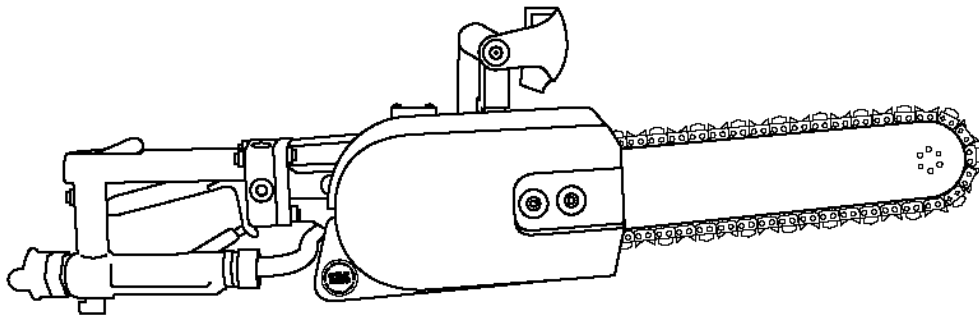




AIR POWERED CONCRETE CUTTING CHAINSAW



Model # CS71773 OPERATOR'S MANUAL

CS Unitec
22 Harbor Ave
Norwalk CT 06850 USA
(203) 853-9522
toll free: (800)-700-5919
fax: (203)-853-9921
e mail: info@csunitec.com

www.csunitec.com

Assembled to Specifications by ICS, Blount Inc.

TABLE OF CONTENTS

SYMBOLS & LABELS	3
SAFETY	4
TECHNICAL SPECIFICATIONS	6
SET-UP	7
OPERATION	9
TROUBLESHOOTING	12
MAINTENANCE	13
REFERENCE	14

SYMBOLS & LABELS

THE FOLLOWING SYMBOLS & LABELS MAY BE FOUND IN THIS MANUAL OR ON THE SAW



WARNING

A potentially hazardous situation exists which, if not avoided, could result in death or serious personal injury.



CAUTION

A potentially hazardous situation exists which, if not avoided, may result in minor or moderate personal injury.



Read the operator's manual carefully and understand the contents before you use this equipment.



Always use:

- Protective helmet
- Ear protection
- Protective glasses or full face protection



Wear hand protection

WARNING



• Do not exceed 90 psi (6 bar) air pressure or 124 cfm (3.5 m³/min) air volume.



• Do NOT insert tool into slot narrower than chain.



• Do NOT operate tool without solid footing and firm hand grip.

• Failure to observe these precautions can result in serious injury.

MFG: ICS, Blount, Inc., Portland, OR 97222

F/N 71703

WARNING

P/N 71903

- Do NOT operate saw without side cover.
- Do NOT use this side cover on any other saw.
- Do NOT operate saw without baffle drain.
- Failure to observe these precautions can result in serious injury.

SAFETY

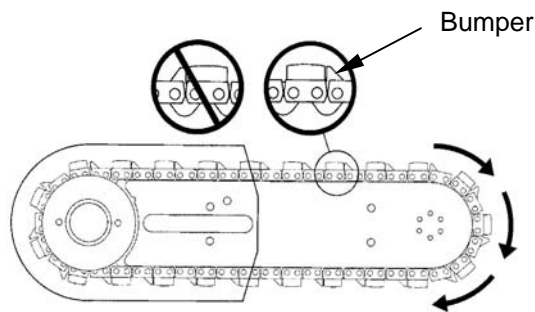
THE FOLLOWING WARNING SYMBOL APPLIES TO ALL THE ITEMS LISTED ON THIS PAGE



A potentially hazardous situation exists which, if not avoided, could result in death or serious personal injury.

Note: Chain breakage can result in high-speed ejection of parts, which can result in death or serious personal injury to operators or bystanders. The items listed immediately below are critical to minimizing the risk of chain breakage and injury.

- **DO NOT** operate saw with a damaged, modified, or broken side cover or baffle drain. The side cover and baffle drain provides protection against contact with moving parts, ejected debris, broken chain, thrown water and concrete slurry.
- **DO NOT** exceed 90 psi (6 bar) and 124 cfm (3.5 m³/min) operating pressure and volume.
- **DO NOT** install or run the chain backwards. The bumper should lead the segment into the cut.



- **DO NOT** run the saw motor backwards. The chain should travel away from the operator on the top of the bar and return on the bottom of the bar.
- **DO NOT** insert the diamond chainsaw into a slot narrower than the chain segments. Rapid pushback might occur. Ref: Most diamond segments are .225 inches wide (5.72 mm).
- **DO NOT** use the side cover as a replacement side cover on any other saw.
- **NEVER** run a diamond chainsaw upside-down. Concrete debris can fly back into the operator's face.
- **NEVER** cut ductile iron pipe with the diamond chainsaw. Segment loss or chain breakage may occur.

SAFETY

THE FOLLOWING CAUTION SYMBOL APPLIES TO ALL ITEMS LISTED IMMEDIATELY BELOW



A potentially hazardous situation exists which, if not avoided, may result in minor or moderate personal injury.

- Always disconnect the air supply when performing maintenance on the saw.
- SealPro® diamond chains require a minimum water pressure of 20 psi (1.4 bar). Insufficient water supply may result in excessive wear to the diamond chain, which can lead to loss of strength and diamond chain breakage.
- When operating a compressor with greater than 90 psi (6 bar) it is recommended to use a "service unit with pressure regulator" in the line to prevent over speeding the saw.

