

EXALMGER®
a CH Hanson brand



14" Cold Saw 230 V, 3-Phase

Model 9683337



**PLEASE READ AND SAVE
THESE INSTRUCTIONS.
READ CAREFULLY
BEFORE ATTEMPTING
TO ASSEMBLE, INSTALL,
OPERATE OR MAINTAIN THE
PRODUCT DESCRIBED.**

**PROTECT YOURSELF AND
OTHERS BY OBSERVING ALL
SAFETY INFORMATION. FAILURE
TO COMPLY WITH INSTRUCTIONS
COULD RESULT IN PERSONAL
INJURY AND/OR PROPERTY
DAMAGE! RETAIN INSTRUCTIONS
FOR FUTURE REFERENCE.**

**PLEASE REFER TO BACK COVER
FOR INFORMATION REGARDING
PALMGREN'S WARRANTY
AND OTHER IMPORTANT
INFORMATION.**

Model #: _____

Serial #: _____

Purch. Date: _____

GETTING STARTED

Save this manual

You will need this manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts lists and diagrams. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep this manual and invoice in a safe and dry place for future reference.

Structural requirements



Make sure all supporting structures and load attaching devices are strong enough to hold your intended loads. If in doubt, consult a qualified structural engineer.

Electrical requirements



This saw does not come with a plug, and can be wired to a plug or directly into the power main. Blue wire is neutral, brown is line wire, and yellow with a green stripe is ground.

The circuit must be configured to provide 230VAC at 10A, 3-phase, 60 Hz.

Tools needed

Standard professional mechanic's hand tool set.

UNPACKING

⚠ WARNING *Be careful not to touch overhead power lines, piping, lighting, etc. if lifting equipment is used. Cold Saw weighs approximately 463 lbs (210 kg); proper tools, equipment and qualified personnel should be employed in all phases of unpacking and installation.*

Carton should be handled with care to avoid damage from dropping, bumping, etc. Store and unpack carton with correct side up. Unpack all parts from the container. Check for damage as each piece is removed. Especially check the tubing located at the bottom of the motor for kinks, cuts, or other damage that would be detrimental to coolant flow. After unpacking Saw, inspect carefully for any damage that may have occurred during transit. Check for loose, missing or damaged parts. If any damage or loss has occurred, claim must be filed with carrier immediately. Check for completeness. Immediately report missing parts to dealer.

⚠ WARNING *Never use highly volatile solvents. Non flammable solvents are recommended to avoid possible fire hazard. Avoid getting cleaning solution on paint as it may tend to deteriorate these finishes. Use soap and water on painted components.*

Palmgren model 9683337 14" Cold Saw is shipped complete in one box. The saw comes assembled as one unit. Additional parts which need to be assembled or fastened to the saw should be located and accounted for before assembling.

IMPORTANT: Many unpainted steel surfaces have been coated with a protectant. To ensure proper fit and operation, remove the coating. Coating can be easily removed with mild solvents, such as mineral spirits, and a soft cloth. Avoid getting solution on paint or any of the rubber/plastic parts. Solvents may deteriorate these finishes. Use soap and water on paint, plastic

or rubber components. After cleaning, cover all exposed surfaces with a light coating of oil.

Package Contents:

Saw unit	1
Base/stand	1
Roller arm assembly	1
Trigger handle	1
Trigger handle rod	1
Depth stop rod set	1
Allen wrench set, sizes: 3, 4, 5, 6, 12	1 ea
Open-end wrench, size 42	1
Manual	1

Unpack



After unpacking the unit, carefully inspect for any damage that may have occurred during transit. Check for loose, missing or damaged parts. Shipping damage claims must be filed with the carrier.

Inspect



After unpacking the unit, carefully inspect for any damage that may have occurred during transit. Check for loose, missing or damaged parts. Shipping damage claims must be filed with the carrier.

All tools should be visually inspected before use, in addition to regular periodic maintenance inspections.

Be sure that the voltage labeled on the unit matches your power supply.



See General Safety Instructions, Cautions and Warnings as shown.

SAFETY RULES

⚠ WARNING *Completely read and understand this owner's manual before assembly or tool operation. Read and understand the warnings shown on the machine and in this manual. Failure to comply with all of these warnings may cause serious injury or death.*



PROPOSITION 65 WARNING: Some dust created by using power tools contain chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

Some examples of these chemicals are:

- Lead from lead-based paints
- Crystalline silica from bricks and cement and other masonry products.
- Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area and work with approved safety equipment. Always wear an **OSHA/NIOSH** approved, properly fitting face mask or respirator when using such tools.

⚠ WARNING *Always follow proper operating procedures as defined in this manual even if you are familiar with the use of this or similar tools. Remember that being careless for even a fraction of a second can result in severe personal injury.*

PREPARING FOR YOUR JOB

- Wear proper apparel. Do not wear loose clothing, neckties, rings, bracelets or other jewelry which may get caught up in moving parts of machine. Do NOT wear gloves.
- Wear protective hair covering to contain long hair.
- Wear safety shoes with non-slip soles.
- Wear safety glasses complying with United States ANSI Z87.1. Everyday glasses have only impact resistant lenses. They are **NOT** safety glasses. Use guards and eye shields.
- Wear face mask or dust mask if operation is dusty.
- Wear ANSI approved ear protection for extended operation.
- Be alert and think clearly. Never operate power tools when tired, intoxicated or when taking medications that cause drowsiness.
- Focus your attention completely on your work. Looking around, careless actions and other distractions can result in serious injury.

Preparing the work area for your job

- Keep work area clean. Cluttered work areas invite accidents.
- Do not use power tools in dangerous environments. Do not use power tools in damp or wet locations. Do not expose power tools to rain.
- Work area should be properly lighted.
- Proper electrical receptacle should be available for tool. Three-prong plug should be plugged directly into properly grounded, three-prong receptacle.
- Extension cords should have a grounding prong and the three wires of the extension cord should be of the correct gauge.
- Keep visitors at a safe distance from work area.
- Keep children out of workplace. Make workshop childproof. Use padlocks, master switches or remove switch keys to prevent any unintentional use of power tools.

Maintaining your tool

- Failure to follow the guidelines in this manual can result in serious injury.
- Disconnect the tool completely from its power supply before performing any service, maintenance, repair or adjustments.
- Follow OSHA lock-out, tag-out procedures to prevent accidental machine starts.
- Consult this manual for the proper use, specific maintenance, and adjustment procedures.
- Keep tool lubricated and clean for safest operation.
- Read and understand warnings posted on the machine and in this manual. Replace the warning labels if they become obscured or removed. Failure to comply with all of these warnings can result in serious injury.
- Before using the machine, check for damaged parts. Check for alignment of moving parts, binding, breakage, mounting issues and any other conditions that may affect operation.
- A guard or other part that is damaged should be properly repaired or replaced. Do not perform makeshift repairs. (Use parts list provided to order repair parts.)
- Use compressed air or a suitable brush to clear chips or debris — do not use your hands.
- Remove adjusting tools. Form habit of checking to see that adjusting tools are removed before switching machine on.

Know how to use your tool

⚠ WARNING *The operation of any tool can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear safety goggles complying with United States ANSI Z87.1. before commencing power tool operation.*



Think safety! Safety is a combination of operator common sense and alertness at all times when tool is being used.

- Use right tool for job. Do not force tool or attachment to do a job for which it was not designed.
- Disconnect tool when changing the blade.
- Avoid accidental start-up. Make sure that the tool power switch is in the OFF position before plugging in.
- Do not force tool. It will work most efficiently at the rate for which it was designed.
- Keep hands away from moving parts and cutting surfaces.
- Never leave tool running unattended. Turn the power off and do not leave tool until it comes to a complete stop.
- Do not overreach. Keep proper footing and balance.
- Never stand on tool. Serious injury could occur if tool is tipped or if blade is unintentionally contacted.
- Know your tool. Learn the tool's operation, application and specific limitations.
- Use recommended accessories. Use of improper accessories may cause risk of injury to persons.
- Handle workpiece correctly. Protect hands from possible injury.
- Turn machine off if it jams. Blade jams when it digs too deeply into workpiece. (Motor force keeps it stuck in the work.) Do not remove jammed or cut off pieces until the saw is turned off, unplugged and the blade has stopped.
- Adjust upper guide to just clear workpiece.
- Hold workpiece firmly against vise.
- DIRECTION OF FEED: Feed work into a blade or cutter against the direction of rotation of the blade or cutter only

SPECIFICATIONS

The saw features a solid cast iron vise to ensure durability. The saw is equipped with a miter gauge for performing many different operations.

