

REALIGNMENT

Method 1:

This procedure deals with the most common source of misalignment that occurs when the guide rails are not parallel with the blade.

1. Set the cutting depth such that the blade passes through the table, not over.
2. Place a straight edge (i.e. carpenter's square) on the cutting table as shown in **figure 8**.
3. Loosen the left and right guide rails by loosening the fasteners at the ends of the rail. (**see figure 8**) The left rail should be slightly loose, so there is not too much play during adjustments, but the right rail should move freely.

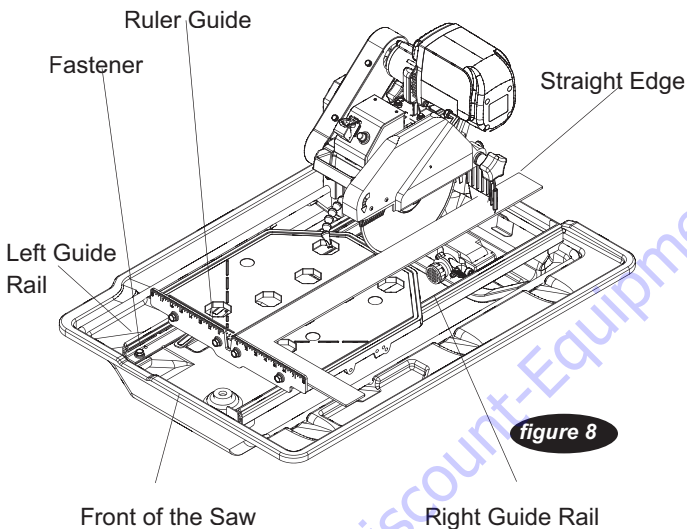


figure 8

4. Make sure the short portion of the straight edge is placed flush against the ruler guide. Adjust the left guide rail so that the front and rear edges of the blade touch the straight edge, although a tolerance of 0.003" (0.1mm) between the front and rear edges is allowed. Perform this adjustment along the entire length of the straight edge.
5. Position the table as close to the user as possible. Place the straight edge flush against the ruler guide and blade. Without holding onto the straight edge, gently move the table towards the rear of the saw and then back. Observe any gaps that may appear between the straight edge and blade or between the straight edge

and ruler guide. A gap exceeding the allowed tolerance means that the table is not moving parallel to the blade; hence, further adjustments as outlined in step 4 will be required. However, if scenario A or B described below occurs, other adjustments may be required instead.

- A. If the straight edge only touches the blade when the table is positioned midway along the rail or at the ends of the rail, then the rail may be deformed (i.e. bowed). (**see figure 9**) Perform test cuts to determine if the rail should be replaced. Typically a bowing displacement of up to 0.008" (0.2mm) will not affect cutting accuracy.



figure 9

- B. If the straight edge touches both edges of the blade initially, but shifts apart as the table travels along the rail, proceed to method 2 below.

6. Tighten the fasteners at both ends of the left rail.
7. Adjust the right guide rail so that the horizontal rollers underneath the table engage the rail as shown in **figure 10**. In most cases the rollers will not have to be vertically adjusted. Spacing between rails must be equidistant at all points to ensure that they are parallel. Once adjustments are made, lightly tighten the fasteners on the right rail and move the table back and forth. If the table binds against the rail at any point, adjust spacing accordingly until the table moves smoothly.
8. Tighten the fasteners at both ends of the right rail.

If alignment has been achieved do not proceed to method 2.

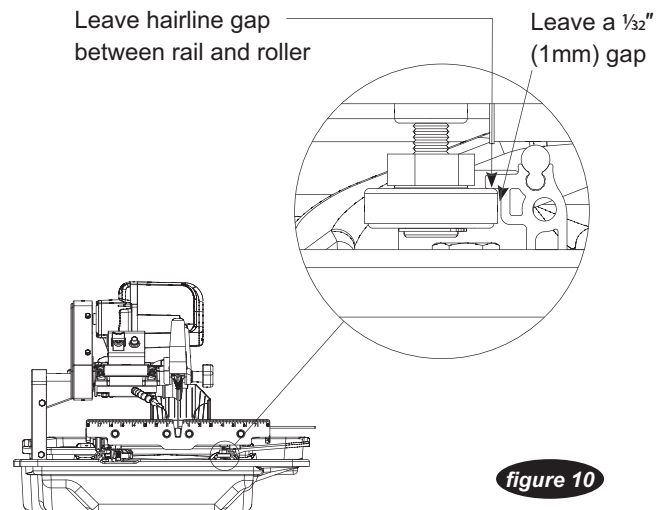


figure 10

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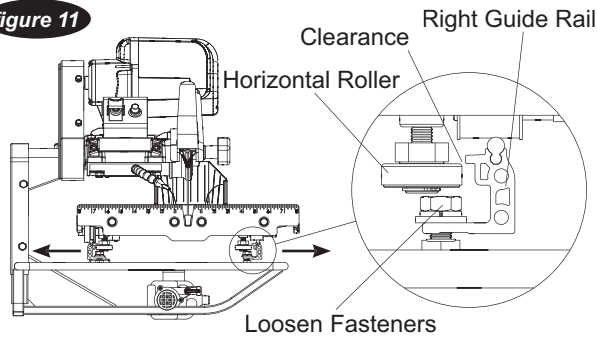
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Method 2:

This procedure corrects another source of misalignment that occurs when the table's orientation is not parallel with the guide rails.