GENERAL SAFETY PRECAUTIONS

- Always wear protective clothes, including hard hat, eye protection, hearing protection, and gloves.
- Always operate tool with solid footing and handgrip.
- Slurry can be very slick. Remove or control to prevent yourself or others from slipping while cutting.
- Always work in a cleared area.
- Be sure there are no obstructions (plumbing, electrical conduit, air ducts).
- Set up a well-marked safety zone with a roped boundary and clear signs.
- Breathing exhaust gasses is dangerous. Provide ventilation in closed areas.
- To avoid electrocution, check for live electrical wiring near cutting area.

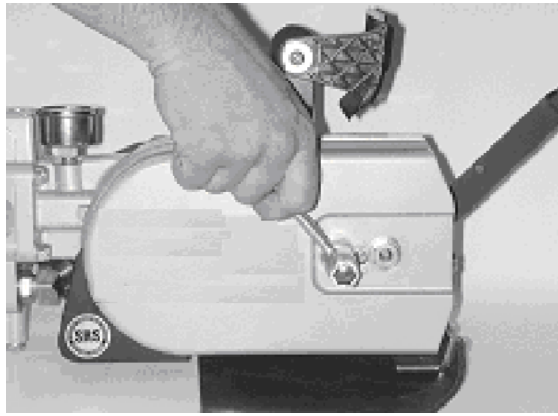
TECHNICAL SPECIFICATIONS

Weight without bar and chain	29 lbs (13.15 kg)
Length	20 in (58.5 cm)
Height	10.5 in (26.5 cm)
Width	12 in (30.48 cm)
Air Motor Power	6.5 Horse Power (5 KW)
Air Supply Requirements (maximum)	90psi (6 bar) 124 cfm (3.5 m ³ /min)
Water Pressure Requirements	Minimum: 20psi (1.4 bar)
Water Flow Requirements	1 gpm(4 lpm) minimum
Operating Speed	5,700 rpm (average free running) 4,900 sfm (average free running chain)
Vibration	Front handle: 4 m/s ² Rear handle: 8 m/s ² Ref. ISO standard no. 7505

When operating a compressor with pressure greater than 90 psi (6 bar) it is recommended to use a "service unit with pressure regulator" in the line to prevent over speeding the saw.

SET-UP

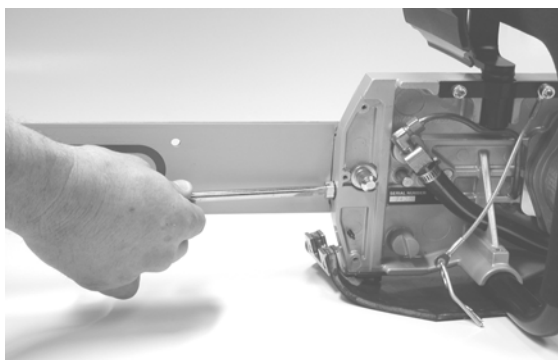
BAR AND CHAIN INSTALLATION



STEP 1
Loosen side cover nuts and remove side cover.



STEP 2
Place bar onto studs and chain adjustment pin

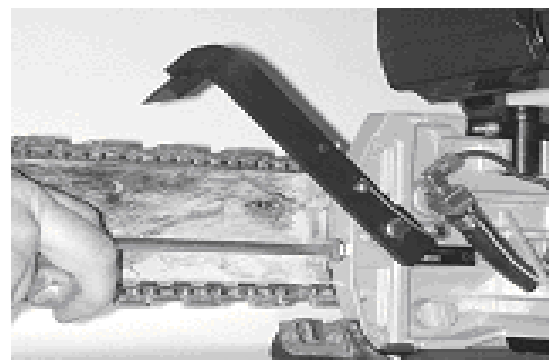
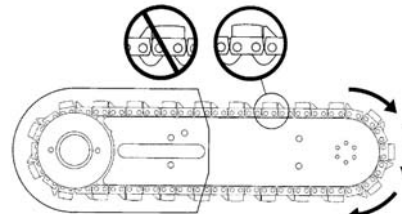


STEP 3
Turn chain-tensioning screw CCW until the bar comes into contact with the drive sprocket.



STEP 4
Mount the chain on the bar starting at the drive sprocket & continue over the bar nose.

Install the chain correctly. The bumper must always lead the segment into the cut as shown here.



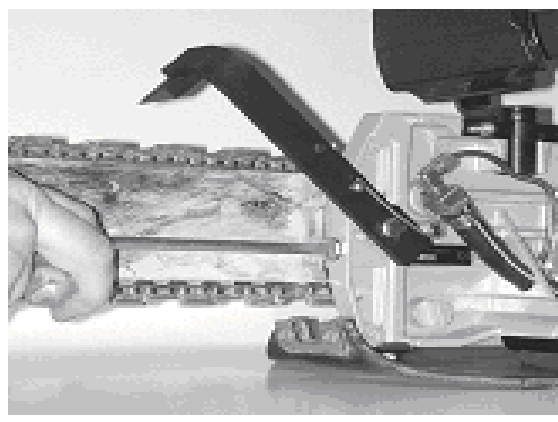
STEP 5
Make sure all the drive links are inside the bar groove then pre-tension the chain.