Parameter	9683337	
Description	14" Cold Saw	
Blade diameter	14 in	355.6 mm
Blade thickness	0.112"	3mm
Arbor diameter	1.26in	32mm
Blade speed	40/80 rpm	
Machine dimensions	54" x 55" x 77"	
Base footprint	22" x 22"	
Max vise opening	6"	
Miter angle range	90°	
Cutting angle	45° Right - 45° Left	
Vise height from floor	41"	
Motor specs	3HP; 10A; 3~; 230V	
Motor RPM	1400 - 2800	
Coolant tank capacity	0.75 Gal	3 liters
Machine weight	463 lbs	210 kg

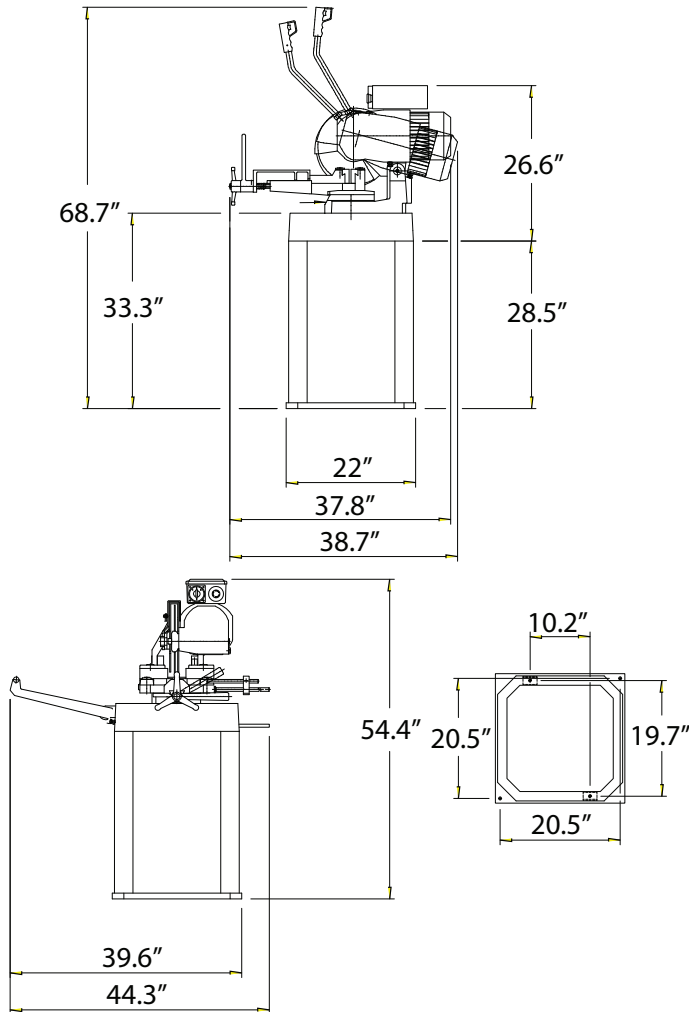
ASSEMBLY/INSTALLATION

Location

The saw must be installed on a structurally stable surface. The coolant pump output and inputs may extend below the coolant tank of the saw, when the saw is at rest. So ensure that the surface the saw is installed, does not restrict the coolant flow. Alternatively, the saw's rest position may be adjusted by changing the set bolt's height.

Machine dimensions

The following figure shows the approximate dimensions of the saw and its parts. When determining a final location for your machine, ensure there is enough clearance for both the operator and for technicians who will service the machine. Also, consider the size of large workpieces that may extend beyond the machine's table and require extra space.



Lifting and setting up the saw

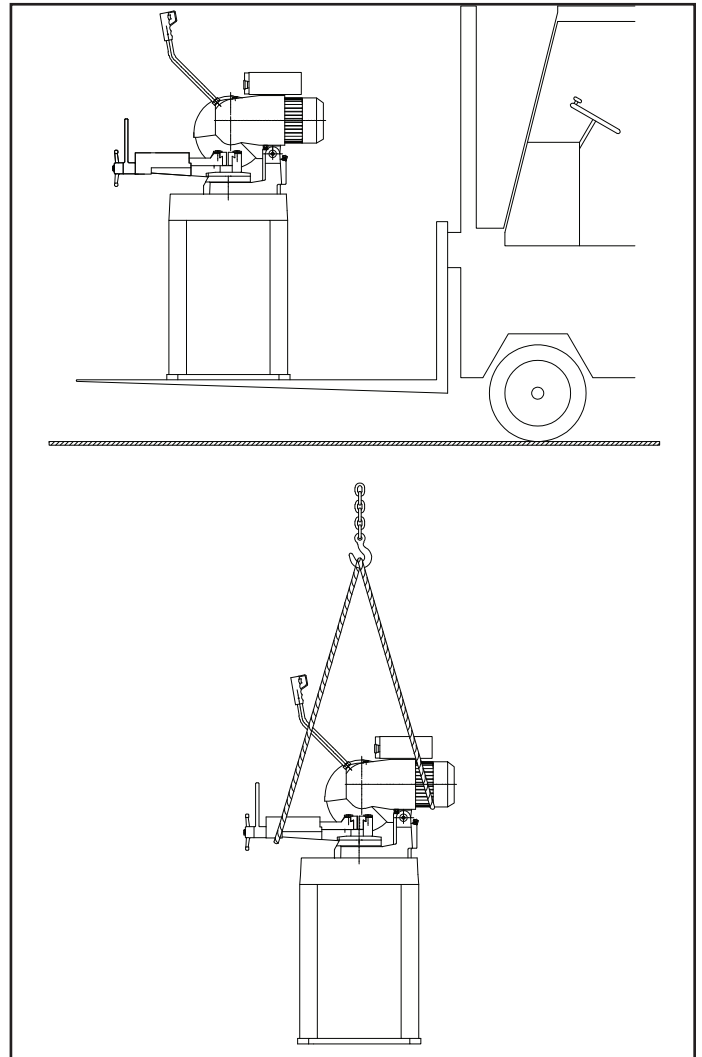
⚠ WARNING *Make certain that slings, cables, chains, forklifts or other load suspending gear or machines used to move this saw are properly rated to handle the weight. The saw is heavy.*

⚠ CAUTION *The saw must be properly secured and anchored before use. Make sure that it is supported equally on all four corners.*

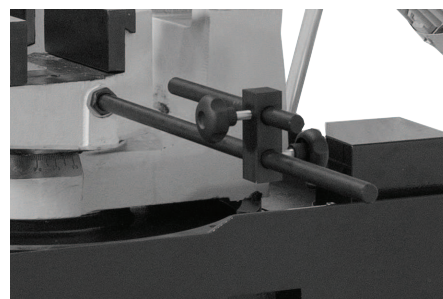
1. Remove any crating or overpacking materials which may be covering the machine. Leave the machine attached to the pallet.

NOTE: The saw is heavy, see "SPECIFICATIONS" Be certain any machine or devices used to lift the saw are capable of handling this weight. If manually lifting, ensure that enough people are performing the lift.

2. Ensure sufficient space is available for operation. See Machine Dimensions.
3. Remove all the nuts and/or bolts securing saw to the pallet.
4. Use a forklift or an overhead crane, or other suitable overhead lifting device and sling arrangement, centered over the frame as shown in the following figure.



- Carefully lift the saw off the pallet. Lift it no higher than necessary to clear the surface on which it is to be installed and pull the pallet out of the way. DO NOT put your hands or feet beneath the saw while moving it or removing the pallet.
- Place the saw into its final location.
- Level the saw using shims under the corners needing them. A highly accurate spirit or digital level should be used for leveling. It is very important that the saw be properly leveled for accurate performance.



Electrical Connection To The Mains

NOTE: Install a differential thermomagnetic switch with characteristics suited to the mains.

This saw does not come with a plug, and can be wired to a plug or directly into the power main. The ground wire is yellow with a green stripe. After wiring, check that saw blade spins in the correct direction as noted by the large arrow on the guard.

