

# **EA20/25/30 Motor**

## **Safety, Operation, Maintenance & Parts Manual**

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<b>LT70H AH</b>	<b>rev. A2.01</b>
<b>LT70L Series</b>	<b>rev.B6.03</b>
<b>LT70S/M Series</b>	<b>rev. C7.04</b>

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**Safety is our #1 concern!** Read and understand all safety information and instructions before operating, setting up or maintaining this machine.

*Form #976*

## Table of Contents


## Section-Page


<b>SECTION 1</b>	<b>SAFETY &amp; GENERAL INFORMATION</b>	<b>1-1</b>
1.1	Motor Operation .....	1-1
1.2	Electrical Operation.....	1-1
<b>SECTION 2</b>	<b>OPERATION</b>	<b>2-1</b>
2.1	Starting The Motor .....	2-1
<b>SECTION 3</b>	<b>MAINTENANCE</b>	<b>3-1</b>
3.1	Drive Belt Adjustment.....	3-1
<b>SECTION 4</b>	<b>REPLACEMENT PARTS</b>	<b>4-1</b>
4.1	How To Use The Parts List .....	4-1
4.2	Sample Assembly .....	4-1
4.3	Motor Starter Assembly .....	4-2
4.4	Motor Assembly .....	4-4
4.5	Motor Pulley Guards, EA20EA25.....	4-5
4.6	Power Cord Bracket, RC Sawmill.....	4-6
<b>SECTION 5</b>	<b>BRAKE AIR GAP ADJUSTMENT</b>	<b>5-1</b>
<b>SECTION 6</b>	<b>BRAKE AIR GAP ADJUSTMENT, TAMEL MOTORS</b>	<b>6-1</b>

**Table of Contents**


**Section-Page**


## SECTION 1 SAFETY & GENERAL INFORMATION

 **IMPORTANT!** This manual is provided as a supplement to the equipment manufacturer's manuals. This manual takes into account the specific use of engines on the Wood-Mizer sawmill. Only safety, maintenance, and operating procedures that are not provided by the manufacturer are supplied in this manual. Refer to the manufacturer's manual before attempting to operate this equipment.


 This symbol calls your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions. This symbol accompanies a signal word. The word **DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. **WARNING** suggests a potentially hazardous situation which, if not avoided, could result in death or serious injury. **CAUTION** refers to potentially hazardous situations which, if not avoided, may result in minor or moderate injury to persons or equipment. Read all safety instructions before operating this equipment and observe all safety warnings!

### 1.1 Motor Operation


 **DANGER!** Always be sure the blade is disengaged and all persons are out of the path of the blade before starting the engine or motor. Failure to do so will result in serious injury.

 **WARNING!** Do not for any reason adjust the motor drive belts or belt support bracket with the motor running. Doing so may result in serious injury.

**WARNING!** Remove the blade before performing any motor service. Failure to do so may result in serious injury.

 **WARNING!** Be sure the power feed switch is in the neutral position before turning the key switch to the (#1) or (#2) position. This prevents accidental carriage movement, which may cause serious injury or death.

### 1.2 Electrical Operation

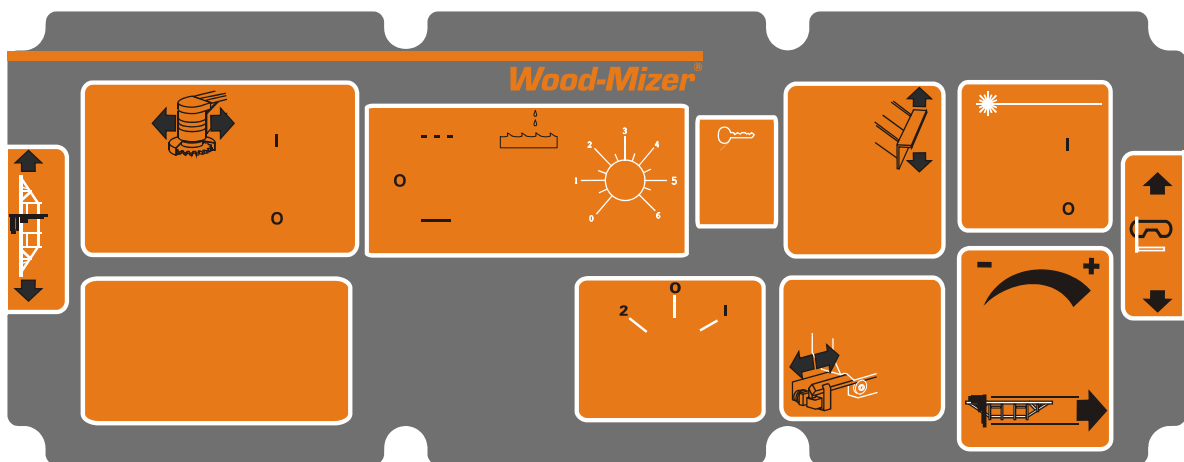
 **DANGER!** Make sure all electrical installation, service and/or maintenance work is performed by a qualified electrician and is in accordance with applicable electrical codes.