SET-UP

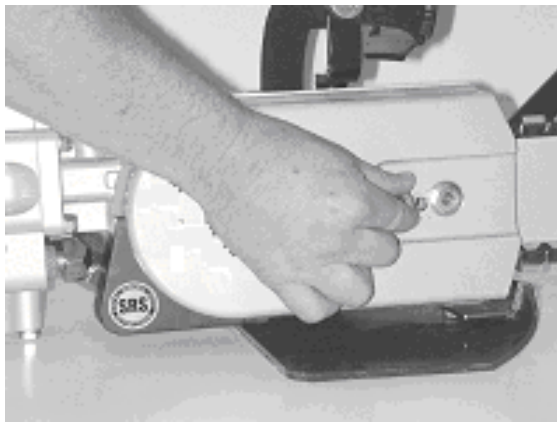
BAR AND CHAIN INSTALLATION



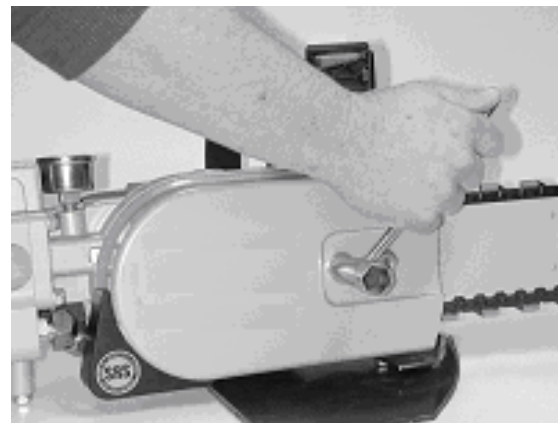
STEP 6
Install bar clamp plate over the bar studs.



STEP 8
Tension the chain. The chain should be tight but able to be pulled around the bar by hand.
See Note 1



STEP 7
Install the side cover over the bar studs and install side cover nuts. Finger tighten only.



STEP 9
Lift up on the nose of the bar and firmly tighten the side cover nuts.
See Note 2

Note 1: Do not "over tension" the chain. Loss of power will result. It is normal for the drive links to hang underneath the bar. The chain should be tight but be able to be pulled around the bar by hand.

Note 2: To prevent chain tensioner breakage, be sure the side cover nuts are tightened to approximately 20 ft-lbs (27 Nm)

OPERATION

PRE-CUT CHECKLIST

- Proper Chain Installation: The bumper should lead the segment into the cut.
- Proper Chain Tension: The chain should be tight but easily pulled around the bar by hand.
- Adequate Water Supply and Pressure:
Minimum Flow: 1 gpm (4 lpm)
Recommended Water Pressure: 20 psi (1.4 bar)
- Proper Air Supply to the Saw:
Maximum PSI: 90 (6 bar)
Maximum CFM: 124 cfm (3.5 M³/min)
Blow the air supply line clear before connecting it to the saw . Install dirt and water separators upstream of the saw to prevent rust and condensation from forming in the air lines.
- Motor Lubricator:
Check oil level, if necessary, fill with resin and acid-free SAE 5 W to SAE 10 W oil. In winter or when using very moist air, use antifreeze lubricant, such as "Killfrost" "BP Energol AX10" or "Kompranol"
- The chain should travel away from the operator on the top of the bar during operation.

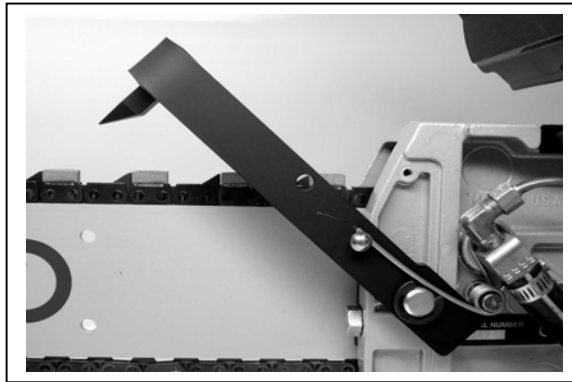
PLANNING THE CUT

- Select the proper chain for the material being cut.
- Outline the cut with a permanent marker for a visual cutting guide.
- Avoid pinching the bar and chain. Always cut the bottom of an opening first, then top, and then the sides. Save the easiest cut for last.
- Be sure cut concrete cannot fall and injure operator or bystanders.
- Check for live electrical wiring near the cutting area or in the concrete to avoid electrocution which can result in death or serious personal injury.

OPERATION

Operating The Concrete Cutting Chainsaw

1. Plunge cut instead of starting at the top of the wall. This will reduce chatter, extend diamond life, create a straighter cut and more quickly enable the use of the Wallwalker®.
2. Always operate a diamond chainsaw at full throttle. Apply enough feed force so that the free running RPM drops 20 to 30%. If too much force is applied, the saw will lug or stall. The chain will not have enough speed to cut effectively. If too little feed force is applied, the diamonds will skid and glaze over.
3. For straight cuts use the "step cut" method. First score the entire cut line with the nose of the bar approximately ½ inch (12mm) to 1 inch (25mm) deep. Next, deepen the cut by about 2 inches (50 mm). This groove will help guide the bar for a straight cut. Then plunge all the way through and complete the cut using the Wallwalker®.
4. Use the Wallwalker® to cut efficiently and reduce user fatigue. The Wallwalker® is a lever system that converts inward force to downward force and will develop a 4-to-1 mechanical advantage. To use correctly, plunge into the wall and simply engage the point of the Wallwalker® into the cut and push straight in. The Wallwalker® will force the saw to feed down.



Apply an upward force on the trigger handle to keep the Wallwalker® engaged properly, otherwise the Wallwalker® pick will skid, which will reduce the effectiveness. As the Wallwalker begins to rotate up, feed force is developed down the line of the intended cut. The feed force will increase as the Wallwalker reaches the end of its stroke. When the Wallwalker bottoms out, pull the saw out of the cut a few inches and allow the Wallwalker to spring back into its starting position. Re-engage the pick into the cut and repeat.

