

Publication 5288 - 06

DEBRIS BLOWER

Parts & Instruction Manual

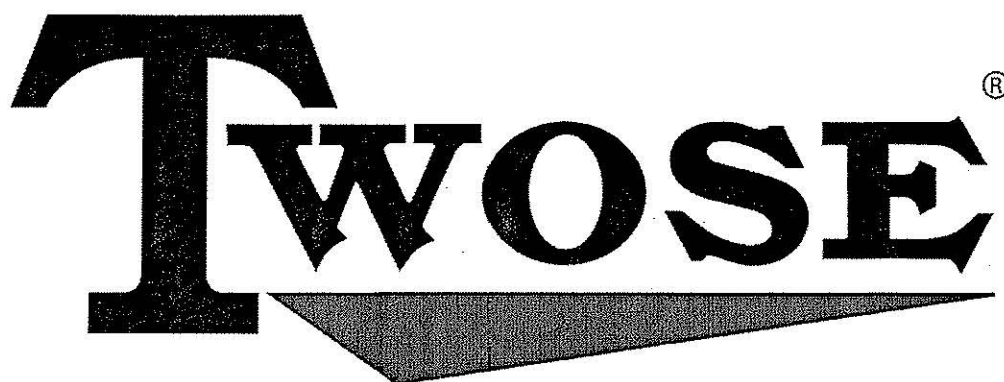
Amendments

Feb 06

S Type mounting bracket added.

ECN20223

**THIS MANUAL IS TO BE HANDED TO THE CUSTOMER BEFORE THE
MACHINE IS TO BE USED FOR THE FIRST TIME**



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All dimensions and capacities mentioned in this book are approximate. In pursuance of the Companies policy of constant development, the right is reserved to depart, without notice, from any detail illustrated or specified in this book, without incurring the obligation to provide such modifications on machines previously delivered.

No responsibility will be accepted by Twose of Tiverton Limited for any injury, damage or loss arising from the improper use or lack of maintenance of any machinery supplied by them or from any failure of the user to comply with all instructions published by Tractor or Loader manufacturers, particularly with regard to maximum load capacities, tyre pressures and stability, or with instructions and regulations pertaining to Tractor Cabs.

GENERAL INFORMATION

NOTE:- The provision of this information is a requirement of the Health & Safety at Work Act 1974.

NOTE:- This handbook has been designed to help the operator and service/mechanic to use and understand the machine fully, safely and efficiently, bearing in mind the Health & Safety requirements and the new CE requirements which come into force from January 1st 1995.

NOTE:- The handbook/manual will be supplied in a waterproof plastic outer cover to prevent damage from rain, condensation etc. The cover of the handbook will include its own part number, which includes information as to machine type and issue date of manual in question.

DANGER

NOTE:- It is very important that the handbook/manual has been read thoroughly - throughout, and is completely understood before attempting to attach or use machine in any way.

CAUTION: When ordering spares, please state clearly:-

- (a) Machine type and model No.
- (b) Part No. of component.
- (c) Description of component.
- (d) Quantity required.
- (e) Full address to which spares are to be sent.
- (f) Method of delivery required.

CAUTION:- Always insist on genuine and correct spare parts.

NOTE:- Further copies of this handbook/manual can be obtained from:-

TWOSE OF TIVERTON LIMITED
6 CHINON COURT
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HEALTH AND SAFETY POINTS

Contact your dealer should you need advice, assistance, or if you do not understand any part of the manual or machine.

NEVER ASSUME - if you are not sure - ASK.



DANGER WARNING

Never attempt to assemble, couple up, or operate machinery until you understand fully the functions, controls and safety precautions required, as shown in the operators manual.



DANGER WARNING

Always follow tractor safety operations and instructions VERY carefully.

NEVER TAKE RISKS

CAUTION

A machine **MUST NOT** be altered or modified in any way without permission. No liability will be accepted in respect of a machine which has been modified without the manufacturers permission.



DANGER WARNING

Never attempt to service/work on/adjust in any way any machinery that is in an unsupported or poorly supported state.

CAUTION

Always "SWITCH OFF" tractor engine before attempting to carry out adjustment or repairs on machinery.

