

7. Maintenance

Warning

- All maintenance work must be carried out with the equipment detached from the prime mover and positioned on the ground.
- Maintenance operations must be carried out in a suitable place, in compliance with the safety regulations in force.
- Clean all parts of the equipment thoroughly before beginning any maintenance work on it (see “7.4.3 Equipment cleaning”).
- Appropriate personal protection equipment must be used throughout maintenance.

7.1 Routine Maintenance Schedule

Note

If doubts should arise during maintenance on the condition of components and complex works are envisaged, contact your McLaren authorized dealer.

Maintenance interval		Operation		Page	Designated worker
7.2	Every hour	6.2.1	Inspection of cutter drum	41	Operator
		6.2.2	Tool integrity assessment (teeth)	42	Operator
7.3	Every 8 hours	6.3.1	Cleaning the water spraying unit sprayers	44	Operator
7.4	Every 50 hours	6.4.1	Lubrication	44	Operator
		6.4.2	Check integrity of the hoses	45	Operator
		6.4.3	Equipment cleaning	45	Operator
7.5	Every 100 hours	6.5.1	Structural integrity assessment	45	Operator
		6.5.2	Nut and bolt tightness test	45	Operator
7.6	Every 200 hours	6.6.1	Drain line safety cover inspection	45	Operator
7.7	When re-quired	6.7.1	Replacing the side slides	46	Operator
		6.7.2	Teeth replacement	47	Operator

7.2 Every hour

7.2.1 Inspection of cutter drum

There are two checks to be performed on the cutter drum: the teeth conditions and any damage or lack of teeth holder.

Warning

- **Never work with damaged and/or missing teeth and teeth holder.**
- **Before leaving the operator's seat on the prime mover, make sure the area is flat, the prime mover is stabilised, the equipment is resting on the ground, and the keys have been removed from the ignition.**

The cutter drum is the most important element of the equipment.

Because of the type of work it does, it is easily damaged.

Visually check the cutter drum after it hits any solid element, such as hatches, iron hindrances, manholes, etc.

Note

- Just like the tools, the cutter drum is subject to wear, and therefore excluded from the warranty.
- If the cutter drum is very damaged (missing or broken teeth holder, etc.), contact an authorized McLaren dealer to replace it.

To inspect the drum, rest the equipment on the ground in parking position, after adjusting the digging depth to a minimum. Then perform the following operations:

- 1 - Keeping the prime mover boom lowered, retract the support plate and rest the equipment on the ground, by keeping the cutter drum slightly raised.
- 2 - Remove the screws (1) and open the guard (2).
- 3 - Grip the tools to make the drum (3) turn in the work direction, and inspect it.

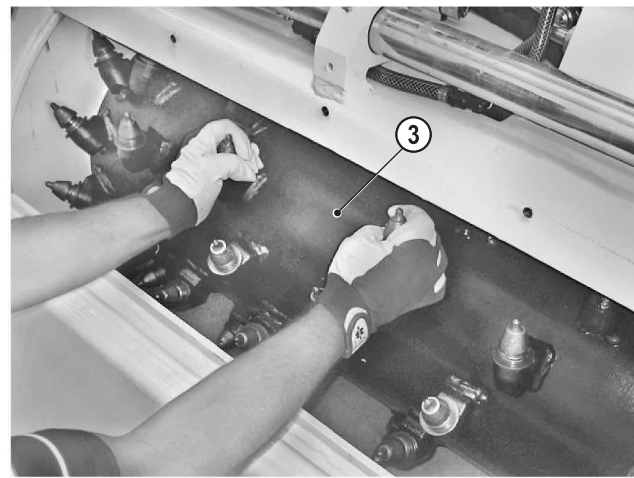
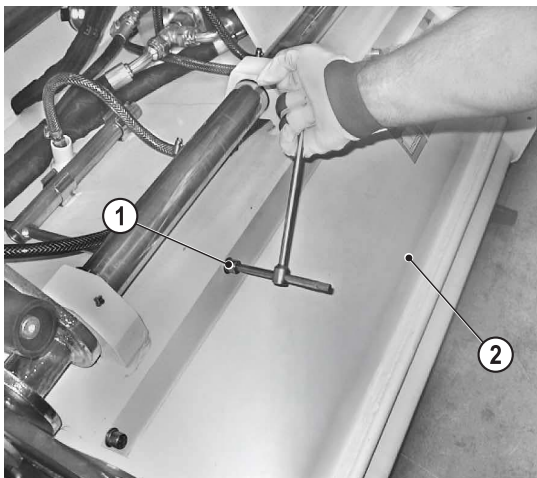