1. Lift the saw up from within the water tray and place it on a flat level surface. Use the universal wrench to loosen (but not remove) the fasteners from either end of both guide rails. Move each rail away from the other, so that the horizontal rollers are clear of the right guide rail. (see **figure 11**)

figure 11



2. Remove rubber cap A on the left side of the table. Loosen the exposed lock nut using a 13mm socket wrench. Use a flat screwdriver to turn the shaft of the roller clockwise to lower it by approximately 3/8" (9.5mm). (see **figure 12**) Evenly lift up the table to disengage the guide rollers from the left guide rail. Once the guide rollers are clear, shift the table to the right to clear the left horizontal roller of the rail. Remove the table from the guide rails. (see **figure 13**)

figure 12

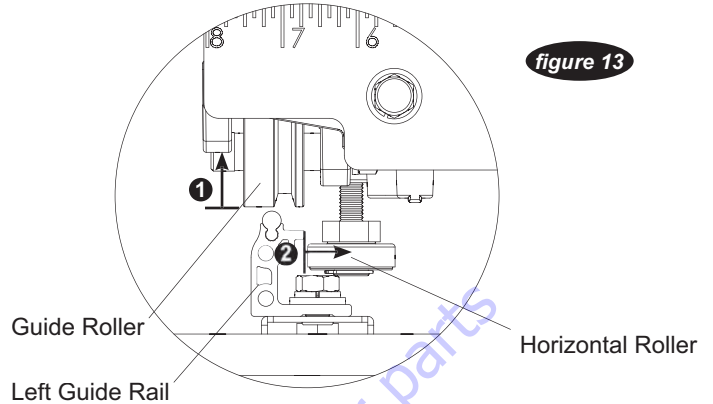
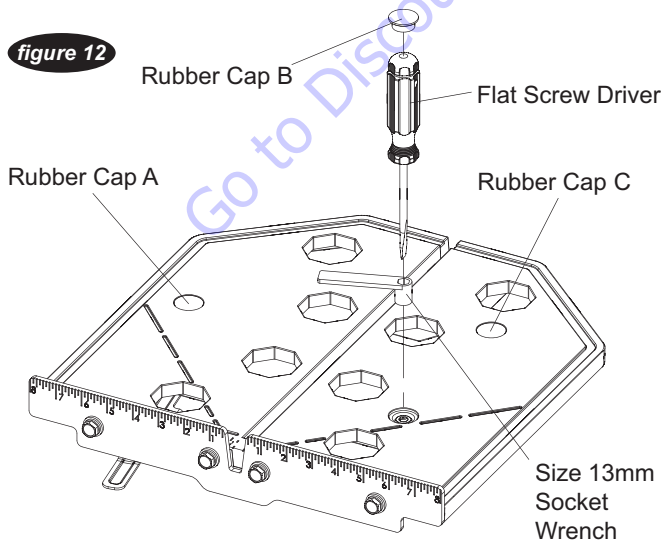


figure 13

3. If the table shifts to the right as it travels away from the user, a shim needs to be added to the guide roller furthest from the ruler guide. On the other hand, if the table shifts to the left, a shim needs to be added to the guide roller closest to the ruler guide. Remove the appropriate guide roller to insert a shim between the roller and table, then reattach. (see **figure 14**) Depending on the severity of the shift, more than one shim may be required.
4. After adding shim(s), mount the table onto the guide rails by reversing the instructions in step 2. Move the rails toward each other to engage the horizontal rollers to the right guide rail as shown in **figure 10**. Realign the table to the blade using method 1. Check to see if any shifting persists. A shift tolerance of 0.008" (0.2mm) is allowed. A shift in excess of that will require further adjustment—repeat step 3.