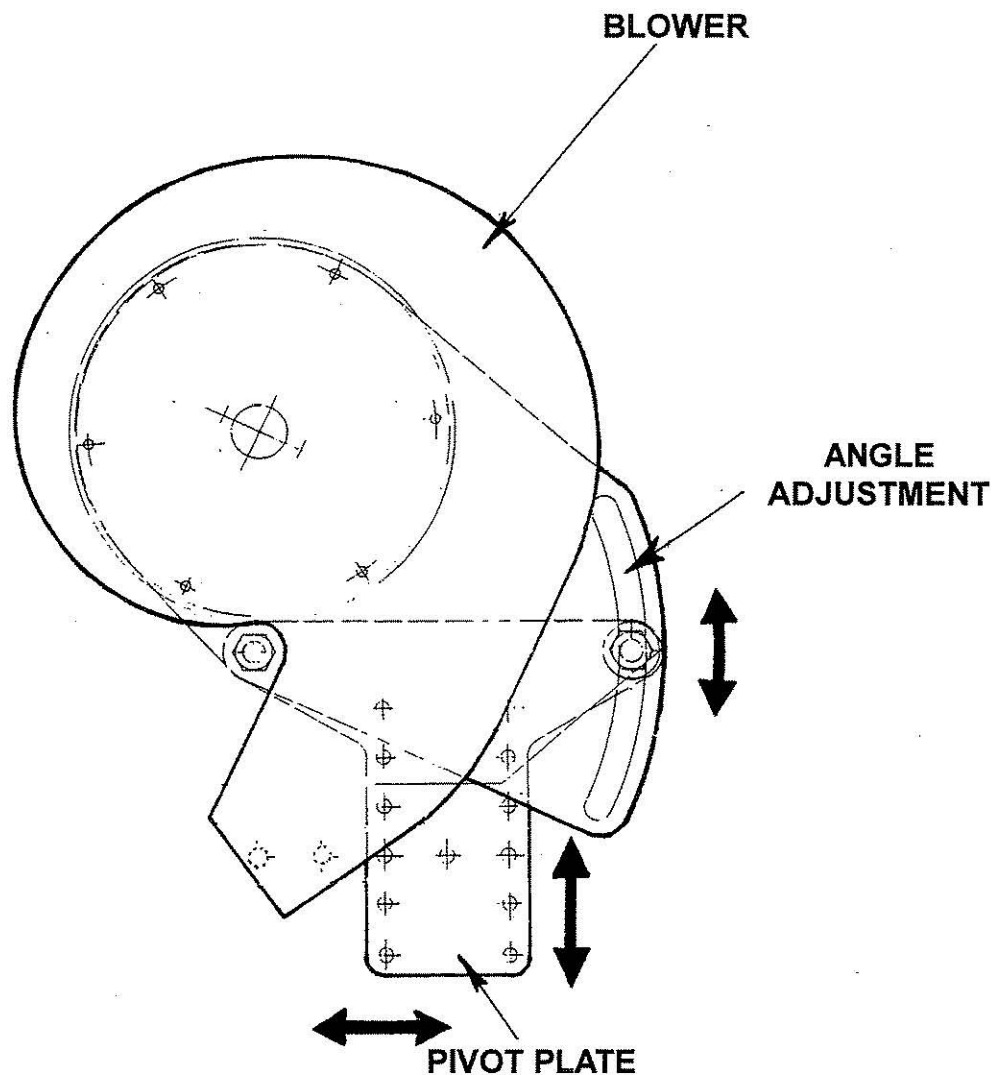
INTRODUCTION

The Twose Debris Blower is a self contained unit which blows the debris generated during flail cutting off the highway and onto the verge. High and low flow versions are available to suit different models of tractor. If unsure please contact Twose of Tiverton for advice.

The debris blower is mounted on brackets attached to the hedge cutter and and is powered by the tractors hydraulic system.

The brackets illustrated in these instructions are for the Twose S and TS Range of hedge cutters only; to fit other machines in the Twose range different brackets and mountings may be required.

The angle of the blower may be varied to suit prevailling conditions

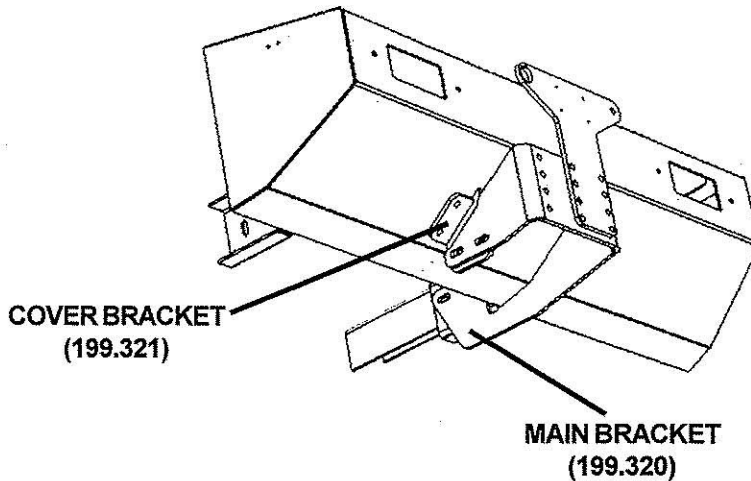


Debris blowers are suitable for use with hedge cutters with T.I. (totally independent) hydraulics :- two pumps (one for the arms and one for the cutting head) and S.I. (semi independent) hydraulics :- single pump (for the cutting head); the arms being powered from the tractors hydraulics.