Fig. 25

7.2.2 Tool integrity assessment (teeth)

Warning

- Never work with damaged or missing teeth.
- Before leaving the operator's seat on the prime mover, make sure the area is flat, the prime mover is stabilised, the equipment is resting on the ground, and the keys have been removed from the ignition.

Every tooth is subject to constant wear due to contact with the material cut. The greater the wear, the less the tooth's capacity for breaking into the material. Tooth wear will increase with use. Worn teeth will result in decreased equipment productivity. Replacing the teeth promptly will ensure the equipment is operating at it's highest potential. It is always worthwhile checking for signs of wear as the tooth only really performs well throughout its working life if it is worn down in the best possible way. To check the cutter drum and replace the teeth, if required, remove the screws (1) and tilt the guard (2) outward.

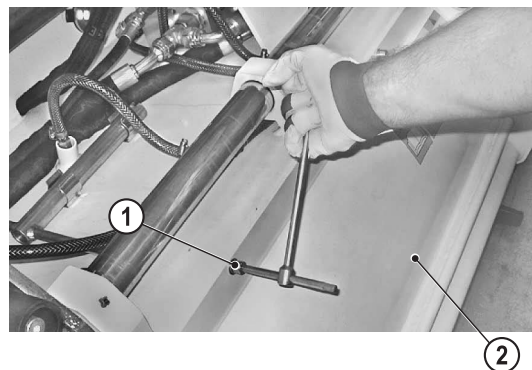
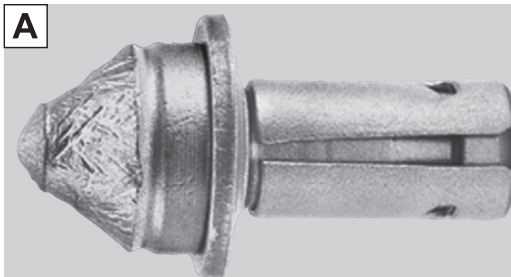
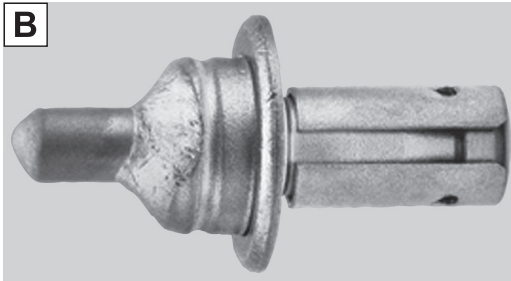


Fig. 26

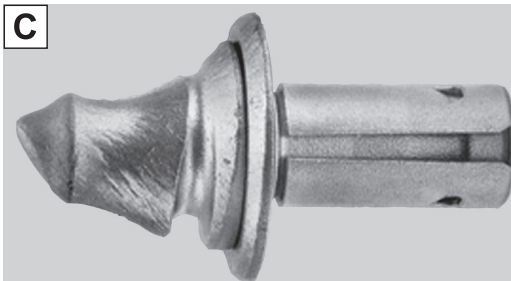
Tooth wear



- The features of a worn tooth are shown left. (A) The remaining part of the carbide tip is symmetrically shaped, the body has a uniform, tapered shape, the body has enough bulk to support the carbide core. Worn tooth, to be replaced.



- Tooth that has worked on soft materials (B)
If a tooth has been used on an overly soft material, the body will wear quicker than the tip, and the tip will end up snapping off. Additionally, the altered tooth shape will increase tooth holder wear.
Worn tooth, to be replaced.



- Tooth which has not rotated properly (C)
Teeth subject to uneven wear will be consumed too quickly. Wear of this kind is always symptomatic of failure to turn the tooth round in its holder. The wear may be due to a worn tooth holder or the presence of small particles of planed material between the tang of the tooth and the seat in which it is fitted. In this instance, clean the seat and lubricate with diesel fuel.
Worn tooth, to be replaced.

