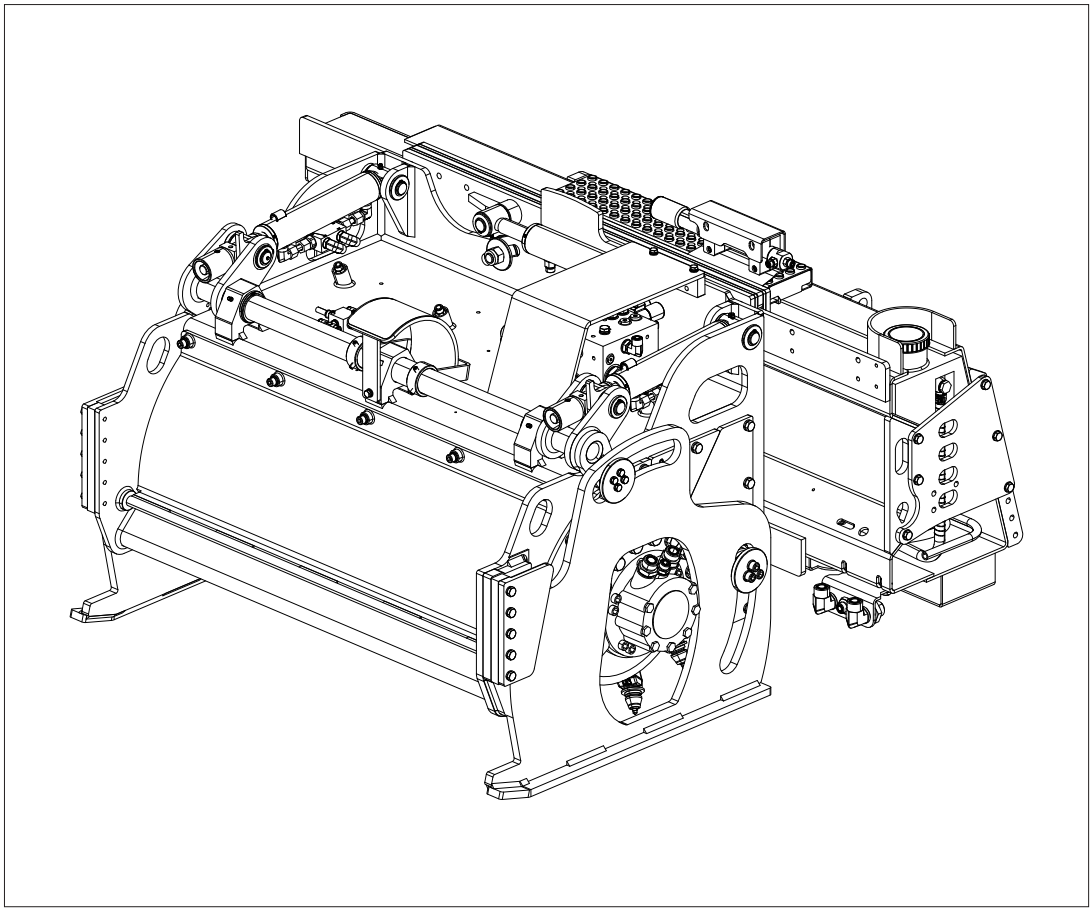
Use and maintenance manual



A Super Series Planer

SSP60 - SSP80

ORIGINAL INSTRUCTIONS

V1R10-1-2026

Table of Contents

1. **Message from McLaren** 1

1.1 Customer Appreciation Letter 1
1.2 Important Case Drain Line Information 2
1.3 Hydraulic Surge Protection 3
1.4 Customer Notice 4
1.5 Important Operating Guidance 5

2. Introduction 6

2.1 Preface 6
2.2 Supplied technical documentation 7
2.3 Technical Support 7
2.4 Spare Parts 7
2.5 Customer responsibilities 8
2.6 Unauthorised Modifications 8
2.7 Permitted uses 8
2.8 Residual risks 8
2.9 Environmental conditions 9
2.10 Specific Terminology 9
1.11 Equipment identification 10

3. Safety Information 11

3.1 Overview 11
3.2 General precautions for use 12
3.3 Positioning of safety and information labels 13

4. Description and data 14

4.1 Description 16
4.2 Overall dimensions 18
4.3 Specifications and performance 20
4.4 Main Parts 21
4.5 Safety devices 22
4.6 Road Use 22

5. Transport 23

5.1 Delivery and unloading 23
5.2 Handling, transportation and lifting 24

6. Use 26

6.1 Preliminary checks 26
6.2 Method the driver must follow to get in and out of the prime mover 26
6.3 Equipment/prime mover coupling 28
6.4 Equipment/prime mover hydraulic connection 29
6.5 Connecting flat-faced quick couplings 30
6.6 Equipment/prime mover connections disengage 30
6.7 Equipment/prime mover disconnect 31
6.8 Starting up 32
6.9 Preparing the equipment for use 33
6.10 Activating the equipment floating lateral tilt 33
6.11 Floating mechanical tilting device with spring jack 33
6.12 Cutting unit hydraulic lateral tilt 34
6.13 Cutting unit lateral movement 35
6.14 Planing depth (mechanical version) 35

6.14.1 Adjusting the planing depth 35
6.14.2 Planing depth adjustment reset 36
6.15 Planing depth (hydraulic version) 37
6.15.1 Adjusting the planing depth 37
6.15.2 Planing depth adjustment reset 37
6.16 Work start procedure 39
6.17 Planing in parallel passes 41
6.18 Stopping the equipment in normal conditions 43
6.19 Emergency stops 43
6.20 Parking 43
7. Maintenance 44
7.1 Routine Maintenance Schedule 44
7.2 Every hour 45
7.2.1 Inspection of cutter drum 45
7.2.2 Tool integrity assessment (teeth) 46
7.3 Every 8 hours 48
7.3.1 Cleaning the water spraying unit sprayers 48
7.4 Every 50 hours 48
7.4.1 Lubrication 48
7.4.2 Check integrity of the hoses 49
7.4.3 Equipment cleaning 49
7.5 Every 100 hours 49
7.5.1 Structural integrity assessment 49
7.5.2 Nut and bolt tightness test 49
7.6 Every 200 hours 49
7.6.1 Drain line safety cover inspection 49
7.7 When required 50
7.7.1 Replacing the side slides 50
7.7.2 Teeth replacement 51
7.8 Special maintenance 51
8. Preparing the machine for long periods of inactivity 52
9. Recommissioning 52
10. Spare parts and accessories 52
11. Disposal 52
12. Troubleshooting 53
13. Optional Features 55
13.1 Water spraying unit 55
13.2 Removable right slide when working alongside walls 55
14. Charts 56
14.1 Maximum screw tightening torques 56
14.2 Tightening torques for hose fittings 56
14.3 Tightening torques for hoses 56
15. Warranty 57

Message from McLaren

1.1 Customer Appreciation Letter

Dear Valued Customer,

Thank you for purchasing your premium attachment from McLaren Attachments LLC.

We know you have many options when it comes to equipment and attachments, and we are truly honored that you chose us. Your trust means a great deal to everyone on our team.

At McLaren , we take pride in designing products that are built to perform, built to last, and built to help you get the job done with confidence. Whether you're tackling a demanding project, improving efficiency on the jobsite, or expanding the capabilities of your equipment, we're excited to be a part of your success.

More importantly, we want you to know that you're not just purchasing a product. In fact, you're becoming part of the McLaren family. Behind every attachment is a team of dedicated people who care deeply about quality, service, and your satisfaction. We are committed to supporting you long after your purchase is complete.

We hope your new premium attachment exceeds your expectations and proves to be a valuable tool for years to come. If there is ever anything we can do to assist you, answer questions, or provide support, please don't hesitate to reach out to our Customer Service Team at 888-503-3680.

From all of us at McLaren Attachments, thank you again for your business, your confidence, and the opportunity to serve you. Wishing you continued success and safe operation,
The McLaren Attachments Team

Go McLaren – Go Extreme!

Message from McLaren

1.2 Important Case Drain Line Information

Dear Valued Customer,

To help protect your attachment and ensure proper operation, please follow the procedure below whenever connecting and disconnecting the attachment:

- Before operating the attachment, always connect the Case Drain line first.
- When disconnecting the attachment, always remove the Case Drain line last.

Following this procedure helps protect the hydraulic motor and seals from damage, which extends the life of the attachment.

Please note that the Case Drain line is the smallest hydraulic coupler on the attachment, making it easy to identify.

Thank you for your attention to this important operating procedure. If you have any questions regarding the proper connection or operation of your attachment, please contact Customer Service at 888-503-3680 for assistance.

Sincerely,
McLaren Attachments LLC

Message from McLaren

1.3 Hydraulic Surge Protection Plates

Please follow the procedure below whenever connecting and disconnecting the Planer:

· **Before operating the attachment, always connect the Case Drain line first.**

· **When disconnecting the attachment, always remove the Case Drain line last.**

Cold planer operators should avoid sudden stops and starts whenever possible, as abrupt deceleration can cause rapid increases in hydraulic and case-drain pressure. These pressure spikes can over-pressurize the hydraulic motor and place excessive stress on the motor and related components. In the event of a sudden stop or improper case-drain installation or removal, the Surge Protection side plates are designed to buckle, helping reduce the potential for hydraulic motor damage. To minimize the risk of damage, operators should reduce machine speed and gradually disengage the cutting system, allowing hydraulic pressures to stabilize before bringing the machine to a complete stop. Always follow recommended safe operating procedures and proper shutdown practices.

If a leak occurs as a result of buckled Surge Protection side plates, replacement side plates and seals are available for purchase from McLaren Attachments LLC. Inspect the hydraulic system and related components for signs of damage and ren cases where place the affected plates and seals as necessary to restore proper protection and prevent further leakage. Following proper operating and shutdown procedures can help minimize hydraulic pressure spikes and reduce the risk of damage to the hydraulic motor and associated components. Damage caused by surges in hydraulic pressure is not covered under warranty. In cases where the surge protection plate buckles or leaks hydraulic oil, it is due to a hydraulic pressure overload or sudden start/stop this is a safety mechanism to protect the motor from damage due to pressure overload. This is normal operation and not covered under warranty. One extra set of surge plates (2) and O-rings (2) come with the equipment. Additional sets can be purchased through McLaren Attachments LLC.

Surge Protection Plates





Message from McLaren

1.4 Customer Notice

CUSTOMER NOTICE – HYDRAULIC LEAK REPORTING REQUIREMENT

Dear Valued Customer,

To ensure timely evaluation and resolution of any potential hydraulic system issues, all claims regarding hydraulic leaks must be reported to McLaren Attachments within five (5) business days of receiving the product.

Upon receipt of your equipment, please inspect the unit thoroughly for any signs of hydraulic leakage, including but not limited to:

- Hydraulic oil on or around the attachment
- Damaged hoses, fittings, or hydraulic components
- Evidence of fluid loss during transit or delivery

Failure to notify McLaren Attachments of a hydraulic leak within five (5) business days of receipt, as delayed reporting can make it difficult to determine the cause and responsibility for the issue.

To report a hydraulic leak, please contact McLaren Customer Support at 888-503-3680 and provide:

- Serial number of the attachment
- Date of receipt
- Photos and video of the affected area(s)
- Description of the issue

We appreciate your cooperation and prompt attention to this inspection process, which helps us provide the highest level of service and support.

Sincerely,
McLaren Attachments

Message from McLaren

1.5 Important Operating Guidance

Dear Valued Customer,

To help ensure the longevity and reliable performance of your cold planer, please follow the operating recommendations below:

- Start-Up Procedure:
  To avoid possible damage to the hydraulic motor and seals, it is important to increase engine RPMs gradually when engaging and operating the cold planer. Slowly increasing the RPMs allows hydraulic pressure and flow to build smoothly, reducing stress on critical components.

- Shutdown Procedure:
  When shutting down the cold planer:

- Gradually reduce the engine RPMs.
- Allow the rotor to slow down and come to a complete stop.
- Once the rotor has completely stopped moving, it is safe to disengage the auxiliary hydraulics.

Following these procedures will help prevent unnecessary wear and potential damage to the hydraulic motor, seals, and other drive train components.

If you have any questions regarding the operation or maintenance of your cold planer, please contact our Customer Service Department at 888-503-3680 for assistance.

Thank you for your cooperation and for choosing McLaren Attachments equipment.

Sincerely,
McLaren Attachments

2. Introduction

2.1 Preface

This manual supplies the operator and qualified and authorized technicians with technical information on road planer (also referred to hereafter as equipments) manufactured by McLaren Attachments (also referred to hereafter as the manufacturer) to be installed on loaders (also referred to hereafter as prime movers).
In this manual, the operator and qualified technicians will find instructions which provide them with:

- The safety and accident-prevention procedures necessary to avoid personal injury or damage to the machines and to the environment.
- A technical and functional description of the components making up the machines and the optional accessories which can be supplied upon request by McLaren Attachments.
- The information required for correct installation.
- The checks, preliminary maintenance operations and transport/handling methods to be used during commissioning.
- A scheduled maintenance plan, as well as the inspections and any operations to be performed for extraordinary maintenance.

This manual should be considered an integral part of the machines and must be supplied with them in the event they change ownership, right through to final scrapping.
This manual and all publications supplied together with it must be carefully retained in an easily accessible place known to the operator and qualified technicians authorised to perform maintenance; they must thoroughly read and understand all relevant descriptions and instructions before starting work or performing the required maintenance operations or adjustments.
In the event that the manual is lost, damaged or rendered illegible, request a new copy from McLaren Attachments giving the type of equipment, serial number and year of manufacture.
If the equipment is sold, the vendor is required to pass on the manual to the new owner.
The equipments and the assemblies they are composed of are subject to updates in order to improve the final product; this manual gives information concerning the technical situation at the moment of supply.
McLaren Attachments reserves the right to update both its products and manuals without any obligation to update previous versions, except as regards fundamental additions concerning operational safety.

Warning

- **Improper use and maintenance operations can cause serious personal injury and shorten the useful lifetime of the machines.**
- **The operator and qualified technicians must have thorough knowledge of all requirements listed in this manual before beginning to use the machine or perform maintenance operations.**
- **The procedures contained in this manual shall be understood to apply to the machines only where used for the permitted purposes and with all safety devices and equipment installed and operational; if the machines are used for other purposes or under different safety situations, the customer shall bear direct responsibility for persons involved in accidents or incidents and any unusual wear to the equipment.**

2.2 Supplied technical documentation

The documentation supplied with the equipment consists of:

- Use and maintenance manual
- Spare parts catalogue

2.3 Technical Support

Requests to Technical Support Staff must be addressed directly to your McLaren dealer. To ensure the fastest and most efficient response possible, it is essential to always indicate the “Equipment model” and “Serial number” given on the identification plate (see “2.11 Equipment identification”).
Requests for support must be sent by fax, phone or email to the numbers/addresses given on the first page of this manual, specifying the reason for the request.