**DANGER!** Hazardous voltage inside the disconnect box, starter box, and at the electric motor can cause shock, burns, or death. Disconnect and lock out power supply before servicing! Keep all electrical component covers closed and securely fastened during mill operation.

## SECTION 2 OPERATION

### 2.1 Starting The Motor

#### Control Box



RYS. 2-0

### Motor Start



**IMPORTANT!** When starting the machine for the first time, check that main motor rotation direction is as indicated by the arrow located on the motor body (fan guard). If the rotation direction is incorrect, invert the phases in the phase inverter located in the power socket (electric box). Setting the phases in the phase inverter correctly will ensure correct rotation directions of all sawmill motors.



**DANGER!** Always be sure the blade is disengaged and all persons are out of the path of the blade before starting the engine or motor. Failure to do so will result in serious injury.



**WARNING!** Be sure the power feed switch is in the neutral position before turning the key switch to the (#1) or (#2) position. This prevents accidental carriage movement which may cause serious injury or death.

Turn the key switch to the start (#1) position and press the “START” button on the control panel.

### Motor Shutoff

Turn the key switch to the off (#0) position and press the “STOP” button on the control panel.

## SECTION 3 MAINTENANCE



This symbol identifies the interval (hours of operation) which each maintenance procedure should be performed. "AR" signifies maintenance procedures which should be performed as required.

### 3.1 Drive Belt Adjustment



Periodically check all belts for wear. Replace any damaged or worn belts as needed.



**DANGER!** Do not for any reason adjust the drive belt support with the motor running. Always stop the motor before reaching or looking into the drive belt area.

## SECTION 4 REPLACEMENT PARTS

### 4.1 How To Use The Parts List

- Use the table of contents or the index to locate the assembly that contains the part you need.
- Go to the appropriate section and locate the part in the illustration.
- Use the number pointing to the part to locate the correct part number and description in the table.
- Parts shown indented under another part are included with that part.
- Parts marked with a diamond (◆) are only available in the assembly listed above the part.

See the sample table below. Sample Part #A01111 includes part F02222-2 and subassembly A03333. Subassembly A03333 includes part S04444-4 and subassembly K05555. The diamond (◆) indicates that S04444-4 is not available except in subassembly A03333. Subassembly K05555 includes parts M06666 and F07777-77. The diamond (◆) indicates M06666 is not available except in subassembly K05555.

