

**Spearhead Machinery  
Operator Instruction Manual For**

**SP CUTTERBAR**  
FOR MACHINES WITH WGC 4.9562649

**1.50m cut width**

Vegetation control hydraulic drive cutterbar attachment

**8999194EN v1.0**

# IMPORTANT

## Verification Of Warranty Registration

### Dealer Warranty Information & Registration Verification

It is imperative that the selling dealer registers this machine with Spearhead before delivery to the end user.

**Failure to do so may affect the validity of the machine warranty.**

To register machines go to the Spearhead Machinery Limited web site at:

<https://my.spearheadmachinery.com/warranty/machine-registration/>

Should you experience any problems registering a machine in this manner please contact the Spearhead Service Department on 01789 491860.

Confirm to the customer that the machine has been registered in the section below.

### Registration Verification

<b>Model Type:</b>		<b>SP Cutterbar</b>
<b>Model Number:</b>		<b>4.9562649</b>
<b>Serial Numbers:</b>	<b>Machine:</b>	<b>S</b> _____
	<b>Cutting Implement:</b>	<b>S</b> _____
	<b>Other:</b>	
<b>Name Of Owner:</b>		
<b>Name Of Installing Dealer:</b>		
<b>Dealer Address:</b>		
<b>Dealer Signature:</b>		
<b>Date Of Delivery / Installation:</b>		
<b>Date Of Warranty Registration:</b>		

#### IMPORTANT

At the point of transfer of ownership record the above information. Note the serial number of your machine and always quote it in any communication with us or your dealer. (The serial number plate is located on the machine mainframe.) This is particularly important when ordering spares. Remember to include all numbers and letters.

The information given throughout this manual is correct at the time of publication. However, in the course of constant development of Spearhead machines, changes in specification are inevitable. Should you find the information given in this book to be at variance with the machine in your possession, you are advised to contact the Spearhead Service department where up-to-date information will be provided.

The manual can contain standard and optional features and is not to be used as a machine specification. The machine has been tested and is considered safe if carefully used. Ensure your operator is properly trained in its use and maintenance.

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## Introduction

This manual describes the installation, maintenance and safe operation of the SP15 cutter bars. The manual should be read and fully understood before attempting to install or operate the equipment.

### **IMPORTANT**

This machine is designed for vegetation control and must not be used for any other purpose.

It is potentially hazardous to fit or use any part other than genuine Spearhead Machinery parts.

The company disclaims all liability for the consequences of such use which in addition voids the machine warranty.

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# 1 Warnings

## 1.1 Safety

The use of machines require awareness of the fact that mechanical parts, either in rotatory or line motion, can cause serious damage to people and things.

Users must:

Follow the instructions reported in the present manual.

- Avoid any misuse of the cutting bar.
- Avoid removal or tampering of safety devices.
- Regularly carry out maintenance operations.
- Use only original spare parts particularly for the components carrying out safety functions.

Users need:

- Original documentation for reference about use and maintenance of the cutting bar.
- A careful reading of the documentation and consistent application of the instructions given.

## 1.2 Staff Working On The Machine

The staff in charge of the cutting bar is distinguished, according to expertise and responsibility, in:

**Operator** – a person whose technical skills are not necessarily remarkable, but has been trained to the ordinary use of the cutting bar.

For example: start-up, end of working cycle, simple maintenance operations (cleaning, clear simple jamming's...etc.), adjustment operations.

**Qualified Technician** – he's responsible for more complex operations of maintenance and repairing.

**Each member of staff must operate exclusively in his field of knowledge and responsibility.**

## 1.3 Documentations

The present manual provides the operator and qualified technician with the information needs to carry out in the complete safety, the instalment, start-up, use and maintenance of the cutting bar.

For any doubt or further information, please contact Spearhead Machinery.

## 1.4 Signals, Warnings

For the safety of people and things, in this documentation a particular symbology has been used in order to attract attention on dangerous conditions.