2.4 Spare Parts

Only original McLaren spare parts must be used, as they offer functional and durability guaran-tees as well as perfect interchangeability.
Any exception to this requirement must be authorized by the Service Department in writing, specifying any alternatives which have been assessed and allowed.

2.5 Customer responsibilities

Upon receiving equipment, the Customer must supply the following:

- Equipment for lifting and transporting the machine to the location of the prime mover.
- Personnel qualified to perform the unloading and handling operations.
- Common tools (spanners etc.)
- Connecting hoses for the prime mover (unless specified in the order).

2.6 Unauthorised Modifications

No modifications may be made to the equipments or its components without written authorization from McLaren.
Unauthorized modifications may alter the design parameters for the original performance of the equipment, resulting in the lapse of any and all warranties as well as civil and/or criminal responsibility for damage or injuries.

2.7 Permitted uses

The equipment is designed to be connected to a prime mover to perform variable depth cold planing and scarification works of hard and compact materials such as asphalt, rock, concrete and sediments.
During use at night or in poor visibility, the working area must be illuminated (200 lumens) by use of the prime mover or fixed or immobile external lighting.
McLaren cannot be held responsible for any mishandling of the equipment or any changes or alterations made to it.

Hazard

- **Any use of the equipment which does not comply with the uses specified in this use and maintenance manual is strictly prohibited.**
- **Do not stand, move or work on floors or any non-bearing structures.**
- **Do not use the equipment for planing at levels higher than the prime mover shifting level.**
- **Do not work in dangerous weather conditions (e.g. lightning etc.).**
- **The prime mover must never be moved sideways when the drum is in use.**

2.8 Residual risks

When the equipment is in use, the following risks may arise:

- Electric shocks from contact with underground power lines.
- Fire and explosions through contact with underground gas lines.

Anyone standing in the vicinity of the equipment may be exposed to the following risks:

- Risks originating from blows, catching or shearing, as result of accidental contact with the rotary cutter.
- Risk of crushing between the equipment and the prime mover.
- Risk of rubble (stones, blunt objects etc…) being thrown out.
- Risk of falling spoil (when working on uneven ground or on surfaces at different heights).

2.9 Environmental conditions

With working temperatures below 14°F, let the prime mover idle before beginning work, and when the hydraulic circuit exceeds 32°F, run the prime mover until the working temperature has been reached.
The use environments must comply with the regulations in force concerning hygiene and safety in the workplace.
If the equipment is required for use partially immersed in saline environments, a special version must be obtained from McLaren (special paintwork, stainless steel nuts and bolts etc.). Even with this version, though, it is still important to rinse off the equipment with fresh water after work.

Hazard

- **No naked flames and suchlike near the equipment.**
- **Do not use the equipment in environments where there is a risk of explosion or fire. This equipment is not designed for use in explosive atmospheres (ATEX Directive).**

2.10 Specific Terminology

To facilitate understanding of this manual, the following terms are used:

- **Danger Area:** area inside or in proximity to the equipment in which the presence of an exposed person represents a risk to the health and safety of the same person.
- **Exposed Person:** any person found entirely or partially inside a danger area.

Note

Danger area means any area within which a person is exposed to a risk to their health and safety even only occasionally and for brief periods of time (for example when the equipment undergoes maintenance for fluid changes, when performing electrical work).

- **Operator**: person responsible for running, performing scheduled maintenance on and cleaning the equipment.

Qualified technician or trained person: person specialised, specifically trained and qualified to perform installation, extraordinary maintenance or repairs which require particular knowledge of the equipment and its operation.

Warning

- **Left and right shall be taken with reference to the position of the identification plate.**

2.11 Equipment identification

The identifying data of the equipment (necessary for spare parts requests and communications with the service department) are given on the identification plate applied in a protected position on the right of the equipment.

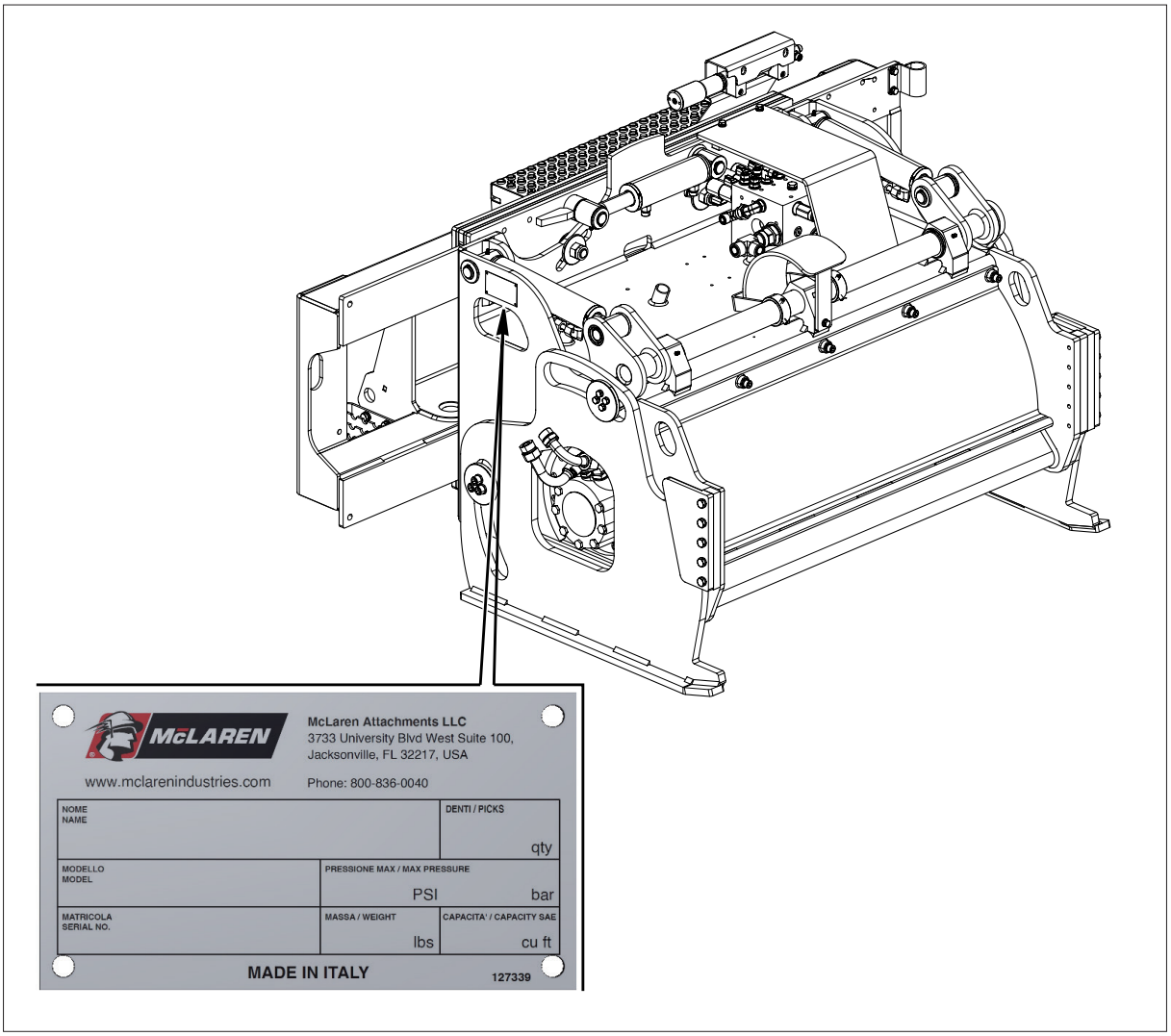


Fig. 1

3. Safety Information

3.1 Overview

Note

- It is important to remember that, for clarity, some illustrations show the equipment removed from the prime mover and therefore not in operating conditions.

No part of this manual may be reproduced or translated without the written permission of McLaren
This equipment has been designed and manufactured in accordance with EC and/or UKCA *Regulations* safety directives.
The wording and symbols used below are used to identify the safety messages included in this manual.

⚠ Hazard

- **This term is used in safety messages in the manual and on the plates when there is a significant chance of severe injury if the danger is not avoided.**
  The normal precautions for avoiding the danger are described in these safety messages.
  Ignoring these precautions can also case serious damage to the equipment.

⚠ Warning

- **This term is used in safety messages in the manual for dangers which, if not avoided, can cause minor or moderate injuries or damage.**
  The message may also only be used for dangers which can cause damage to the equipment or its components.

☞ Important

- This term is used for precautions which must be taken to avoid operations which can shorten the lifetime of the equipment or its components.

Note

- This term is used for sentences supplying useful information on the operation in progress.

3.2 General precautions for use

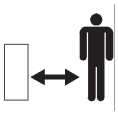




- The operator is directly accountable for the equipment's safe operation.
- In order to avoid accidents and incidents, ensure you have read, understood and followed all precautions and warnings contained in this manual and on the plates applied to the equipment before using the equipment or performing maintenance operations.
- The aim of this handbook is to familiarise the operator, through the figures and explanations, with the basic rules and criteria to follow during equipment use and maintenance.

The following procedures are essential to guarantee safe operation:

- Check that the equipment has not suffered any damage during transportation and if it has, advise the manufacturer or area agent immediately.
- Make sure the equipment is only used by authorized adults with appropriate training.
- Make sure the prime mover due to be used has all the dead-man's controls fitted and that they are in perfect working order.





- Ensure all non-members of staff are kept clear of the equipment when it is in use (safety distance of at least 10 meters or 32 feet). Cordon off the work area. This operation must be carried out by the operator or site manager.
- Stop working if anyone or any animals should enter the work area.
- Be careful to prevent any crushing injury.



- Before using the equipment, ensure that all safety devices are correctly installed and operating correctly, and that normal maintenance has been performed.
- Ensure that the hoses are sufficient to resist the auxiliary pressure of the prime mover and that the hoses and connectors are correctly connected.
- Do not carry out any maintenance work until you have read the instruction manual, and always remove the ignition key from the prime mover before starting.





- Any repairs needed must be carried out solely by authorized personnel using original spare parts. If this rule is not applied, the user could be exposed to serious risks.
- All inspections of the hoses and fittings must be carried out using suitable personal protection equipment (goggles, gloves and clothing to protect against contact with the skin).
- Do not leave the equipment installed on the prime mover unattended in the workplace.



- Do not wear anything which might get caught in the moving parts, such as unsuitable clothing, shoes, shirts etc. You are recommended to wear garments approved for accident prevent purposes, e.g. helmets, non-slip shoes, headphones, and safety goggles and gloves. Check with your employer for enforced OSHA regulations and accident prevention devices required.
- Do not wear rings, bracelets, necklaces, watches, or scarves.
- Keep long and/or loose hair secured, tied and without obstruction.

3.3 Positioning of safety and information labels

The adhesive labels containing safety information for the operator and their assistants are applied on the sides of the equipment near the danger areas and the connecting point for lifting the equipment using chains or cables.

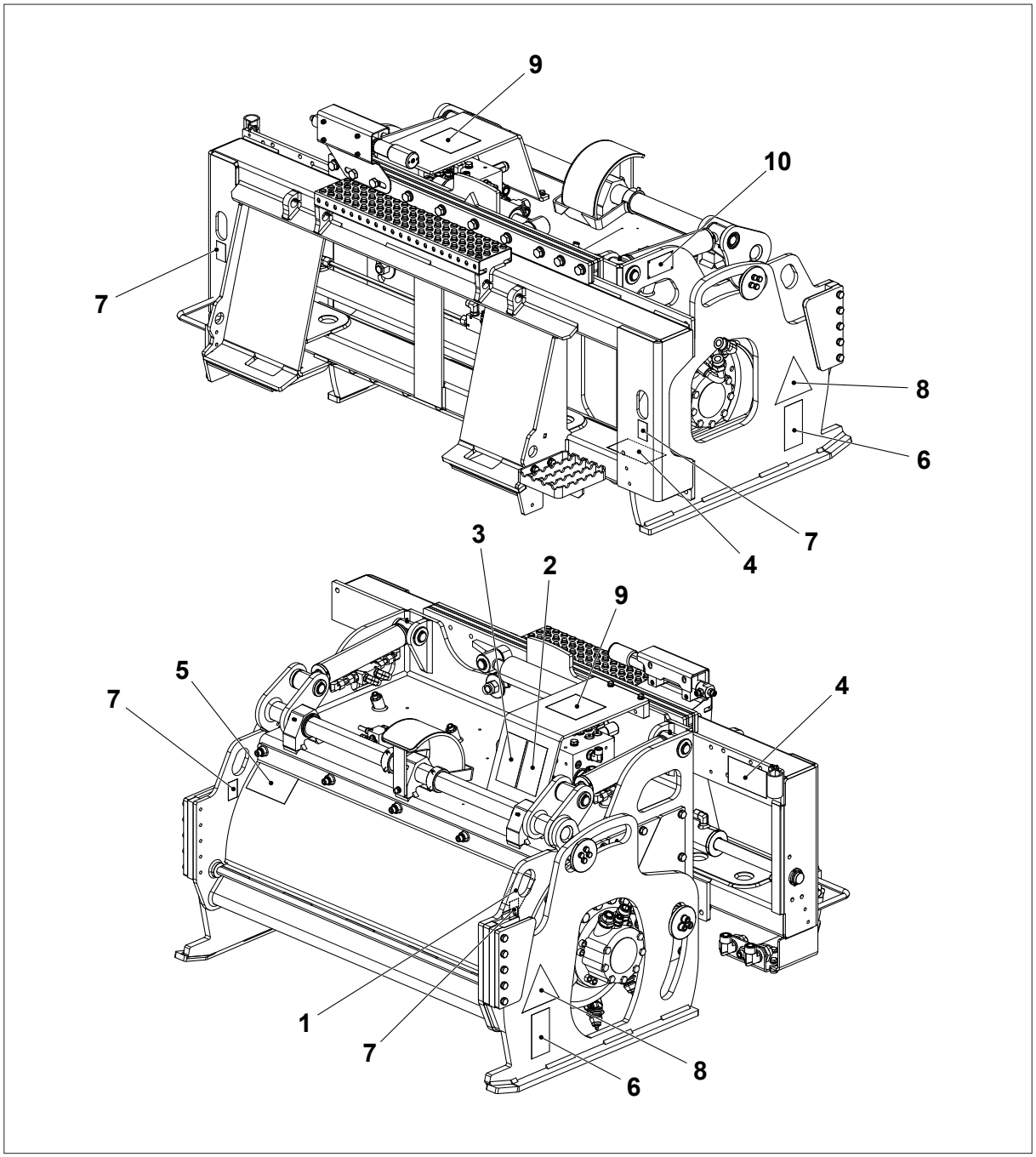
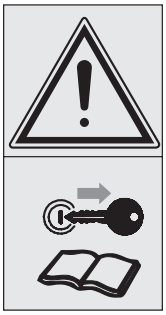
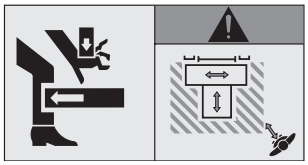
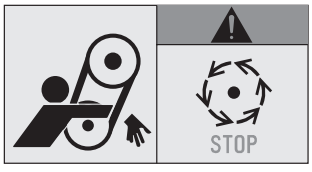
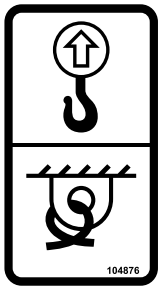


Fig. 2

Safety Plates Description

Pos.	Description		Code	Q.ty
1		You are required to wear appropriate personal protection equipment	75104	1
2		You are required to read the manual carefully before using the equipment.	20944	1
3		You are required to read the manual carefully and remove the ignition key before performing maintenance and repairs and before getting out of the prime mover.	20943	1
4		Ensure all persons not authorised for work are kept clear of the equipment when it is being coupled or removed. Stop working if anyone or any animals should enter the work area.	20937	2
5		Stop the drum rotation before carrying out any work on the equipment.	20942	1

Pos.	Description		Code	Q.ty
6		You must keep clear of the machine.	75572	2
7		Hook up point for lifting and anchoring purposes	104876	4
8		Rotating cutter drum	74796	2
9		Do not use this plate to climb on the prime mover	24666	1
10		Data plate	127339	1

Hazard

- **Always heed the warnings on the plates and transfers/stickers. Failure to do so may result in death or serious injury. Make sure the plates and transfers/stickers are always in place and legible. If this is not the case, affix or replace them, obtaining the materials required from the manufacturer.**

4. Description and data

4.1 Description

Note

- For further details on the main components, see “4.4 Main Parts”.