See "Parts List" on page 14 for all parts.

Assembly: Handle

- Slide the handle (item #24) onto shaft (item #25), and screw nut (item #50) onto the other end.
- Screw the assembly of items 24, 25, and 50 into the top of the saw, as shown below.



- Tighten the set screw, found in the handle, to lock handle to shaft.
- The nut on the end of the rod can be used to lock the whole handle's rod to face the desired direction.

Depth stop

- Slide long bar stopper rod into bar stopper, and tighten the handle screw.
- Position and screw into the side of the white base of the saw, as shown in the following figure.
- Use provided nut to lock the bar stopper in the upright position.

Saw Blade

Select the appropriate blade for the job as shown in "Blade Selection" on page 10.

To install the blade, remove the screw (33), keeping the motor-blade block raised and rotate the mobile guard (31) backward. Unscrew the screw (29) counterclockwise, withdraw the flange (28), and insert the circular blade, making sure that the teeth face the same direction as the arrow on the mobile guard. Then refit flange (28) and screw (29).

Cutting Coolant

For cooling of the circular blade, fill the tank with coolant consisting of a mixture of water and AGIP AQUAMET 700 EP oil with a percentage of 5-7%.

Lubrication

CAUTION *Do not operate this saw before adding lubricant and ensuring proper oil level. Failure to comply may damage the saw.*

For the coolant mix, use water with recommended AGIP Aquamet 700 EP oil, 5%-7%.

OPERATION

▲ WARNING Always wear safety glasses complying with U.S. ANSI Z87.1 before beginning any power tool operation.

▲ WARNING To avoid injury from unexpected starting, whenever changing the saw blade or carrying out adjustments, switch the saw off and remove the power cord from the mains outlet. To avoid injury to hands when handling the saw blade, wear gloves whenever necessary.

▲ CAUTION Do not operate before properly lubricating the saw. Failure to lubricate before using can damage the saw.

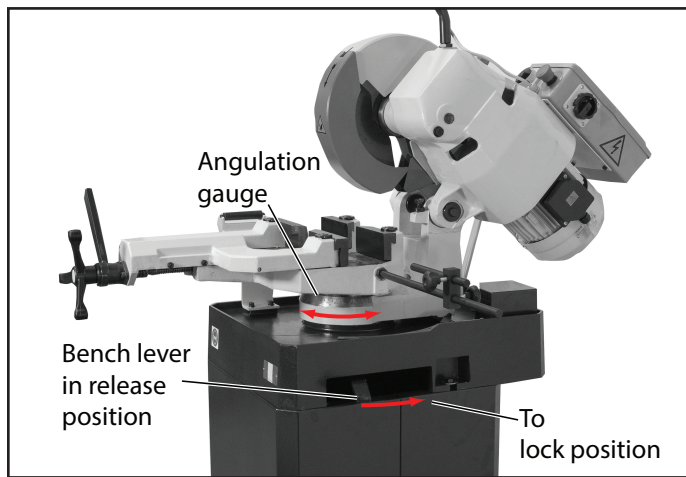
Cutting

▲ WARNING Power at the main power switch must be set to "O" (OFF) .

▲ WARNING Do not activate the saw if bolt (52) is not tightened.

Checks to carry out before each cut:

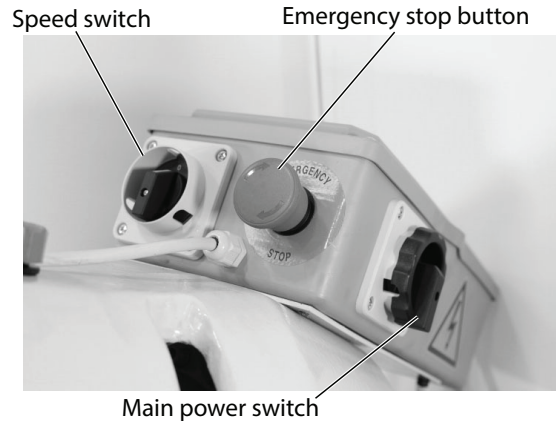
1. Verify that a suitable blade for the material to be cut is securely installed and that screw 28 is tight. (See "Blade Selection" on page 10. and "Parts List" on page 14.) If required, replace the blade as discussed in "" on page 89.
2. Verify the cutting angle. If required, set the cutting angle before cutting by placing the bench lever in its release position, rotating the saw until the appropriate angle is indicated by the angulation gauge, and forcefully pushing the bench lever to its lock position.



6. Without touching the micro switch, verify that the material to be cut is positioned as required by lowering the blade to the material. If everything is properly set, return to start position, otherwise adjust as required.
7. If required, to make a series of cuts of the same length, position the bar-stop (77) as required. Fix it into position using the knob (79, see "Parts List" on page 14) .

Cutting operation:

8. To prepare the saw to cut, flip the main power rotary switch from the "O" OFF, position to the "1" ON, position (See the following figure). This provides power to the microswitch that must be pressed to spin the saw blade in the next step.



9. Press and hold the micro switch 218 (see "Parts List" on page 14) located on the top handle, and the saw blade will begin to spin. Use the handle to slowly lower the blade into the stock to make the cut. If the micro switch is released the saw blade will stop rotating.

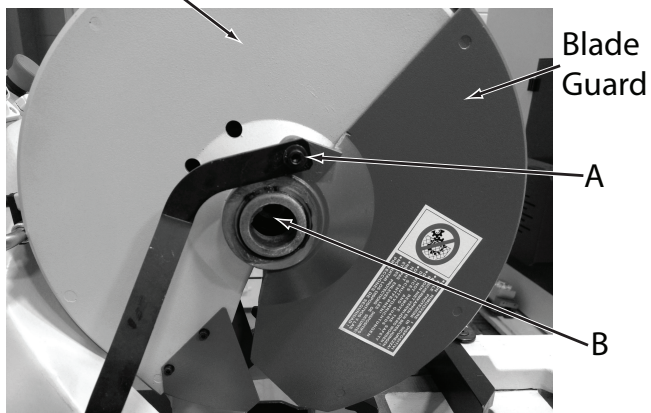
3. With the motor off , lower the head and check that at the end of the stroke , the circular blade does not touch the counter-vice (75) . If the circular blade does touch , adjust the screw (109) located at the center of the head support (4) (see "Parts List" on page 14).
4. Clamp the piece to be cut by means of the handwheel (11, see "Parts List" on page 14), turn the speed switch (203) to the position required (No. 1 is recommended), grasp the handle (26) located at the end of the head lever and press button (218). The blade will now start turning.
5. Make sure that the coolant is circulating in the machine .

CHANGING BLADES

To remove and replace the saw blade:

1. Make sure the cold saw is disconnected from the power.
2. Hold the saw blade still, by lowering the blade into a piece of wood set in the vise.
3. Unhook the guard rod (A) from the guard.

Blade Housing




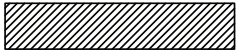


4. Remove Allen head screw (B).
5. Use gloves to safely remove the saw blade.
6. Follow these steps in the reverse order to install a new blade.

NOTE: The new blade will need to be broken in before full use.