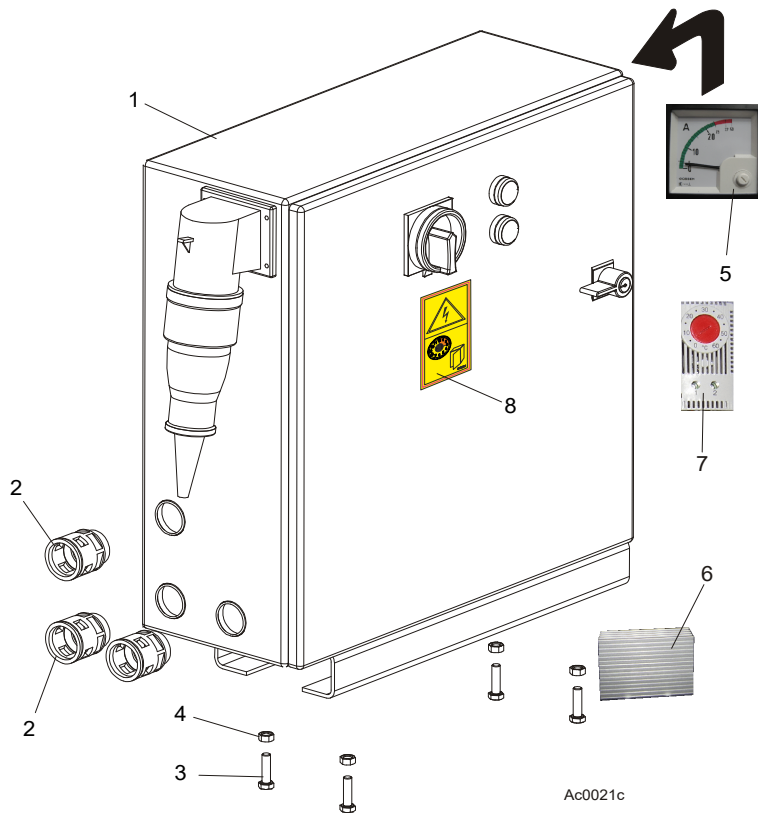
<b>4.2 Sample Assembly</b>				
REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	<b>SAMPLE ASSEMBLY, COMPLETE (INCLUDES ALL INDENTED PARTS BELOW)</b>	A01111	1	
1	Sample Part	F02222-22	1	
	Sample Subassembly (Includes All Indented Parts Below)	A03333	1	
2	Sample Part (◆ Indicates Part Is Only Available With A03333)	S04444-4	1	◆
	Sample Subassembly (Includes All Indented Parts Below)	K05555	1	
3	Sample Part (◆ Indicates Part Is Only Available With K05555)	M06666	2	◆
4	Sample Part	F07777-77	1	

#### To Order Parts:

- From Europe call our European Headquarters and Manufacturing Facility in Kolo, Poland at **+48-63-2626000** or **+48-3912-1319**. From the continental U.S., call **1-800-448-7881** to order parts. Have your customer number, vehicle identification number, and part numbers ready when you call.
- From other international locations, contact the Wood-Mizer distributor in your area for parts.