The equipment is a self-leveling cold planer for variable depth planing of asphalt, concrete, sediments, gravel, etc. It can be installed on the majority of prime movers, such as skid loaders, backhoe loaders and loaders with a quick coupling. The cutter drum rotates and cuts the material from the bottom upwards, crushing it and remov-ing it with the hard metal teeth located on its outer surface. The drum rotation is driven by two fixed displacement hydraulic motors directly connected and powered by the prime mover through hoses and quick couplings. The slides hold the planed material. They rest on the ground and are held in place by two screws (manual adjustment version) or by two hydraulic cylinders (hydraulic adjustment ver-sion) controlled separately, which determine the planing depth; the same depth can be even or different on the left and right side, and it can be viewed on separate graduated scales. To facilitate planing on a surface which is not parallel with respect to the surface the prime mover's wheels are resting on, the equipment can be tilted manually (standard version) or with a hydraulic cylinder (hydraulic version). When it is necessary to plane up to and beyond the external edge of the prime mover, the equipment can be moved to the right along the guides of the sliding device (thanks to a hydraulic cylinder). The removed crushed material is left on the ground. The water spraying system (optional) - which can be fit with the tank and electric pump mount-ed on the prime mover or built in the sliding device - sprays water towards the teeth of the cutter drum, significantly reducing the dust produced during planing. The equipment is mounted solidly on the prime mover with a quick coupling, whose form de-pends on the prime mover. The hydraulic power is also supplied by the prime mover, and the connections used are hydraulic quick couplings. All functions of the equipment are controlled by the existing controls on the prime mover, sometimes with the addition of a specific control panel for the equipment , but this will also be installed on the prime mover.
The forwards movement is provided by the prime mover. Fasten the equipment with the slides firm and stable on the ground; for safety reasons, keep the prime mover front raised a few centimeters from the ground.

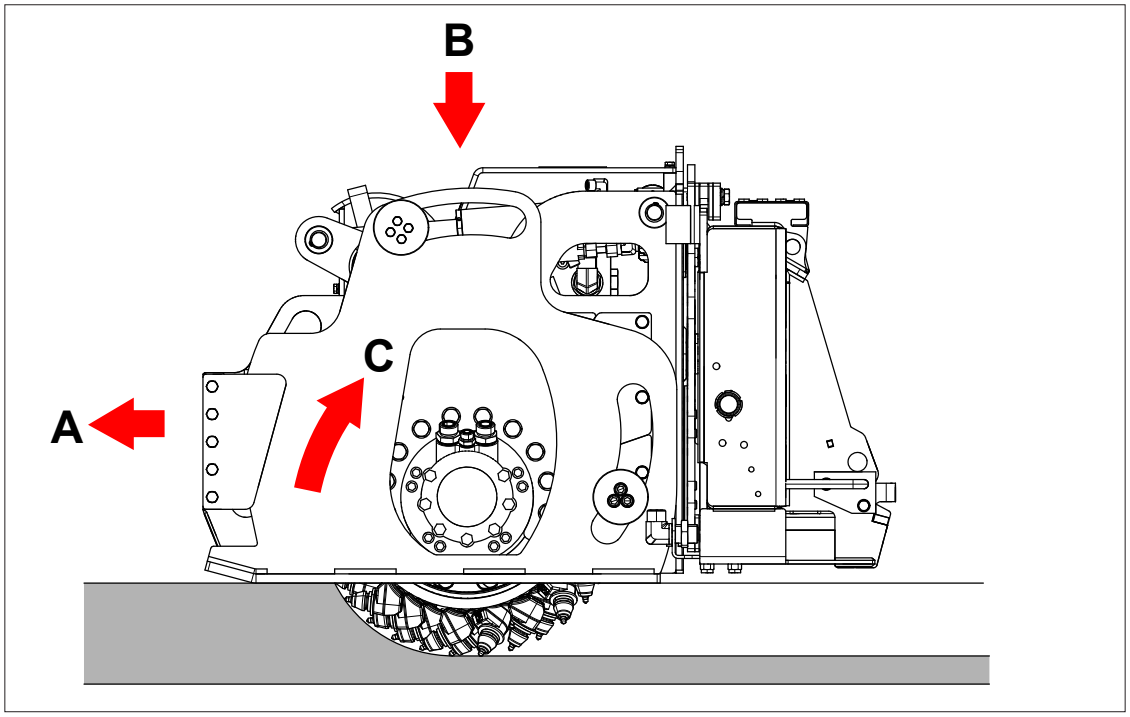
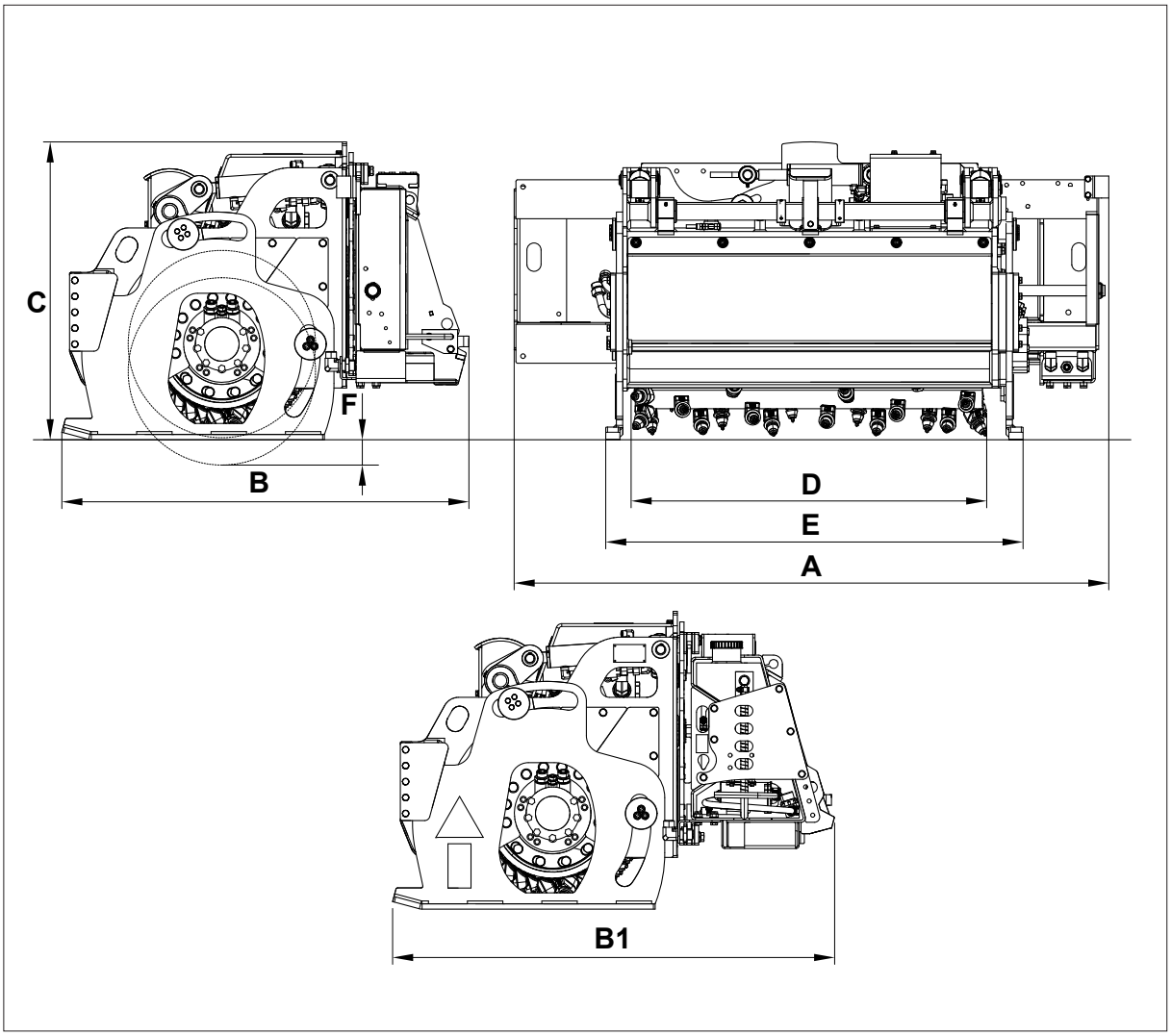


Fig. 3

A = Forward movement
B = Ground gripping strength
C = Cutter drum rotation direction

4.2 Overall dimensions

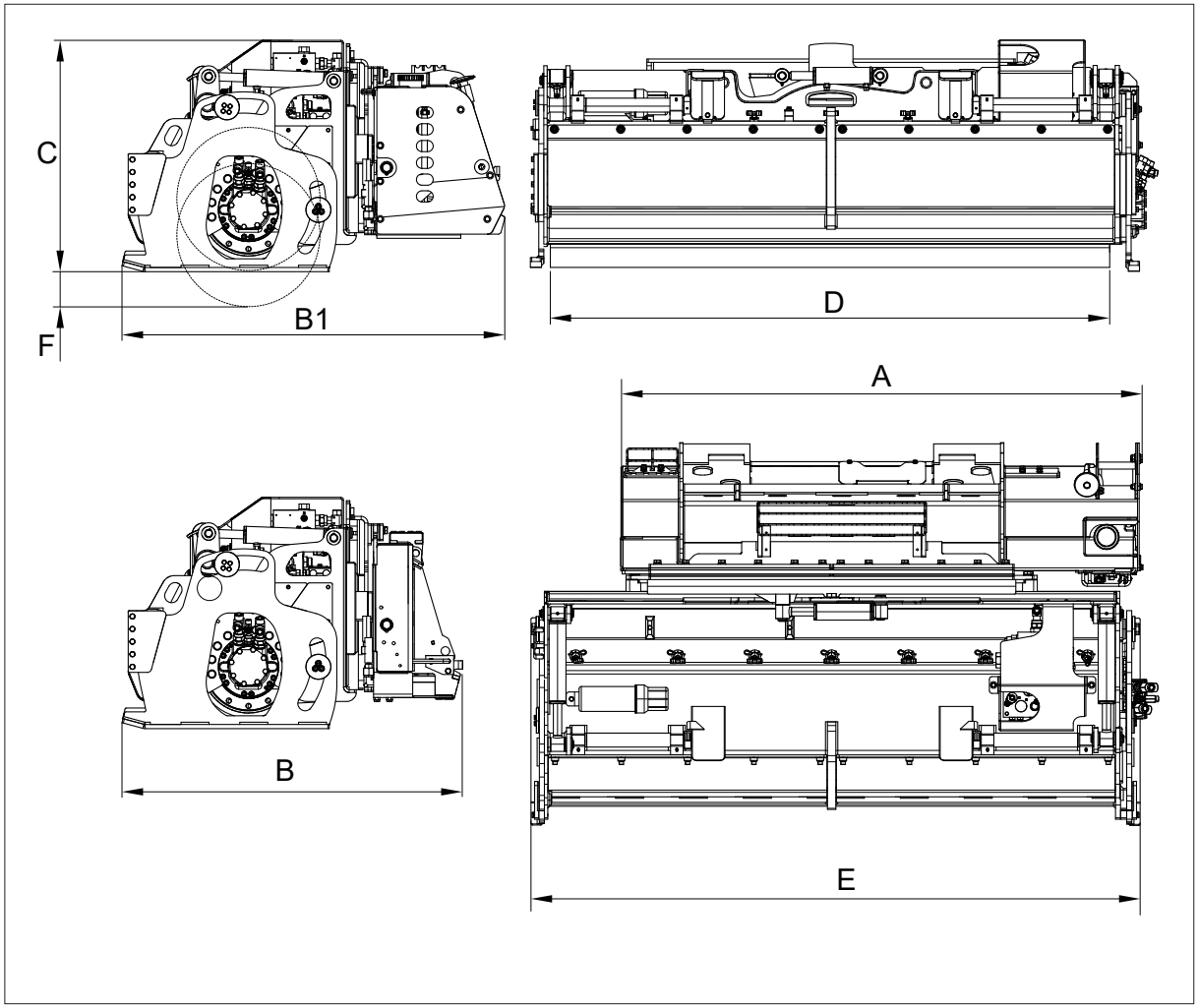
Mod. SSP60



Mod.	A	B	B1	C	D	E	F
SSP60	1870 mm	1140 mm	1327 mm	830 mm	1500 mm	1685 mm	0-130 mm

Fig. 4

Mod. SSP80



Mod.	A	B	B1	C	D	E	F
SSP80	1870 mm	1270 mm	1370 mm	860 mm	2000 mm	2185 mm	0-130 mm
SSP80	73.62 in	50 in	53.93 in	33.86 in	78.74 in	86.02 in	0 - 5.11 in

Type text here

Fig. 5

4.3 Specifications and performance

Technical characteristic	Unit of measurement	SSP60	SSP80
Operating pressure	bar	350-160	350-160
Oil flow	l/min	95-200	95-200
Drum revolutions	rpm	150-230	150-230
Max. hydraulic motor power	kW	60	60
	HP	82	82
Weight (*)	kg	1685	2025

(*) Standard equipment configuration without accessories and universal coupling

Example of how to calculate the hydraulic motor power:

$$\frac{Q\ (G / min)\ \ x\ \ PSI\ (bar)}{1714} = A\ (cv)\ /\ 1.36\ =\ A\ (kW)$$

Key:

Q= Capacity ***P*** = Pressure ***A*** = Power

Note

- The capacity and pressure rates stated in the equation above must be measured at exactly the same time, using a precision tool. The measurement must be carried out by a skilled member of staff.