5. When cutting heavy rebar, slowly "rock" the saw to help keep the diamonds exposed. Also, expect less chain life when cutting heavy rebar.
6. Expect more chain stretch when making nose buried cuts for extended periods of time as the chain does not have a chance to "sling" the slurry away from the nose of the bar.
7. If the saw begins to cut consistently crooked, turn the bar over and use the other side. Note: The normal life of a guide bar is 2 to 3 chains. However, heavy rebar can shorten bar life too.
8. When using a new chain, you can increase the cutting speed by "opening up the diamonds". Make a few cuts in an abrasive material such as a cinder block.

OPERATION

SYSTEM CLEAN-UP

1. Run saw, with water on, for 15 seconds out of cut to flush slurry and debris from chain, bar and drive sprocket.
2. Wash concrete slurry from saw assembly.
3. Remove bar and chain. Flush out chain tensioner assembly location with high water pressure and lube with grease.
4. Clean all air fittings on saw and compressor.
5. When done cleaning saw, spray entire saw body, chain, bar, and drive sprocket with a light weight penetrating oil. This will minimize rust and reduce slurry build up on saw assembly.

TROUBLESHOOTING

- **SLOW CHAIN SPEED** - Be sure the compressor is providing the correct air pressure (90 psi = 6 bar) and cubic feet per minute (124 cfm = 3.5 m³/min)
- **POOR CUTTING PERFORMANCE** - Diamonds may be “glazed over”. Make a few cuts in an abrasive material such as a cinder block to expose the diamonds.
- **PREMATURE CHAIN STRECH** - Not enough water pressure. The recommended water pressure is 20 psi (1.4 bar)
- **CHAIN TENSIONER BREAKAGE** - Side cover nuts are not tight enough.
- **WATER NOT FLOWING** - Water hose is kinked, blockage in guide bar water ports, or supply is not turned on.
- **Motor Does Not Start** -
 - Insufficient air supply. Check Compressor and air hose, valves, and air inlet screen for blockage.
 - Chain tension is too tight. loosen chain tension.
 - Iced exhaust. wait until ice thaws, then use anti-freeze lubricant
 - Vanes sticky. Apply lubricant directly to saw air inlet and blow motor clear. Repeat if nessary. see maintenance instructions

MAINTENANCE

DRIVE SPROCKET REMOVAL AND INSTALLATION

Drive Sprocket Removal

Step 1. Prevent the sprocket from rotating by inserting screwdriver or screw driver through the holes in the sprocket and the hole in the saw body.

Step 2. Loosen the Trantorque® using a 7/8" box end wrench.

Note: If Trantorque® is stuck, tap lightly with a brass hammer.



Drive Sprocket Installation

Step 1. Slide Trantorque® shaft adapter onto drive shaft until it bottoms out on the end of the shaft.

Note: Do not lubricate Trantorque® or shaft as slippage may occur.

Step 2. Slide drive sprocket onto the Trantorque® until it bottoms on the Trantorque®.

Step 3. Finger tighten Trantorque® shaft adapter.

Step 4. Stop the sprocket from rotating by inserting screwdriver or screw driver through the holes in the sprocket and the hole in the saw body.



Step 5. Tighten the Trantorque® shaft adapter with a torque wrench and a 7/8" socket to 200 in-lbs (22.6 Nm). When a torque wrench is not available, use a 7/8" box end wrench and tighten one half turn past finger tight.

Note: Do not turn around or reverse the direction of the drive sprocket to extend sprocket tooth life. Damage to chain or drive links may occur.

MAINTENANCE

AIR MOTOR MAINTENANCE

Only proper maintenance can ensure consistent saw performance, reduction in wear, and thus, a decrease in operation costs and an increase in service life.

Service life and performance of the chain saw are determined by:

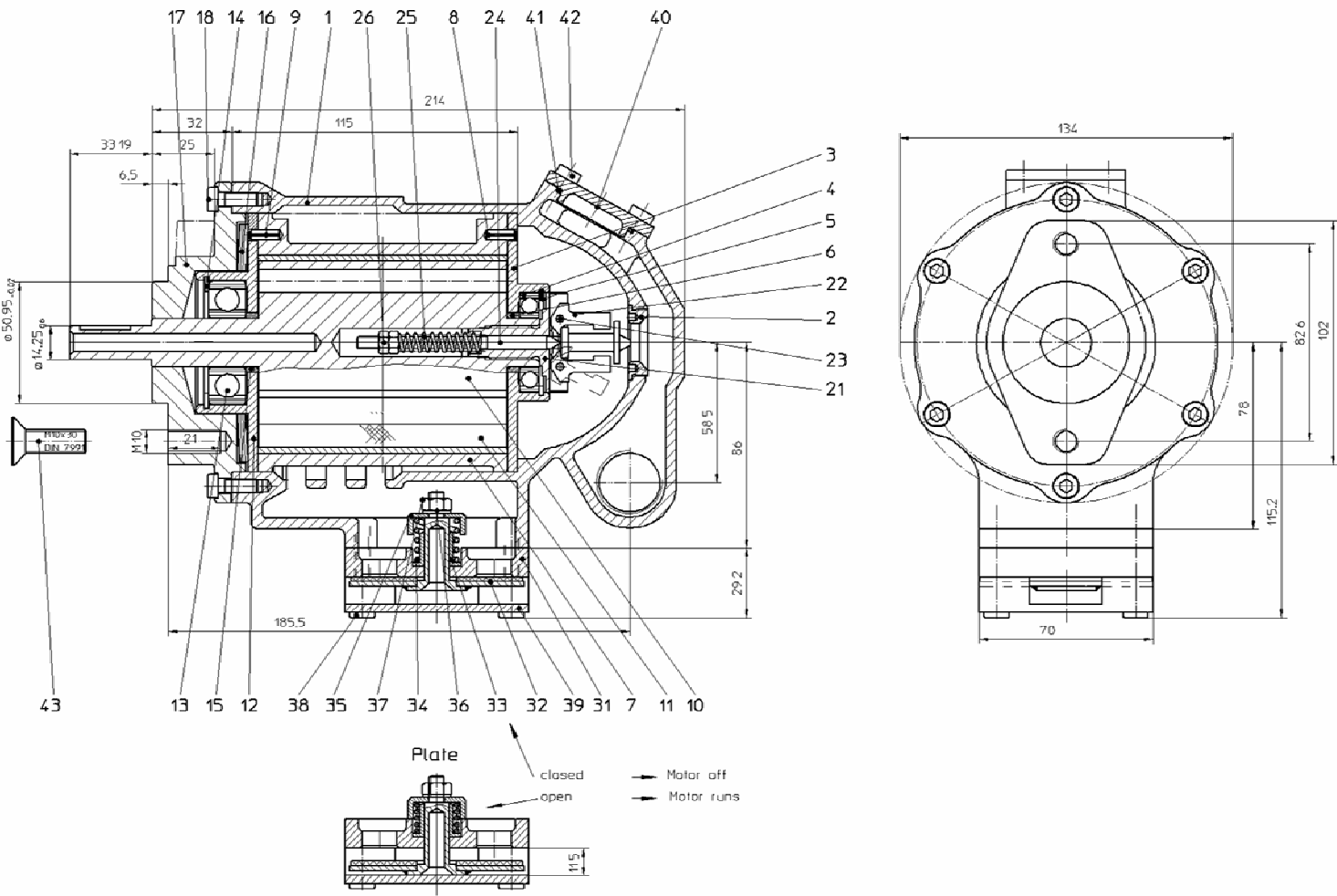
1. Degree of air purity
2. Lubrication
3. Maintenance