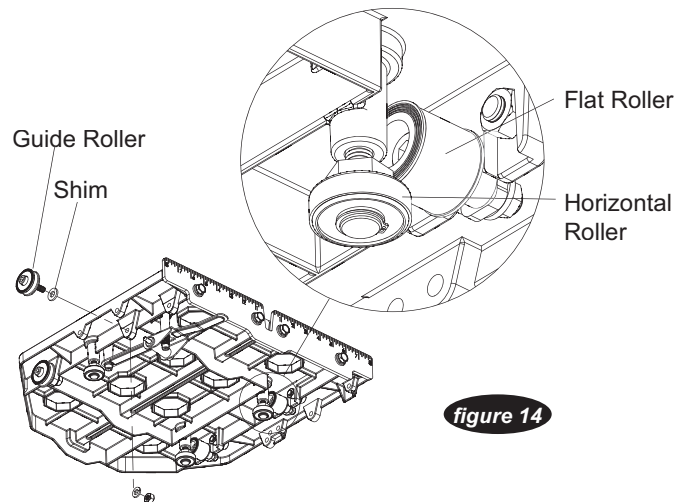


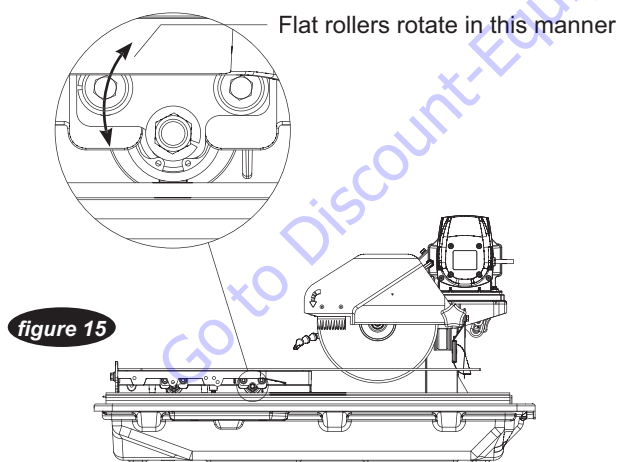
figure 14

5. Once alignment is successful, replace saw back into the water tray.

LEVELING ADJUSTMENT

This procedure levels the table so that it is perpendicular to the blade and flush against the rails.

1. Remove rubber caps B and C on the right side of the table. Loosen the exposed lock nuts using a socket wrench. Next, use a flat screwdriver to turn the shaft of the rollers clockwise. **(see figure 12)** This will lower the horizontal rollers to allow room for adjusting the flat rollers.
2. Loosen the socket bolts on the flat roller plate so that the roller can swing freely about one bolt. **(see figure 15)** Do this for both flat roller plates.
3. Hold the table against the guide rails. The flat rollers should reposition themselves to maintain contact with the guide rails. If the table is not perpendicular to the blade, lift the right side of the table instead to obtain the proper angle. A right angle or carpenters square will be required to confirm the angle. Tighten the socket bolts. Check the table for play. Repeat step 2 if some play is still present.
4. Restore the horizontal rollers to their original positions as shown in **figure 10** by reversing the instructions in step 1. Be sure to tighten the lock nuts and replace the rubber caps.



Electrical Specifications

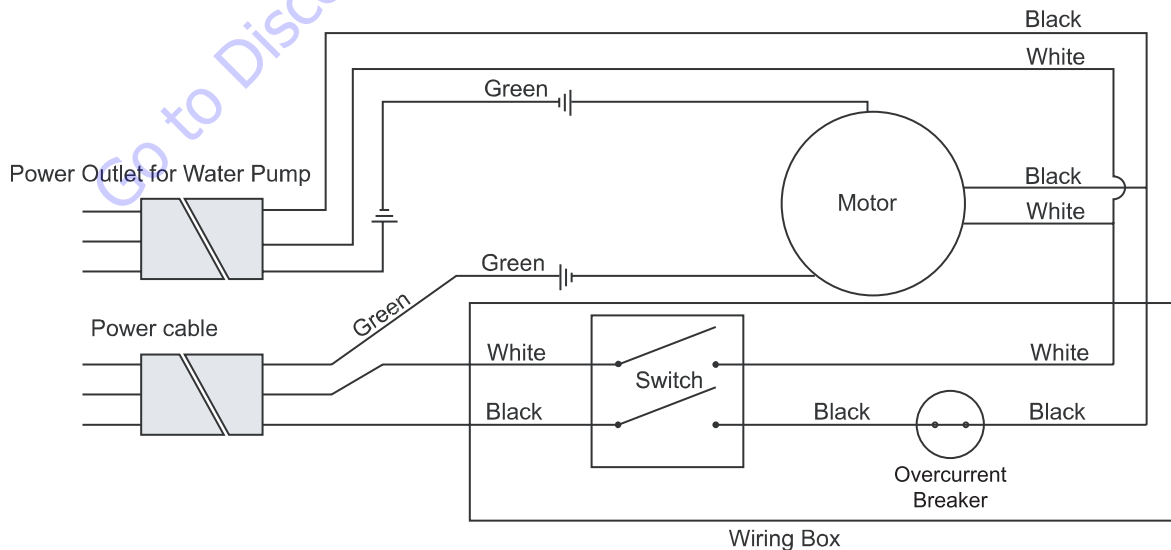
	CTC1020XL
Power	2 HP
Volts	115 V
Amps	15 A
Motor RPM	3000 RPM
Cycle	60 Hz
Phase	1

⚠ WARNING:
 To avoid permanent motor damage you must use the correct extension cord. Never use more than one extension at a time. Follow the chart below for proper size.

EXTENSION CORD CHART

Wire Gauge	Length of Cord
No. 12	25'
No. 10	50'
No. 8	75'

ELECTRICAL WIRING DIAGRAM



RECOMMENDATIONS

- It is recommended that a 15 amp circuit be used while operating this saw. This will prevent any loss of power or interruption.
- Always plug saw as close as possible to the power source while operating. This will allow you to receive optimum electricity.
- Always turn off the machine and disconnect it from the main source of electricity before any work on the machine is done.
- Make sure that all electrical connections are secure and properly insulated to eliminate contact of live wires with spray water or dampness.
- Use only three-wire grounded extension cords suitable for use outdoors and of sufficient gage to accommodate power requirements.
- Ground the machine! The tile saw must be grounded while in use to protect the operator from electric shock. The motor is equipped with a three prong grounding type plug to fit the proper type receptacle. The green [or green & yellow] conductor in the cord is grounding wire.
- NEVER connect the ground green [or green & yellow] wire to a live terminal.
- Replace frayed or damaged power and extension cords.
- Don't abuse the cord. Never carry the tool by the cord or yank the cord to disconnect the plug from the receptacle.
- ALWAYS disconnect the power before servicing or changing accessories or Diamond Blades
- ALWAYS make sure power switch is in "off" position before connecting the machine to power.