4.4 Main Parts

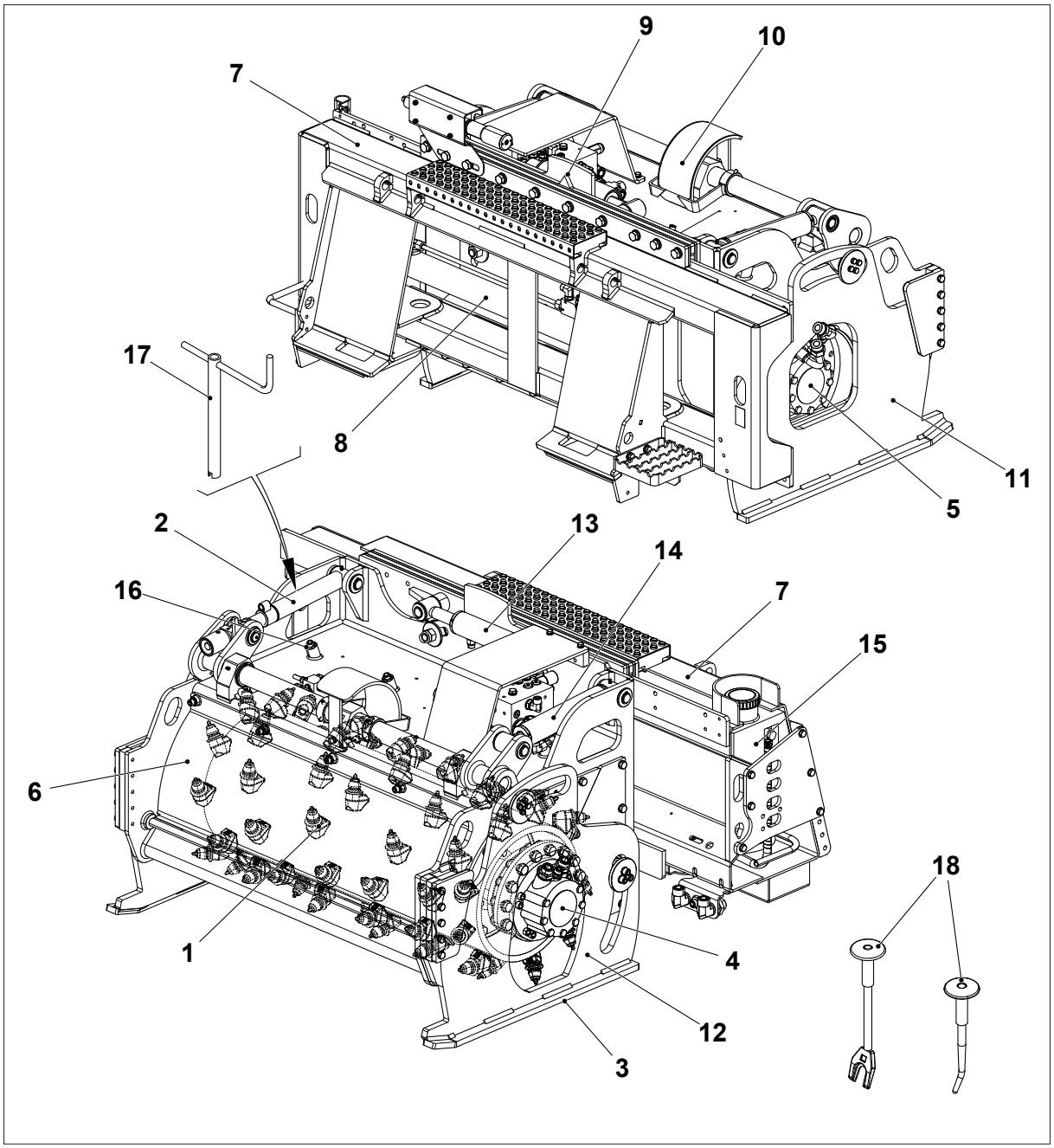


Fig. 6

1 - Rotary cutter
2 - Working depth regulation screw (No. 2)
3 - Side supporting slides
4 - Left side hydraulic motor
5 - Right side hydraulic motor
6 - Drum inspection cover
7 - Sliding device
8 - Lateral movement hydraulic cylinder

9 - Horizontal tilt indicator
10 - Working depth indicator
11 - RH side board
12 - LH side board
13 - Hydraulic lateral tilt cylinder (or lateral tilt damper)
14 - Working depth regulation hydraulic cylinder (No. 2)
15 - Water spraying unit tank
16 - Water spraying unit nozzles
17 - Depth regulation crank
18 - Tools removal spanners

4.5 Safety devices

Hazard

- **The safety devices must NEVER be tampered with.**
- **The equipment must NEVER be used without the safety guards fitted.**
- **Always use the appropriate Personal Protective Equipment when performing any type of maintenance.**
- **The tools can reach high temperatures during work; it is therefore necessary to wait for them to cool down and use appropriate gloves if you are likely to come into contact with them.**

4.6 Road Use

Prime movers with the equipment installed may have changed center of gravity and overall dimensions. Take great care during movements and maneuvers, avoiding dangerous imbalances and proceeding at low speeds at all times. Keep the equipment raised a few centimeters from the ground. It is mandatory to remove the machine from the prime mover when driving on public roads unless the prime mover's vehicle registration and road inspection approval have been updated specifically. McLaren shall not be held responsible for either criminal or civil consequences deriving from failure to obey or abuse of these requirements and limitations. Check the position of the light clusters, modifying it where necessary depending on the equipment installation. All applicable legislation must be followed for any modifications.

5. Transport

5.1 Delivery and unloading

The equipment is normally transported and delivered securely fastened to a pallet, in a stable position, and duly wrapped in plastic sheeting. The type of packing may vary according to the desired means of transport and the destination. For truck delivery, the equipment is packed inside a suitable wooden crate. All dispatched equipment is checked prior to delivery to the customer.

☞ Important

- Any optional material (spare teeth, adapter plate, connecting hoses, keys for teeth replace-ment etc.) is contained in a separate package.
- On receipt of the equipment, check for any damage (major breakages or dents) caused during transportation. If any are found, the carrier must be alerted immediately and the statement "Accepted Conditionally" must be added to the delivery note.
- In the event of damage, give notice of the fact to the carrier in writing within 8 days of receipt of the equipment.
- If, upon delivery, major damage caused during transportation is noted, or any parts that should be included are found to be missing, McLaren must be notified of the situation promptly.
- It is essential to check the equipment delivered against the information given in the itemized shipping document.

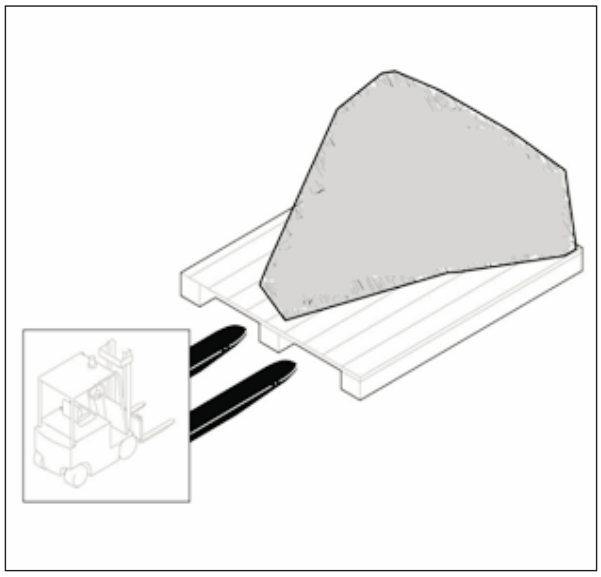


Fig. 7

Warning

- **The packed unit must be unloaded with the utmost care using lifting means with a suitable capacity (e.g. fork lift truck or other appropriate means).**
- **The entire unit must be placed on a flat, stable surface.**
- **All load handling operations must be carried out by qualified personnel in compliance with the regulations in force concerning safety in the workplace.**
- **Dispose of the packing in compliance with local regulations.**

5.2 Handling, transportation and lifting

Warning

- **When transporting the attachment on open roads (e.g. flatbed truck), ensure safe detachment from the prime mover.**
- **Only small movements may be performed on the worksite when the equipment is mounted on the prime mover; during these movements shifting must be carried out at low speeds with the equipment located close to the ground and the prime mover arms as closed up as possible; all people and things must be kept a safe distance away.**
- **The equipment must always be removed from the prime mover before the vehicle is driven up loading ramps.**
- **The equipment must not be operated during handling.**

Handling over short stretches (in the workplace):

- Use the prime mover, leaving the equipment attached.
- Secure the equipment to a pallet, and handle it with a fork lift truck or a pallet jack.

Handling over long stretches:

- Secure the equipment to a pallet, using a fork lift truck or a pallet jack for handling, then load it onto the means of transport (truck, train, etc.).

Lifting from one surface to another (e.g. to load onto a truck):

- Use a lifting crane or truck with a suitable capacity for the weight specified on the identifi-cation plate. Connect the cables or chains at the two points shown with the relative stick-ers. (see “3.3 Positioning of safety and information labels”). When lifting, use hooks in regulation with OSHA.

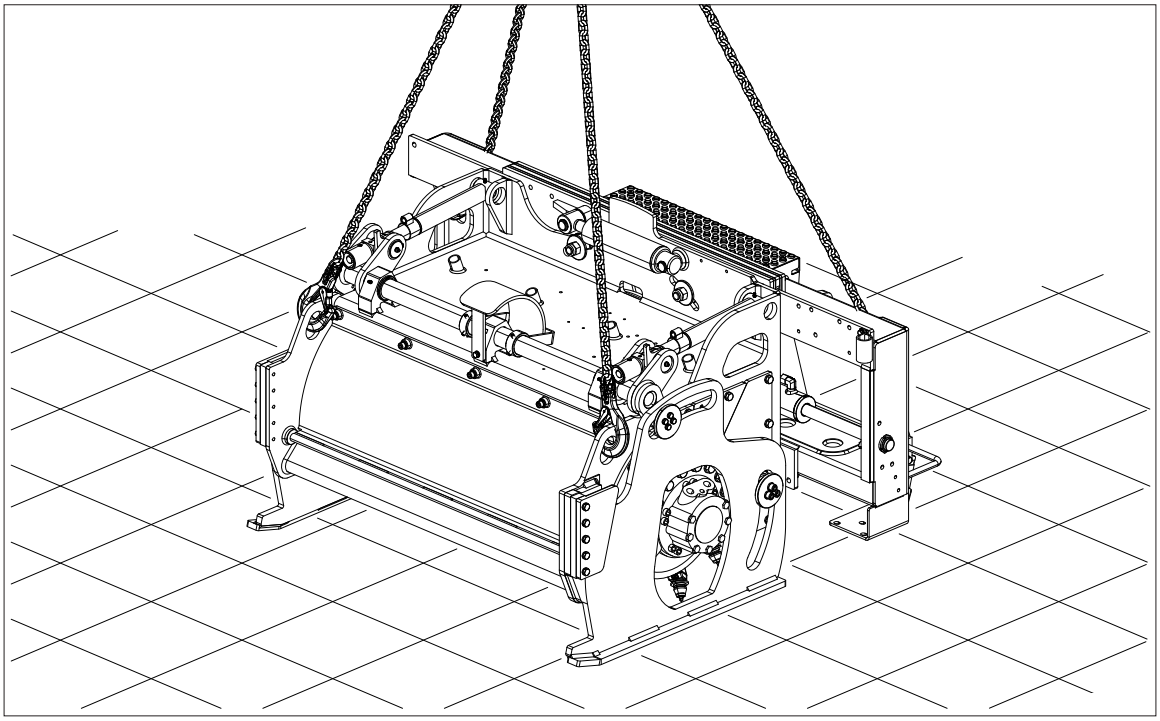


Fig. 8

Warning

- **Check that the capacities of the cables, chains and lifting and transportation means in general are compatible with the equipment weight specified on the identification plate.**
- **Keep the equipment close to the ground (safe height 1.5 feet) when moving with it attached to the prime mover.**
- **Shifting is only permitted on flat, or slightly loose ground, and as long as stability is never jeopardized.**
- **Check that the pallet on which it will be stored is in suitable condition.**

6. Use

Warning

- **The fitter is responsible for checking that the prime mover meets the equipment specifications (see “4.3 Specifications and performance”).**

6.1 Preliminary checks

Before proceeding with the connection to the equipment, the prime mover must undergo checks to ensure:

1 - Check that all safety and braking devices fitted (parking brakes) are in working order.

2 - Check that all the quick couplings (when featured) on the equipment and prime mover and other components related to the coupling to the prime mover are in good condition.

Warning

- **The following paragraphs describe the steps to connect the equipment to the prime mover.**
  Before starting, the Operator must perform some simulated maneuvers to gain confidence with the equipment.
  Perform this training in a restricted area where non-members of staff are kept clear.
  The Operator must practice until he is confident under any working condition.
- **Prime movers with the equipment installed have shifted center of gravity, weigh more and take up more space than the prime mover by itself; be careful when moving and proceed at low speed, avoiding any sudden movement that can result in significant and dangerous variations in the machine stability or balance.**
  Given its greater weight, be careful when passing near open excavations, slopes and verges.

6.2 Method the driver must follow to get in and out of the prime mover

(For equipment installed on prime movers with front access to the driver position)

Warning

- **Always ensure you have three points of contact (grip or support) when getting in and out of the prime mover to ensure you retain your balance and do not fall.**
- **Do not rest your foot on the surface of the structure marked with the sticker (8 of “Fig. 2”).**

THIS WAY UP (on the equipment right side)

1 - Rest your left foot on the lower step (1) of the equipment.

2 - Put your weight on your left foot and lift your right foot onto the upper step (2) of the equipment.

3 - Put your weight on your right foot then raise your left foot onto the anti-slip step (3) of the prime mover.