Prior to operating the saw be sure to:

1. Blow the air hose clear prior to connecting it to the saw. Install dirt and water separators upstream of the saw.
2. Install an air lubricator upstream of the saw and fill it with SAE 5 W to SAE 10 W oil. Optimum lubrication significantly prolongs service life.
3. Regularly check and clean the air inlet screen.
Replace wear parts - in particular the motor vanes. It is suggested to replace the motor vanes if their width is less than 1.083 in. (27.5 mm).

KEEP TOOL CLEAN

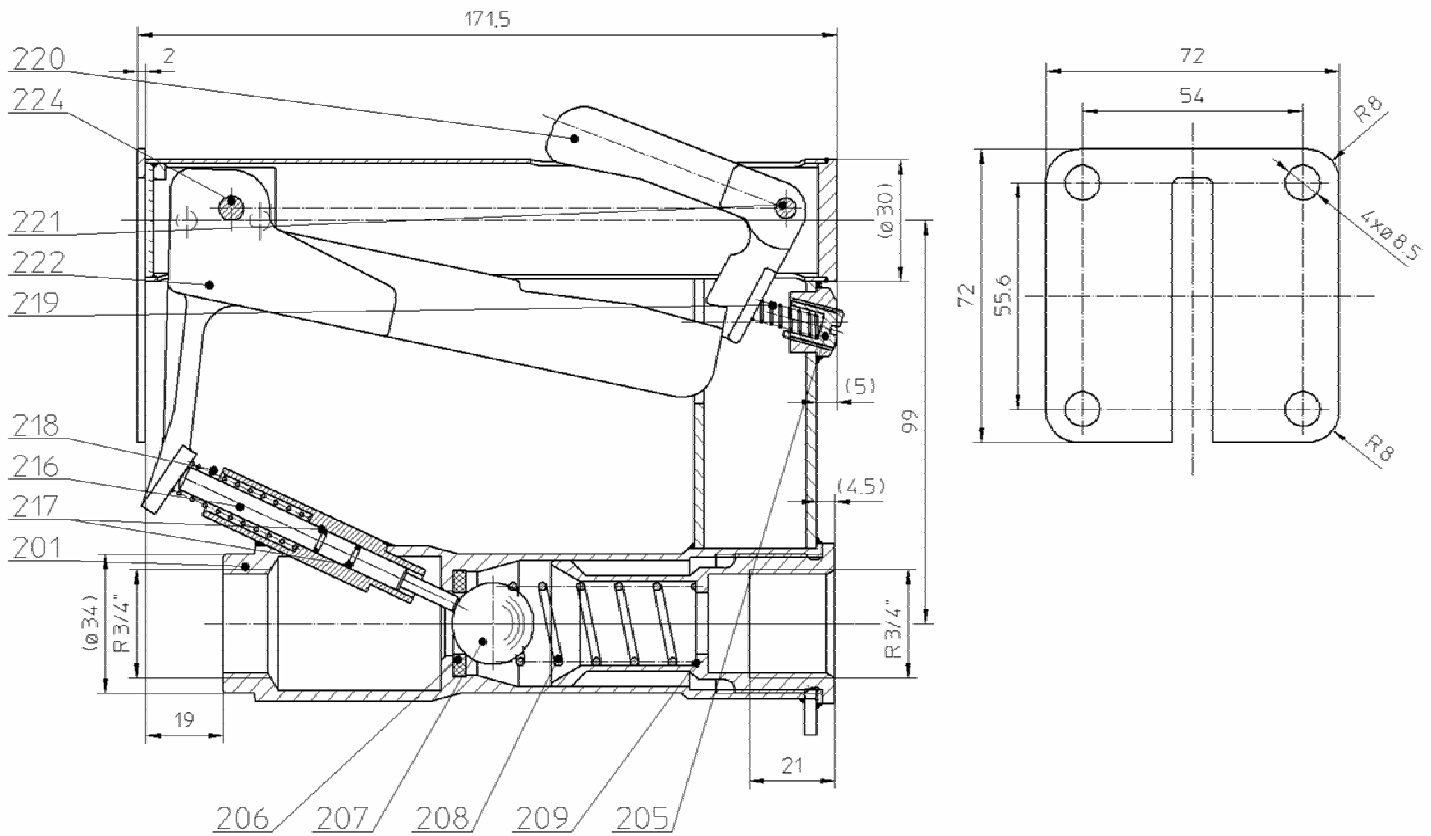
SPARE PARTS LIST



SPARE PARTS LIST

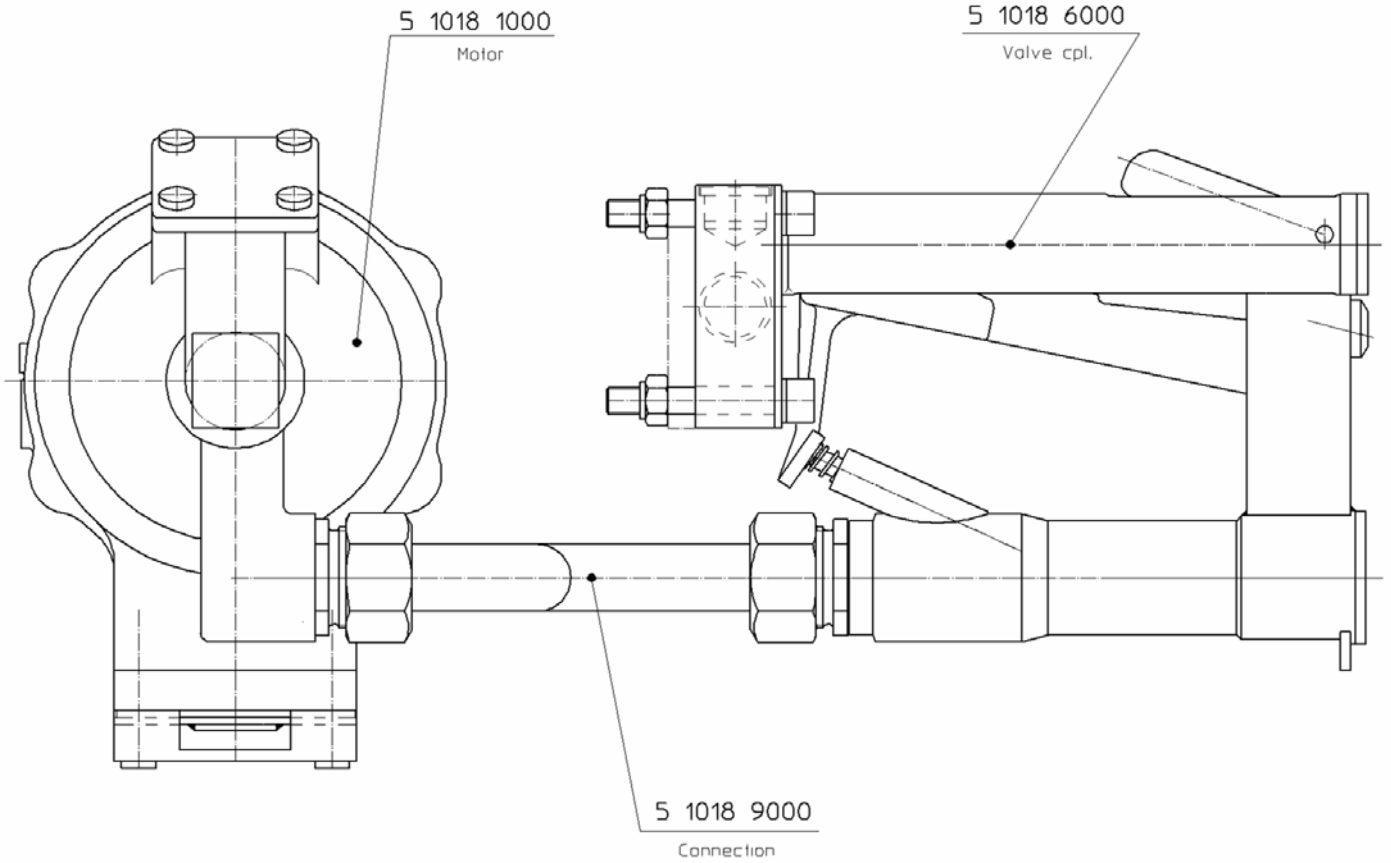
Item	Qty.	Description	Order-Number	Remarks for customer
1	1	Motor housing cpl.	5 1018 1910	with item 2
2	1	Screw	5 1018 2060	
3	1	End plate	5 1018 1100	
4	1	Groved ball bearing	9 1002 0030	16 004 DIN 625
5	1	Snapping	9 1703 0130	42x1,75 DIN 472
6	1	Spacer	1 2134 1090	
7	1	Cylinder bushing	5 1018 1020	
8	1	Adapter sleeve	9 1630 0620	4x12 DIN 1481
9	1	Adapter sleeve	9 1630 0620	4x12 DIN 1481
10	1	Rotor	5 1018 1030	