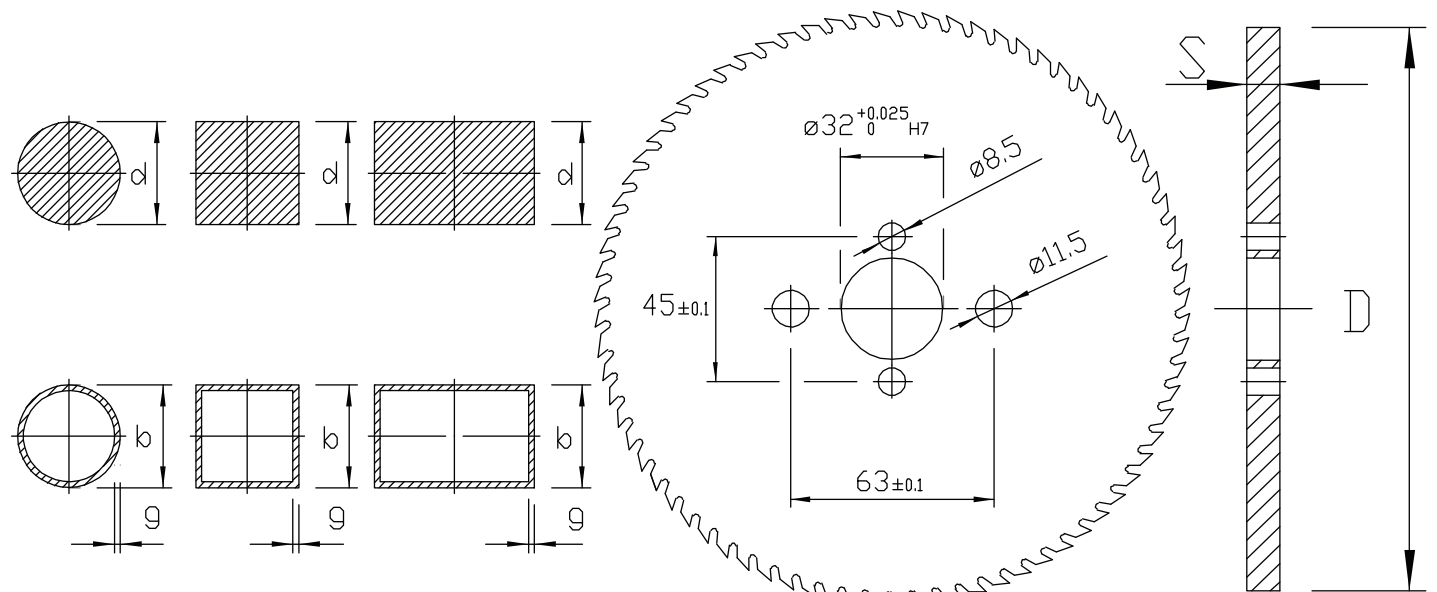
BLADE SELECTION

NOTE: Best performance of worm screw worm wheel gearing is guaranteed when circular saw blades with drawing-holes are used.

Cutting Capacity (values in parentheses are in mm)				
Cut				
90°	1.18" (30)	2.56" (65)	2.17" x 2.17" (55 x 55)	1.77" x 2.76" (45 x 70)
45°	1.18" (30)	2.36" (60)	1.97" x 1.97" (50 x 50)	1.57" x 2.36" (40 X 60)

Blade Selection (values in parentheses are in mm)								
Diameter		7.78" (200)	8.86" (225)	9.84" (250)	10.83" (275)	11.81" (300)	12.40" (315)	13.78" (350)
Thickness		0.07" (1.8)	0.07" (1.8)	0.08" (2)	0.10" (2.5)	0.10" (2.5)	0.10" (2.5)	0.12" (3)
b=0.39"-3.15" (10-80) g<(2)	t	0.12" (3)	0.12" (3)	0.12" (3)	0.12" (3)	0.12" (3)	0.12" (3)	0.12" (3)
	z	7.87" (200)	9.06" (230)	9.84" (250)	11.02" (280)	11.81" (300)	12.60" (320)	13.78" (350)
b= 0.39"-3.15" (10-80) g=0.08"-0.16" (2-4) d=0.39"-0.71" (10-18)	t	0.20" (5)	0.20" (5)	0.20" (5)	0.20" (5)	0.20" (5)	0.20" (5)	0.20" (5)
	z	5.12" (130)	5.51" (140)	6.30" (160)	6.70" (170)	7.48" (190)	7.87" (200)	8.66" (220)
b= 0.39"-3.15" (20-80) g=0.16"-0.39" (4-10) d=0.71"-1.18" (18-30)	t	0.31" (8)	0.31" (8)	0.31" (8)	0.31" (8)	0.31" (8)	0.31" (8)	0.31" (8)
	z	3.15" (80)	7.48" (90)	3.94" (100)	4.33" (110)	4.72" (120)	4.72" (120)	5.51" (140)
d=1.18"-1.57" (30-40)	t	0.39" (10)	0.39" (10)	0.39" (10)	0.39" (10)	0.39" (10)	0.39" (10)	0.39" (10)
	z	2.36" (60)	2.76" (70)	3.15" (80)	7.48" (90)	7.48" (90)	3.94" (100)	4.33" (110)
d>1.57" (40)	t				0.47" (12)	0.47" (12)	0.47" (12)	0.47" (12)
	z				2.76" (70)	3.15" (80)	3.15" (80)	7.48" (90)

NOTE: t = tothing pitch, z = number of teeth



TROUBLESHOOTING GUIDE

Symptom	Possible Cause(s)	Corrective Action
Teeth breaking	Coolant flow problem	Ensure proper coolant flow; hoses unclogged; nozzles pointed correctly, etc. Make sure coolant type is suitable for the saw.
	Material too hard	Check the blade speed and the type of blade you are using. Also be aware of feed pressure.
	Blade not worn-in correctly	With a new blade it is necessary to start cutting at half feeding speed. After the wearing-in period (a cutting surface of about 300 cm ² for hard materials and about 1000 cm ² for soft materials) the blade and feed speeds can be raised to normal values.
	Blade with excessively fine tooth pitch	The swarf wedges into the bottom of the teeth causing excessive pressure on the teeth themselves. Use a blade with coarser tooth pitch.
	New blade inserted in a partially completed cut	The surface of the cut may have undergone work hardening. When starting work again, use a lower blade speed and reduced feed pressure. A tooth from the old blade may be left in the cut: check and remove before starting work again.
Rapid tooth wear	Work piece not clamped firmly in place	Any movement of the work piece during cutting can cause broken teeth: check the vise, jaws and clamping pressure.
	Feed speed too slow	The blade runs over the material without removing it: increase feed speed.
	Blade speed too high	The teeth slide over the material without cutting it: reduce the blade speed.
	Insufficient coolant Incorrect fluid concentration	Check the coolant level and clean coolant lines and nozzles. Check and use the correct concentration.
	Material defective	The materials may present altered zones either on the surface, such as oxides or sand, or in section, such as under-cooled inclusions. These zones, which are much harder than the blade, cause the teeth to break: Discard or clean these materials.
Broken blade	Blade speed too high	Reduce blade speed.
	Teeth in contact with material before starting the cut	Always check the position of the blade before starting a new job.
	Insufficient coolant	Check the coolant level and clean coolant lines and nozzles.
Cuts not straight	Feed speed too high	Reduce feed speed.
	Blade not perpendicular to workpiece.	Adjust blade tracking according to instructions. If this proves unsuccessful, contact Palmgren technical support.
Green pilot lamp not lit when ON button pressed	No incoming power	Check connections at machine and power source.
	Lamp fuse or bulb is out	Replace fuse/bulb.

Symptom	Possible Cause(s)	Corrective Action
Motor will not turn	Emergency stop engaged	Rotate Emergency Stop button to disengage.
	Electrical power supply	Check: the phases; the cables; the plug; the socket. Also check that the motor connections are in place.
	Trigger switch not activating	Check that socket/plug connection from handle to motor is inserted correctly; check micro-switch in trigger.
	Transformer	Check that the voltages are present both on the input and output. Otherwise replace.
	Magnetic contactor	Check that the phases in it are present both on the input and output, that it is not jammed, that it closes when powered and that it is not causing short circuits. Change if any of these problems are found.
	Thermal relay	Make sure it is closed, i.e. check that the phases are present in input and output, that it is not causing short circuits and responds when the reset coil is closed. If it has tripped to protect the motor, check the amperage setting, reset, and check the motor. Change if necessary.
	Motor	Check that it has not burned out, that it turns freely and that there is no moisture in the connection terminal board box. The winding can be rewound or replaced by experienced motor repair personnel.

MAINTENANCE/REPAIR

Replacement of gear box oil

Place a container, labeled to indicate the contents for the purposes of disposal, beneath cap 22. Remove caps 95 and 22 (see “Parts List” on page 14), and let the used oil drain into the container . Replace cap 22. Pour 0.2 liters of oil (as specified above) into the oil feed hole located on the upper part of the gear box and then replace cap 95.

Lubrication of mobile parts of piece locking vise

Remove the vise (21) completely by turning hand wheel 11 (see “Parts List” on page 14) . Clean and grease the parts worked by the counter-vice 75, the vice 21 and the vice gib 101. Put a drop of oil in the oil feed hole 19 located behind the handwheel . Then install the vise.

Cleaning of the coolant tank : Filter check .