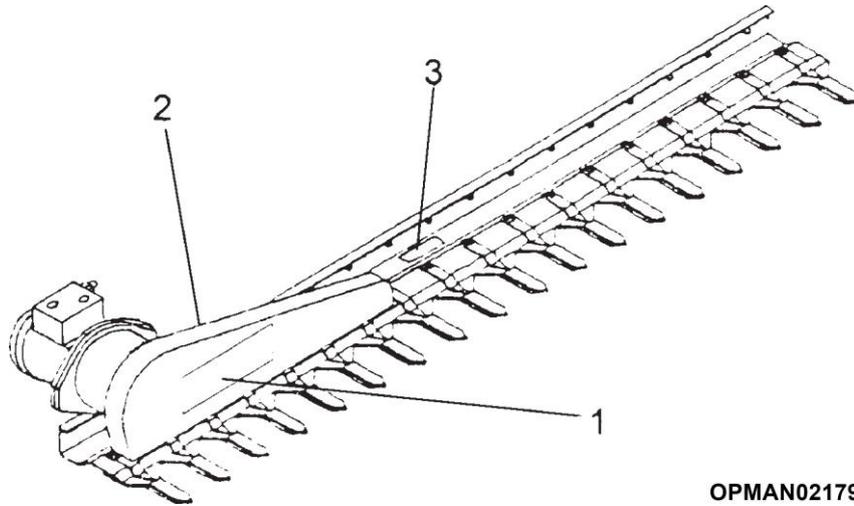
**Danger!:** signals a serious risk that can endanger people's life.

**Attention:** signals the risk of injuries for people and damages to the cutting bar.

**Warnings:** signals the risk of damages, also serious ones, to the cutting bar.

## 1.5 Signals On The Bars

Pay attention also to the danger conditions signalled by the labels stuck directly on the cutting bar.,



**Figure 1**

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Item No.	Reference.	Sticker.	Description.
1	Figure 4; see Page 14	Sticker 95004	Generic danger; do not approach when the cutting bar is working.
2	Figure 5; see Page 14	Sticker 95005	Generic danger; read the manual before beginning any kind of operation.
3	Figure 6; see Page 14	Sticker 95006	Greasing points; where grease is to be injected periodically. See Chapter 6 "Maintenance"

**Table 1**

## 2 Features And Identification Of The Machine

### 2.1 Features

The present chapter highlights the general features of the cutting bar.  
Reading of this chapter is recommended to all the staff working at the cutting bar.  
Operators, qualified technicians responsible for the maintenance.

Oleodynamic working, orbit motor 159.2cc<sup>3</sup>

Requirement	Unit
Minimum power required	14.5Kw (20hp)
Minimum oil flow	30 l/min
Maximum oil flow	60 l/min
Recommended oil flow	45 l/min
Minimum pressure	20 bar
Maximum pressure	100 bar
Working temperature	-15°C > +80°C
Oil viscosity	12-100mm <sup>2</sup> /sec (cSt)
Filtering degree	25-30µm
Minimum frequency	185 rpm
Maximum frequency	370 rpm
Minimum cutting area per each section (tooth)	4mm <sup>2</sup>
Maximum cutting area per each section (tooth)	300mm <sup>2</sup>
Maximum global cutting area	500mm <sup>2</sup>
Suggested feed speed	2000m/h