Troubleshooting

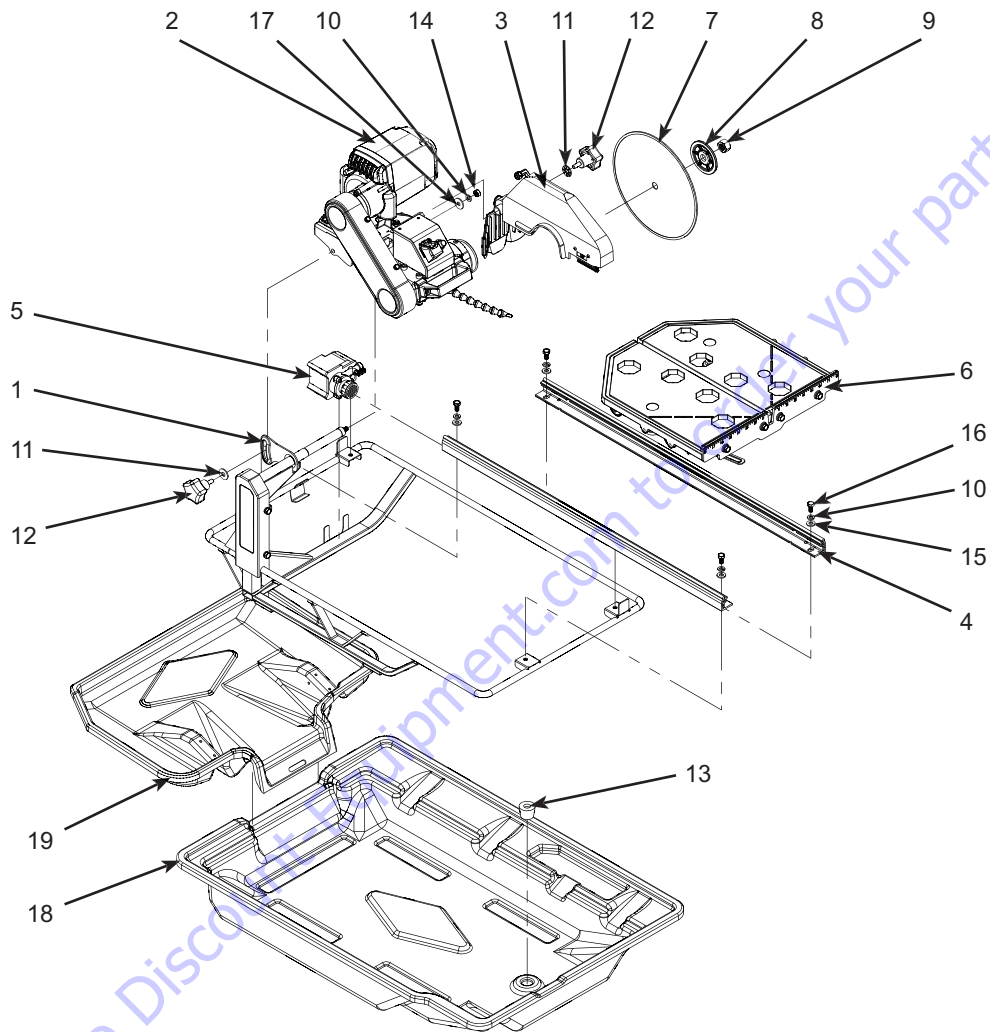
Problem	Possible Cause	Solution
Machine does not run when switched on	Power cord not properly fixed/ plugged in	Check that the machine is properly connected to the power supply
	Power cord defective	Have the power cord checked, replace if necessary
	Main power switch defective	Have the main power switch checked and replace if necessary by a qualified electrician
	Loose electrical connection inside the electric system	Have the whole electric system of the machine checked by a Authorized Norton Clipper Service Center
	Motor defective	Have the motor checked and replaced if necessary by a Authorized Norton Clipper Service Center
Motor stops (power cut out)	Too much pressure exerted while cutting	Exert less pressure when cutting
	Incorrect specification for saw blade	Use a saw blade which corresponds to the material being cut. For best results use only Norton Diamond Blades
	Saw has a defective electric system	Have the electric system of the saw checked by a Authorized Norton Clipper Service Center
Poor machine performance, little power	Power cord/extension cable too long or cable still wound up inside cable drum	Use a power cord/extension cable of the rated length, use a cable drum with cable fully extended
	Power Supply is insufficient (low voltage)	Observe the electrical ratings of the machine and connect it only to a power supply which complies with these ratings
	Drive motor no longer runs at rated speed (RPM)	Have the motor checked by an Authorized Norton Clipper Service Center