The coolant tank can be cleaned by simply removing the crucible 87 (see “Parts List” on page 14). Empty the coolant from the tank and collect the coolant in a container for future disposal . Clean away the shavings and the metallic powder , taking care not to scatter this over the machine especially around the motor and the box containing the electrical equipment .

Fill the tank with the 0.75 gal (3 liters) of coolant liquid: water and 5-7% AGIP AQUAMET 700 EP oil .

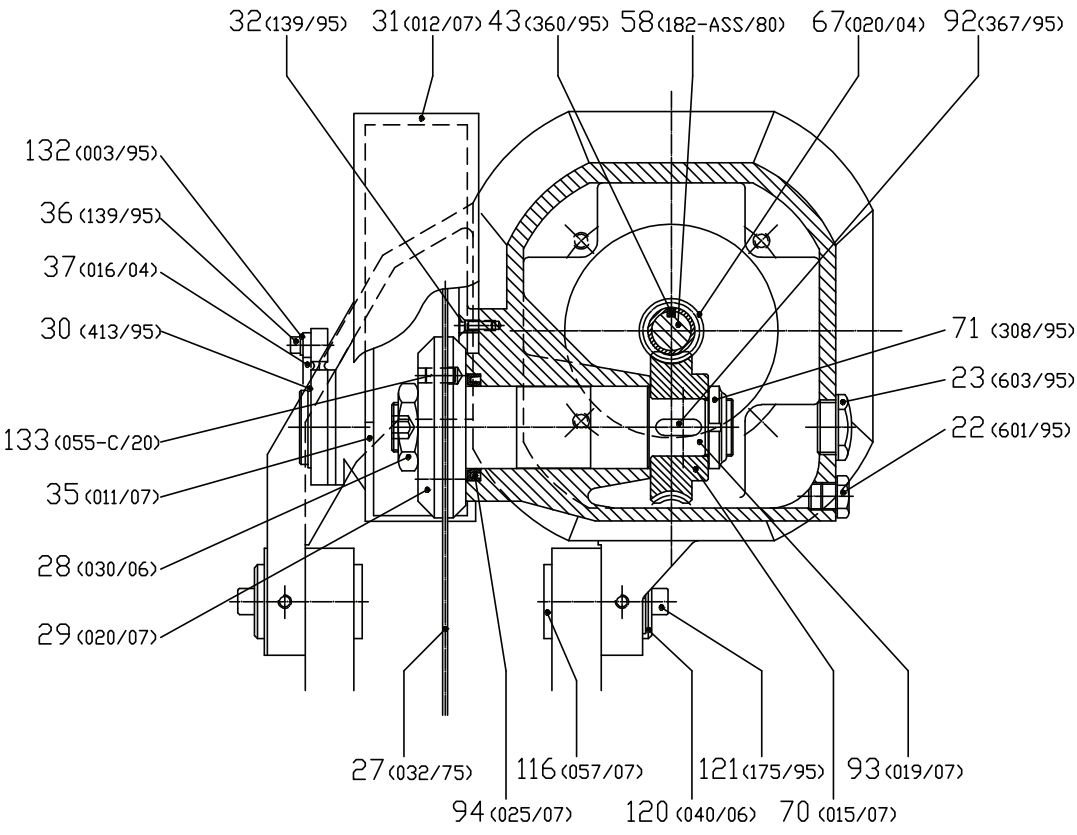
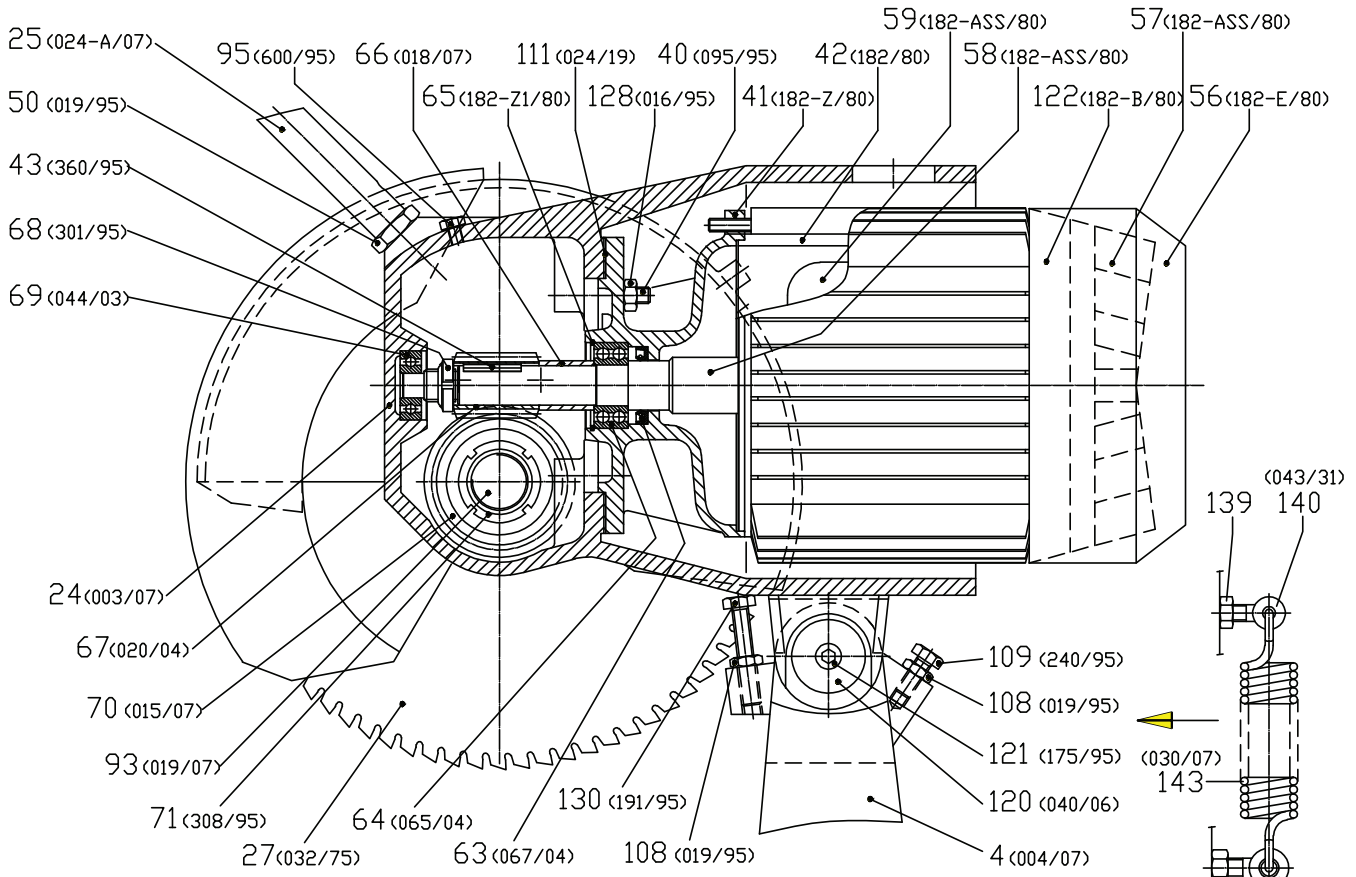
Checking of bench lever functioning