### 4.3 Motor Starter Assembly



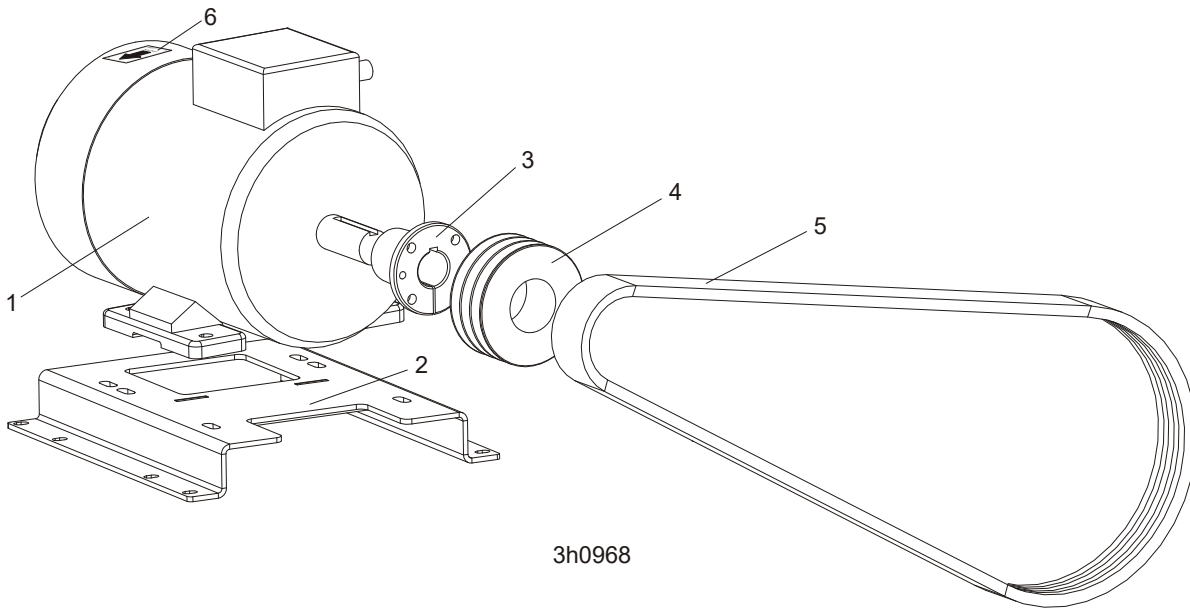
REF.	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY
1	BOX, LT70 W/PLC1 STARTER	093021-PLC1	1
	BOX, LT70 W/PLC2 STARTER	093021-PLC2	
	BOX, LT70 W/ACC2 STARTER	093021-ACC	
	BOX,SUPER AC (LT70-RSW) STARTER	093021-SW	1
2	CONNECTOR, GP29 CLICK 6180 0910	086576	3
3	BOLT, M8 X 30-8.8-B HEX HEAD	F81002-7	4
4	NUT, M8-8-B HEX	F81032-1	4
	CONTROLLER, ATV31HU11M2 220V/1.5KW ELECTRIC MOTOR SPEED	093487	1
	CORD, 61746970 RILL 21	086557	1.15 m
	CORD, 61746980 RILL 29	086558	1.15 m
	NUT, 53019050 GMP-GL 21	086559	1
	NUT, 53019060 GMP-GL 29	086560	1
	RING, 021 SEALING 5200 5750	086578	1
	RING, 029 SEALING 5300 1040	086579	1
	SLEEVE, CONNECTOR NW 6.3/1	F81079-4	4
5	AMMETER, EQB72 25/50A FOR E15 MOTOR (11 KW)	505371	1
	AMMETER, EQB72 25/50A FOR E20 MOTOR (15 KW)	505372	1
	AMMETER, EQB72 25/50A FOR E30 MOTOR (22 KW)	545719	1
	ARCTIC KIT, STARTER ASSY AC (OPTION)	087390	1
6	ELEMENT,SAREL S17502 HEATER	087388	1
7	THERMOREGULATOR, SAREL S87561	087389	1

**4****Replacement Parts***Motor Starter Assembly*

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	BOLT, #10-24X1/2 SELF TAPPING	F05015-7	4	
8	DECAL, "AFTER POWER SUPPLY DISCONNECTION, WAIT 15 MINUTES BEFORE YOU OPEN THE BOX"	546501	1	

## 4.4 Motor Assembly



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
	<b>LT70 WITH E20, E25, E30 EL. MOTORS</b>		<b>1</b>
	<b>LT70 WITH E20B, E25B ( WITHOUT BRAKE)</b>		
1	MOTOR, ELECTRIC 18.5 KW/25HP EURO- E25	085519	1
	MOTOR, 15kW(20HP)380-420V ELECTRIC - E20	086856	1
	MOTOR, 1LE1002-1DA63-4AA4-ZB16 - E30	516234	1
	<b>LT70 WITH E20BS, E25BS ( WITH BRAKE)</b>		
1	MOTOR ASSEMBLY, 25HP (18.5KW) ELECTRIC EURO HPS	522988	1
	BRAKE, TAMEL S160 COMPLETE	083997	1
	DISK, BRAKE TAMEL S160	083998	1
	BRIDGE-RECTIFIER. TAMEL S160	084218-1	1
	MOTOR ASSEMBLY, 25HP (18.5KW) 230 V (NORWAY ONLY) HPS	522988-2	1
	MOTOR, 20HP (15KW) ELECTRIC EURO HPS	522987	1
	MOTOR, 22kW 1LE1002-1DA63-4AA4-ZF1-12 - E30	534490	1
2	MOUNT WELDMENT, LT70 EA25 ELECTRIC MOTOR	090089-1	1
3	SLEEVE, CONE,25hp ELECTRIC MOTOR KIT	085714	1
	TAPER LOCK, 1610-42 T3PBX3 1081	539908	1
4	PULLEY, EA15, EA30 ELECTRIC MOTOR (STANDARD)	085671 <sup>1</sup>	1
	PULLEY, 3-GROOVE MOTOR (OPTION)	087526 <sup>2</sup>	1
	PULLEY, 3XSPB N05839 MOTOR EC30	539907	1
5	BELT, 3BX 2437 Lp DRIVE E15/E30	089464	1
	BELT, 3BX74 DRIVE	014249 <sup>3</sup>	1
	BELT, XPB L=2410 5VX953 CONTINENTAL MOTOR EC30	539909	1
6	<b>DECAL, 2930 RPM MOTOR DIRECTION</b>	<b>S20097E<sup>4</sup></b>	<b>1</b>