Problem	Possible Cause	Solution
Insufficient flow of cooling water or no cooling water at all	The water pump draws air	Fill the container with water
	Filter clogged	Clean the filter of the pump
	Water pump impeller blocked by debris	Remove screen and clean the water pump
Irregular run of the saw blade	Poor tension in the blade material	Return the saw blade to the manufacturer
Saw blade wobbles when running	Saw blade is damaged or bent	Replace the diamond blade with a Norton Diamond blade
		Clean the blade collars (flanges)
	Blade collar (flange) is damaged	Replace blade collar (flange)
	Shaft of the motor is bent	Replace the electric motor
Diamond segment becomes loose	Overheating of the saw blade; cooling water not sufficient	Replace blade with a Norton Diamond Blade and ensure optimum flow of cooling water
Excessive wear	Wrong type of saw blade	Use harder saw blades
	Shaft of motor causes wobbling	Have bearings of the motor or the motor replaced
	Overheating	Ensure optimum flow of cooling water
Cracks in or near the diamond segment	Saw blade too hard	Use a softer bonded Norton Diamond Blade.
	Blade collar (flange) is worn or damaged	Replace blade collar (flange)
	Motor shaft bearing	Replace the bearing of the motor shaft

Problem	Possible Cause	Solution
Saw blade is blunt	Saw blade type is unsuitable for the material being cut	Use the appropriate type of Norton Diamond blade
	Saw blade type is unsuitable for the machine performance	
	Saw blade too hard	
	Diamond segments are blunt	Sharpen the diamond saw blade
Appearance of cut is not optimal	Poor tension in the blade material	Return the saw blade to the manufacturer
	Too much load placed on the saw blade	Use a suitable saw blade
	Diamond segments are blunt	Sharpen the saw blade
The center hole in the saw blade has become wider due to wear	The saw blade has slipped on the blade shaft while running	The arbor of the saw blade must be fitted with an appropriate adaptor ring
		Check the receiving flange and have it replaced if necessary
Saw blade shows blooming colors	Saw blade overheating due to a lack of cooling water	Ensure an optimum flow of cooling water
	Lateral friction when cutting	The material feed is too high; proceed more slowly
Grinding marks on the saw blade	Material is not being fed parallel to the saw blade	Ensure that the direction of feed is absolutely parallel to the saw blade
		Adjust the roller table or have it adjusted
	Poor tension in the blade material	Have the saw blade tensioned
	Too much load on the saw blade	The material feed is too high, proceed more slowly