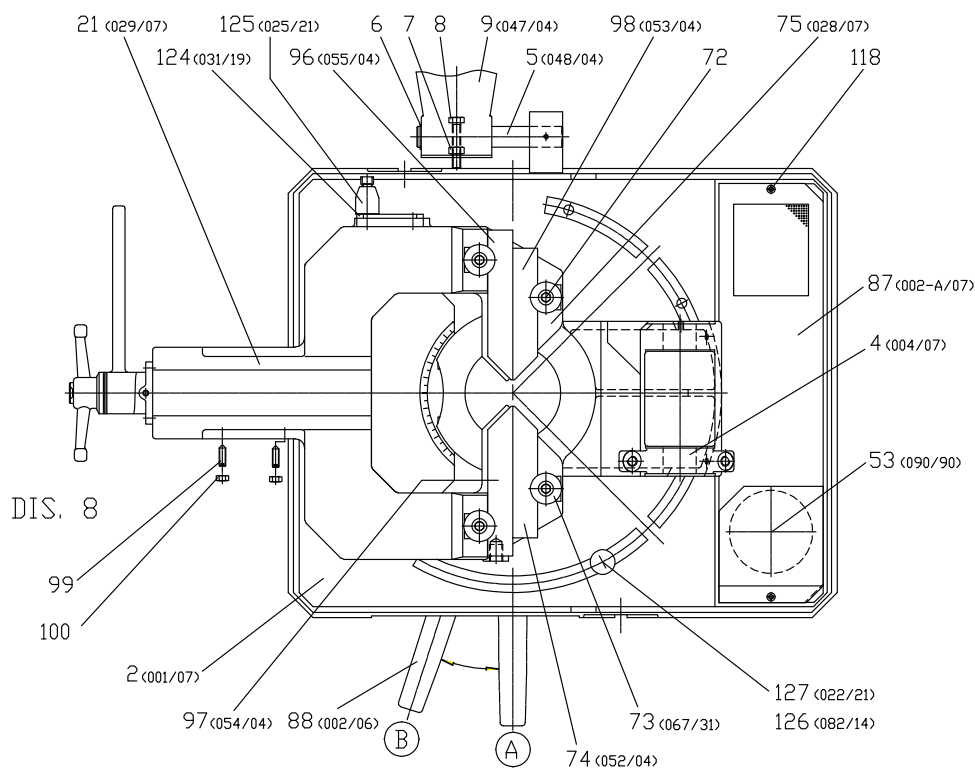
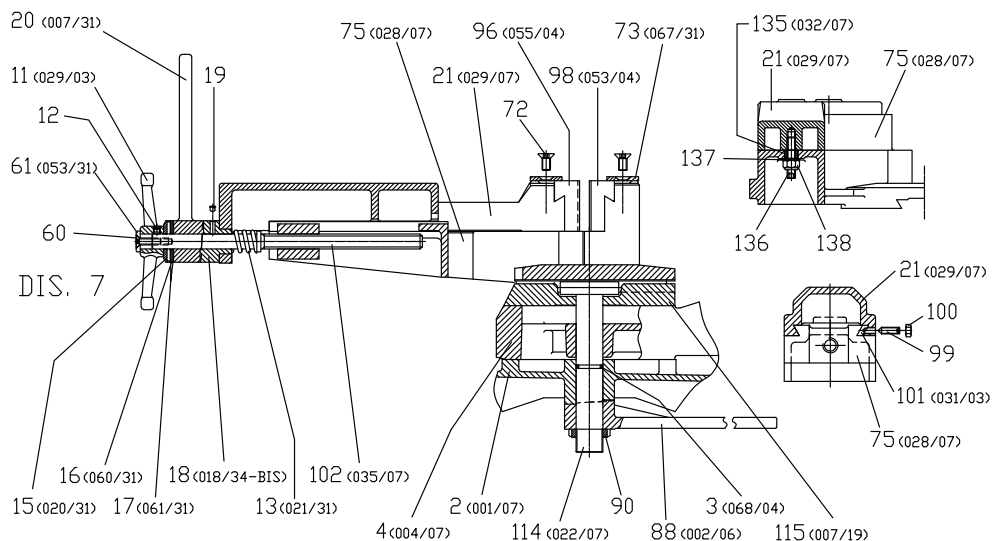
Check regularly that the rotation release - locking lever is working properly. If the lever does not lock correctly, loosen grub screw 91 (see “Parts List” on page 14), tighten nut 90 and tighten grub screw 91 again. Make sure that with the bench lever in position 2, arm 4 supporting the blade motor block can rotate freely .