11	7	Vane	5 1018 1050	
12	1	End plate	5 1018 1110	
13	1	Groved ball bearing	9 1005 0250	6304-2RS 1
14	1	Snapping	9 1703 0240	52x2 DIN 472
15	1	Spacer	1 2134 1090	
16	1	Belleville spring	9 1802 0600	
17	1	Motor cover	5 1018 1330	
18	6	Fillister head screw	9 1112 4020	M6x16 DIN 7984
	1	Governor cpl.	5 1018 2000	item 21-26
21	1	Segment	5 1018 2020	
22	2	Governor weight	2 1901 2030	
23	2	Cylinder bolt	9 1619 0150	3m6x18 DIN 7
24	1	Governor bolt	2 1901 2040	
25	1	Compression spring	9 1803 0340	
26	2	Nut	9 1203 0030	M 5 DIN 934
	1	Plate cpl.	5 1018 1700	Item 31-37
31	1	Plate	5 1018 1770	
32	1	Silence plate cpl.	5 1018 1730	
33	1	Tube	5 1018 1780	
34	1	Compression spring	9 1803 4510	
35	1	Block cap	5 1018 1790	
36	1	Toothed washer	9 3318 0020	A 6,4 DIN 6797
37	1	Nut	9 1210 0160	M 6 DIN 985
38	4	Fillister head screw	9 1112 4140	M6x35 DIN 984
39	1	Safety cover	5 1018 1820	
40	1	cover	5 1017 3160	
41	1	O-Ring	9 1901 3130	31x2
42	4	Fillister head screw	9 1112 4020	M6x16 DIN7984
43	2	Counter sunk bolt	91113 7070	M10x30 DIN 7991