Replacement Parts List

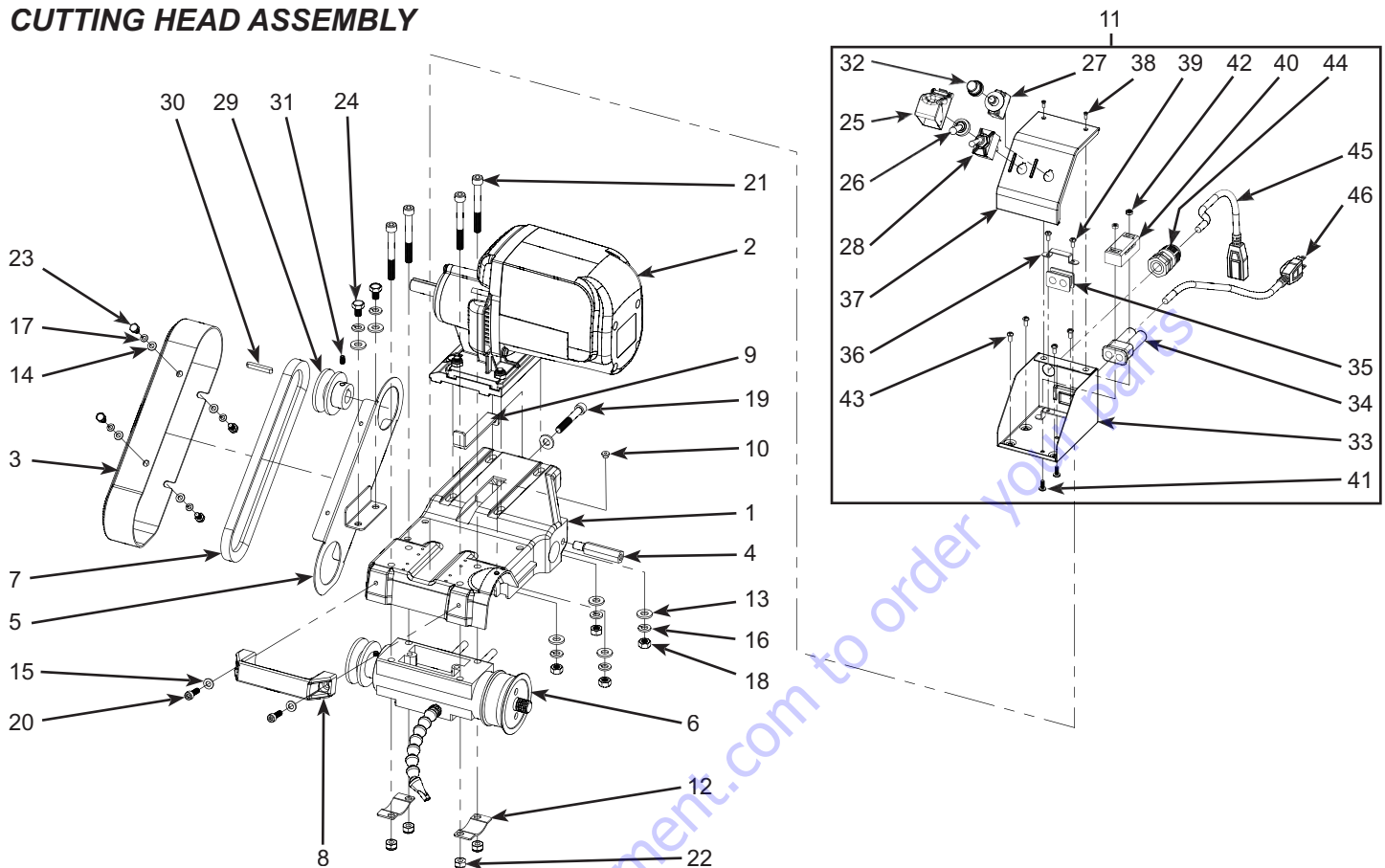
MAIN ASSEMBLY



DESCRIPTION	PART NO
1. FRAME WELDMENT CTC1020XL	242064
2. CUTTING HEAD ASSEMBLY CASTING CTC1020XL	242065
3. BLADE GUARD ASSEMBLY CTC1020XL	242066
4. RAIL FOR CUTTING TABLE CTC1020XL	242067
5. WATER PUMP	242068
6. CUTTING TABLE ASSEMBLY CTC1020XL (SEE CUTTING TABLE PAGE 22)	
7. NORTON DIAMOND BLADE CALL FACTORY	242069
8. COLLAR LOOSE (OUTER FLANGE)	242070
9. NUT 5/8-11 HEX	8142007

DESCRIPTION	PART NO
10. WASHER M8 LOCK DIN127B	228115
11. WASHER M10 LOCK DIN127	27502
12. KNOB M8 1.25 X 20	242070
13. PLUG DRAIN W/CHAIN	233048
14. NUT M8 1.25 DIN985 LOCK	242072
15. WASHER M8 DIN125 FLAT	232110
16. SCR M8 X 20 1.25 DIN933	235013
17. WASHER M8 DIN125 FLAT	232110
18. TRAY WATER CTC1020XL	242073
19. DRIP TRAY REAR CTC1020XL	242074

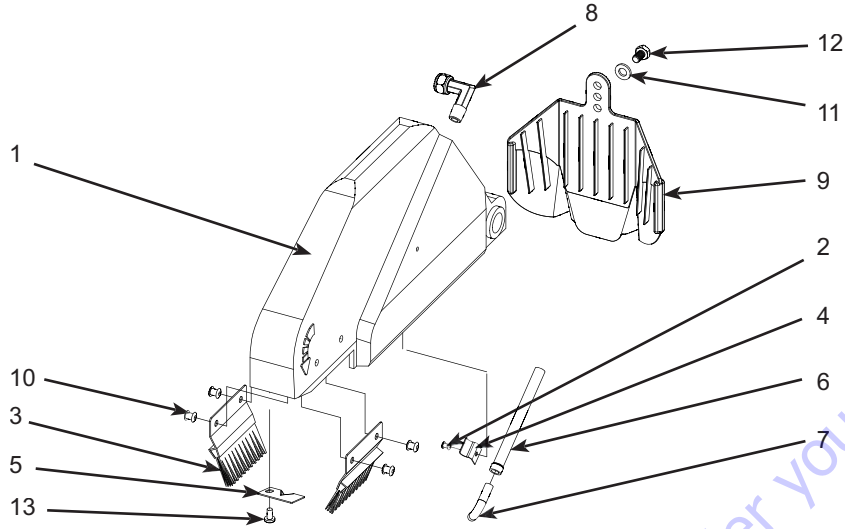
CUTTING HEAD ASSEMBLY



DESCRIPTION	PART NO
1. MOTOR MOUNTING PLATE CTC1020XL	242011
2. MOTOR ASSY 2HP 115v/60/1 CTC1020XL	242012
3. BELT GUARD CTC1020XL	242013
4. BLADE GUARD SHAFT CTC1020XL	242014
5. BELT GUARD BRACKET CTC1020XL	242015
6. BLADE SHAFT ASSEMBLY CTC1020XL	242016
7. BELT RPF3230 13 X 560Li (1)	242017
8. HANDLE 26.5mmH X 7mmW X 93mmL RECTANGLE	242018
9. BRACKET MOTOR TENSION CTC1020XL	242019
10. RUBBER STOP 6mm DIA	242020
11. SWITCH ASSEMBLY CTC1020XL	242021
12. BRACKET BLADE SHAFT HOUSING CTC1020XL (2)	242022
13. WASHER M8 DIN125 FLAT	232110
14. WASHER M6 DIN125 FLAT	27539
15. WASHER M6 DIN125 FLAT	27539
16. WASHER M8 LOCK DIN127B	228115
17. WASHER M6 LOCK DIN127B	224238
18. NUT M8 1.25 DIN934 HEX	300273
19. SCR M8 X 55 1.25 DIN912 SOCKET HEAD CAP	242023
20. SCR M6 X 20 1.0 DIN912 SOCKET HEAD CAP	242024
21. SCR M8 X 70 1.25 DIN912 SOCKET HEAD CAP	242025
22. NUT M8 1.25 DIN985 LOCK	242026