<sup>1</sup> By using motor pulley (Part No. 085671) blade linear velocity of 24.7 m/s is reached.

<sup>2</sup> By using motor pulley (Part No. 087526) blade linear velocity of 28.5 m/s is reached.

<sup>3</sup> For E25 Motor (non CE version).

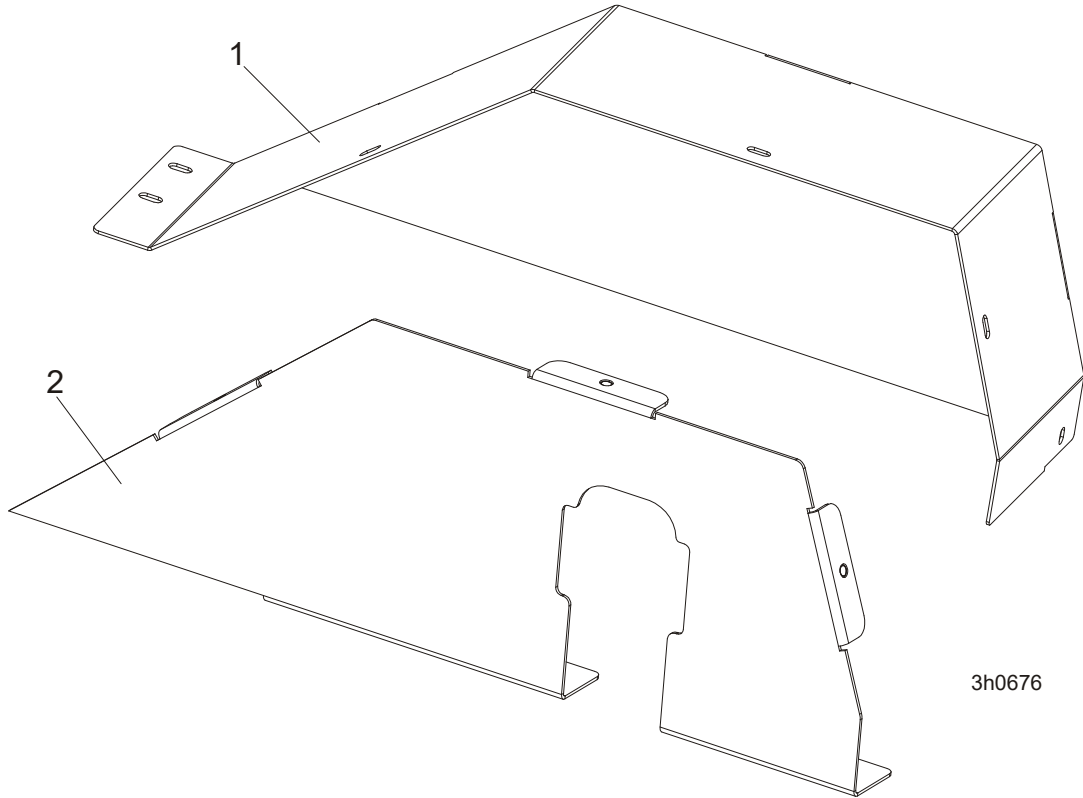
<sup>4</sup> Includes in 099518 - LT70AC Pictographic Decal Kit.

