



MODEL C 8FC

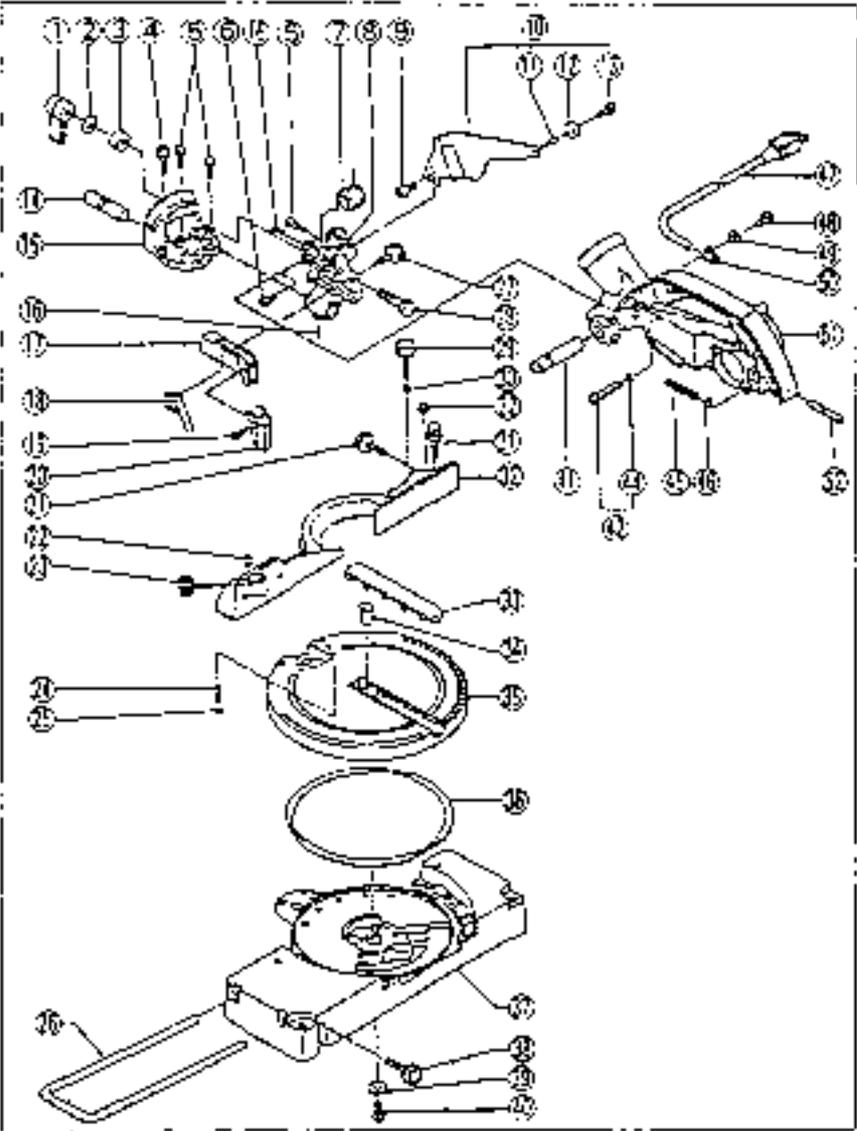
1. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY:

Points requiring particular attention in disassembly and reassembly are described below. The circled numbers in the descriptions correspond to the item numbers in the Parts List and exploded assembly diagrams.

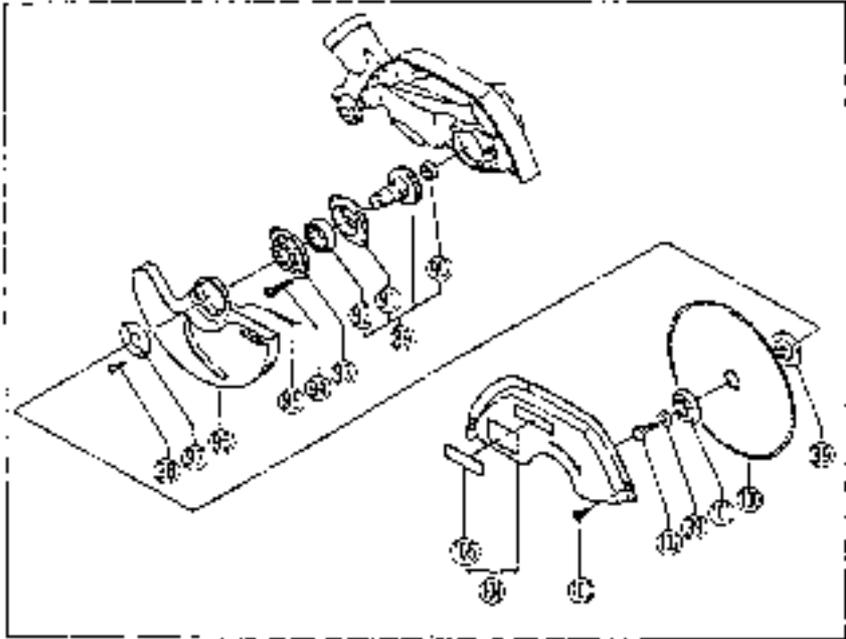
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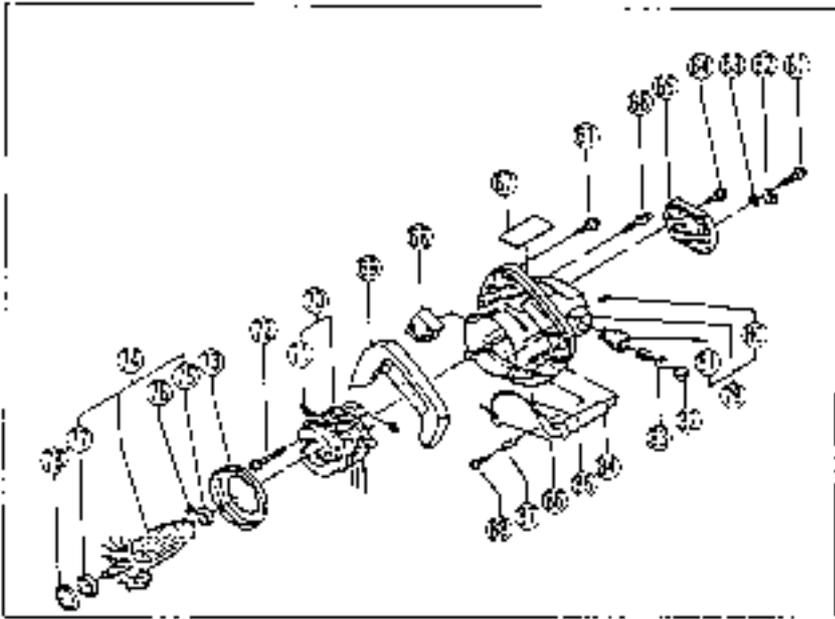
Prior to attempting disassembly (including replacement of the saw blade), ensure that the machine is turned OFF and the plug is disconnected from the power source.