DESCRIPTION	PART NO
23. SCR M6 X 10 1.0 DIN933	235137
24. SCR M8 X 12 1.25 DIN933	242027
25. SHIELD SWITCH CTC1020XL	242028
26. BOOT SWITCH CTC1020XL	242029
27. THERMAL RESET 15A W/BOOT CTC1020XL	242030
28. SWITCH W/BOOT CTC1020XL	242031
29. PULLEY 54mm OD X 16mm ID 1G	242032
30. KEY 5X5X30mm	242033
31. SCR M6 X 10 1.0 SET DIN916	235076
32. BOOT THERMAL RESET BUTTON CTC1020XL	242034
33. SWITCH BOX HOUSING BOTTOM CTC1020XL	242085
34. CABLE GROMMET D9 2 CABLE	242086
35. CABLE BOOT D9 2 CABLE	242087
36. CABLE CLAMP	242088
37. SWITCH BOX COVER (TOP) CTC1020XL	242089
38. SCR M3 X 8 0.5 DIN965 PHILLIPS	242090
39. SCR M4 X 8 0.7 DIN966 PHILLIPS	235099
40. JUNCTION BOX CTC1020XL	242091
41. SCR M4 X 16 0.7 DIN966 PHILLIPS	242092
42. NUT M4 0.7 HEX DIN439	242093
43. SCR M4 X 8 0.7 DIN966 PHILLIPS	235099
44. CABLE GLAND POWER CABLE CTC1020XL	242094
45. CABLE POWER 18/3 AWG X 7.1" FEMALE	242095
46. CABLE POWER 18/3 AWG X 54.1" MALE	242096

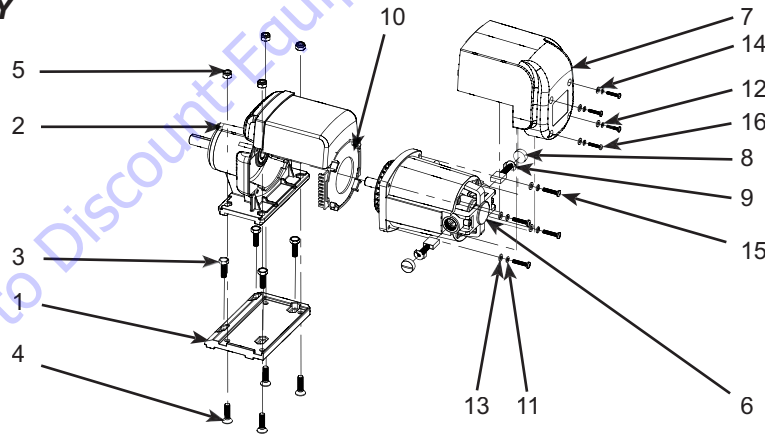
BLADE GUARD ASSEMBLY



DESCRIPTION	PART NO
1. BLADE GUARD CTC1020XL	242001
2. RIVET 4X3	242002
3. BRUSH BLADE GUARD (2)	242003
4. RETAINING CLIP WATER TUBE CTC1020XL	242004
5. WATER BAFFLE PLATE CTC1020XL	242005
6. HOSE 6mm ID X 8mm OD X 95mm	242006
7. ELBOW 90° 6.4mm OD	242007

DESCRIPTION	PART NO
8. ELBOW 90° 1/8MPT X 5/16" (8mm) YOR-LOK DOUBLE SLEEVE	242008
9. SPLASH GUARD CTC1020XL	242009
10. RIVET 6X4	242010
11. WASHER M6 DIN125 FLAT	27539
12. SCR M6 X 10 1.0 DIN933	235137
13. SCR M4 X 8 DIN966 PHILIPS	235099