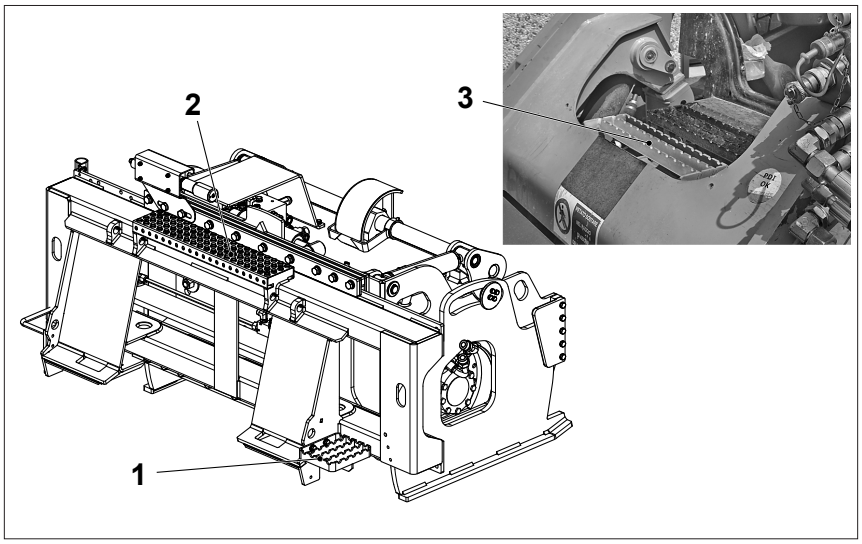


Fig. 9

To **GET OFF**, perform the same operations in reverse.

If the lower step is installed on the equipment left side, get on and off the equipment as instructed above, with in reverse foot motion.

Warning

- **Always use the anti-slip steps to get in and out of the prime mover.**
- **You should never get in or out from the front part of the equipment.**
  The operator must ensure their shoes are free of mud or any other material which could cause them to slip.

6.3 Equipment/prime mover coupling

The equipment must be mounted on the prime mover's arm in place of the bucket.

Apart from the general instructions given below, the procedures outlined in the prime mover's manual (see specific section on the application of equipment) must also be followed.

Example of the operations that must be carried out for a standard joint

1 - Position the equipment (1) in the non-operative position and with its support feet on flat, compact ground, away from ditches, fuel stores, electrical substations or any other hazard risk.

2 - Slowly bring the arm of the prime mover towards the equipment in order to position the attachment plate (2) below the upper lip (3) of the paver coupling.

3 - Operate the prime mover hydraulic controls in order to bring the support plate towards you (2) until it is completely resting on the coupling area of the paver.

4 - Turn off the engine of the prime mover and remove the key from the ignition; get out of the vehicle and push the two levers (4) and (5) to engage the quick coupling lock pins. Check that the levers are locked in the retaining position and that the pins are inserted in the holes of the paver coupling.

Hazard

- **When you have completed the operations described above and checked that the pins are inserted, lift the equipment off the ground.**

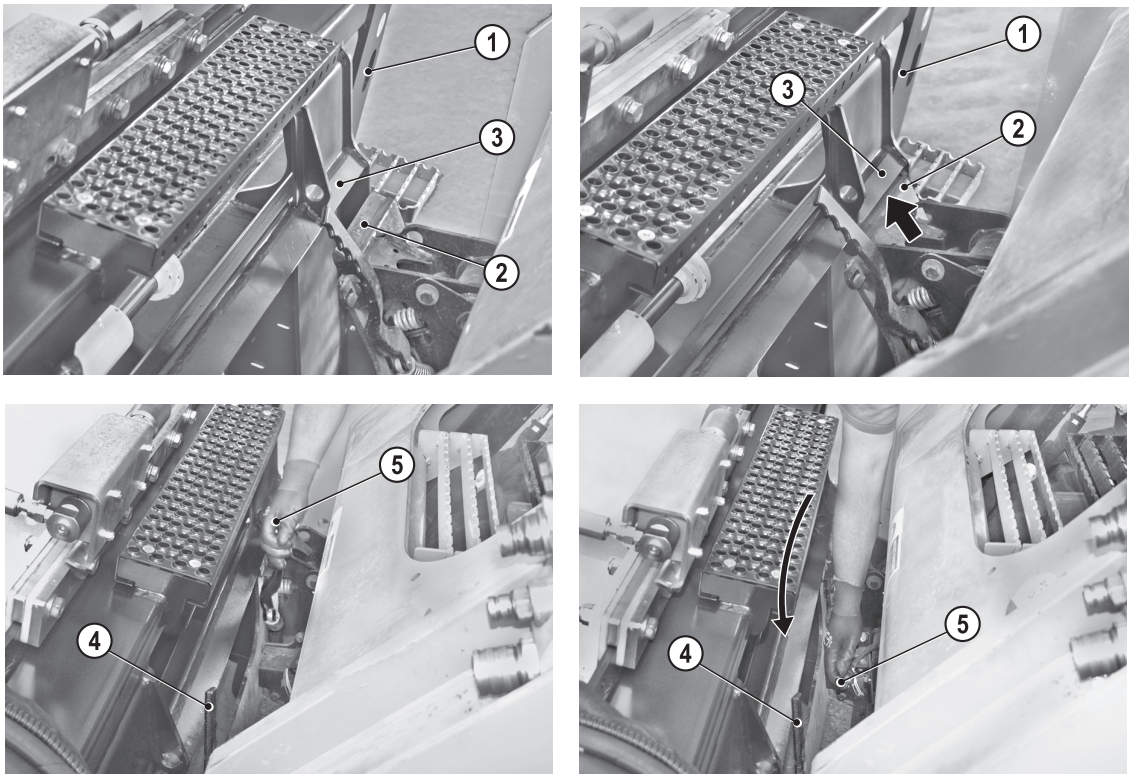


Fig. 10

6.4 Equipment/prime mover hydraulic connection

Hazard

- **The machine is connected to the prime mover via hydraulic hoses. Make sure the hoses are not tangled together, as this could prove hazardous, and are not likely to be crushed or exposed to tension during work maneuvers.**
- **Residual risk of burns: The hydraulic oil and hoses can reach extremely high temperatures; use appropriate personal protection equipment.**
- **The operation must be carried out by one person (operator) only.**

To connect the hosing, proceed as follows:

1 - Release the pressure in the hydraulic system (see prime mover instructions);

2 - Connect the hoses (No. 2) using the quick couplings (see “6.5 Connecting flat-faced quick couplings”); it is essential to connect the drain line first.

3 - Connect the 8-way valve hoses (No. 2) using the quick couplings.

4 - Connect the electrical cable (4) to the prime mover arm socket (5).

5 - Check for oil leaks:
- Get on the prime mover and start the engine.
- Engage the High-Flow Auxiliary equipment control to power the hydraulic motor.
- Engage the standard auxiliary equipment control from the prime mover to supply power to the other machine functions.
- Switch off the engine, remove the ignition key, and get down from the prime mover, checking for any signs of leaks around the hose couplings.

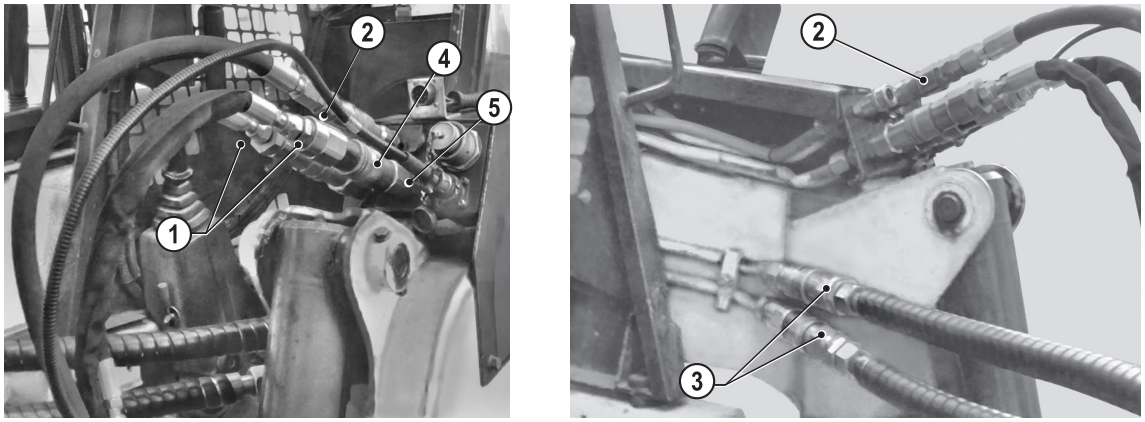


Fig. 11

Important

- When connecting the hoses to the prime mover, the drain line featured must be connected first of all.
- If screw quick couplings are used, check closely that they have been completely and correctly screwed down.

6.5 Connecting flat-faced quick couplings

To connect the flat-faced couplings, proceed as follows:

1 - Fit the male section (1) into the female section (2) until you hear it click into place in the ring nut (3).

2 - Turn the ring nut (3) so that the notch (4) is not aligned with the spherule (5), thereby preventing accidental disconnection.

Note

- Figure shows flat-faced quick couplings with a snapfastening safety ring nut.

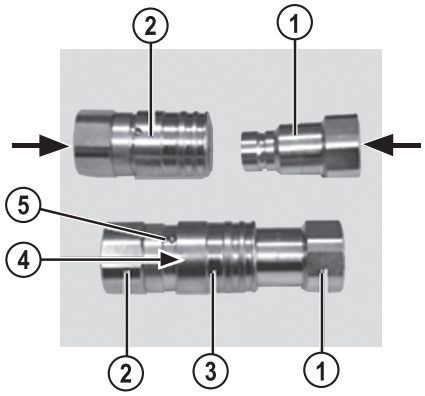


Fig. 12

Warning

- **Before connecting up, carefully clean all the quick couplings on the equipment and the prime mover.**
- **If, for some reason, there is residual pressure in the prime mover's hydraulic system, you will not be able to fit the male section of the coupling into the female section. Follow the instructions given by the prime mover's manufacturer to relieve the pressure.**

6.6 Equipment/prime mover connections disengage

Hazard

- **Before leaving the operator's seat on the prime mover, make sure the equipment is resting on flat ground, the key has been removed from the ignition and the prime mover is stabilised with the parking brake engaged.**
- **Residual risk of burns: the hydraulic oil and hoses can reach extremely high temperatures; use appropriate personal protection equipment.**

☞ Important

- Always disconnect the drain line last of all.

To disconnect the hoses, proceed as follows:

1 - Stop the engine.

2 - Discharge the residual pressure in the system.

3 - Get off the prime mover and disconnect the quick coupling fittings.

4 - To disconnect hoses with flat-faced quick couplings: turn the ring nut (3) so that the notch (4) lines up with the spherule (5); push the ring nut (3) towards the spherule (5) to disconnect the quick coupling.

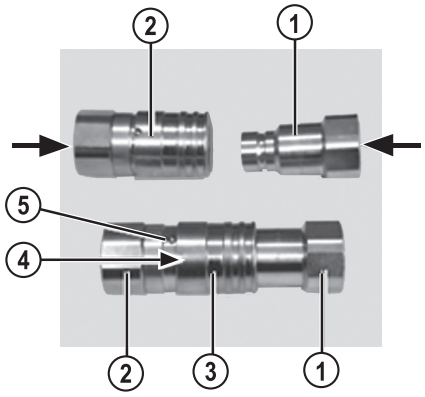


Fig. 13

6.7 Equipment/prime mover disconnect

☞ Important

- Ensure that the hydraulic connections have already been disconnected (see “6.6 Equip-ment/prime mover connections disengage”).

Example of the operations that must be carried out for a standard joint

1 - Position the equipment, compact ground, in the non-operative position, and away from ditches, fuel stores, electrical substations or any other hazard risk.
2 - Stop the engine, stabilise the prime mover (e.g. with the parking brake, wheel chocks etc.) and discharge the pressure.
3 - Remove the ignition key, get down from the prime mover and disconnect the hydraulic lines and the electrical cable (see “6.4 Equipment/prime mover hydraulic connection”).
4 - Pull the two levers (1) towards you to release the quick coupling locking pins.
5 - Get on the prime mover and start the engine.
Operate the commands to tilt the attachment plate (2) and at the same time lower the arm (3) until the attachment plate disengages from the upper lips (4) of the paver.
6 - Slowly reverse the prime mover away from the paver.

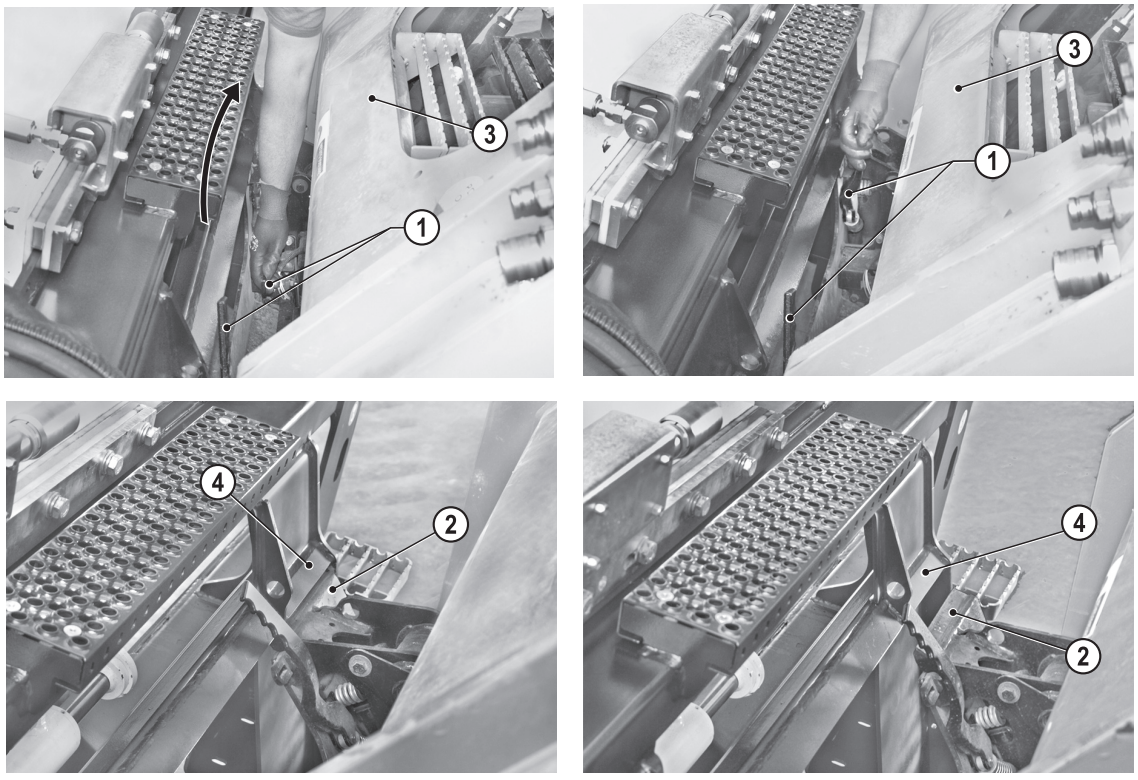


Fig. 14

6.8 Starting up

Hazard

- **The operation must be carried out by one operator only. Check that is nobody within the prime mover's range or a within a minimum range of 10 m or 32 feet. Cordon off the work area.**
- **The operator must not drive the machine when under the influence of alcohol or drugs which may impair physical or mental faculties.**
- **The operator must not leave the prime mover unattended without first engaging the safety locks and removing the ignition keys.**
- **Always work at a safe distance from open excavations and/or slopes and verges.**
- **Before getting started, make sure there are no buried pipelines which could interfere with the excavation work (gas, water, electricity mains, etc.).**
- **During the work, keep a close eye out for any oil leaks.**
- **Check that there are no obstructions or hindrances on the work surface.**
- **On finishing the work, stop the machine before moving it away from the work surface. Always stop the equipment when the prime mover is in transit.**

Warning

- **The equipment described in this manual is compatible with prime movers with 3 or 5 hydraulic lines to enable any additional equipment.**
- **If the prime mover is equipped to electrically activate the equipment functions, a document linking the prime mover commands to the equipment functions (user instructions) is supplied.**
- **If the prime mover is not equipped to electrically activate the equipment functions, McLaren will supply a control panel to be installed in the cabin.**
  The functions that can be managed from this panel are described in the manual supplied with it.