Note

- the tooth shown in the picture is a standard model. Similar concepts apply to all teeth models.

Assessment procedure

- 1 - Visual inspection to establish degree of wear.
 - 2 - Ensure the teeth can turn freely in their seats.
- Following the assessment, replace any broken tools or those showing excessive wear, or clean the seats of those which will not turn, as shown below.

Cleaning the tooth

- 1 - Remove the tooth which is not rotating (see "Removal").
- 2 - Clean the tang of the tooth and the seat in which it is fitted.
- 3 - Lubricate with diesel fuel
- 4 - Refit the tooth in its seat.

Note

- If the tooth rotates to some extent, lubrication with diesel fuel can be performed without removing the tooth from its seat.



Fig. 27

Important

- To make it easier to turn the teeth in their seats, and therefore lengthen their working life, we recommend you apply diesel fuel to the rear of the tooth at the end of the working day, making sure the oil seeps in between the tooth and the seat.

Warning

- **Never let the rotary cutter rotate freely with new or freshly lubricated teeth, as they could come out of their seats due to the centrifugal force.**
- **Never work with badly damaged and/or stuck teeth so as to avoid the tooth holders being damaged.**

7.3 Every 8 hours

7.3.1 Cleaning the water spraying unit sprayers

- 1 - Check the water sprayers (1) located on the equipment and clean them, if necessary.
- 2 - When reinstalling them, pay attention to the orientation of the nozzles (1), which must be installed with the water spray slit (A) parallel to the drum rotation axis.

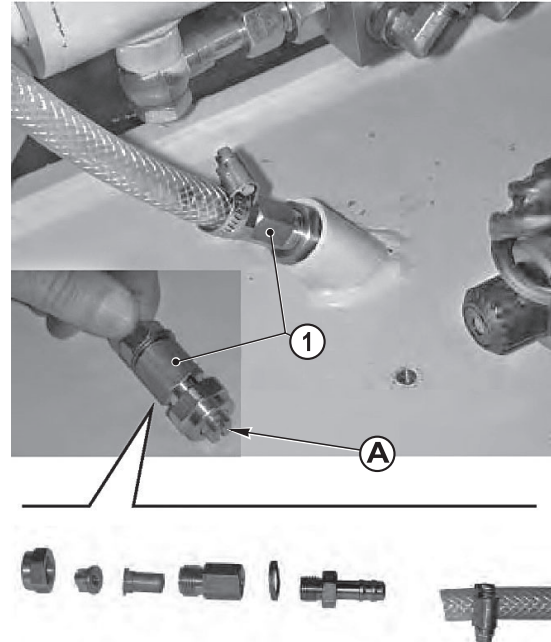


Fig. 28

7.4 Every 50 hours

7.4.1 Lubrication

It concerns the joints of cylinders, dampener, slide adjustment axes and the scraper drive screw.

To lubricate them, inject and spread NLGI 2 - EP Lithium grease until all the worn-out grease comes out.



Warning

- **Clean the grease nipples thoroughly before connecting the grease pump.**

To be performed with the equipment on the ground, the prime mover locked and the ignition keys removed.

- 1 - Grease with the greasers.
- 2 - Once greasing has been completed, remove all dirty grease which has been expelled to prevent damaging deposits of dirt and debris.