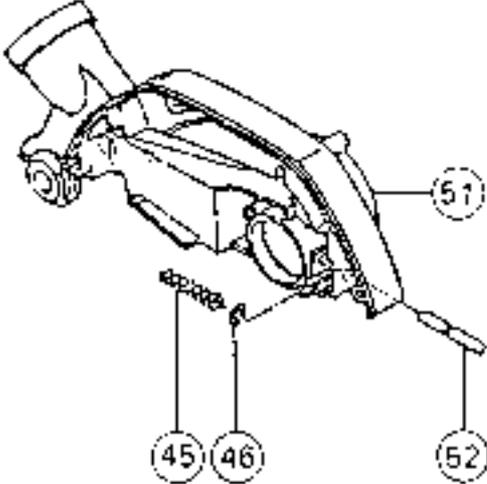
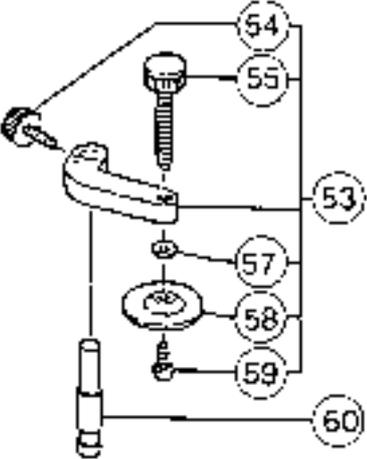
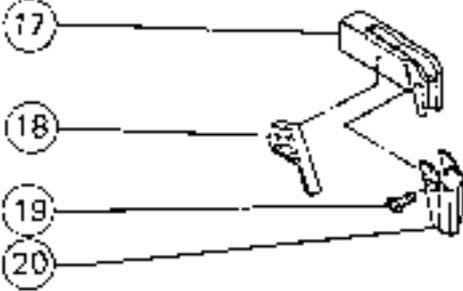
1-1. Disassembly:

No.	Disassembly of Section	Method of Disassembly	Tools Required
1	Gear Case Section	 <p>A. Remove the M6 x 22 Knob Bolt [27], and take off Guard (A) [17]. B. With the standard accessory 10 mm Box Spanner, loosen the two M6 x 30 Bolts (w/Washers) [31], and take off the Fence [32] and Clamp Piece [30]. As the Clamp Piece is very small, be very careful not to lose it.</p>	10 mm Box Wrench (Standard Accessory)

No.	Disassembly of Section	Method of Disassembly	Tools Required
		<p>C. Loosen the M5 x 10 Hex. Socket Set Screw [16] which fixes the Gear Case Pin [41] at the upper side of the Hinge [8], and then remove the M5 x 12 Hex. Socket Hd. Bolt [6] from the side of the Hinge. As the M5 x 12 Hex. Socket Hd. Bolt serves as the upper limit stopper for the Gear Case [51], the Gear Case will move upward when it is removed so exercise caution.</p> <p>D. Extract the Gear Case Pin [41] by tapping it gently while supporting the Gear Case section. Then, after removing the two M5 x 20 Hex. Socket Hd. Bolts (w/Flange) [9], the Hinge Arm Ass'y [10] can be disassembled from the Hinge [8].</p>	<p>Hexagon Bar Wrench</p> <p>Plastic Hammer</p>
2	Hinge and Hinge Holder Section	<p>A. Loosen and remove the Tension Lever [1] (left-hand threaded), and extract the M10 x 60 Bolt (Left Hand) [28] from the Hinge [8].</p> <p>B. Loosen the M5 x 10 Hex. Socket Set Screw [16] which fixes the Hinge Pin [14] at the lower side of the Hinge [8], and tap gently on the Hinge Pin [14] with the plastic hammer to extract it. The Hinge [8] can then be removed.</p> <p>C. Remove the three Hex. Socket Hd. Bolts (w/Flange) [4] which fix the Hinge Holder [15] to the Turn Table [35]. The Hinge Holder [15] can then be removed. Removing the Hinge Holder will expose the Clutch Spring [24] which presses the miter-cutting stopper D9.53 Steel Ball [25] against the surface of the Base [37]. Be very careful not to lose the Clutch Spring.</p>	<p>Hexagon Bar Wrench</p> <p>Plastic Hammer</p>
3	Turn Table and Base Section	<p>A. Remove the Table Insert [33] from the Turn Table [35] by lifting it upward from the Turn Table with the minus screwdriver.</p> <p>B. With the 10 mm Box Wrench, remove the M6 x 10 Nylock Bolt [40] from the lower side of the Base [37], and extract the Table Pin [34] which fixes the Turn Table [35] to the Base [37]. The Turn Table [35] can then be removed. When the Turn Table [35] is removed, the miter stopper D9.53 Steel Ball [25] will remain on the Base [37]. Be very careful not to lose the Steel Ball.</p>	<p>Minus Screwdriver</p> <p>10 mm Box Wrench (Standard Accessory)</p>