The following checks must always be performed prior to starting the equipment:

- Check that there are no leaks in the hydraulic circuit.
- Check that mechanical and electrical connections have been made correctly.
- Check that the work area is free of people and materials.

☞ Important

- Whenever the equipment is left still or disconnected, start it up slowly, with the endothermic engine idling; then accelerate slowly and gradually.

The equipment can only be activated (i.e. drum start rotating) using the controls on the prime mover.

1 - Turn on the prime mover's engine, switch on the hydraulic system and wait for the oil to reach optimum temperature and for any air bubbles in the system to be expelled.

2 - Activate the machine High-Flow auxiliary control to start the oil flow and the cutter drum.

Note

- For information on how to activate the hydraulic system, see the prime mover manual or the user instructions.

6.9 Preparing the equipment for use

Note

- All these settings must be adjusted with the cutter drum stopped and, if required, with the prime mover motor idle.

Before starting to dig, the Operator must prepare the equipment to perform the functions required by the excavation or by the surface scarification works. Therefore, he must decide:

1 - Whether to activate the equipment floating lateral tilt (optional in versions with hydraulic tilt adjustment).

2 - Whether to tilt and lock the tilt in one of the two cutting unit direction (only for versions with hydraulic tilt adjustment).

3 - Whether to move the cutting unit when digging near walls, curbs or sidewalks (e.g. beyond the external edge of the prime mover).

4 - Digging depth.

6.10 Activating the equipment floating lateral tilt

(Version with hydraulic tilt adjustment)

If the equipment is supplied with hydraulic lateral tilt, you can activate the floating lateral tilt (optional function) to tilt the cutter body with respect to the sliding device.

For further details, see "6.11 Floating mechanical tilting device with spring jack".

Start the prime mover controls or the control panel to activate this function.

6.11 Floating mechanical tilting device with spring jack

The equipment is supplied as standard with a mechanical device that allows tilting the cutter body (1) with respect to the sliding block (2).

During planing works, if the prime mover comes across a hindrance (e.g. a manhole) or if one side is working on the section already planed, the sliding block (2) follows the movements of the prime machine to which it is fastened, while the cutter body (1) follows the level of the surface being worked.

Thanks to a pivot (between the cutter body and the sliding block) and to the spring jack (3), the sliding block (2) and the cutter body (1) can rotate with respect to one another, to prevent damages to the equipment structures and keep the cutter body (1) in constant contact with the surface being worked.

A graduated scale (4) on the equipment allows the operator to see the tilting angle at which the equipment is working right from his working stations.

The maximum tilt value is 8 degrees to the left and 8 to the right; this value is ensured by the slots (5) that also limit the rotation.

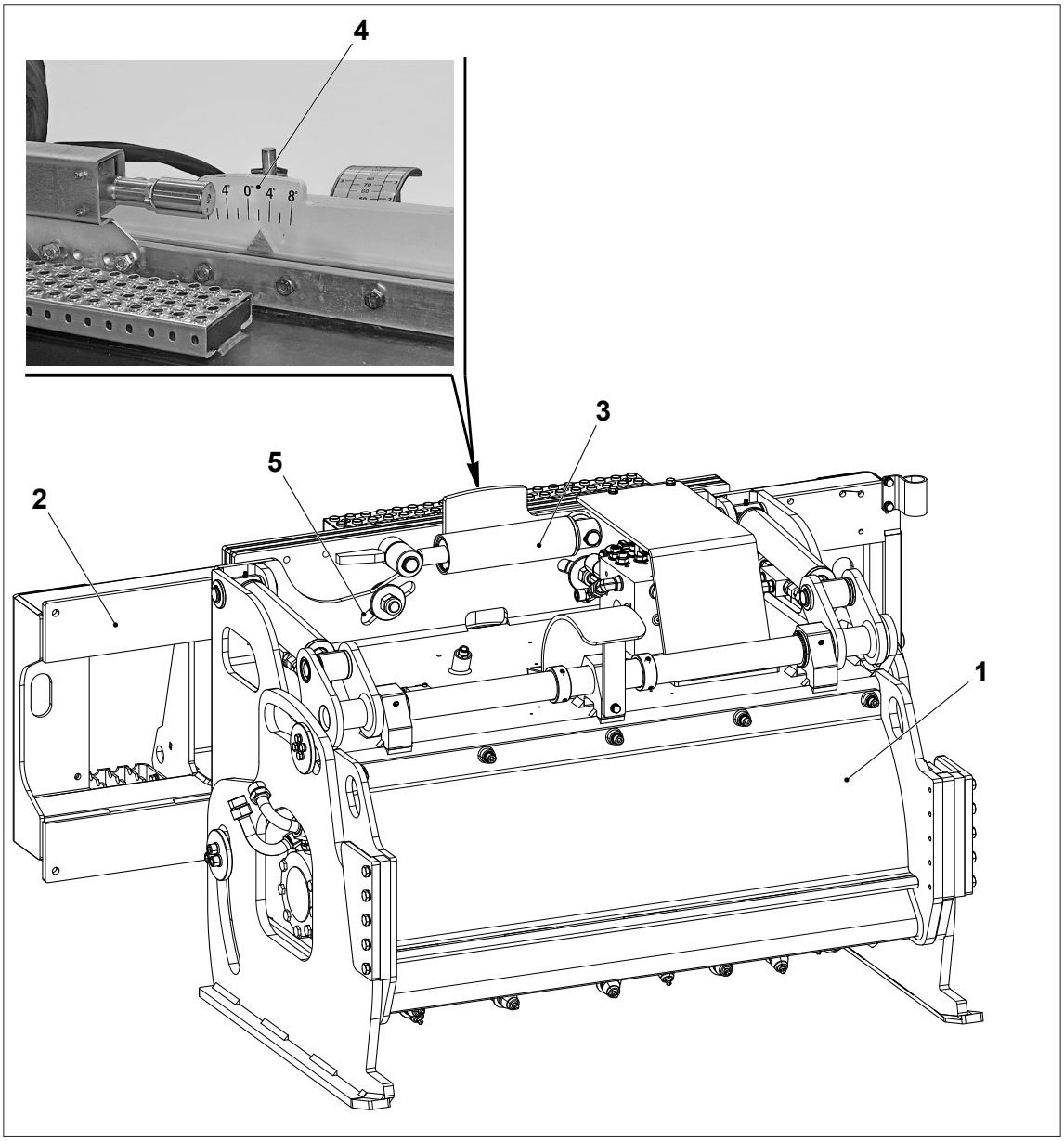


Fig. 15

6.12 Cutting unit hydraulic lateral tilt

It must be performed with the cutting unit in stop and raised a few centimetres from the ground, and the prime mover motor idle.

Start the prime mover controls or the control panel to activate this function.

6.13 Cutting unit lateral movement

It must be performed with the cutting unit in stop and raised a few centimetres from the ground, and the prime mover motor idle.

Start the prime mover controls or the control panel to activate this function.

6.14 Planing depth (mechanical version)

6.14.1 Adjusting the planing depth

Notes

- The planing depth is expressed both in millimeters and in inches.
- For a perfect depth adjustment, make sure that the depth indicators have been reset first (see “6.14.2 Planing depth adjustment reset”).

1 - Lift the equipment approximately 50 cm off the ground.

2 - Rotate the “depth adjustment lock” (1).

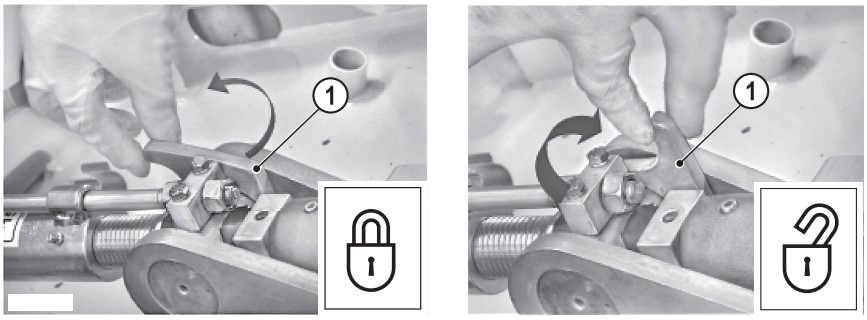


Fig. 16

3 - Insert the crank (supplied) (3) on the screw (2) and turn it to adjust the planing depth.

4 - Use the graduated index (4) and the reference rod (5) to define the depth reached.

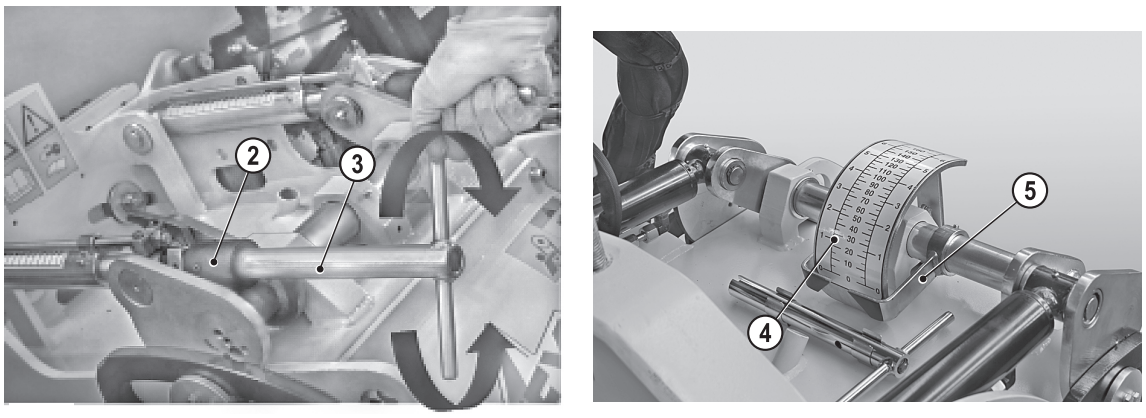


Fig. 17

5 - Bring the device (1) back in the locking position.

6.14.2 Planing depth adjustment reset

If an accurate planing depth must be ensured, certain factors, such as the teeth or slides wear may affect the “zero” position indicated on the indexes.

For this reason, check that the indexes are correctly reset with respect to the graduated scales.

Perform the following operations:

1 - Set the minimum planing depth.

2 - Rest the slides on a flat and compact ground.

3 - Lower the drum by adjusting the depth on both sides, until it skims the ground.

4 - Open the inspection cover and manually turn the drum to check that all teeth are skimming the ground and are parallel to it.

5 - Loosen the grub screws (1) on both depth adjustment indexes.

6 - Set both depth adjustment indexes to “0” on the measuring scale.

7 - Tighten the grub screws (1) and set the desired planing depth.

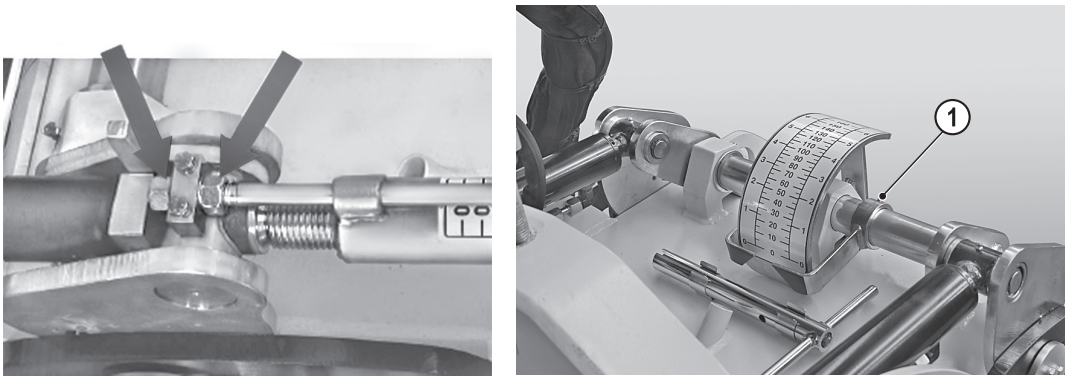


Fig. 18

6.15 Planing depth (hydraulic version)

6.15.1 Adjusting the planing depth

Notes

- The planing depth is expressed both in millimeters and in inches.
- For a perfect depth adjustment, make sure that the depth indicators have been reset first (see “6.15.2 Planing depth adjustment reset”).

---

1 - Lift the equipment approximately 50 cm off the ground.

2 - Use the prime mover or control panel controls to adjust the planing depth.

3 - Use the graduated index (1) and the reference rod (2) to define the depth reached.

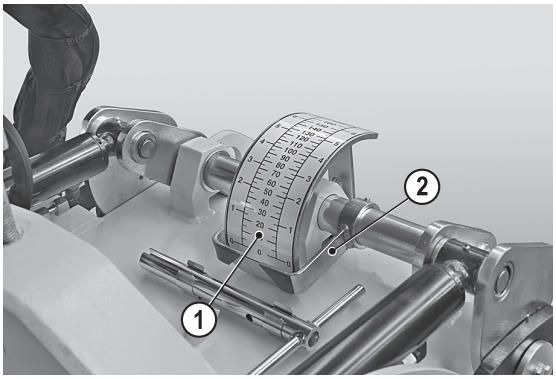


Fig. 19

6.15.2 Planing depth adjustment reset

If an accurate planing depth must be ensured, certain factors, such as the teeth or slides wear may affect the “zero” position indicated on the indexes.