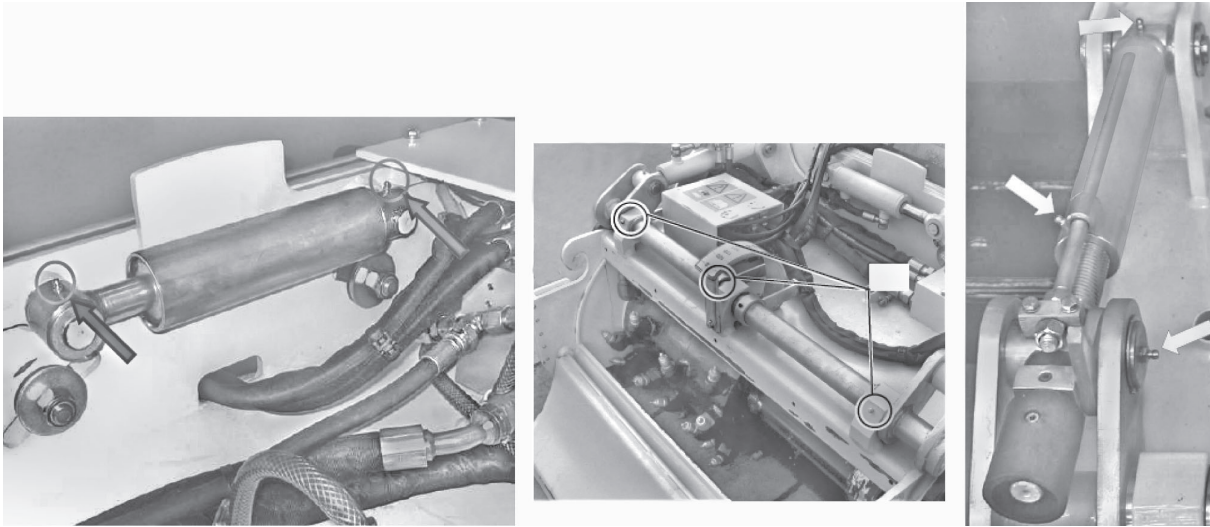


Fig. 29

7.4.2 Check integrity of the hoses

Check the condition of the hoses and the crimping of the fittings. If a hose shows signs of ageing, leaks, breakages, bulges, abrasions etc., it should be replaced.

- 1 - Clean the working area to avoid dirt entering the hydraulic circuit.
 - 2 - Replacement must be carried out by qualified personnel, using all necessary PPE.
 - 3 - The new hose must be of the same size and specifications as the previous one and be rated for the pressure indicated on the equipment's identification data plate.
- For tightening torques, see "13.3 Tightening torques for hoses".

7.4.3 Equipment cleaning

Use legally approved, neutral detergents. Clean the equipment with a high pressure jet of water.

7.5 Every 100 hours

7.5.1 Structural integrity assessment

Clean the equipment carefully prior to the inspection. Inspect the bearing framework visually to check its integrity, focusing particularly on the welding. If you notice any weakening or small cracks, contact an authorized dealer McLaren to have it examined more closely.

7.5.2 Nut and bolt tightness test

Check all the nuts and bolts are securely fastened and, if any parts have worked loose, tighten them.

For tightening torques, see "13.1 Maximum screw tightening torques".

7.6 Every 200 hours

7.6.1 Drain line safety cover inspection

To prevent damage to the motor due to high counterpressure in the drain line, a safety cap (1) has been fitted which allows excess pressure to be relieved. When the drain line pressure exceeds 1 bar, the cover deforms and allows oil out, thereby releasing the excess pressure.

If you notice any deformation and consequent leakage, contact the McLaren dealer, which will check the continuous and instantaneous drainage line pressure (max. 1 bar) and the circuit, and will replace the cover (1) and the relative O-ring.

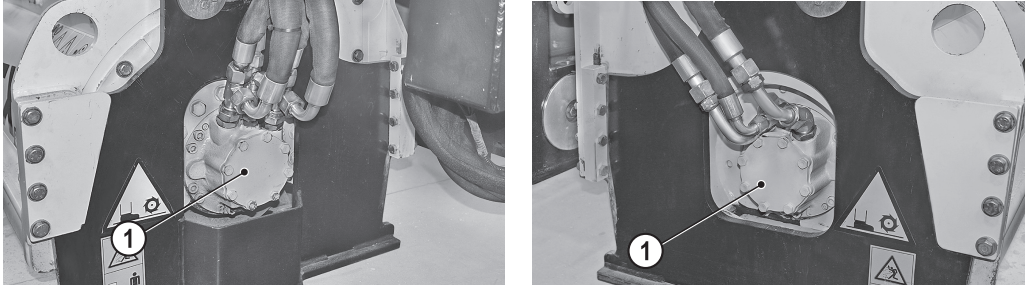


Fig. 30

Important

- When inspecting or replacing the cover, clean both the cover and the surrounding area, ensuring that impurities do not enter the drain line.

Warning

- The new cap fitted **MUST** have the same thickness as the original one.