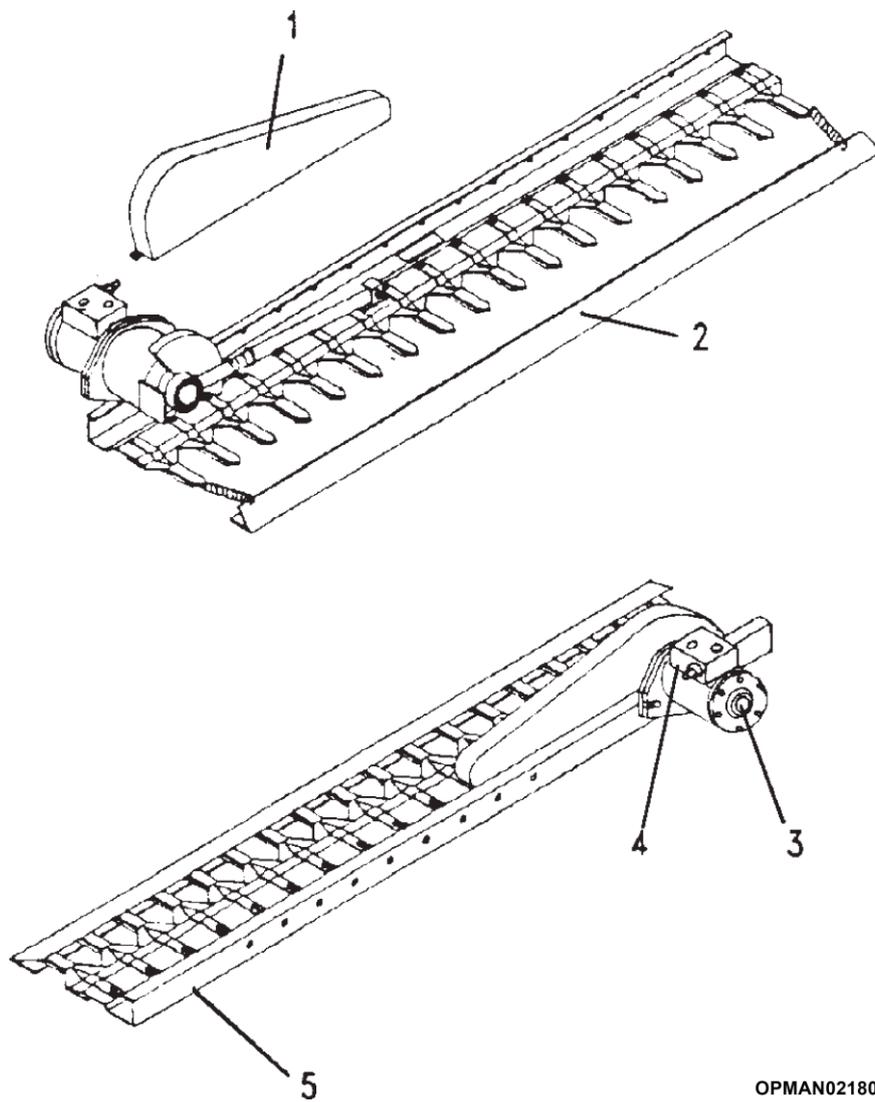
**Table 2**

Model	SP15
Mass	35kg
Recommended Working Pressure	70bar

Dimensions	SP15
Height	190mm
Width	1480mm
Length	376mm

**Table 3**

## 2.2 Main Components Of The Machine



**Figure 2**

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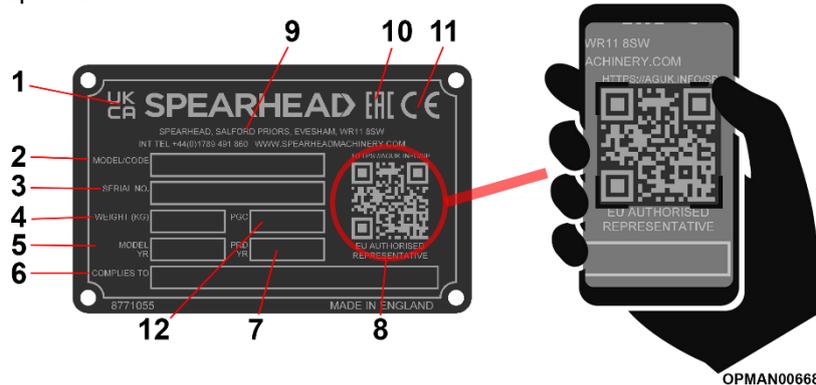
No.	Item.
1	Crankshaft Case
2	Blade Case
3	Hydraulic Motor
4	Max Pressure Valve
5	Side with connection holes

**Table 4**

## 2.3 Aluminium Identifying Label

Each machine is equipped with a serial plate; see Figure 3 that includes the following data in this order:

1. UKCA Conformity Marking.
2. Machine Whole Goods Code (WGC).
3. Serial number of the machine.
4. Mass in kg.
5. Production Year (year of construction).
6. Design conformity standard.
7. Machine Product Group Code.
8. EU Authorised Representative QR scan code.
9. Manufacturer marking with name and address.
10. EAC Eurasian/Russian Conformity Marking.
11. EC European Conformity Marking.
12. Product Group Code.



**Figure 3 – Serial Plate**

Data on the Spearhead manufacturer's plate should always be referred to when requesting assistance and/or requiring replacement spare parts.

This data can identify the machine and its characteristics and specification for its particular time of manufacture, certifying that it responds to current regulations. For this reason the plate should never therefore be removed nor be used for other purposes; if the machine is dismantled, it should be destroyed to prevent any form of abuse.

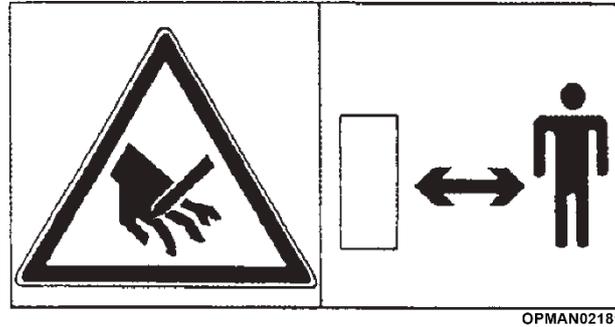
By utilising a smart phone and scanning the Authorised Representative QR scan code found on the right-hand side of the serial plate (ref 8, Figure 3) using a suitable QR scanning App, you can find details for Spearhead Machinery authorised representatives for its various territories.