# 4

## Replacement Parts

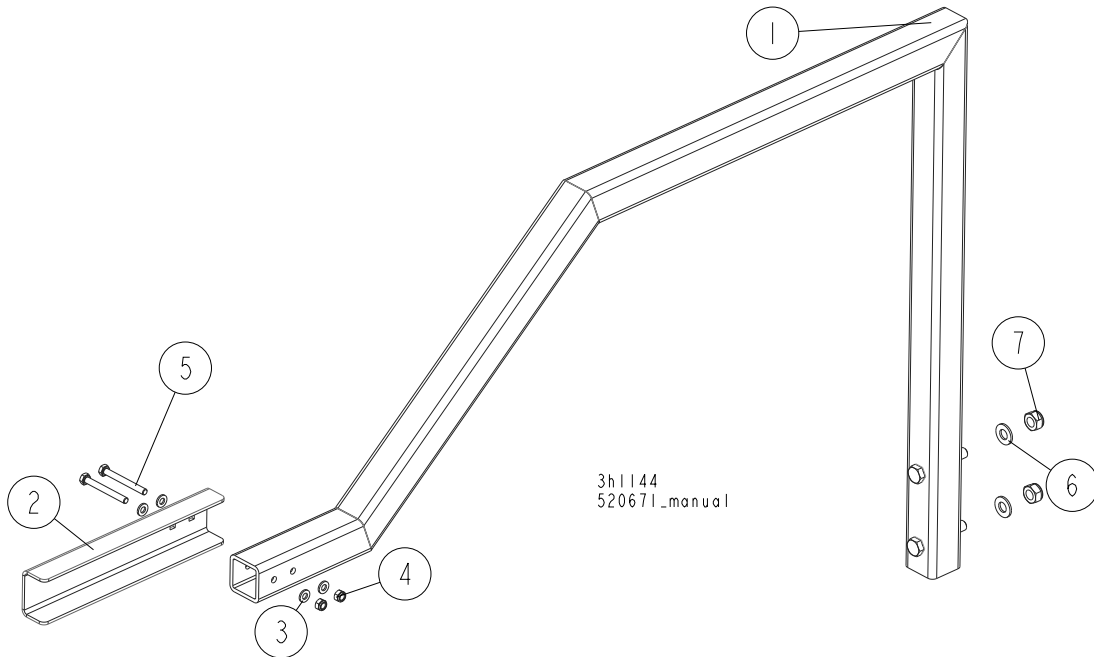
Motor Pulley Guards, EA20EA25

### 4.5 Motor Pulley Guards, EA20EA25



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
1	GUARD WELDMENT, LT70 EA25 MOTOR PULLEY	090046-1	1
2	GUARD WELDMENT, LT70 EA25 REAR PULLEY	090050-1	1