7.7 When required

7.7.1 Replacing the side slides

The side slides (1) are made of special anti-wear steel and are fastened to the planing depth adjustment slides (2).

To replace them, contact an authorized McLaren Service Center.

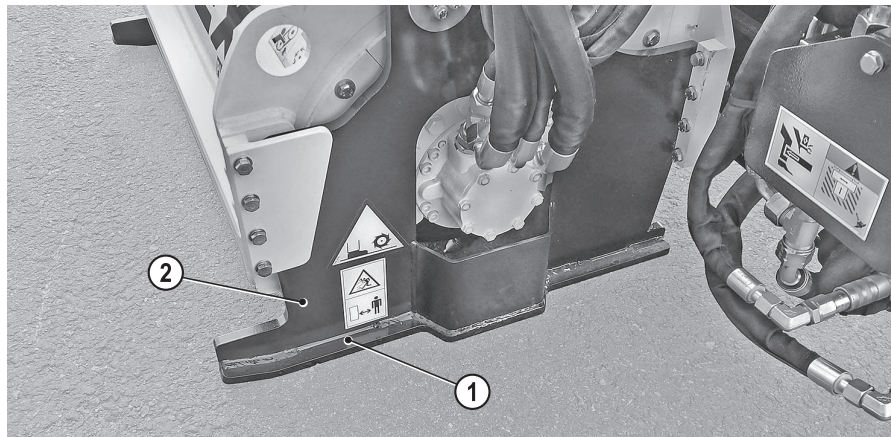


Fig. 31

7.7.2 Teeth replacement

Removal

- 1 - The teeth (1) are held in the tooth holder by a retaining spring.
- 2 - Position the key (2) supplied as shown in the figure.
- 3 - Hit the key (2) with a hammer to remove the teeth.

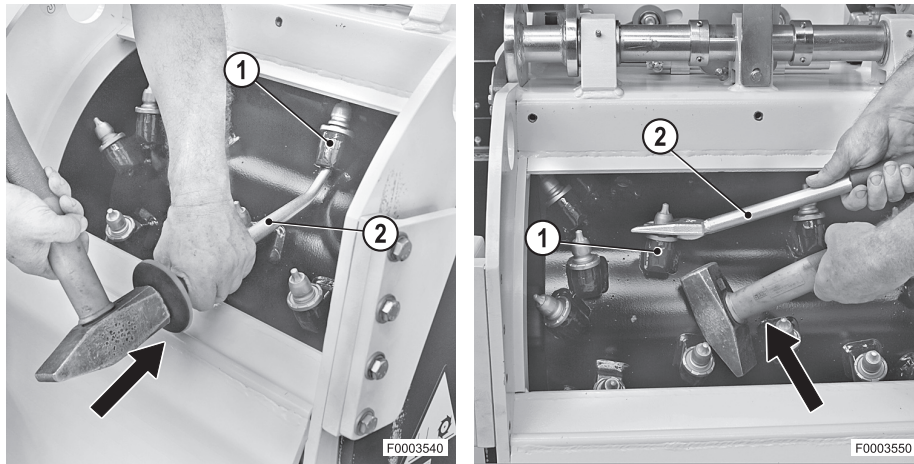


Fig. 32

Assembly

- 1 - Before fitting new teeth, clean and lubricate the seat with diesel fuel.
- 2 - Insert the tooth (1) into its seat using light blows with a copper hammer until the tooth top is fully inserted.

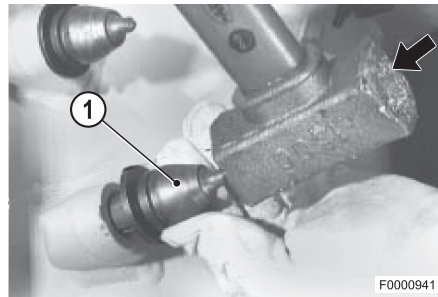


Fig. 33

7.8 Special maintenance

For extraordinary maintenance, contact your McLaren dealer.



8. Preparing the machine for long periods of inactivity

If you are not planning on using the equipment for some time, it must be stored in a sheltered area, where it cannot get knocked or hit.