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### 3 Labels: Safety Measures – Use – Maintenance

#### 3.1 Safety Measure Labels

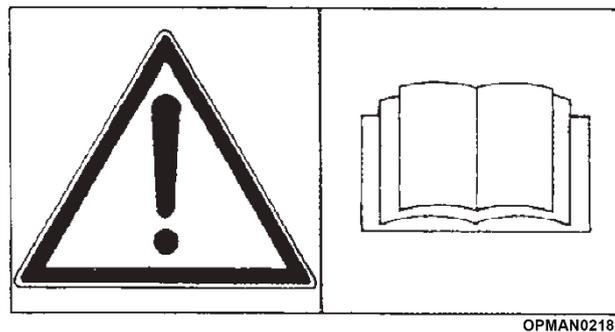
The following labels, concerning safety measures, are placed on the cutting bar:



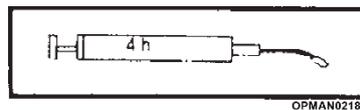
**Figure 4**  
**Sticker 95004**

#### 3.2 Use And Maintenance Labels

The following labels, concerning use and maintenance, are placed on the cutting bar:



**Figure 5**  
**Sticker 95005**



**Figure 6**  
**Sticker 95006**

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## 4 Use Procedures

### 4.1 Warnings

Use the cutting bar only to mow grass, hedges, reeds or wooden materials. The maximum diameter allowed for wooden materials is 25mm.

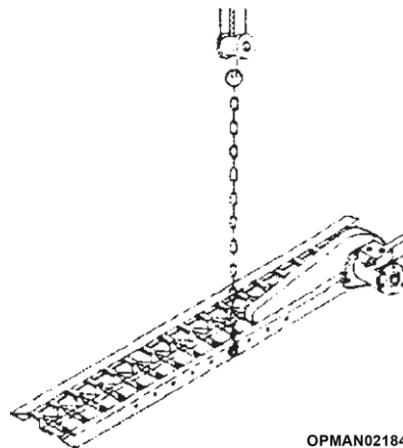
### 4.2 Handling

The present chapter provides information for the handling of the cutting bar. The instructions contained in this section are addressed to the qualified technical staff, adequately trained to use of forklift trucks, bridge cranes and any other necessary means.

#### 4.2.1 Hoisting

Before hoisting the cutting bar, please check that:

- The hoisting device is suitable to the weight of the bar.
- All the area concerned with handling of the cutting bar, including the parking area of the means of transport and the storing area of the cutting bar, must be inspected beforehand in order to detect the presence of "danger zones", particularly electric lines and/or fluid pipes. If this is the case, it is compulsory to intervene by intercepting and isolating the pipes.
- The cutting bar is provided with an eyelet and with positions, defined in the manual, where to anchor the hoisting hooks.



OPMAN02184

Figure 7

#### Danger!

Follow carefully all the instructions above mentioned. Hoisting the machine in a way different from the one suggested may be very dangerous both for the machine and the people operating it.

## 4.3 Instalment

The present chapter provides information for the instalment and the connection of the cutting bar. The instructions reported in this chapter are addressed to the qualified technical staff, as far as the first connection is concerned. The current usage operations and the connection can be carried out by the operator.

### 4.3.1 Checking The Contents

4.3.1.1 Control carefully that the material received complies with the shipping documents and that no damage has occurred during transport.

Please, inform us urgently of any discrepancy or damage.

### 4.3.2 Suggesting For Instalment

4.3.2.1 For the instalment of the cutting bar, please contact a specialized company.

If you experience difficulty, please contact Spearhead Machinery.

4.3.2.2 Check that the hydraulic system conditions on the vehicle correspond to those provided in "Features And Identification Of The Machine", and that the connecting pipes can sustain maximum working pressures.

4.3.2.3 Before the assembly, control that tubes, tank and the other parts of the system are clean.

4.3.2.4 Fix the cutting bar on the vehicle using a fastening plate that is to be screwed on at least 3 holes, situated on the back of the blade, by 10mm 8.8 steel bolts. Be sure that the tightening of the screws is correct.

### 4.3.3 Hydraulic Connection

4.3.3.1 Attach the oil delivery pipe to the hydraulic motor union (P) that is aligned to the pressure adjustment valve.

4.3.3.2 Attach the oil return pipe to the remaining hydraulic motor union (T).

4.3.3.3 If the average value between the inlet pressure and back pressure is higher than the 25bar, it is necessary to open the motor case drain. The oil recovered from the motor case drain must be conveyed into a tank at atmospheric pressure using a pipe for hydraulic purposes.