No.	Disassembly of Section	Method of Disassembly	Tools Required
4	Saw Cover, Lever (A) Safety Cover, the Spindle Ass'y, and Washer (C)	 <p data-bbox="379 943 1262 1458"> A. Remove the M5 x 12 Machine Screw [48] and take off Washer (B) [108], Lever (A) [106], and Spring (C) [107]. B. Remove the three M5 x 12 Flat Hd. Screws [103], and remove the Saw Cover Ass'y [104] from the Gear Case [51]. C. With the 10 mm Box Wrench, remove the M7 x 17.5 Bolt (Left Hand) [102]. The Washer [39], Washer (C) [101], Saw Blade [100], and Washer (C) [99] can then be taken off in that order. D. Remove the two M4 Flat Hd. Screws (w/ Toothed Lock Washers) [98]. The Cover [97] can then be taken off. E. When Return Spring (B) [95] which is attached to the Safety Cover [96] is removed, the Safety Cover can be taken off. F. Remove the two M5 x 35 Flat Hd. Screws (w/Toothed Lock Washers) [94], and remove the Cover Holder [93] from the Gear Case [51]. Then, tap the Gear Case lightly with the plastic hammer to loosen and remove the Spindle Ass'y [89]. </p>	<p data-bbox="1286 943 1493 1010">Philips Hd. (Plus) Screw driver</p> <p data-bbox="1286 1081 1493 1182">10 mm Box Wrench (Standard Accessory)</p> <p data-bbox="1286 1323 1493 1357">Plastic Hammer</p>

No.	Disassembly of Section	Method of Disassembly	Tools Required
5	Housing Ass'y, Switch, Armature Ass'y, and Stator Ass'y	 <p>A. Disassembly of the Armature Ass'y:</p> <ol style="list-style-type: none"> (1) Remove the Brush Caps [82] and the Carbon Brushes [83] (two each). Then, remove the three M5 x 50 Machine Screws (w/Washers) [66], and the M5 x 12 Machine Screw [48] which fixes the Cord [47] to the Gear Case [51]. The Housing Ass'y [79] with the Handle Cover [69] attached to it can then be removed from the Gear Case [51]. (2) Extract the Armature Ass'y [74] from the Housing Ass'y [79]. <p>B. Remove the three D4 x 25 Tapping Screws [61], and take off the Handle Cover [69]. From the Switch [68], disconnect the leadwires from the Stator Ass'y [70] and the Cord [47].</p> <p>C. Disassembly of the Stator Ass'y:</p> <ol style="list-style-type: none"> (1) Remove the D4 x 25 Tapping Screw (w/Washer) [61] and the D4 x 20 Tapping Screw (w/Washer) [64] from the Housing Ass'y [79], and take off the Tail Cover [65]. (2) Disconnect the two Stator Ass'y Brush Terminals [71] from the Brush Holders [81]. Then, with the nippers, cut off the single leadwire from the Stator Ass'y [70] that is pressure connected at the Connector [86]. (3) Remove the two M5 x 60 Machine Screws (w/Washers) [72] which fix the Stator Ass'y [70], and tap gently on the Gear Case [51] mounting side of the Housing Ass'y [79] with the plastic hammer to loosen and extract the Stator Ass'y [70]. 	<p>Minus Screw-driver Phillips Hd. (Plus) Screw-driver</p> <p>Minus Screw-driver Phillips Hd. (Plus) Screw-driver</p> <p>Phillips Hd. (Plus) Screw-driver Minus Screw-driver Nippers</p> <p>Plastic Hammer</p>

No.	Disassembly of Section	Method of Disassembly	Tools Required
6	Stopper Pin	 <p data-bbox="963 215 1262 656"> A. Following the procedures described above, perform disassembly as far as removal of the Armature Ass'y [74]. B. With the pliers, extract the Retaining Ring (E-Type) [46] from the Stopper Pin [52], and take off the Stopper Pin [52] and the Spring [45]. </p>	Pliers
7	Vise Ass'y	 <p data-bbox="963 763 1251 1137"> A. Remove the M6 x 11 Knob Bolt [54], and remove the Vise Shaft [60] from the Vise Ass'y [53]. B. Remove the M4 x 10 Machine Screw [59], and take off the M10 x 66 Knob Bolt [55] and the Vise Plate [58]. </p>	Phillips Hd. (Plus) Screw-driver
8	Guard Section	 <p data-bbox="963 1283 1251 1621"> A. As described in Paragraph 1-(1)-A, take off Guard (A) [17]. B. Remove the two M4 x 6 Flat Hd. Screws (Brass) [19], and remove Guard (B) [20] by pulling it forward. </p>	Phillips Hd. (Plus) Screw-driver

1-2. Reassembly:

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

- (1) Prior to reassembly, measure the insulation resistance of the Armature Assembly, Stator Assembly, Switch and other electrical components with a 500V DC Megohm Tester, and confirm that the insulation resistance of each part is more than $5M\Omega$,
- (2) When assembling the Hinge [8] and the Gear Case [51], apply 2 grams of grease (Hitachi Motor Grease No. 29, Code No. 930-035, is recommended) to the oil groove of the Hinge.
- (3) When replacing the Spring [7], apply 2 grams of grease (same grease is recommended) to its inner circumference.
- (4) When replacing the Liner [36], assemble it into the unit as illustrated in Fig. 1. During reassembly, apply 6 grams of grease (same grease recommended) to the Liner-sliding surface of the Turn Table [35].