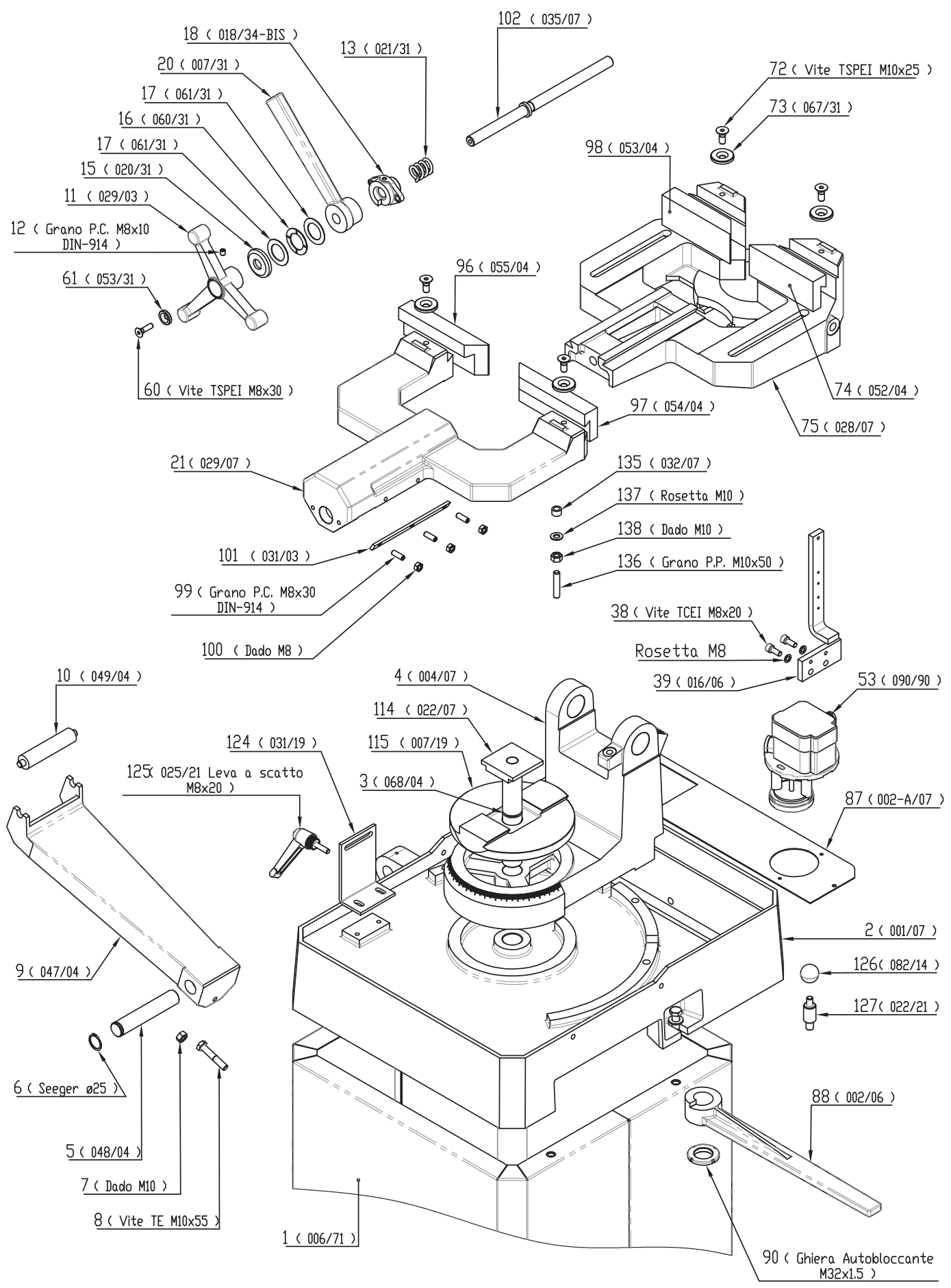
Suggested Maintenance Schedule

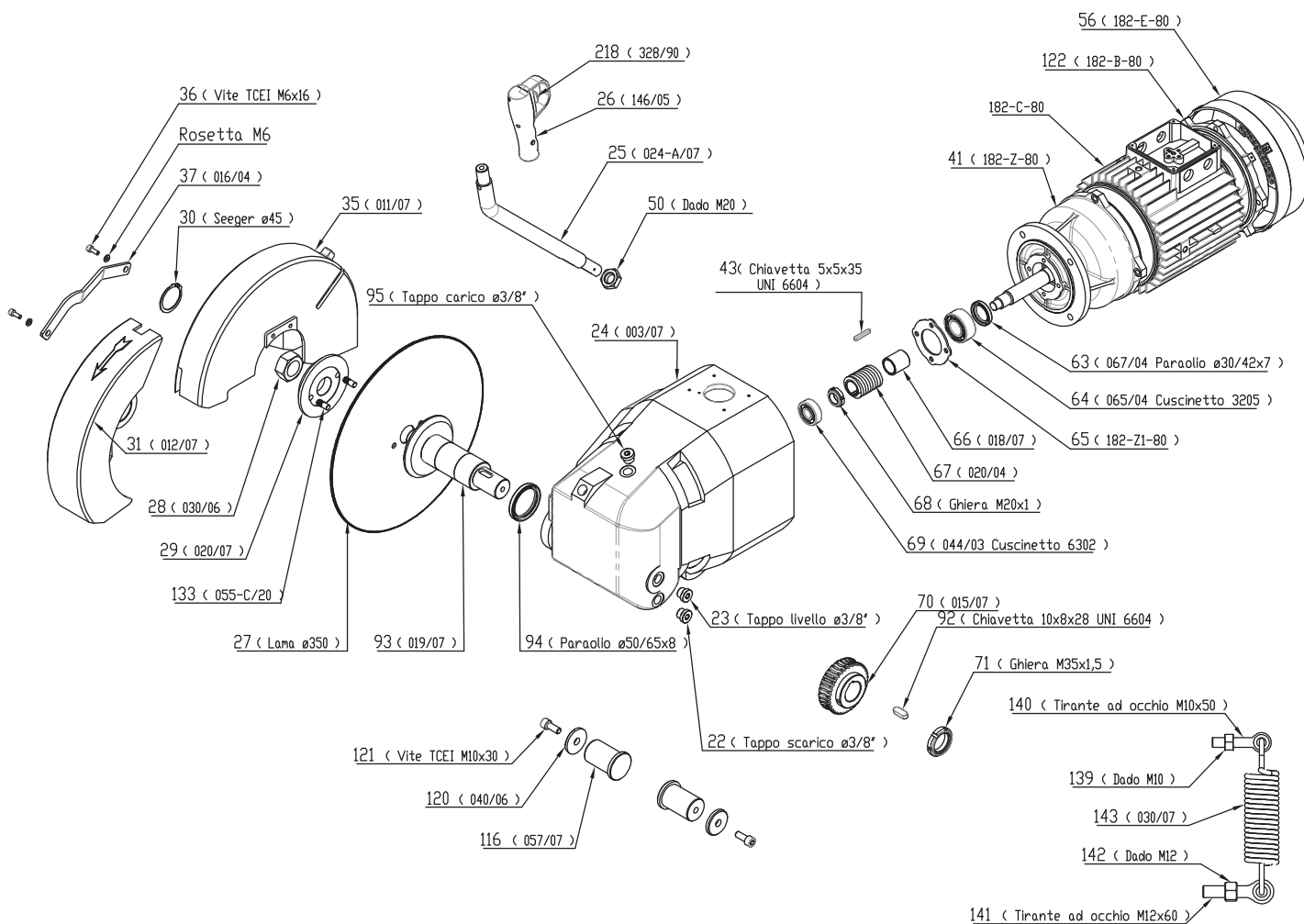
FREQUENCY (working hours)	OPERATION
1000 hrs or monthly	Replace the oil in the gear box with AGIP BLASIA 220 oil (0.2 litres) or equivalent.
1000 hrs or monthly	Lubricate mobile parts in the piece locking vise.
50 hrs or every 2 days	Clean coolant tank and check filter.

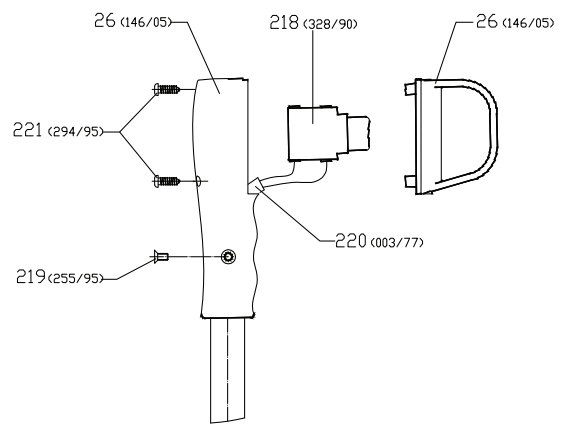
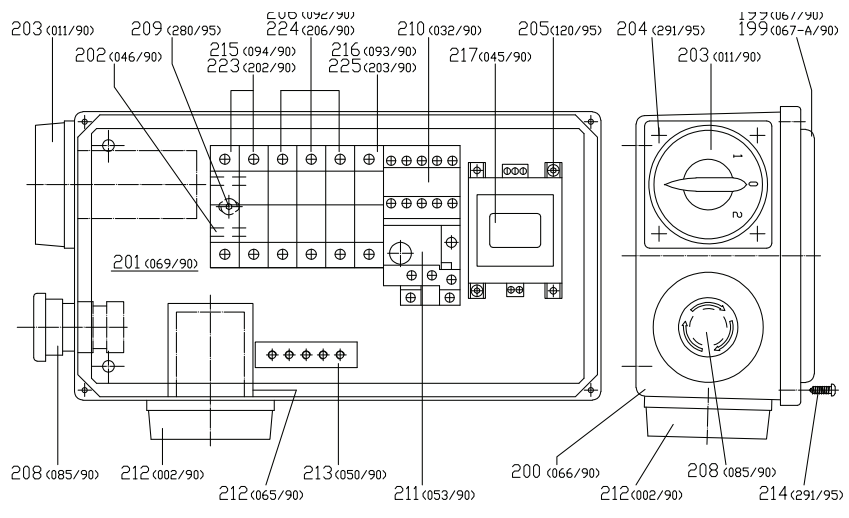
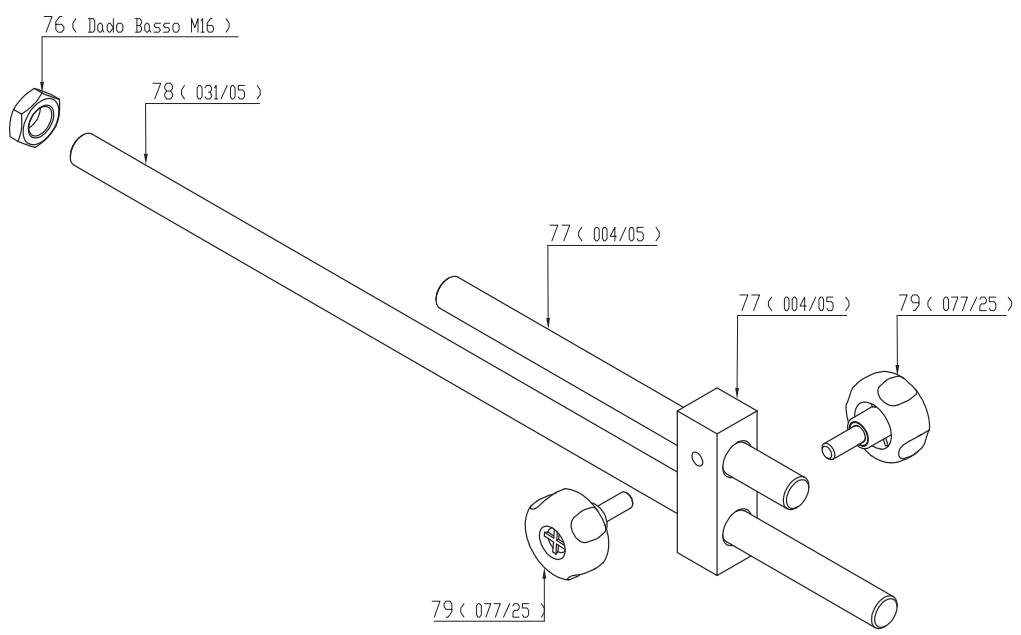
Parts List