4.3.3.4 By means of a manometer, make sure that the maximum pressures don't exceed those suggested in the "Features And Identification Of The Machine" chapter.

4.3.3.5 Follow the data mentioned in the "Features" chapter table, concerning pressure and capacity.

## 4.4 Start-up

The present chapter shows the procedures for the start-up.

These operations must be carried out by the operator responsible for the use of the cutting bar and, broadly speaking, by all the qualified technical staff.

### 4.4.1 Use

4.4.1.1 Keep clear of the machine before the start-up, at a distance of 2 metres at least.

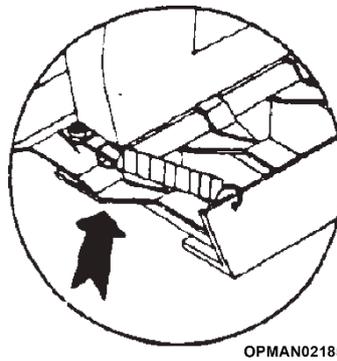
4.4.1.2 Never approach the cutting bar during its working.

4.4.1.3 The cutting bar must be used only for mowing grass, hedges and little shrubs whose dimensions are specifically mentioned in the "Features" chapter.

4.4.1.4 It can work in immersion (if kept properly greased).

### Warnings

- Make sure that the usage condition of the cutting bar do not compromise any part of the machine.
- Before starting to work, be sure that the working area cannot arise conditions causing explosions and/or fires.
- Remove the protection on the blade only before starting the machine, keeping the motor switched off and the oil not under pressure. See the following picture



**Figure 8**

Keep the minimum speed for some minutes and then carry out some idle movement. A max pressure valve is fixed on the motor, since it is not advisable to go beyond 100bar (we suggest the instalment of a check manometer between the pump and the hydraulic motor). We recommend you start the motor with the valve completely loosened and raise the pressure gradually until the desired cutting effect is obtained.

## **4.5 Disassembly**

The present chapter provides information for the disassembly of the cutting bar. The information reported in this chapter are addressed to the qualified technical staff.

### **4.5.1 Procedure**

Turn the motor off and check that the oil isn't under pressure. Unscrew the pipes connected the cutting bar motor. Unscrew the bolts connected to the tool rack, after hooking the bar to a suitable means of connection and transport. Remove the bar.

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## 5 Troubleshooting

This chapter is a guide to the solution of the problems arising during the working of the cutting bar.

### Attention

Before carrying out any intervention on the cutting bar, make sure that the system is not under pressure.

**Oil leaks can cause serious injuries.**

**The operator or the qualified technician must be equipped with individuals protections, such as gloves, masks e.t.c.**

Problems	Possible Causes	Solution	Staff
The bar doesn't move	Wrong pipe connection	Check the pipe connection	Qualified staff
	Foreign matters in the bar	Clear the mechanism with the motor turned off	Operator
The bar doesn't cut properly	Worn out blades	Replace the blades	Qualified technician

**Table 4**

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## 6 Maintenance

The information provided in the present chapter are addressed to the operator responsible for the cutting bar, as for the scheduled maintenance, and to the qualified staff for the extraordinary maintenance.

### Warnings

The interventions suggested in this chapter must be regarded as the minimum operations required to keep the cutting bar in good order and at the maximum level of efficiency. Other interventions may be suggested by the experience of the user, considering the amount of work performed, the characteristics of the environment in which the cutting bar is working and the nature of the product treated.

### Warnings

Every maintenance operation must be carried out in the following conditions:

- Vehicle turned off.
- Hydraulic system not pressurised.

## 6.1 Periodical Maintenance

### After The First Two Hours Work

- Check tightening of nuts, connectors, pipes and clamps.

### Every 4 Hours Work

- Oil the blade.

### Check Periodically

- That there aren't oil leaks in the hydraulic connectors.

### Attention

The oil used in hydraulic circuits is particularly harmful.

Do not disperse it in the environment and follow carefully the regulations in force.