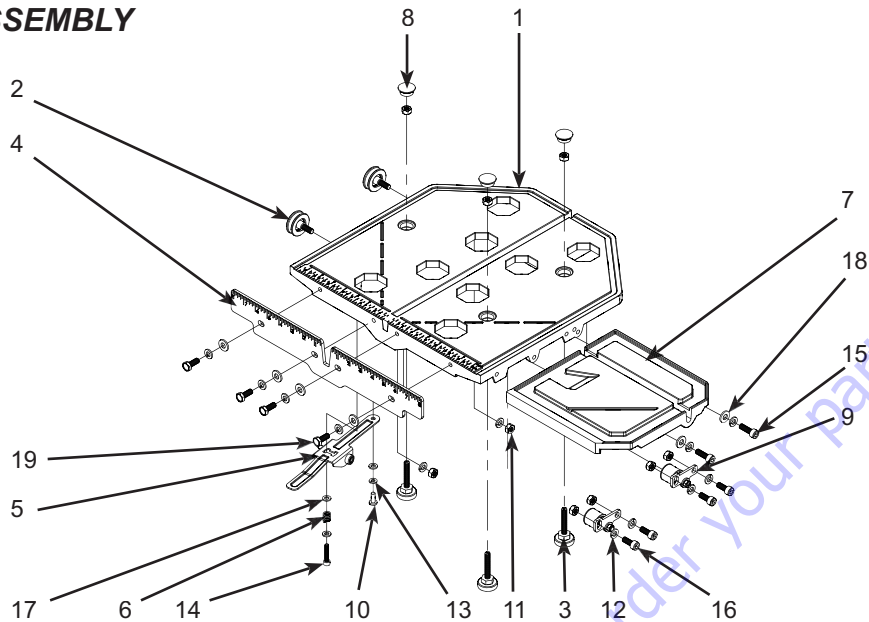
MOTOR ASSEMBLY



DESCRIPTION	PART NO
1. MOUNT BLOCK MOTOR CTC1020XL	242076
2. MOT 2HP 115v/60/1	242077
3. SCR M8 X 25 1.25 DIN933 HHC FULL THD	300323
4. SCR M8 X 30 1.25 DIN7991 HS C'SINK HEAD	300241
5. NUT M8 1.25 DIN934 HEX	300273
6. ARMATURE AND FIELD ASSY CTC1020XL	242078
7. MOTOR COVER CTC1020XL	242079
8. BRUSH CAP (1) CTC1020XL	242080

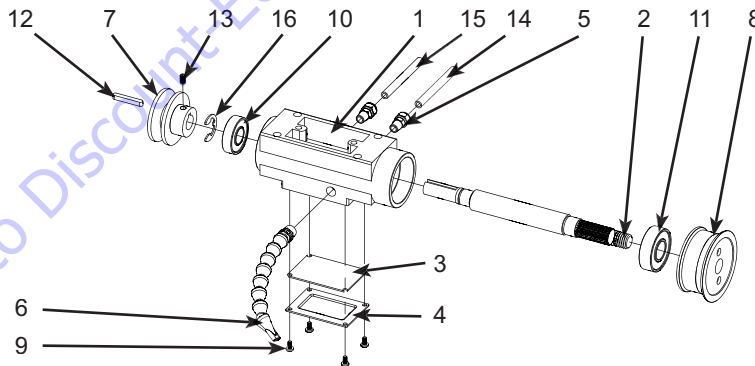
DESCRIPTION	PART NO
9. CARBON BRUSH 17mm X 7mm CTC1020XL (2)	242081
10. AIR BAFFLE CTC1020XL	242082
11. WASHER M5 LOCK DIN127B	502088
12. WASHER M4 LOCK DIN127B	242097
13. WASHER M5 DIN125 FLAT	235065
14. WASHER M4 DIN125 FLAT	235104
15. SCR M5 X 25 0.8 DIN7985 PHILLIPS	242082
16. SCR M4 X 16 0.7 DIN7985 PHILLIPS	242097

CUTTING TABLE ASSEMBLY



DESCRIPTION	PART NO	DESCRIPTION	PART NO
1. CUTTING TABLE CASTING CTC1020XL	242037	9. WHEEL ROLLER FLAT SET OF 2 (2) CTC1020XL	242045
2. WHEEL ROLLER GROOVED SET OF 2 (2) CTC1020XL	242038	10. SCR M6 X 10 1.0 DIN933	235137
3. WHEEL CONCENTRIC FLAT ROLLER (1) CTC1020XL	242039	11. NUT M8 1.25 DIN934 HEX	300273
4. RULER GUIDE CTC1020XL	242040	12. WASHER LOCK M8 DIN127B	228115
5. SPRING LOCK ASSEMBLY CTC1020XL	242041	13. WASHER LOCK M6 DIN127B	242046
6. SPRING CTC1020XL	242042	14. SCR M6 X 30 1.0 DIN912 SOCKET HEAD CAP	242047
7. SIDE EXTENSION TABLE W/HARDWARE CTC1020XL	242043	15. SCR M8 X 25 1.25 DIN912 SOCKET HEAD CAP	242048
8. CAP RUBBER CTC1020XL	242044	16. SCR M8 X 20 1.25 DIN912 SOCKET HEAD CAP	408150
		17. WASHER M6 DIN125 FLAT	27539
		18. WASHER M8 DIN125 FLAT	232110
		19. SCR M8 X 20 1.25 DIN933	235013

LCBH ASSEMBLY



DESCRIPTION	PART NO	DESCRIPTION	PART NO
1. BEARING HOUSING BLADE SHAFT CTC1020XL	242052	9. SCR M4 X 8 DIN966 PHILIPS	235099
2. BLADE SHAFT CTC1020XL	242053	10. BEARING RADIAL 6203-2Z	233012
3. GASKET RUBBER BEARING HOUSING CTC1020XL	242054	11. BEARING RADIAL 6204-2Z	233012-1
4. WATER CHANNEL COVER CTC1020XL	242055	12. KEY 5X5X30mm	242060
5. CONNECTOR M10 MALE X 7.5	242056	13. SCR M6 X 10 1.0 SET DIN916	235076
6. HOSE FLEXIBLE ASSEMBLY CTC1020XL	242057	14. HOSE 6mm ID X 8mm OD X 240mm	242061
7. PULLEY 57mm OD X 16mm ID 1G	242058	15. HOSE 6mm ID X 8mm OD X 1000mm	242062
8. COLLAR TIGHT (INNER FLANGE)	242059	16. RETAINING RING E-STYLE 15mm X 1.55mm DIN6799	242063

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