For this reason, check that the indexes are correctly reset with respect to the graduated scales.

Perform the following operations:

1 - Set the minimum planing depth.

2 - Rest the slides on a flat and compact ground.

3 - Lower the drum by adjusting the depth on both sides, until it skims the ground.

4 - Open the inspection cover and manually turn the drum to check that all teeth are skimming the ground and are parallel to it.

5 - Loosen the grub screws (1) on both depth adjustment indexes.

6 - Set both depth adjustment indexes to “0” on the measuring scale.

7 - Tighten the grub screws (1) and set the desired planing depth.

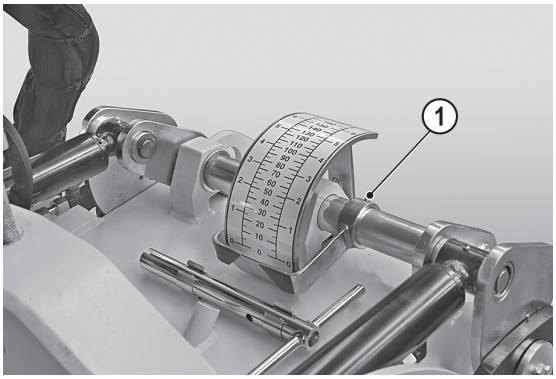


Fig. 20

Note

- This adjustment allows to perform the reset; however, it may also make it difficult to reach the maximum depth, due to the hydraulic cylinders limit switch.

6.16 Work start procedure

Hazard

- **If no water is sprayed to reduce dust while working, you must wear a dust mask or respirator.**

Note

- Before starting to dig, check that the provisions set forth in paragraph “6.9 Preparing the equipment for use” have been observed.

1 - Move the equipment to the start of the working site, keeping the unit (1) at the centre of the sliding block, so that the entire structure is balanced.

2 - Tilt the equipment forward resting the front lateral slides (2). Force the prime mover arm to lift the (front) tracks or wheels a few centimetres from the ground.

3 - Start the cutter drum turning slowly, keeping the prime mover engine idling, then accelerate gradually until maximum engine speed is reached.

4 - Using the prime mover controls or the control panel supplied, raise the left and right slides alternatively by 20 mm at a time, until you reach the desired planing depth (you can check it on the graduated scale).

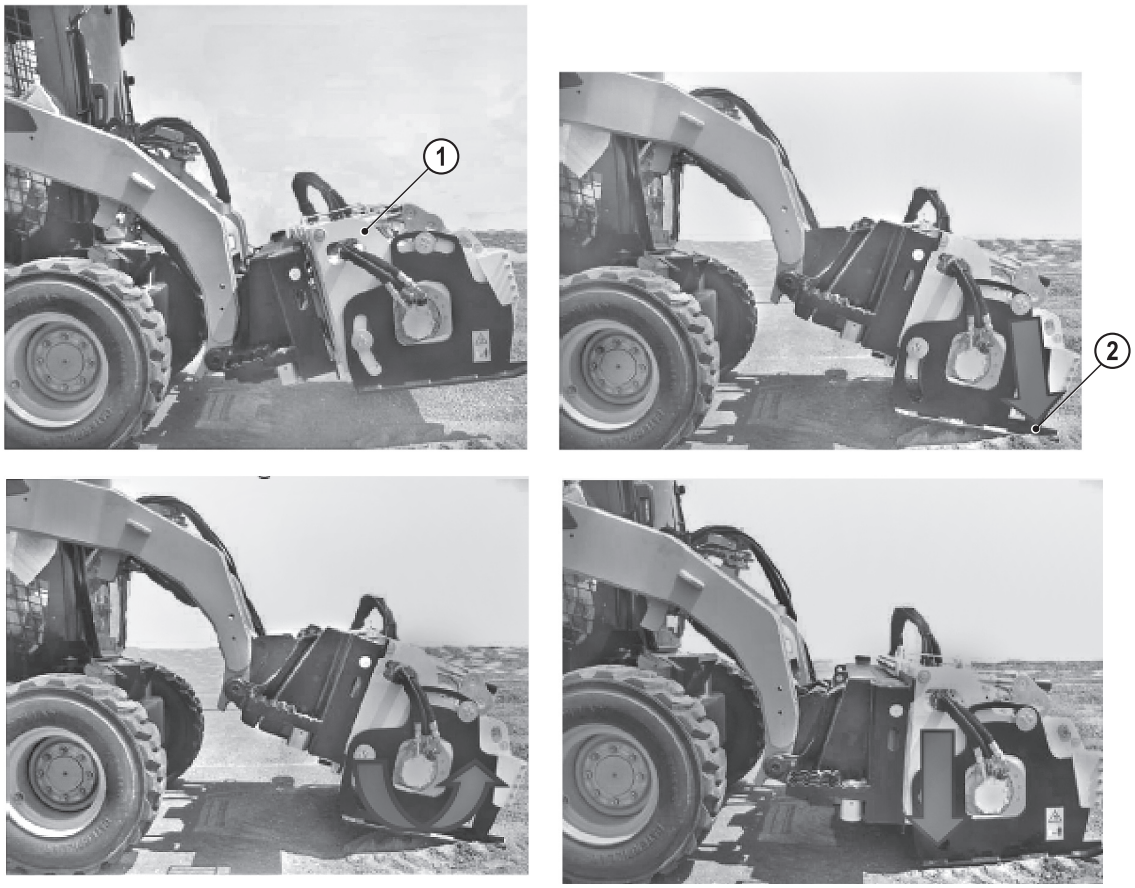


Fig. 21

☞ Important

- During the entire procedure to reach the digging depth, make sure that the front tracks or wheels are still raised from the ground.
- The prime mover front tracks or wheels must remain raised during the entire digging operations.

---

5 - Slowly move forward by 30 cm, then move slightly backward and stop the cutter drum (1) and the prime mover.

6 - Remove the ignition key.

If the drum stops due to foreign objects:

1 - Keep the prime mover arm slightly raised, retract the support plate and rest the equipment on the ground, resting it against the back of the support slides, so that the cutter drum can still rotate.

2 - Stop the engine, secure the prime mover by engaging the parking brake, and get off.

3 - Remove the ignition key.

4 - Remove the screws (1) and open the protection guard (2).

5 - Wearing suitable personal protection equipment, inspect the drum (3) and try to remove the cause of the blockage.

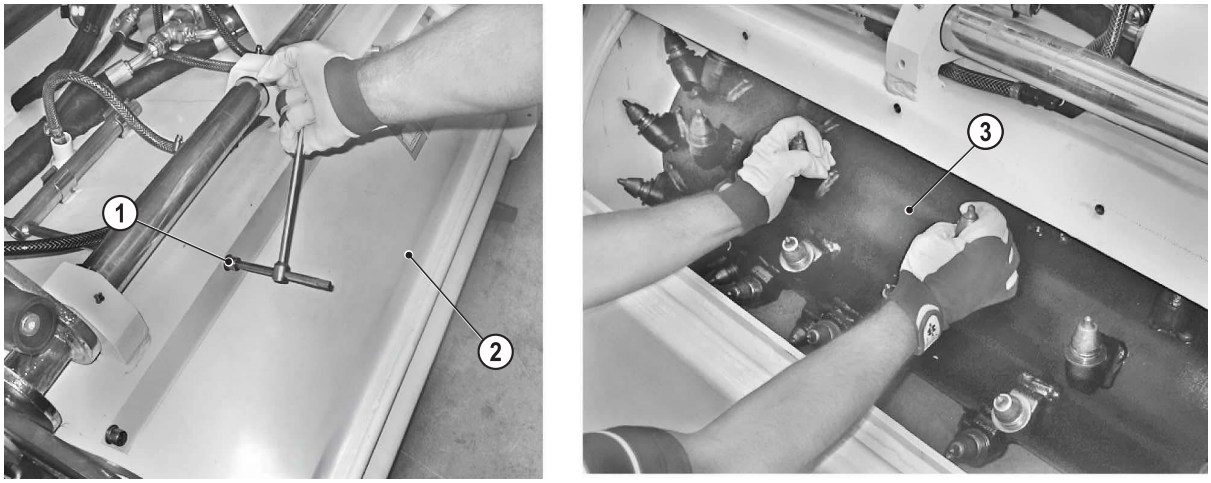


Fig. 22

6.17 Planing in parallel passes

If the desired planing width is greater than the width of the cutting drum supplied, side-by-side planing can be performed.

1 - Dig the first trench as described in Paragraph 6.16 - Work Start Procedure - and, if possible, clean the trench from any debris, to improve its quality and avoid creating steps between one pass and the next.



2 - Bring the prime mover at the beginning of the trench, and align with it, so that the drum is placed in line with the trench edge.

3 - If debris has been removed from the previous trench, adjust the side board, which will rest on the planed bottom at “0 mm” of height, while the side board resting on the bottom to be planed must remain at the previously-set planing depth.



4 - If the planer is equipped with floating hydraulic tilting, enable this function, to allow the prime mover to follow the ground coarseness, and, in particular, if required, adapt the tilting with respect to the planer, when its wheels go over the already-planed section.

5 - Start planing according to the description in Paragraph “6.16 Work start procedure”.



6 - When the wheels of the prime mover enter the trench, if the planer is equipped with hydraulic tilting, but the floating hydraulic tilting option is not available, adjust the planer tilting accordingly.

7 - When the wheels of the prime mover enter the trench, if the planer is equipped with hydraulic tilting, but the floating hydraulic tilting option is not available, adjust the planer tilting accordingly.

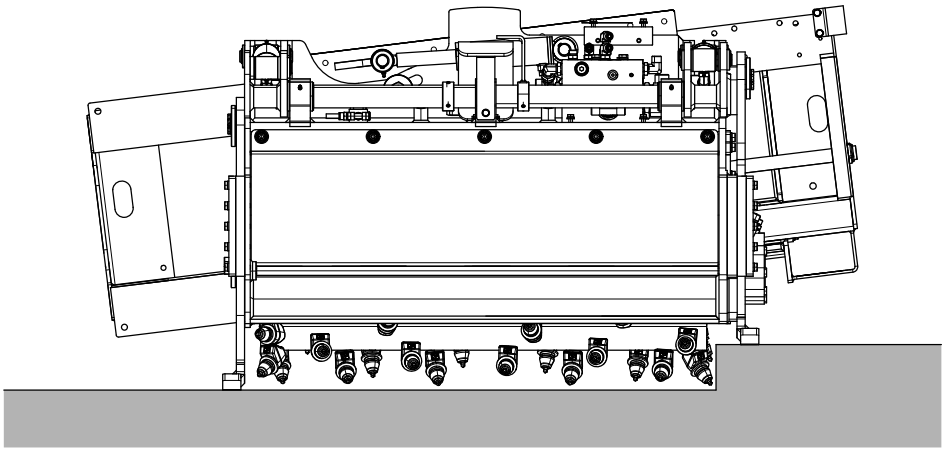


Fig. 23

6.18 Stopping the equipment in normal conditions

In normal conditions, the prime mover controls must be used to stop the machine (by slowing the diesel engine down to idling speed, then cutting off the hydraulic oil flow). This way, the machine will stop completely.

6.19 Emergency stops

To stop the machine in an emergency, the operator must use the appropriate controls on the prime mover and stop the diesel engine with the ignition key.

Warning

- **For further details on how to stop the machine, see the prime mover instruction manual.**

6.20 Parking

Rest the equipment to the ground, stop the prime mover's engine, engage the brake or other parking devices and remove the ignition key.

Warning

- **Every time a working cycle ends, bring the digging depth to "0" by lowering the lateral slides all the way, and making sure that the equipment is resting on the ground.**
- **Park the vehicle in a suitable place, where there are no risks of the equipment being damaged.**
- **If the operator leaves the equipment unattended, the keys must be removed from the prime mover and measures must be taken to ensure unauthorized use.**

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 required	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.

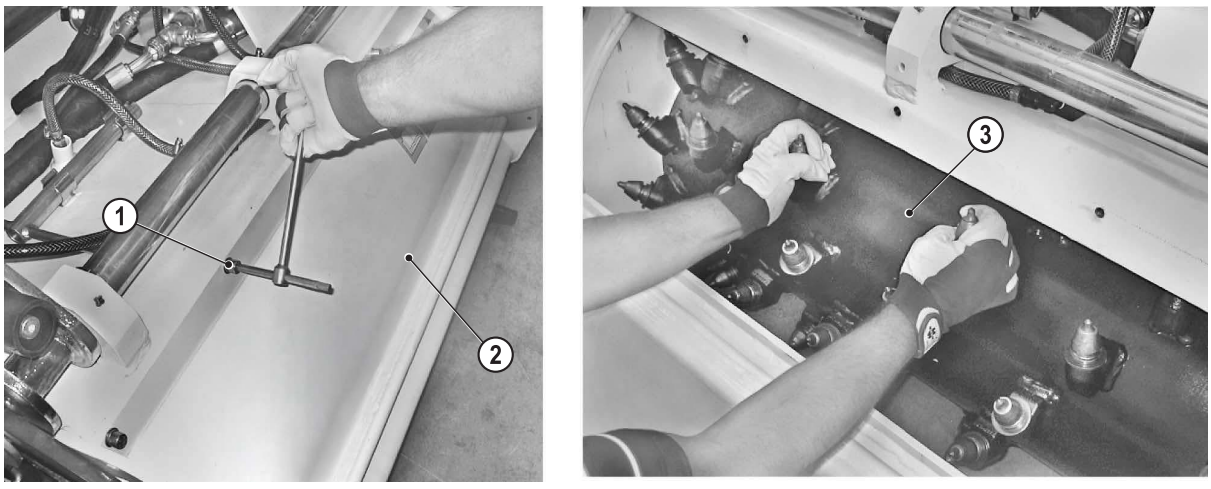


Fig. 25

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.