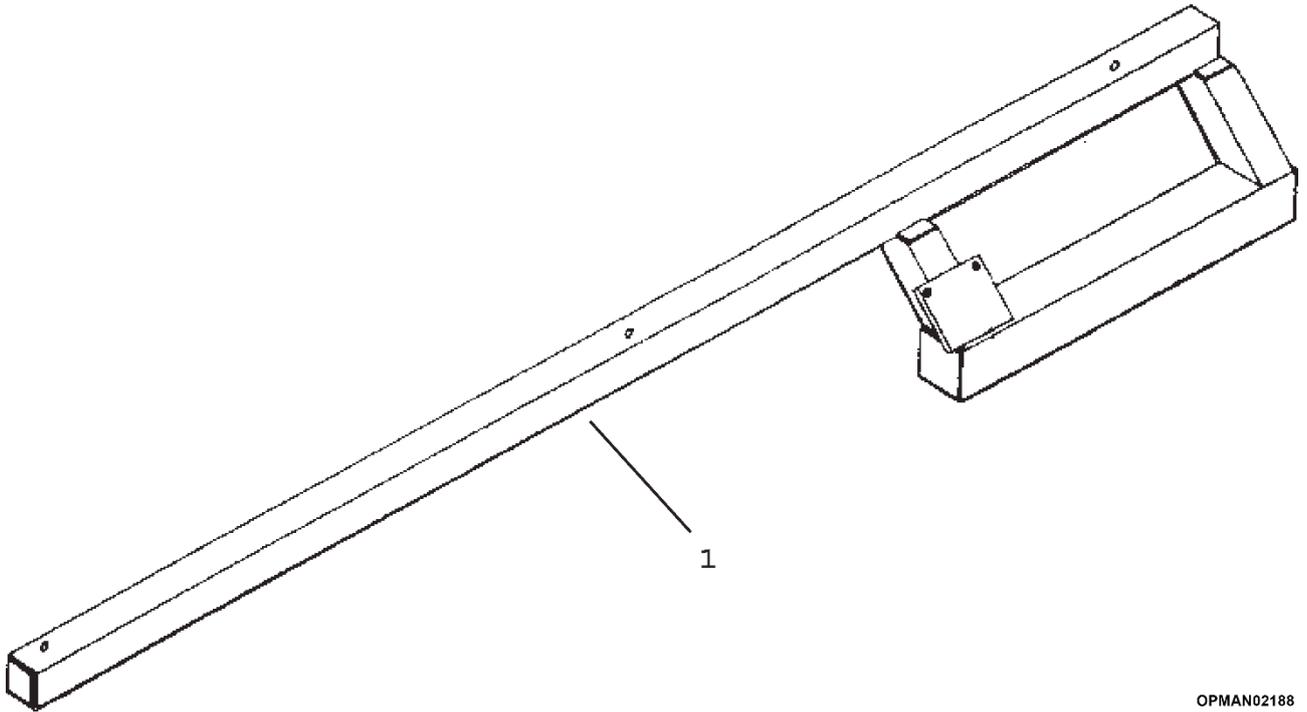
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## **7 Noise Emitted**