SPARE PARTS LIST



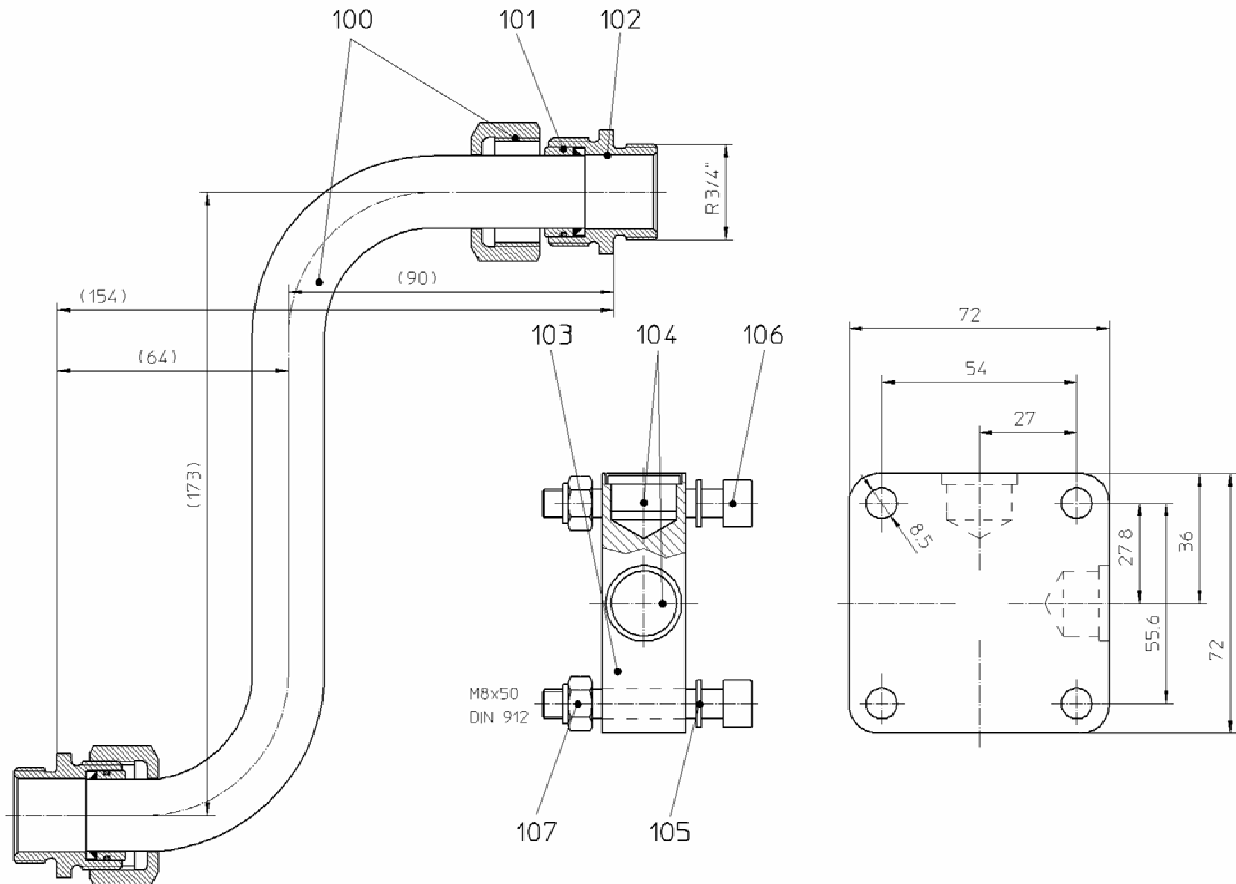
Item	Qty.	Description	Order-Number	Remarks for Customer
201	1	Valve	5 1018 6210	
205	1	Bolt	9 1171 9460	
206	1	Sealing ring	9 1903 0990	
207	1	Ball	9 1017 0070	Ø 20 DIN 5401
208	1	Compression spring	9 1803 3490	D-212D
209	1	Valve insert	5 1018 3150	
216	1	Valve lifter	9 1637 2160	
217	1	O-Ring	9 1901 2210	4x1
218	1	Compression spring	9 1803 3990	D-163
219	1	Compression spring	9 1803 3980	D-103
220	1	Pawl	5 1023 6040	
221	1	Double notched	9 1641 0030	Kerpin S11 5x30
222	1	Valve lever	5 1023 3030	
224	1	Double notched	9 1641 0040	Kerpin S11 6x30