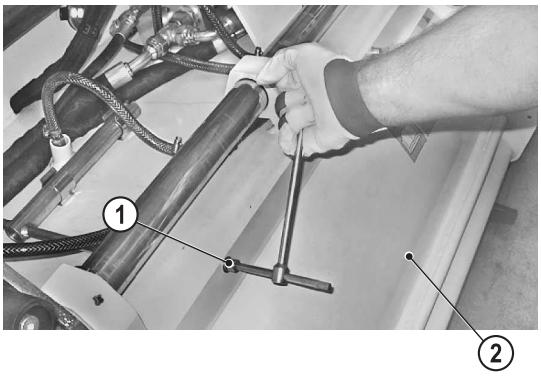
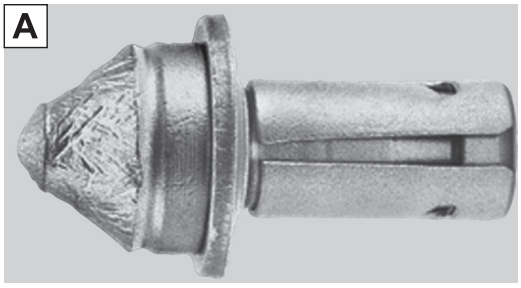
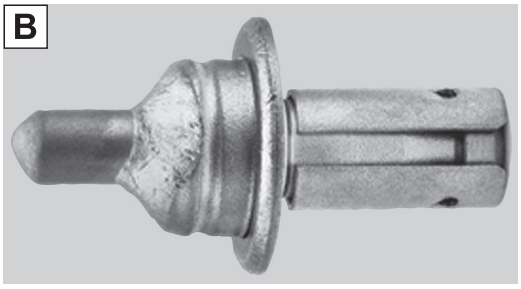


Fig. 26

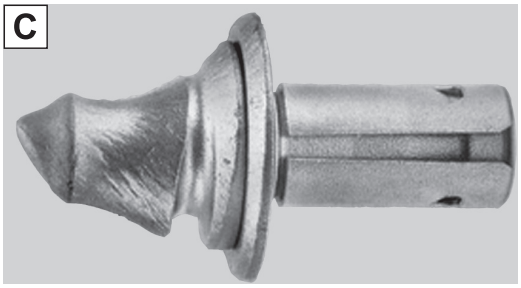
Tooth wear



- 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.

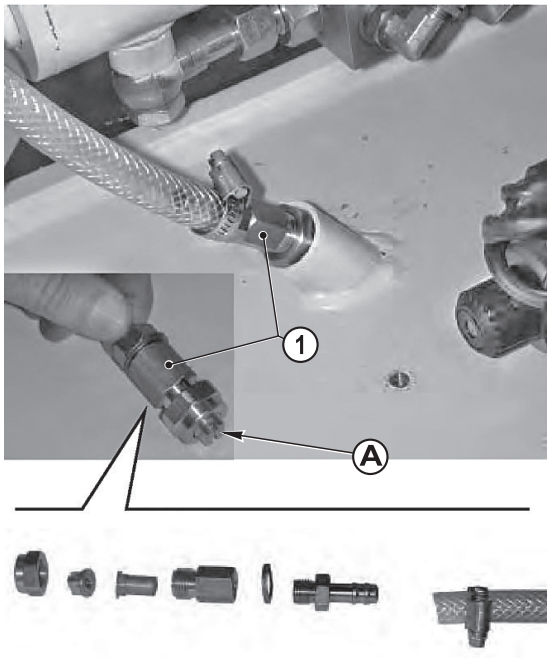


Fig. 28

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.

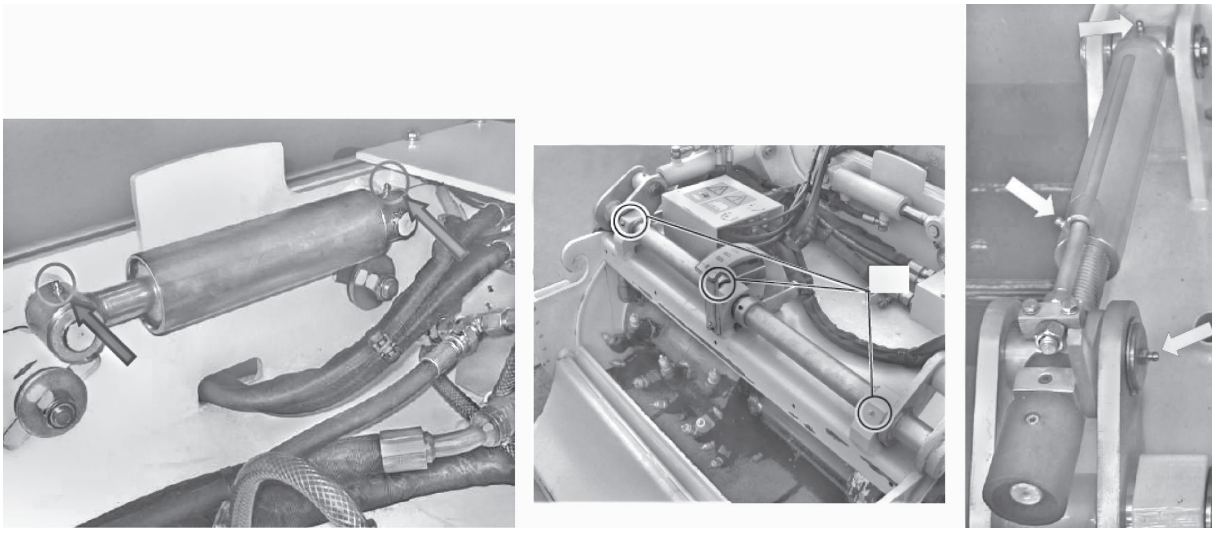


Fig. 29

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.

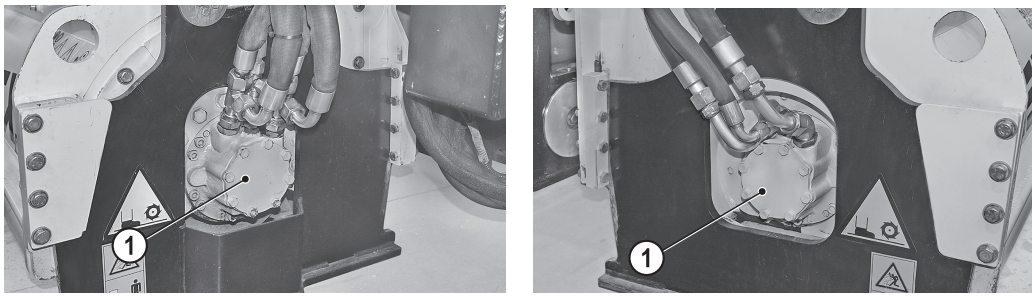


Fig. 30

☞ 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.

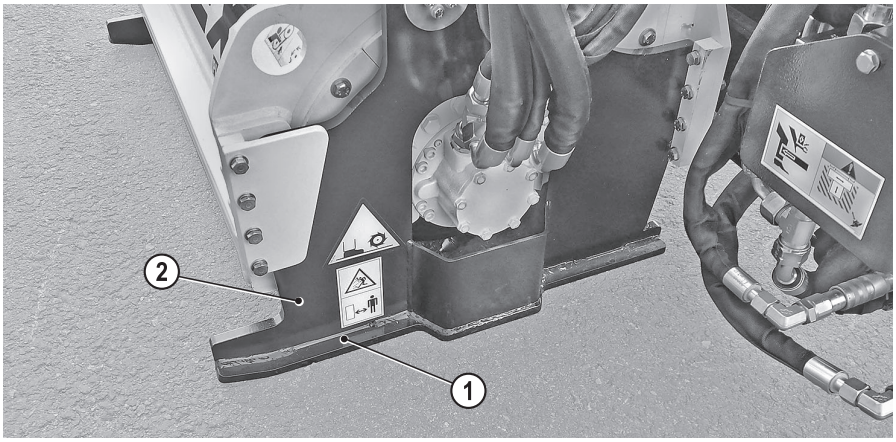


Fig. 31

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.

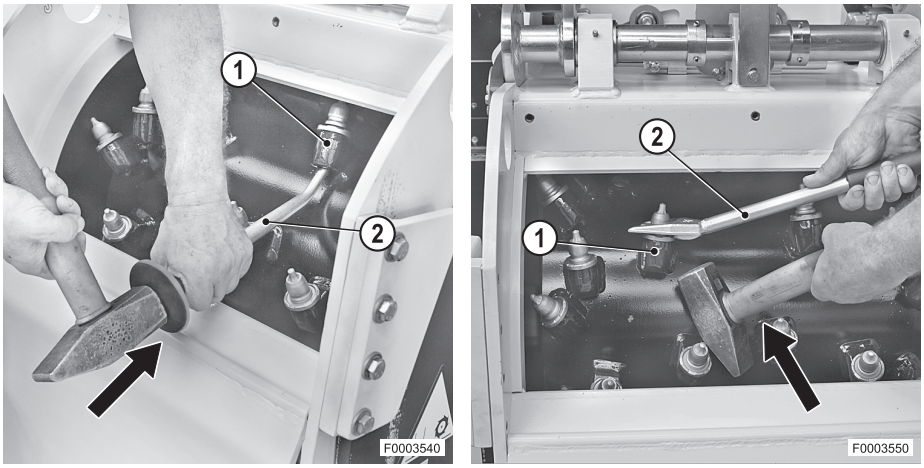


Fig. 32

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.

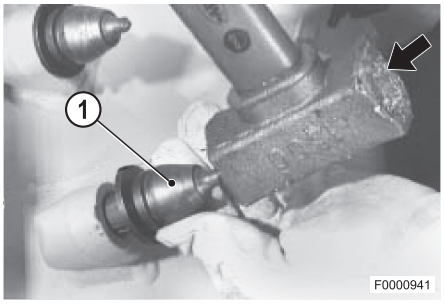


Fig. 33

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 counterpres-sure, 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**

13. Optional Features

13.1 Water spraying unit

☞ Important

- Fill the unit only with water free from impurities.
- If the water tank is installed on the roof of the prime mover, do not start the electric pump when the equipment is disconnected from the prime mover to avoid damaging it.

This unit sends spray water to the drum working area, significantly reducing dust while working.
The spraying unit can be activated with the prime mover controls.
If the prime mover is not equipped to control this function, McLaren will supply a control panel with a switch that activates the water spraying pump on the cutter drum.
The water container may be installed on top of the prime mover cab or in the sliding block unit.



Fig. 34

13.2 Removable right slide when working alongside walls

This option allows reducing the distance between the right edge (wall, sidewalk, etc.) and the cutter drum to a minimum.
The right slide can be removed or installed based on the work to be performed.

14. Charts

14.1 Maximum screw tightening torques

Screw class		Screw diameter - Torque (nm) - Friction coefficient 0.10													
ISO	**DIN**	**M4**	**M5**	**M6**	**M8**	**M10**	**M12**	**M14**	**M16**	**M18**	**M20**	**M22**	**M24**	**M27**	**M30**
8.8	8G	2.4	4.9	8	20	40	69	110	170	235	330	446	570	840	1150
10.9	10K	3.3	7	12	28	56	98	155	240	330	465	620	800	1200	1600
12.9	12K	4	8	14	34	67	116	185	285	395	560	750	960	1400	1950

Fitting advice

- The screws must be lubricated with engine oil;
- For parts fastened with two or more screws, the screws must be tightened progressively and alternately until the prescribed torque is reached.
- If flat washers are needed, steel washers with a minimum resistance of 80 kg/mmq must be used.

14.2 Tightening torques for hose fittings

‘’GAS’’ Diameter	1/4”	3/8”	1/2”	3/4”	1”	1” 1/4	1” 1/2
Torque (Nm)	35	70	100	190	300	330	400

“W” (inch) Diameter	9/16”	3/4”	7/8”	1” 1/16	1” 3/16	1” 5/16	1” 5/8	1” 7/8
Torque (Nm)	30	50	70	100	130	145	190	240

14.3 Tightening torques for hoses

With ORFS fittings

“W” (inch) Diameter	9/16”	11/16”	13/16”	1”	1” 3/16	1” 7/16	1” 11/16	2”
Torque (Nm)	25	40	55	86	125	165	200	245

With JIC 37° fittings

“W” (inch) Diameter	9/16”	3/4”	7/8”	1” 1/16	1” 3/16	1” 5/16	1” 5/8	1” 7/8
Torque (Nm)	30	50	70	100	130	145	190	240

with GAS fittings

“W” (inch) Diameter	1/4”	3/8”	1/2”	5/8”	3/4”	1”	1” 1/4	1” 1/2
Torque (Nm)	15	28	60	70	110	140	190	245

15. Warranty

The guarantee term shall begin upon McLaren receipt of the test sheet (appended to this manual), which must be completed by the installer and returned to McLaren within two weeks of delivery of the product.
McLaren guarantees its official dealers (who pass on the guarantee to the purchaser, i.e. the first owner) that every item of McLaren equipment is free of manufacturing flaws (including assembly hardware) for twelve months as of the date of shipping to the first purchaser.
During the guarantee period, the McLaren authorized dealer or any other McLaren authorized service center, will repair or replace, solely in accordance with McLaren's instructions, any part found to be faulty as a result of a manu-facturing flaw or defect. McLaren's duties are limited to:

- supplying the parts needing replacement, free of charge;
- supplying labour for the replacement and/or repair of the part, as stated in the McLaren Labor Rates.

McLaren is entitled to accept or reject any guarantee claim following inspection of the faulty part, or any other item it may deem appropriate to inspect, even if a prior guarantee has been granted.

Exclusions from the Warranty:

The following items are NOT covered by the McLaren guarantee:

- carriage, for both new parts shipped and the parts claimed as faulty that are returned for checks;
- labor other than that envisaged by McLaren in its Labor Rates; fitting/removing the McLaren equipment on/from the prime mover.
- call-out work: travel expenses of all kinds;
- “machine standstill” costs, penalties for work not done due to breakdowns of any kind, as well as ensuing loss of earnings, costs for replacement machinery, commercial damage, etc.;
- damage caused by use of McLaren equipment when in an apparently or initially faulty state.

The owner of the McLaren equipment must inform, in writing, the McLaren dealer concerned of the fault as soon as it appears and accept reasonable times for the transportation, repair or replacement of the faulty parts.
The guarantee covering McLaren equipment is forfeited (before the 12 month expiry) in the following events:

- the equipment has undergone alterations, tampering or changes of any kind;
- the routine maintenance has not been carried out, either in part or in whole;
- the machine has been run badly;
- the equipment has been mounted on prime movers other than those specified upon delivery;
- the equipment is used in ways other than that specified in the Use and Maintenance manual and/or is put to other uses than those intended;
- worn parts have been repaired or replaced with non-original McLaren parts;
- the equipment has been involved in accidents attributable to external causes; it has been misused or dropped; the hoses or cables have been subjected to abnormal stresses, etc;
- the payment terms have not been met.

All parts subject to wear (teeth, drums, wheels, skids, turbines, friction parts, etc…) and the electrical components (solenoids, cables, switches, electric pumps, etc…) are excluded from the guarantee.
McLaren cannot be held responsible for damage/injury to and accidents involving people or things caused by any-one in possession of McLaren equipment.
McLaren refuses to admit any form of guarantee not provided for expressly herein. No agent, dealer, representative is authorized to offer guarantees in McLaren's name with the exception of what is stated above.
When submitting a guarantee claim, always remember to quote:

- Model
- Serial number
- Purchase date
- Dealer
- Owner

NOTES:

NOTES:

Owner