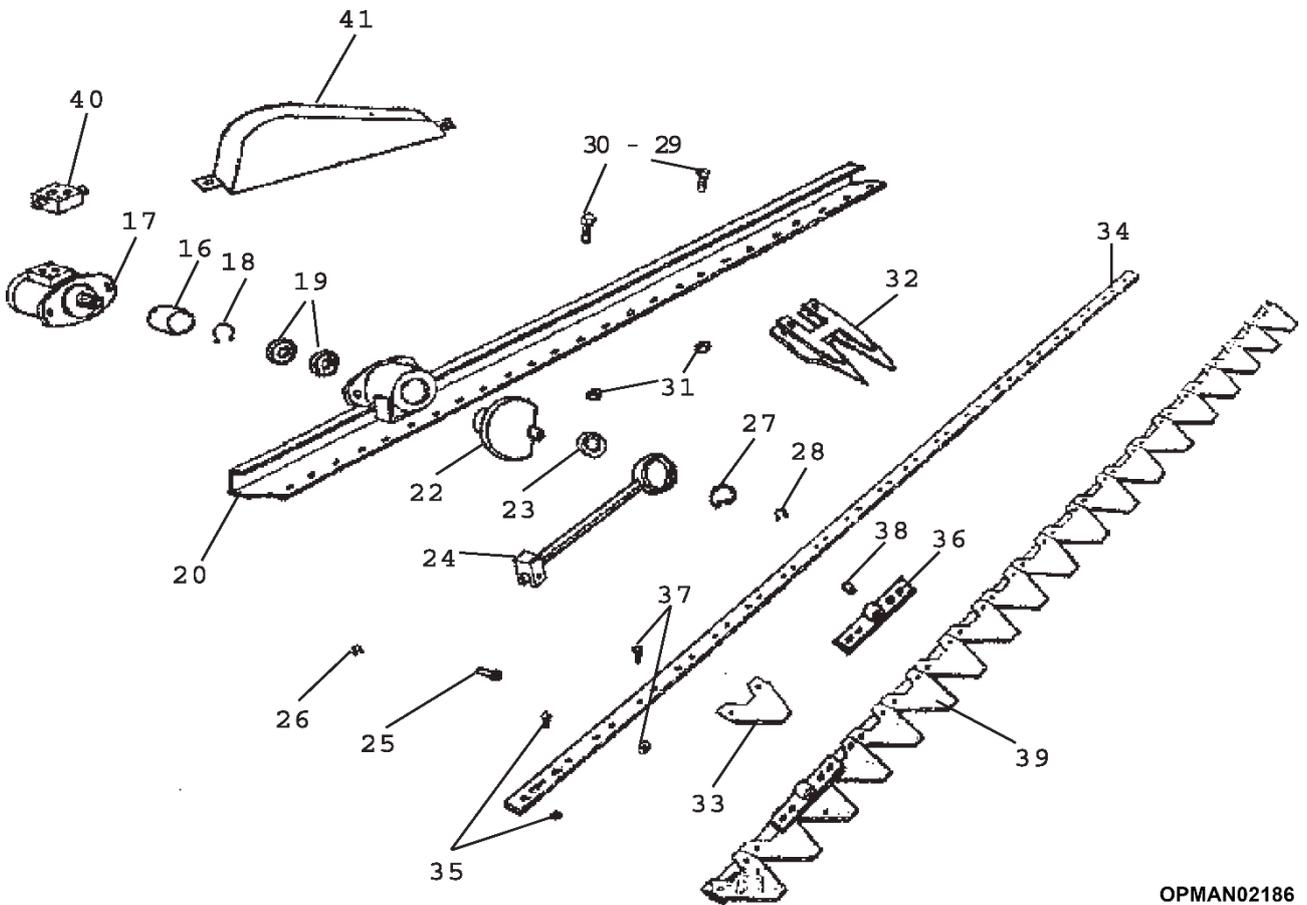
The level of the equivalent continuous acoustic pressure, sensed in a point valued as operator place turn out to be 75.5 db (A).

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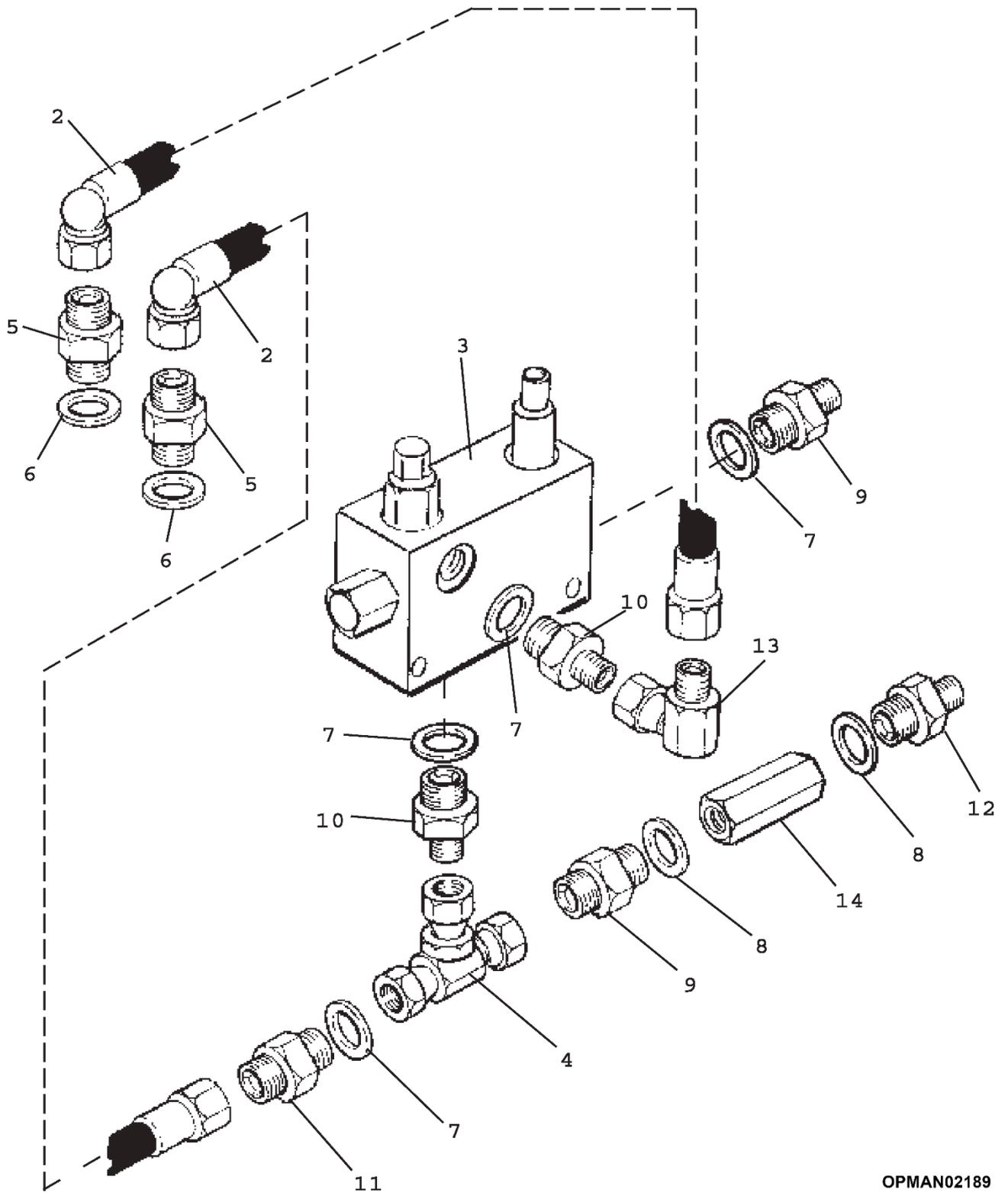
# 8 Spare Parts