Spare Parts List



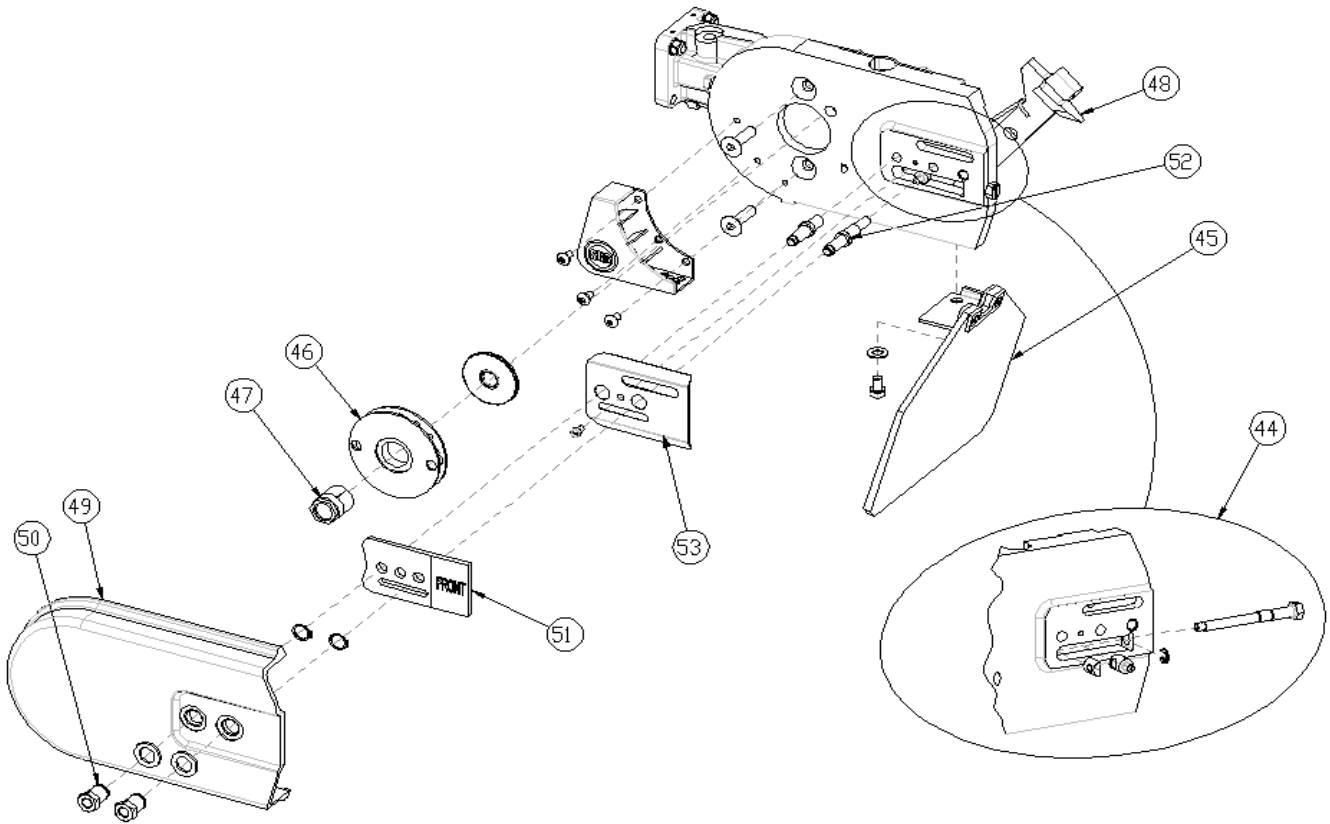
Item	Qty.	Description	Order-Number	Remarks for Customer
	1	Air motor	5 1018 1000	see separate list
	1	Valve cpl.	5 1018 6000	see separate list
	1	Connection	5 1018 9000	see separate list

SPARE PARTS LIST



Item	Qty.	Description	Order-Number	Remarks for Customer
100	1	Tube	5 1018 3400	
101	2	O-Ring	9 1901 2270	22x1,5
102	2	Nipple	9 2205 1760	
103	1	Level	5 1018 6900	
104	4	Thoothed washer	9 3318 0070	A8,4 DIN 6797
106	4	Fillister head screw	9 1110 5070	M8x50 DIN 912
107	4	Nut	9 1210 0010	M8 DIN 985

SPARE PARTS LIST



Item	Qty.	Description	Order-Number
44	1	Chain tensioner kit	CS70636
45	1	Guard flap assembly	CS72408
46	1	Sprocket assembly	CS71105
47	1	Trantorque shaft adaptor	CS70618
48	1	WallWalker® replacement kit	CS70641
49	1	Side cover replacement kit	CS70990
50	2	Side cover retaining nuts (2 ea.)	CS70639
51	1	Bar retaining plate	CS70628
52	2	Bar mounting studs (1 ea.)	CS72349
53	1	Bar mount cover plate	CS70627

REFERENCE

APPROXIMATE CUTTING RATES

Material	Cutting Rate
6 in (15cm) concrete	5 lineal inches per minute (12cm/min)
6 in (15cm) red brick	10 lineal inches per minute (25cm/min)
#4 (12mm) rebar	10-20 seconds through each piece

INCH-FOOT DEFINITION

An in-ft is a measure of how much material is to be cut.
An in-ft is defined as: depth in inches times length in feet.

Example: How many in-ft are in this doorway?

1. Determine the depth of the cut in inches.
For this example, 8 inches.
2. Determine the length of the cut in feet.
 $3+7+3+7=20$ feet
3. Multiply the two numbers
 $8 \text{ in} \times 20 \text{ ft} = 160 \text{ in-ft}$

1sq-m = 129 in-ft

