	SIDE COVER	1	
141	949-215	MACHINE SCREW M4X8 (10 PCS.)	2	
142	949-429	BOLT WASHER M4 (10 PCS.)	2	
143	324-415	BUSHING	2	
144	324-414	BALL BUSHING	2	
145	324-413	HOLDER (A)	1	
146	324-418	KNOB BOLT M6X25	2	
147	947-859	LOCK SPRING	2	
148	307-956	SEAL LOCK HEX. SOCKET SET SCREW M6X10	2	
149	324-465	SLIDE PIPE (A)	1	
150	877-839	SEAL LOCK HEX. SOCKET HD. BOLT M5X10	1	
151	324-388	SLEEVE	1	
152	310-898	SPRING	1	
153	305-180	CLUTCH SCREW	1	
154	305-179	CLUTCH SPRING	1	
155	968-636	GRIP (B)	1	
156	312-488	CLAMP LEVER	1	
157	323-903	BOLT M8X65	1	
158	949-433	BOLT WASHER M8 (10 PCS.)	1	

PARTS

C 12RSH

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
159	949-782	HEX. SOCKET HD. BOLT M6X50 (10 PCS.)	2	
160	323-904	STOPPER HOLDER (C)	1	
161	323-905	STOPPER (C)	1	
162	324-420	SET PIN (A)	1	
163	935-196	MACHINE SCREW (W/WASHERS) M4X12 (BLACK)	2	
164	321-329	INDICATOR	2	
165		CAUTION LABEL (B)	1	
166	324-466	SLIDE PIPE (B)	1	
172	998-879	KNOB BOLT	1	
173	324-467	HINGE (A)	1	
174	324-421	GRIP	1	
175	307-294	MACHINE SCREW (W/WASHERS) M5X16 (BLACK)	1	
176	324-372	GUARD ASS'Y	1	INCLUD. 177
177	998-850	FLAT HD. SCREW (BRASS) M4X6	2	
178	321-394	GUARD HOLDER	1	
179	949-215	MACHINE SCREW M4X8 (10 PCS.)	1	
180	949-429	BOLT WASHER M4 (10 PCS.)	1	
181	320-183	COVER	1	
182	324-419	STOPPER PIN ASS'Y	1	INCLUD. 183
183	872-645	O-RING (P-9)	1	
184	949-215	MACHINE SCREW M4X8 (10 PCS.)	1	
185	949-429	BOLT WASHER M4 (10 PCS.)	1	
186	324-387	HINGE SHAFT (A)	1	
187	312-672	BASE RUBBER	1	
188	949-237	MACHINE SCREW M5X12 (10 PCS.)	1	
189	303-854	SPACER	1	
190	324-376	LINK	1	
191	319-270	ADJUSTER	1	
193	305-180	CLUTCH SCREW	1	
194	305-179	CLUTCH SPRING	1	
195	962-614	ADJUSTING WASHER (B) T0.5	1	
196	319-268	PLATE (B)	1	
197	305-179	CLUTCH SPRING	1	
198	321-348	LASER MARKER	1	
199	319-267	SPRING	2	
200	319-541	SEAL LOCK HEX. SOCKET SET SCREW M5X6	2	
201	319-271	COVER (A)	1	
202	322-291	PLATE (A)	1	
203		CAUTION LABEL (J)	1	
204	949-429	BOLT WASHER M4 (10 PCS.)	3	
205	949-217	MACHINE SCREW M4X12 (10 PCS.)	3	
206	319-267	SPRING	1	
207	319-269	HOLDER (B)	1	
231	324-460	HANDLE (L)	1	
232	305-558	TAPPING SCREW (W/FLANGE) D5X25 (BLACK)	4	
233	322-911	SWITCHING POWER SUPPLY	1	
234	984-750	TAPPING SCREW (W/FLANGE) D4X16	3	
235	500-453Z	CORD	1	
237	319-349	CORD BUSH	1	
238	324-461	HANDLE (R)	1	
239	938-051	CORD ARMOR D10.1	1	

PARTS

C 12RSH

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS
240	937-631	CORD CLIP	1	
241	301-653	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	6	
242	880-734	MACHINE SCREW (W/WASHERS) M5X25 (BLACK)	5	
243	945-161	BRUSH CAP	2	
244	999-038	CARBON BRUSH (1 PAIR)	2	
245	938-241	BRUSH HOLDER	2	
246		CAUTION LABEL (A)	1	
247		NAME PLATE	1	
248	990-541	MACHINE SCREW (W/WASHERS) M5X16	2	
249	324-445	TAIL COVER	1	
250	938-477	HEX. SOCKET SET SCREW M5X8	2	
251	324-459	HOUSING ASS'Y	1	INCLUD. 245, 248-250
252	937-623	BRUSH TERMINAL	2	
253	340-626C	STATOR ASS'Y 120V	1	INCLUD. 252
254	324-397	END PLATE	1	
255	953-121	HEX. HD. TAPPING SCREW D5X50	2	
256	360-711U	ARMATURE ASS'Y 120V	1	INCLUD. 257, 259, 307-309
257	600-0VV	BALL BEARING 6000VVCMP2L	1	
258	324-442	FAN GUIDE	1	
259	620-1VV	BALL BEARING 6201VVCMP2L	1	
262	976-706	MACHINE SCREW (W/WASHERS) M5X10	1	
263	324-448	SWITCH HANDLE (L)	1	
264	996-247	MACHINE SCREW (W/WASHERS) M5X12 (BLACK)	2	
265	324-462	SPINDLE COVER	1	
266	324-425	INTERNAL WIRE (A)	1	
267	959-141	CONNECTOR 50092 (10 PCS.)	4	
268	324-424	SWITCH (3P FASTON TYPE) W/O LOCK	1	
269	324-449	SWITCH HANDLE (R)	1	
270	961-468	KNOB BOLT M6X37	1	
271	988-821	LOCK SPRING	2	
272	322-314	STOPPER HOLDER	1	
273	322-313	SPRING PLATE	1	
274	303-410	NYLOCK BOLT M8X40	1	
275	324-437	GEAR CASE	1	
276	949-217	MACHINE SCREW M4X12 (10 PCS.)	1	
277	949-429	BOLT WASHER M4 (10 PCS.)	1	
278	973-313	NYLON CLIP	1	
279	949-260	MACHINE SCREW M6X25 (10 PCS.)	1	
280	606-ZZM	BALL BEARING 606ZZC2PS2L	2	
281	949-455	SPRING WASHER M6 (10 PCS.)	1	
282	949-425	WASHER M6 (10 PCS.)	1	
283	935-196	MACHINE SCREW (W/WASHERS) M4X12 (BLACK)	1	
284	988-101	BOLT (A) M10	1	
285	323-652	WASHER (B)	1	
286		TCT SAW BLADE 305MM-D25.4 HOLE-NT60	1	
287	324-452	WASHER (A)	1	
288	949-322	FLAT HD. SCREW M4X10 (10 PCS.)	2	
289	307-731	COVER	1	
290	324-375	PROTECTIVE COVER	1	
291	315-710	RETURN SPRING	1	
292	324-438	SPINDLE ASS'Y	1	INCLUD. 293-295