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OPMAN02186



OPMAN02189

ITEM	PART NO.	DESCRIPTION	QTY
01	05.277.01	HAMMER DRIVE SCREW	2
01	05.282.02	SPRING WASHER 10MM	3
01	05.287.02	SELF LOCKING NUT M10	3
01	05.291.20	BOLT, M10 X 75MM	3
01	05.774.07	SERIAL NO. PLATE	1
01*	42019.01	BRACKET L.H.	1
01	42019.02	BRACKET R.H.	1
02	10.006.10	HOSE 1/2" BSP STX90 - 500	2
03	05.282.01	SPRING WASHER 8MM	2
03	05.286.01	NUT M8	2
03	05.291.09	BOLT M8 X 70MM	2
03*	42844.01	FLOW REGULATOR	1
04	04.056.09	SWIVEL TEE 3/4" BSP F/F/F	1
05	05.122.01	ADAPTOR 1/2" BSP X 1/2" BSP	2
06	05.290.05	BONDED SEAL 1/2" BSP	2
07	05.290.06	BONDED SEAL 3/4" BSP	5
08	05.290.07	BONDED SEAL 1" BSP	2
09	05.373.01	ADAPTOR 3/4" BSP X 1" BSP	2
10	05.376.01	ADAPTOR 3/4" BSP X 1/2" BSP	2
11	05.377.01	ADAPTOR 3/4" BSP X 3/4" BSP	1
12	05.434.01	ADAPTOR 1" BSP X 1" BSP	1
13	05.835.05	ADAPTOR SWIVEL 90 1/2" BSP M/F	1
14	06.282.03	NON-RETURN VALVE 1" BSP	1
16	42018.11	SPACER	1
17	42018.10	MOTOR	1
18	42018.12	CIRCLIP 40MM	1
19	42018.13	BEARING	2
20	42018.14	BLADE 1480 LH	1
20	-	BLADE 1480 RH	-
22	42018.16	FLYWHEEL	1
23	42018.17	BEARING	1
24	42018.18	CONROD	1
25	42018.19	PIN	1
26	42018.20	CIRCLIP 12MM	1
27	42018.21	CIRCLIP 40MM	1
28	42018.22	CIRCLIP 17MM	1
29	42018.23	BOLT	20
30	42018.24	BOLT	2
31	42018.25	NUT	20
32	42018.26	FINGER	10
33	42018.27	KNIFE	19
34	42018.28	BACKING BAR	1
35	42018.30	NUT & BOLT ASSEMBLY	35
36	42018.32	BRACKET	1
37	42018.31	NUT & BOLT ASSEMBLY	4
38	42018.33	BUSH	1
39	42018.34	CUTTER	1
40	42018.35	DISTRIBUTION BLOCK	1
41	42018.36	GUARD	1

\*MAIN PART IN GROUP, RELATED PARTS HAVE SAME REFERENCE NUMBER

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# Notes