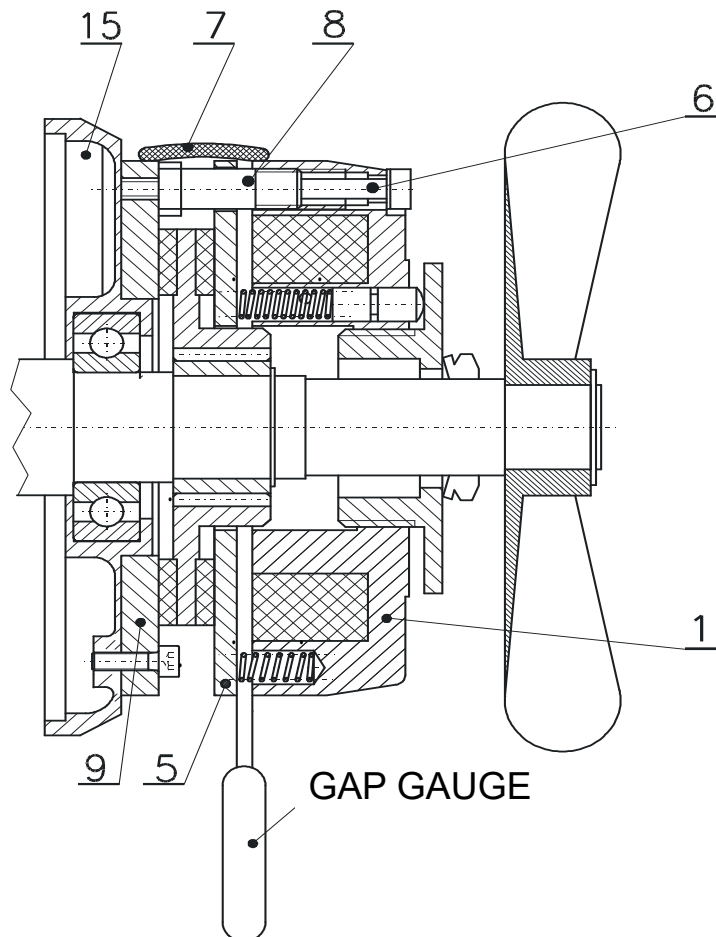
## 4.6 Power Cord Bracket, RC Sawmill



	DESCRIPTION (* Indicates Parts Available In Assemblies Only)	PART #	QTY
	BRACKET, POWER CORD LT70, COMPLETE	520671	
1	BRACKET, POWER CORD LT70	520659-1	1
2	GUIDE, CABLES TROLLEY	518733-1	1
3	WASHER 6.4 FE/ZN5 PN-78/M-82005	F81053-1	4
4	NUT M6-8-B-FE/ZN5 PN-85/M-82175.	F81031-2	2
5	BOLT M6X55-8.8-FE/ZN5 PN-M/82101	F81001-73	2
6	WASHER OKR. 10,5 FE/ZN5 PN-78/M-82005	F81055-1	2
7	NUT, M10-8-B HEX NYLON ZINC LOCK	F81033-1	2

## SECTION 5 BRAKE AIR GAP ADJUSTMENT

To ensure proper operation of the brake, it is necessary to set correctly the air gap between the armature and the electromagnet. Each time the brake is installed or the brake subassemblies are replaced or the motor overheats or the brake is inspected (**the inspection should be performed at least every six months**), check and, if necessary, adjust the brake air gap.



- 1 - body,
- 5 - armature,
- 6 - mounting bolt,
- 7 - brake casing,
- 8 - adjustment bolt,
- 9 - mounting disk,
- 15 - bearing shield.

Adjustment of the brake air gap is performed when the gap has reached the maximum value (see Table 1), and always after dismantling the brake and replacing or performing maintenance of damaged subassemblies.

Table 1

Parameter	HPS 06	HPS 08	HPS 10	HPS 12	HPS 14	HPS 16	HPS 18	HPS 20	HPS 25
"a" nom.	0,20	0,20	0,20	0,30	0,30	0,30	0,30	0,30	0,40
"a" max.	0,50	0,50	0,50	0,70	0,80	1,00	1,20	1,20	1,40

To adjust the air gap, perform the following steps :

- Dismount the motor casing,
- Remove the brake casing (7),
- Loosen the mounting bolts (6) half a turn using an adequate allen wrench (see wrench sizes in Table 2),

Table 2

	HPS 06	HPS 08	HPS 10	HPS 12	HPS 14	HPS 16	HPS 18	HPS 20	HPS 25
Wrench size (mm)	3	4	5	5	6	6	6	8	8

- Screw the adjustment bolts (8) in the electromagnet body one turn using an adequate flat wrench (see wrench sizes in Table 3),

Table 3

	HPS 06	HPS 08	HPS 10	HPS 12	HPS 14	HPS 16	HPS 18	HPS 20	HPS 25
Wrench size (mm)	10	10	12	12	14	14	14	17	17

- Place the gap gauge (17) in the gap between the armature (5) and the electromagnet body (1). The thickness of the gauge should equal the nominal brake gap (see Table 1),