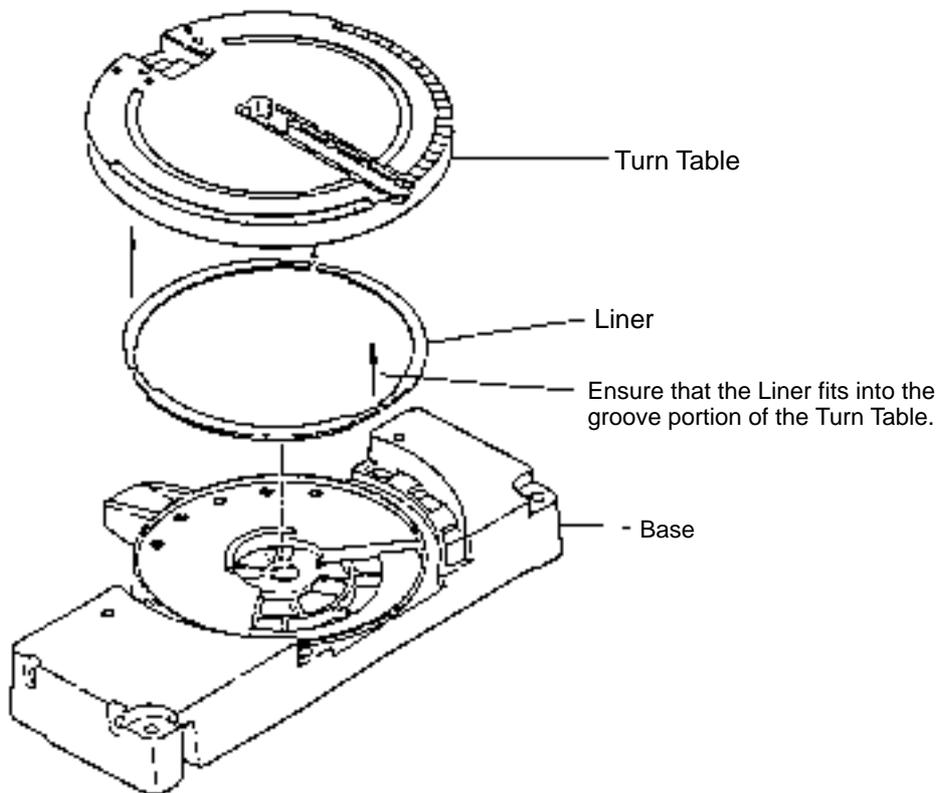


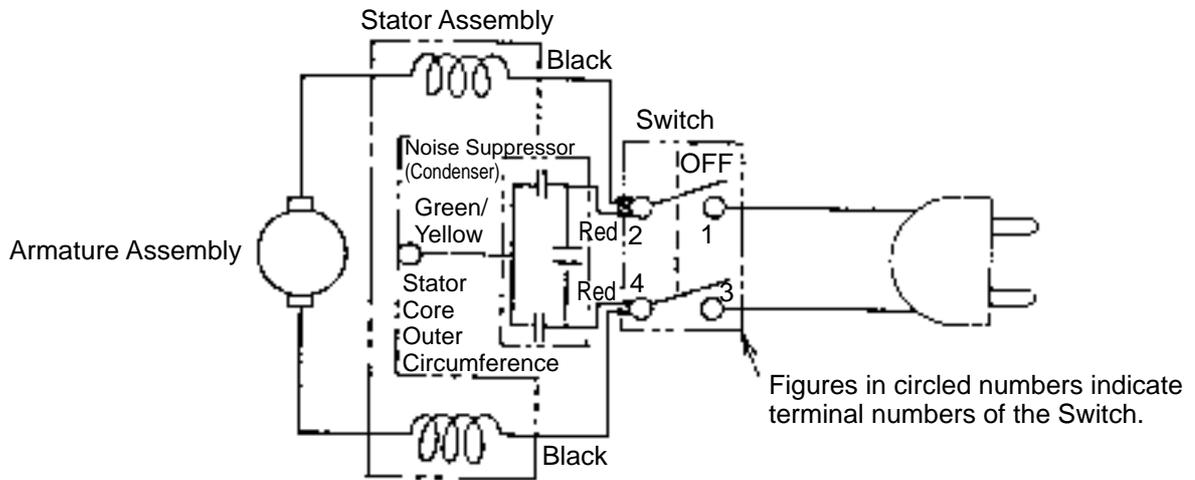
Fig. 1

- (5) If the M6 x 10 Nylock Bolt [40] at the bottom of the Base [37] is tightened excessively, the movement of the Turn Table [35] will become sluggish and heavy; if the bolt is loose, it will cause vibration and looseness of the Turn Table which will reduce cutting accuracy. Adjust the M6 x 10 Nylock Bolt so that the Turn Table moves smoothly with minimal play and vibration.

1-3. Wiring:

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

(1) Wiring Diagram:



(2) Leadwire Arrangements:

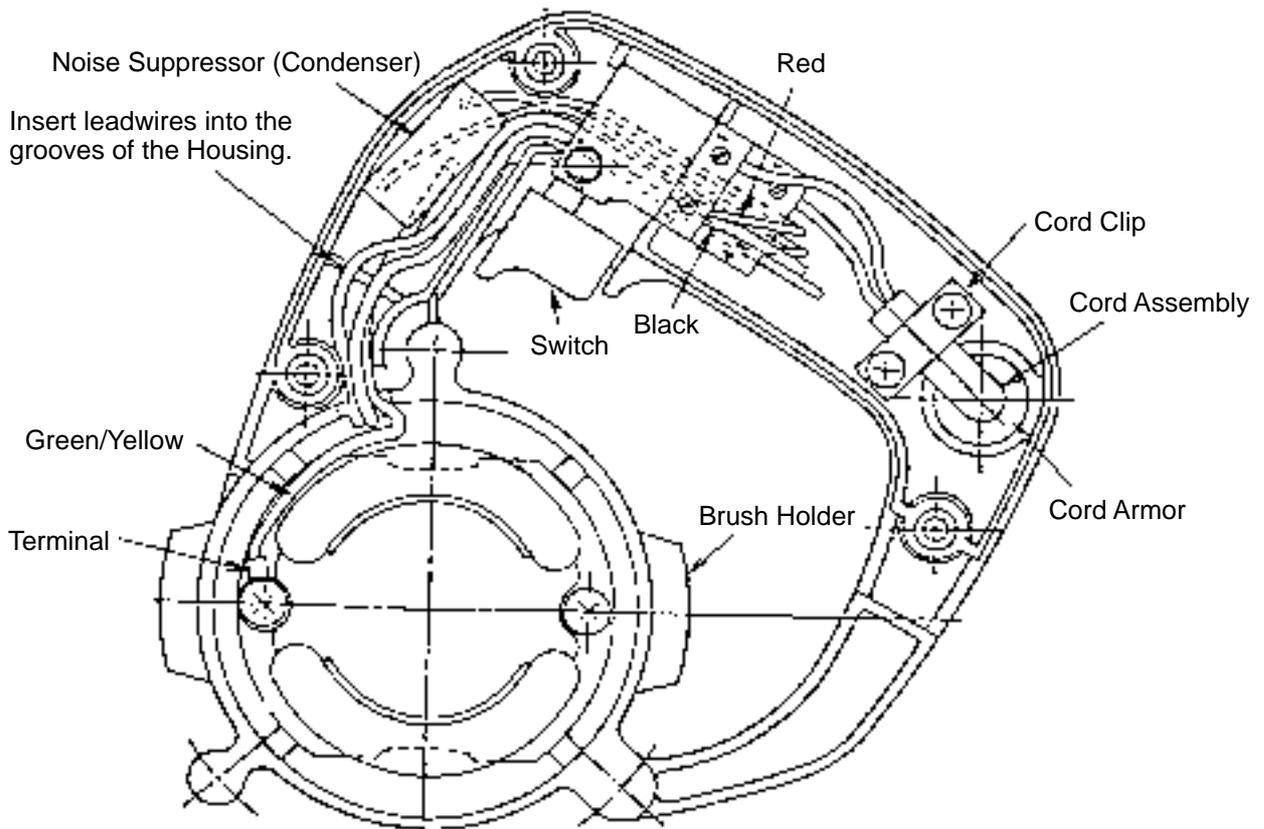


Fig. 2

1-4. Checking Insulation:

When connecting leadwires, be very careful not to remove any more of the insulation coating of each wire than is absolutely necessary. Exposed cores of wires leading from connectors, for example, are extremely dangerous. Also, ensure that the leadwires are not pinched between the joints of the Handle.

1-5. Assembly Adjustments Requiring Particular Attention:

(1) Adjustment of Saw Blade and fence Perpendicularity:

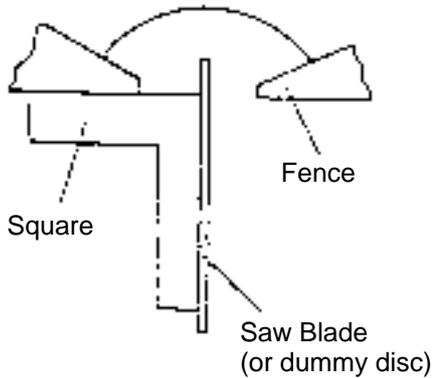


Fig. 3

After disassembly/reassembly or replacement of the Base [37], Turn Table [35], Fence [32], Hinge [8], or Hinge Holder [15], it is necessary to check the perpendicularity between the Saw Blade (or dummy disc*) and the Fence, and perform adjustment as necessary if they are not at an exact right-angle with relation to each other. Adjustment procedure is as follows:

First, position the Saw Blade (or dummy disc) so that it is in the exact center of the groove on the Turn Table which houses the Table Insert, and then tighten the three M6 x 22 Hex Socket Hd. Bolts (w/Flange) [6] to fix the Hinge Holder [15] in position.

Next, as illustrated in Fig. 3, place a square so that it is flush against the side surface of the Saw Blade (or dummy disc), and move the Fence [32] as necessary so that it is at an exact right angle in relation to the Saw Blade (or dummy disc). Finally, tighten the two M6 x 30 Bolts (w/Washers) [31] to fix the Fence [32] in position.

*Dummy Disc: A dummy disc is a toothless disc with the same external diameter as a saw blade, and is used to perform accuracy inspections and adjustments.

(2) Adjustment of Saw Blade Lower Limit Position:

When adjusting the lower limit of the Saw Blade, be sure to use a saw blade with an external diameter of 216 mm.

Failure to properly adjust the lower limit position of the Saw Blade may result in the following problems:

- ① inability to obtain the maximum cutting capacities of the machine; and
- ② there is a danger that the Saw Blade may come in contact with and cut into the Turn Table.

Lower the Saw Blade and confirm without fail that it does not come in contact with the Turn Table. For adjustment procedures, please refer to Paragraph*, [Confirmation of Saw Blade Lower Limit Positioning].

(3) Adjustment of Saw Blade Height:

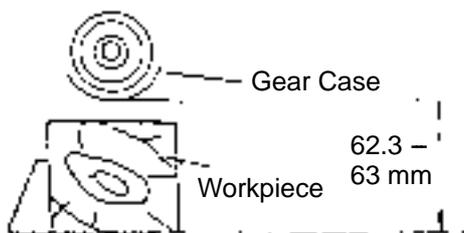


Fig. 4

Prior to shipment, the Saw Blade height (when fully lowered) is adjusted so that the dimension from the bottom surface of the Gear Case and the surface of the Turn Table is between 62.3 mm and 63 mm, as illustrated in Fig. 4.