POS.	DESCRIPTION	Part number	Qty
1	Pedestal	9644327.01	1
2	Base	N/A	1
3	O-Ring 134	9644328.01	1
4	Rotating arm	9644329.01	1
5	Roller arm pin	9644330.01	1
6	Snap ring ø25 DIN-471	*	1
7	Nut M10 DIN-934	*	1
8	Screw HH M10x55 DIN-934	*	1
9	Roller arm	9644331.01	1
10	Roller	9644332.01	1
11	Vice hand-wheel	9644333.01	1
12	Hexagon socket grub with cone point M8x10 DIN-914	*	1
13	Vice spring	9644334.01	1
14	Motor Assembly	9644408.01	1
15	Vice bearing flange	9644335.01	1
16	Cage AxK 30 47	9644336.01	1
17	Fifth wheel AS 30 47	9644337.01	2
18	Flanged bushing with spiral	9644338.01	1
19	Oiler ø6	9644339.01	1
20	Vice lever	9644340.01	1
21	Vice	9644341.01	1
22	Oil dram plug ø3/8"	9644342.01	1
23	Oil lever plug ø3/8"	9644343.01	1
24	Head	N/A	1
25	Head lever	9644344.01	1
26	Head lever handle	9644345.01	1
27	Disk	9644346.01	1
28	Disk nut	9644347.01	1
29	Disk flange	9644348.01	1
30	Snap ring ø45 E	*	1
31	Disk movable guard	9644349.01	1
32	HSHC screw M6x14 DIN-912	*	1
33	Divider	9644350.01	1
34			
35	Disk guard	9644351.01	1
36	HSHC screw M6x16 DIN-912	*	2
37	Movable blade cover rod	9644352.01	1
38	HSHC screw M8x20 DIN-912	*	2
39	Fixed blade cover rod	9644353.01	1
40	Dowel M10x45 DIN-914	*	1
41	Front motor flange	See Pos. 14	1
42	Motor	See Pos. 14	1
43	Key 5x5x35 DIN-6604	*	1
44	Bearing 6205 2Z	See Pos. 14	1

POS.	DESCRIPTION	Part number	Qty
45			
46			
47			
48			
49			
50	Hexagon lock nut M20 DIN-936	*	1
51			
52			
53	Electric pump	9644354.01	1
54			
55	No return valve	9644355.01	1
56	Fan guard	See Pos. 14	1
57	Fan	See Pos. 14	1
58	Rotor	See Pos. 14	1
59	Stator	See Pos. 14	1
60	HSFHC Screw M8x30 DIN-7991	*	1
61	Wascher	9644356.01	1
62	Cutting angle device	9644357.01	1
63	Oil retainer 30-42-7	See Pos. 14	1
64	Bearing 3205	See Pos. 14	1
65	Bearing lid	See Pos. 14	1
66	Worm screw spacer	See Pos. 14	1
67	Worm screw	See Pos. 14	1
68	Self-locking ring-nut M20x1	See Pos. 14	1
69	Bearing 6302	See Pos. 14	1
70	Helical gear	9644358.01	1
71	Self-locking ring-nut M35x1,5	*	1
72	HSFHC Screw M10x25 DIN-7991	*	4
73	Washer	*	4
74	Counter-vice right jaw	9644359.01	1
75	Counter-vice	9644360.01	1
76	Nut M16 DIN-936	*	1
77	Bar stop	9644361.01	1
78	Bar stopping rod	9644362.01	1
79	Bar stoppin hand-wheel	9644363.01	1
80			
81			
82			
83			
84			
85			
86			
87	Crucible	9644364.01	1
88	Bench lever	9644365.01	1

POS.	DESCRIPTION	Part number	Qty
89			
90	Selflocking ring nut M32x1.5	*	1
91			
92	Key 10x8x28 DIN-6604	*	1
93	Disk shaft	9644366.01	1
94	Oil retainer 50/65x8	9644367.01	1
95	Oil filling cap ø3/8"	9644368.01	1
96	Left vice jaw	9644369.01	1
97	Right vice jaw	9644370.01	1
98	Left countervise jaw	9644371.01	1
99	Dowel M8x25 DIN-914	9644372.01	1
100	Nut M8 DIN-934	*	1
101	Vice gib	9644373.01	1
102	Fast clamping vice screw	9644374.01	1
103	Support plate of low voltage control	9644375.01	1
104			
105			
106			
107			
108	Nut M12 DIN-936	*	1
109	HH screw M12x30 DIN-933	*	1
110	Hexagon socket grub screw M8x10 DIN-914	*	1
111	Head gasket	9644376.01	1
112			
113			
114	Countervise pin	9644377.01	1
115	Rotating plate	9644378.01	1
116	Head pin	9644379.01	1
117	Oiler ø6	9644380.01	1
118	HSCH screw M6x60 DIN-912	*	1
119	HSCH screw M8x20 DIN-912	*	1
120	Washer	*	1
121	HSCH screw M10x20 DIN-912	*	1
122	Rear motor flange	See Pos. 14	1
123	Washer	*	1
124	Countervise fastening bracket	9644381.01	1
125	Handle Jaccard M8x20	9644382.01	1
126	Sphere ø30 FM10	9644383.01	1
127	Positioning pin	9644384.01	1
128	Hexagon lock nut M10 DIN-936	*	1
129			
130	HH screw M12x80 DIN-933	*	1
131			
132	Washer x M6 DIN-125/A	*	1

POS.	DESCRIPTION	Part number	Qty
133	Stake ø9x18	9644385.01	1
134			
135	Vice bush	9644386.01	1
136	Grub screw M10x50	*	1
137	Washer for M10	*	1
138	Self locking nut M10	*	1
139	Nut M10 DIN-934	*	1
140	Eye tie rod M10x50	9644387.01	1
141	Eye tie rod M12x50	9644388.01	1
142	Nut M12 DIN-934	*	1
143	Return spring	9644389.01	1
199	Cover box	9644390.01	1
	Box gasket	9644391.01	1
200	Box	9644392.01	1
201	Plate	9644393.01	1
202	Omega raceway	9644394.01	1
203	Changeover switch	9644395.01	1
204	RH screw M4x14 DIN-84-A	*	1
205	HSCH screw M4x6 DIN-912	*	1
206	Fuse blok PCH 3x38	9644396.01	1
207			
208	Emergency button	9644397.01	1
209	TBEI screw M4x6 ISO-7380	*	1
210	Remote controlled switch	9644398.01	1
211	Thermal relay	9644399.01	1
212	Main switch	9644400.01	1
213	Earth connection bar	9644401.01	1
214	RH screw M4,2x13 DIN-7981	*	1
215	Fuse blok PCH 2x38	9644402.01	1
216	Fuse blok PCH 1x38	9644403.01	1
217	Transformer 30 VA 0-230-400V 50Hz	9644404.01	1
218	Micro switch of handle	9644405.01	1
219	HSFHC screw M4x8 DIN-7991	*	1
220	Electrical cable 2x1	9644406.01	1
221	RH screw M2,9x13 DIN-7981	*	1
222			
223	Fuse 10x38 AM 10A	*	1
224	Fuse 10x38 gG 1A	*	1
225	Fuse 10x38 gG 2A	*	1

PALMGREN WARRANTY

C.H. Hanson / Palmgren warrants their products to be free of defects in material or workmanship. This warranty does not cover defects due directly or indirectly to misuse, abuse, normal wear and tear, failure to properly maintain the product, heated, ground or otherwise altered, or used for a purpose other than that for which is was intended.

The warranty does not cover expendable and/or wear part (i.e. v-belts, screws, abrasives, jaws), damage to tools arising from alteration, abuse or use other than their intended purpose, packing and freight. The duration of this warranty is expressly limited to the terms noted below beginning from the date of delivery to the original user.

The Palmgren branded items carry the following warranties on parts:

All vises, clamps, positioning tables, tombstones, jack screws and vise accessories - LIFETIME.

All bench grinders, drill presses, tapping machines, band saws, lathes, milling machines, arbor presses, abrasive finishing machines and work stands - 3 YEARS.

The obligation of C.H. Hanson / Palmgren is limited solely to the repair or replacement, at our option, at its factory or authorized repair agent of any part that should prove inoperable. Purchaser must lubricate and maintain the product under normal operating conditions at all times. Prior to operation become familiar with product and the included materials, i.e. warnings, cautions and manuals.

Failure to follow these instructions will void the warranty.

This warranty is the purchaser's exclusive remedy against C.H. Hanson for any inoperable parts in its product. Under no circumstances is C.H. Hanson liable for any direct, indirect, incidental, special or consequential damages including loss of profits in any way elated to the use or inability to use our products. This warranty gives you specific legal rights which may vary from state to state.



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