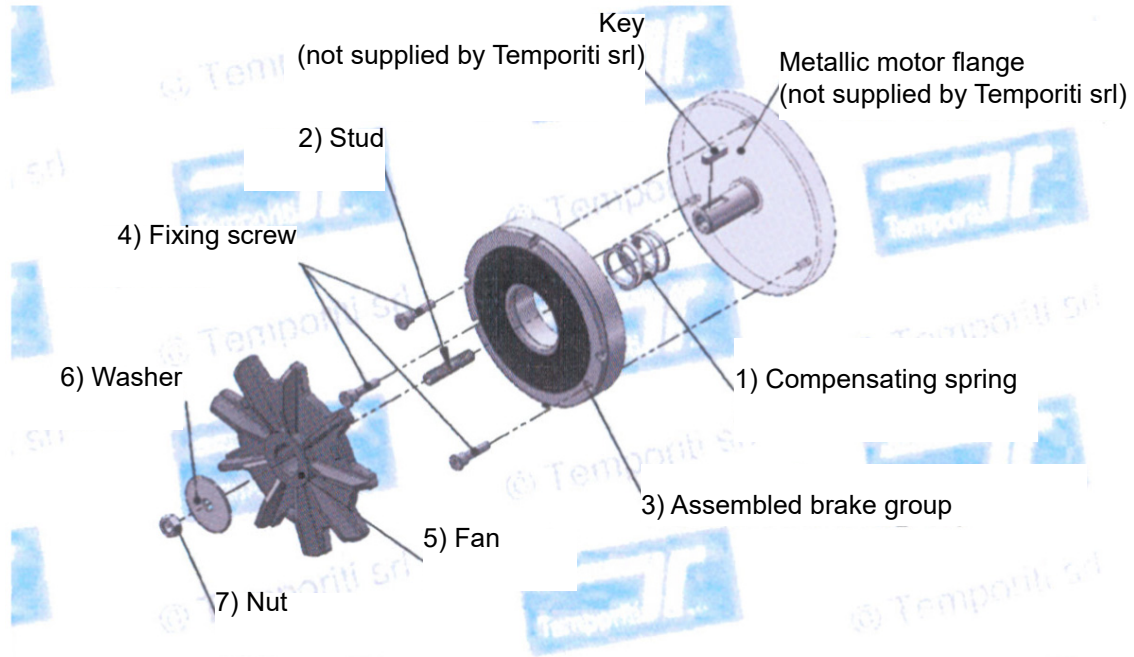
- Using the mounting bolts (6), press the body (1) to the armature so that the gap gauge can be removed at slight resistance and at the same resistance insert the gap gauge into gaps located every 120° from the place of the first measurement,

- Unscrew the adjustment bolts (8) so that they rest on the motor bearing shield or on the face of the brake mounting disk (9) (in brakes equipped with this element),

- Tighten the brake mounting bolts (6) and check the gap for correct adjustment with the gap gauge.

## SECTION 6 BRAKE AIR GAP ADJUSTMENT, TAMEL MOTORS

To ensure proper operation of the brake, it is necessary to set correctly the air gap between the armature plate and the electromagnet. Each time the brake is installed or the motor overheats or the brake is inspected (**the inspection should be performed at least every six months**), check and, if necessary, adjust the brake air gap.

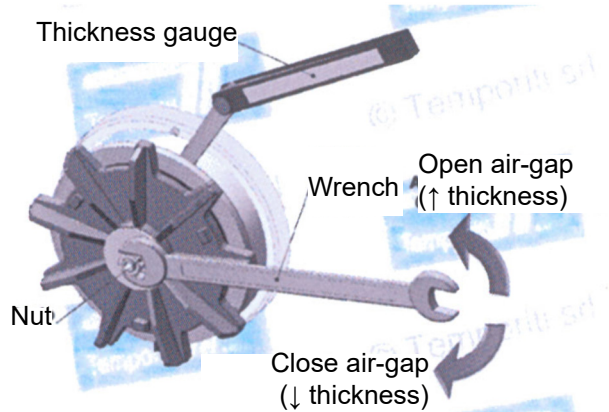


Adjustment of the brake air gap is performed when the gap has reached the value of 0,5mm and always after dismounting the brake.



To adjust the air gap, perform the following steps :

- Position the blade of the thickness gauge in the nearness of the fixing screws, between the magnet and the armature plate, as in the picture below, leaving it inserted for all adjusting.



- Adjust the thickness between the air gap according to the values in table 1, fix the hexagonal self-locking nuts previously positioned by screwing/unscrewing with the hexagonal key.
- Check the correct value of the air gap with a thickness gauge blade of 0,1 mm bigger then the thickness used in the previous point and check it does not enter.

Table 1

Air Gap	Value
Minimal	0.20 mm
Maximal	0.50 mm