The operator can adjust the height of the Saw Blade to meet the needs of the cutting operation. For adjustment procedures, please refer to Paragraph*, [Confirmation of Saw Blade Lower Limit Positioning].

* Confirmation of Saw Blade Lower Limit Positioning:

Prior to shipment, the lower limit position of the Saw Blade is factory adjusted so that the dimension from the bottom surface of the Gear Case to the surface of the Turn Table is between 62.3 mm and 63 mm, as illustrated in Fig. A. The customer should be advised to confirm that it is properly adjusted prior to operating the machine. If the lower limit dimension is not within the designated amount, there may be cases when the lower part of the workpiece on the fence side may not be cleanly cut off.

If adjustment is necessary, turn the lower limit adjusting M5 x 16 Nylock Bolt [5] located at the lower right rear part of the Hinge [8] (refer to the Parts List and exploded assembly diagram) as necessary to correct the dimension.

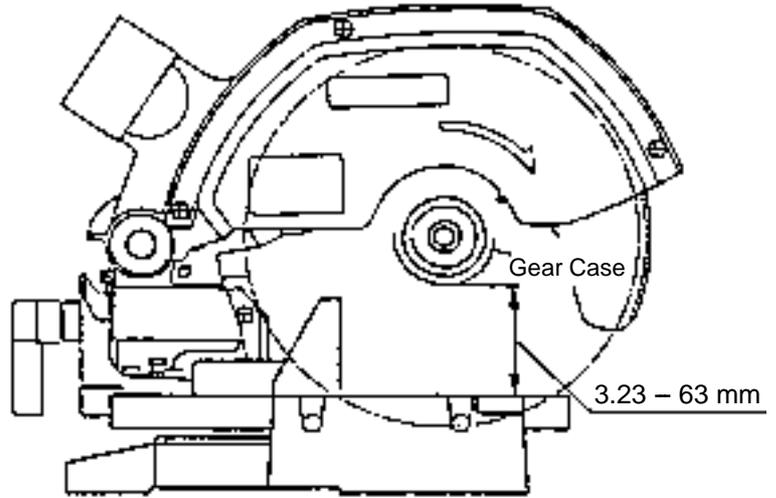


Fig. A

(4) Assembly of the Turn Table:

When assembling the Turn Table [35] and the Base [37], tighten the M6 x 10 Nylock Bolt [40] so that the Turn Table turns smoothly without excessive play or vibration.

During assembly, liberally apply grease (HI HON KOYU BC4 is recommended) at the portions marked (A) in Fig. 5.

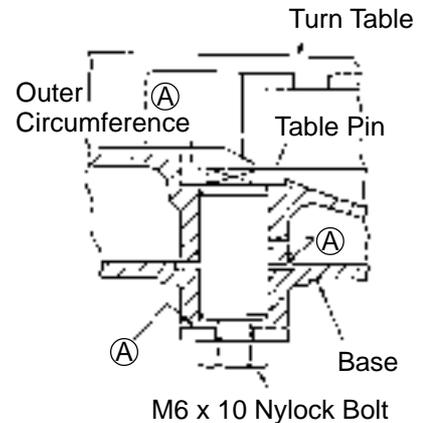


Fig. 5

1-6. Lubrication:

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

(1) Swiveling and Sliding Sections of the Gear Case and Hinge:

Coat machine oil on the swiveling and sliding portions of the Gear Case [51] and Hinge [8].

(2) Vise Assembly Section:

Coat machine oil on the M10 x 66 Knob Bolt [55] portion of the Vise Ass'y [53].

1-7. Machine Accuracy:

On completion of assembly, confirm that machine accuracy is within the standards listed below.

Item	Accuracy (mm)
Deflection of Saw Blade (or dummy disc)	0.15/200
Perpendicularity between Base and Fence	0.1/40
Flatness of Fence Surface	0.1
Perpendicularity between Saw Blade (or dummy disc) and Fence	0.15/100
Perpendicularity between Saw Blade (or dummy disc) and Turn Table	0.15/100

1-8. Cutting Accuracy:

Prepare appropriate test workpieces, cut them as described, and measure cutting accuracy with a square or other standard measuring device to ensure they are within listed tolerances.

[CAUTION]

Test Workpieces should be prepared with a planer or jointer, and their dimensions and accuracy should be carefully checked prior to cutting tests. Test workpieces which are manually and/or inaccurately prepared are useless to check the cutting accuracy of the Model C 8FC.

(1) Press Cutting:

Cutting Conditions:

- ① Test Workpiece: Yellow Pine, 60 mm square ... All surfaces squarely planed.
Yellow Pine, H 60 mm x W 100 mm ... All surfaces squarely planed.
- ② Saw Blade: 216 mm TCT Saw Blade, No. of Teeth: 24 (Code No. 998859)
- ③ Cutting Time: 0 Degree (Press Cutting) ... 5 sec. in direction (A), 7 sec. in direction (B).
45 Degrees (Bevel Cutting) ... 5 sec. in direction (A).
- ④ Measuring Points:

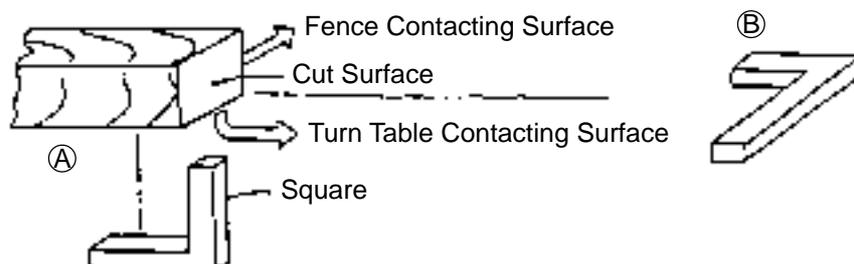
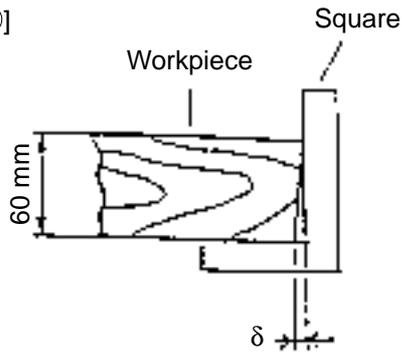