Position the equipment on a pallet (making sure it is stable), then proceed as follows:

- 1 - Wash it carefully.
- 2 - Check for and fix any oil leaks.
- 3 - Check for and replace any damaged parts.
- 4 - Remove the tools and apply an antioxidant coating or diesel fuel to them.
- 5 - Apply an antioxidant coating or diesel fuel to the tooth holder.
- 6 - Lubricate the depth and movement adjustment piston exposed parts.
- 7 - Place a sheet over the equipment to protect it from dust.
- 8 - Cordon off the area where the equipment is located to prevent anyone accidentally knocking against its corners, sharp edges or blunt parts.

9. Recommissioning

Before starting up the equipment again after a long period of disuse, the following checks must be carried out:

- 1 - Grease all parts subject to lubrication.
- 2 - Check for and fix any oil leaks.
- 3 - Check integrity of the hoses.
- 4 - Check that there are no ill-fastened, worn out or missing parts.
- 5 - Nut and bolt tightness test.

10. Spare parts and accessories

Contact McLaren Attachments LLC, always quoting the "Model" and "Serial number" given on the identification plate (see "1.11 Equipment identification").

11. Disposal

When disposing of the equipment or its parts (oils, hoses, plastic parts, etc.), always comply with local laws and regulations.

12. Troubleshooting

This section aims to provide the user with solutions to the most commonly experienced problems (malfunctions). Do not carry out any maintenance or repairs which would affect equipment safety.

Note

- The remedies marked with the letter **M** require the intervention of the authorized dealer.
- The remedies marked with the letter **P** require the intervention of qualified personnel.
- The remedies marked with the letter **O** can be carried out by the operator.

Fault	Likely cause	Remedy	
Slow planing, low performance	Teeth tips worn or broken	• Replace the tools and clean their seats	O
	Low flow and/or hydraulic pressure	• Ensure you have correctly made all connections necessary for equipment operation. • Contact McLaren Attachments as the flow and hydraulic pressure depend	M
Vibrations	Loose or missing screws/bolts	• Check the tightening torques of the screws/bolts (hydraulic motor, etc.) • Replace the missing screws	P
	Worn or missing tools	• Replace the tools and clean their seats	O
Hydraulic motor noisy or jammed	Problems inside the motor	• Contact McLaren Attachments	M
The equipment does not turn	No hydraulic flow and/or pressure	• Check the prime mover's hydraulic system	P
	Quick couplings not fitted properly	• Fit quick couplings properly	P
	Other hydraulic or electric issues	• Contact McLaren Attachments	M
The sliding block does not start	The electrical cable is disconnect	• Connect the electrical cable	P
	Quick couplings not fitted properly	• Fit quick couplings properly	O
	Selection valve dirty	• Clean the valve	P
Equipment turns too slowly or too fast	Incorrect equipment/prime mover coupling	• Contact McLaren Attachments	M

Fault	Likely cause	Remedy	
External oil leaks	Fittings are loose	• Tighten fittings	O
	Hosing damaged	• Replace hosing	P
	Coupling damaged	• Replace couplings	P
	Leaks from the hydraulic motor oil seals	• Contact McLaren Attachments	M
Safety cover swollen	Drainage line high counter-pressure Drain line missing or fitted incorrectly to the prime mover	• Always connect the drain line directly to the prime mover's tank. • Contact McLaren Attachments to purchase replacement. O-ring and to check the counterpressure, which should be < 1 bar	M
	Drainage line high counter-pressure Drain line hose damaged	• Replace hose. • Contact an authorised McLaren service centre to replace the cover and the O-ring and to check the counterpressure which should be < 1 bar	P
	Drainage line high counter-pressure Drain line coupling damaged	• Replace coupling. • Contact an authorized McLaren to replace the cover and the O-ring and to check the counterpressure, which should be < 1 bar	P
	Sudden start-up of equipment with the prime mover engine at maximum speed	• Start up the equipment with the engine idling, then, after a few seconds, accelerate slowly and gradually until operating speed is reached. • Contact an authorized McLaren service center to replace the cover and the O-ring and to check the counter pressure should be <1 bar.	O
	Counterpressure in prime mover's drain line is too high	• Contact McLaren Attachments to replace the cover and the O-ring and to check the counter pressure which should be < 1	M