Fig. 6

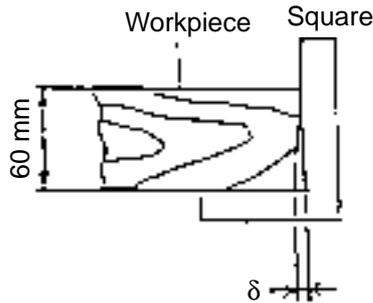
⑤ Cutting Accuracy:

[Direction (A)]



Angle \ Accuracy	δ (mm)
0°	0.15 or less
45°	0.15 or less

[Direction (B)]



Angle \ Accuracy	δ (mm)
0°	0.2 or less

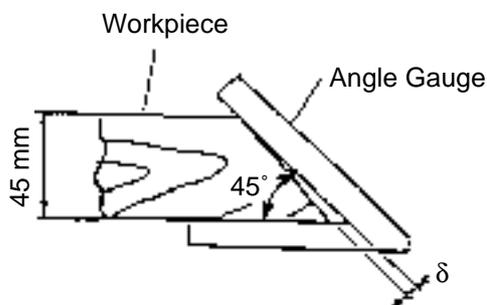
Fig. 7

(2) Bevel Cutting:

Cutting Conditions:

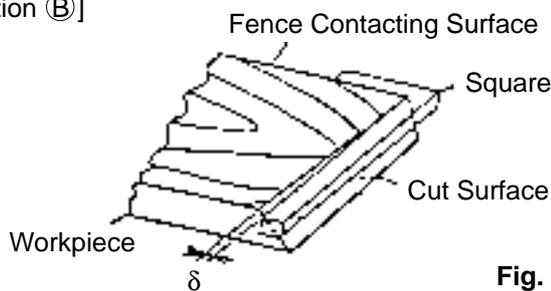
- ① Test Workpiece: Yellow Pine, H 45 mm x W 60 mm ... All surfaces squarely planed.
- ② Saw Blade: 216 mm TCT Saw Blade, 24 teeth (Code NO. 998859)
- ③ Cutting Time: 9 sec.
- ④ Cutting Accuracy:

[Direction (A)]



Angle \ Accuracy	δ (mm)
45°	0.17 or less

[Direction (B)]

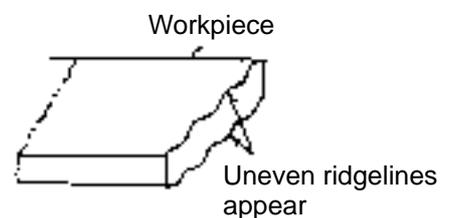


Angle \ Accuracy	δ (mm)
Fence Contacting Surface	0.13 or less

Fig. 8

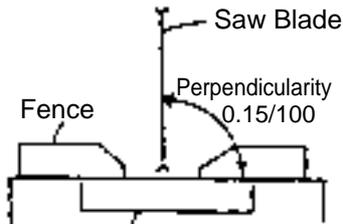
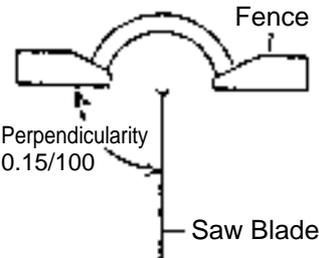
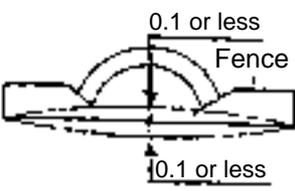
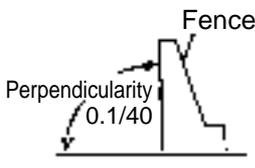
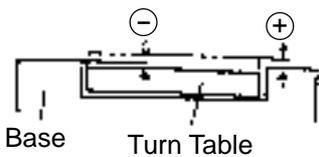
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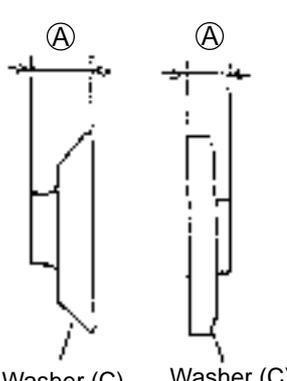
If the test workpiece has uneven surfaces, the cutting surface obtained through bevel cutting will also clearly be uneven. Therefore, it is particularly necessary to carefully measure and check the test workpiece before performing the cutting test. Test workpieces which are cut with a bandsaw are particularly likely to have uneven surfaces.



2. TROUBLE SHOOTING AND REPAIR GUIDE:

The circled numbers in the table below correspond to the item numbers in the Parts List and exploded assembly diagrams. All dimensions shown in the table are in millimeters (mm).

Item	Phenomenon	Possible Cause (s)	Factory Standard	Inspection, Repair, Adjustment
1.	<p>Inaccurate cutting. ... Inaccurate perpendicularity of cut surface ... Improper cutting stop position</p>  <p>Turn Table Fig. 9</p>  <p>Saw Blade Fig. 10</p>  <p>Fence Fig. 11</p>  <p>Fence Fig. 12</p>  <p>Base Turn Table Fig. 13</p>	a. Inaccurate perpendicularity between the Turn Table and Saw Blade will cause the Saw Blade to cut into the workpiece at an angle.	0.15/100 (based on dummy disc alignment) (see Fig. 9)	<ul style="list-style-type: none"> • Readjust perpendicularity with the M5 x 16 Nylock Bolt [5]. • Check if the M5 x 10 Hex. Socket Set Screw [15] which fixes the Gear Case Pin [41] is loose. Tighten if necessary. • Check for deformation of the Hinge [8], Hinge Holder [15], Gear Case [51], and Turn Table [35]. Replace as necessary.
		b. Excessive deflection of the Saw Blade. (Excessive vibration)	0.15/200 (based on dummy disc alignment)	<ul style="list-style-type: none"> • Replace the Saw Blade [100]. • Check for damage on Washer (C) [99] and Washer (C) [101]. Smooth minor defects with a file. • Replace Washer (C) [99] and [101].
		c. inaccurate perpendicularity between Fence and Saw Blade.	0.15/100 (see Fig. 10)	<ul style="list-style-type: none"> • Check if the M6 x 30 Bolts (w/Washers) [31] are loose. Tighten if necessary.
		d. Inaccurate surface flatness of Fence causes workpiece to move irregularly, causing poor perpendicularity of cut surface.	0.1 or less (see Fig. 11)	<ul style="list-style-type: none"> • Replace the Fence [32].
		e. Inaccurate surface flatness of the Turn Table.	0.1 or less	<ul style="list-style-type: none"> • Replace the Turn Table [35].
		f. Inaccurate perpendicularity between the Fence and the Turn Table and/or Base causes inaccurate cutting during miter cutting.	0.1/40 (see Fig. 12)	<ul style="list-style-type: none"> • Replace the Fence [32].
		g. Excessive misalignment of the Base and the Turn Table causes the Saw Blade to cut into the workpiece at an angle.	⊕ 0.1 ⊖ 0.2 (see Fig. 13)	<ul style="list-style-type: none"> • Check for looseness of the M6 x 10 Nylock Bolt [40] which fixes the Turn Table [35]. Adjust as necessary. • Replace the Base [37] and/or Turn Table [35] if deformed.

Item	Phenomenon	Possible Cause (s)	Factory Standard	Inspection, Repair, Adjustment
1	Poor Cutting Accuracy	h. The swivel portions of the Hinge and Gear Case are either loose and move with excessive play, or fail to move smoothly because of excessive friction. This causes unwanted movement of the Gear Case, applies excessive pressure on parts, and causes deformation of various components.	—	<ul style="list-style-type: none"> • Check for foreign matter (cutting chips, etc.) in the fittings of the Hinge [8], Gear Case [51], and Gear Case Pin [41]. Remove as necessary. • Check if the M5 x 10 Hex. Socket Set Screw [16] which fixes the Gear Case Pin [41] is loose. Tighten as necessary.
		i. Excessively fast cutting operation causes deflection of the Saw Blade, and reduces cutting accuracy.	—	<ul style="list-style-type: none"> • Reduce cutting speed. (For a 60 mm-square workpiece, the cutting operation should be from 6 to 9 seconds.)
		j. Excessive pressure is applied during cutting due to a dull or damaged Saw Blade.	—	<ul style="list-style-type: none"> • Resharpen or replace the Saw Blade.
		k. The workpiece is warped, bent or deformed, causing it to slip during cutting.	—	<ul style="list-style-type: none"> • Remove the defects from the workpiece with a planer, and cut it again.
2	Rough Cut Surface Parallelism \textcircled{A} = 0.02/44  Washer (C) Washer (C) Fig. 14	a. Excessive deflection of the Saw Blade. (Excessive deflection causes rough cutting surface.)	0.15/200 (Based on dummy disc alignment)	<ul style="list-style-type: none"> • Same as Item 1-b.
		b. Damage of Washers (C) causes inaccurate parallelism.	0.02/44 (see Fig. 14)	<ul style="list-style-type: none"> • Repair damage on Washers (C) [99] and [101], or replace them if beyond repair.
		c. Inaccurate perpendicularity between the Turn Table and the Saw Blade causes the Saw Blade to cut through the workpiece at a slight angle, causing a rough cutting surface.	0.15/100 (Based on dummy disc alignment) (see Fig. 9)	<ul style="list-style-type: none"> • Same as 1-a.

Item	Phenomenon	Possible Cause (s)	Factory Standard	Inspection, Repair, Adjustment
2	Poor Cutting Accuracy	d. Cutting operation speed is too fast.	—	• Reduce the cutting speed.
		e. Workpiece is not fixed securely.	—	• Firmly fix the workpiece with the Vise Ass'y.
		f. The Turn Table is not securely fixed with the knob bolt.	—	• Before the cutting operation, securely fix the Turn Table [35] without fail with the M6 x 37 Knob Bolt [27].
		g. The swivel portions of the Hinge and Gear Case are either loose and move with excessive play, or fail to move smoothly because of excessive friction.	—	• Same as Item 1-h.
		h. The workpiece is warped, bent or deformed, making it difficult to cut.	—	• Remove the defects from the workpiece with a planer.
		i. Excessive machine vibration.	—	• Check Possible Causes a, b, f, and g.
3	Saw Blade is locked.	a. Excessively fast cutting speed.	—	• Reduce the cutting speed.
		b. The sectional area of the extension cord is too small.	—	• Use a larger diameter and/or shorter extension cord.
		c. Excessive pressure is applied during cutting due to a dull or damaged Saw Blade.	—	• Resharpener or replace the Saw Blade.
		d. An improper Saw Blade is being used.	—	• Use a genuine HITACHI TCT Saw Blade. • The greater the number of teeth on the Saw Blade, the greater is the cutting resistance. When using a Saw Blade with a large number of teeth, the cutting operation should be performed at a slower speed.
		e. The workpiece is warped or deformed, causing the Saw Blade to bind during the cutting operation.	—	• Remove the defects from the workpiece with a planer.