FITTING

TS Machines

It will be necessary to drill holes in the rear cover to attach the mounting bracket for the debris blower. Suitable holes are already provided in the mainframe.



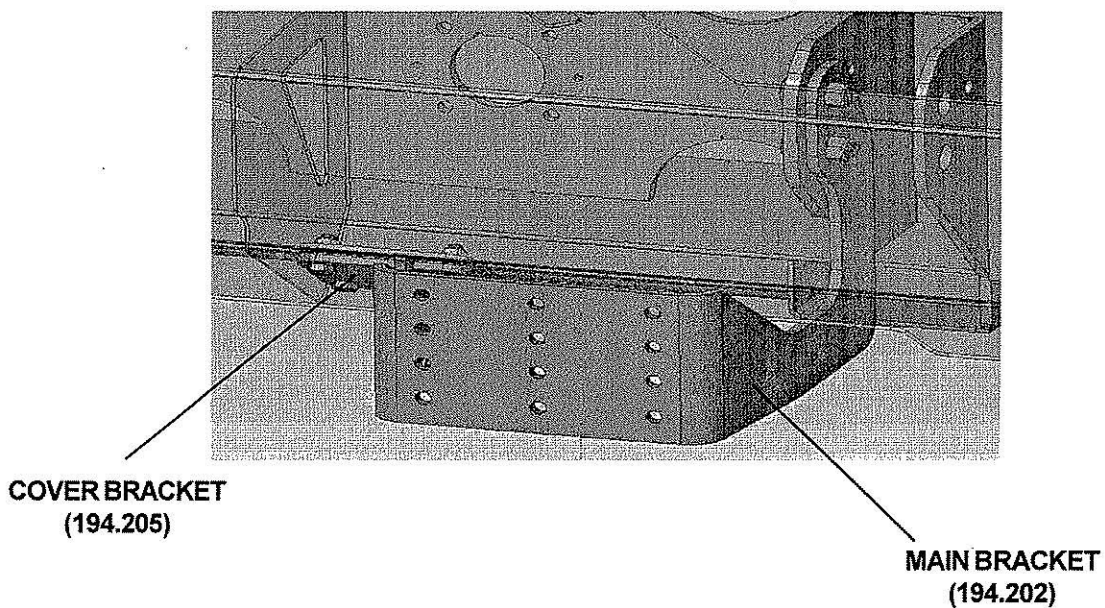
Locate the main bracket (199.320) on the inside of the hedgecutter mainframe; it should be set so that with the blower in position there is a gap of at least 36mm (1-1/2") between the cover and the blower motor, and secure with M12 bolts and nuts.

Position the cover bracket (199.321) on the cover and mark the position of the four holes. Drill the holes 14mm diameter and secure the bracket to the cover with M12 bolts and nuts.

The main bracket and cover bracket may now be bolted together; slotted holes provide vertical and lateral movement.

S Machines

S type machines have their brackets fitted in a similar manner - see illustration below



PIVOT PLATE

The pivot plate (7319274) is bolted to the main bracket in a suitable position; the position can be varied but whatever position is chosen the pivot plate must be secured by at least 4 bolts and nuts.

Mount the blower to the pivot plate ensuring that there is a gap of at least 35mm between the blower motor and the cover. The blower should be positioned as far away from the kerbside edge of the machine as possible to give maximum coverage of the road. It is recommended that the height from the ground to the centre of the blower should be approximately 650mm (26ins). The angle of the blower should be adjusted to provide the best performance in prevailing conditions.

TRACTOR OIL FLOW RATES

Tractors with closed centre hydraulic system or with an oil flow capacity of less than 36l/min should be fitted with the low flow debris blower. For those with a capacity 36l/min and above a high flow debris blower should be fitted.

Working a high flow blower on a low flow tractor will result in considerably reduced blow.

Using a low flow blower on a high flow tractor will result in the same degree of blow but will cause the oil to overheat.

CONNECTIONS FOR TRACTORS WITH OPEN CENTRE HYDRAULICS

For debris blowers that are fitted to T.I. machines

The pressure supply hose is taken from the tractor's single acting auxiliary service and connected to the flow control valve block opposite the hexagon head of the valve.

The return hose from the motor is connected to the tractor's transmission casing. The oil must be returned beneath the transmission casing oil level. Contact your dealer for the correct procedure for individual tractors.

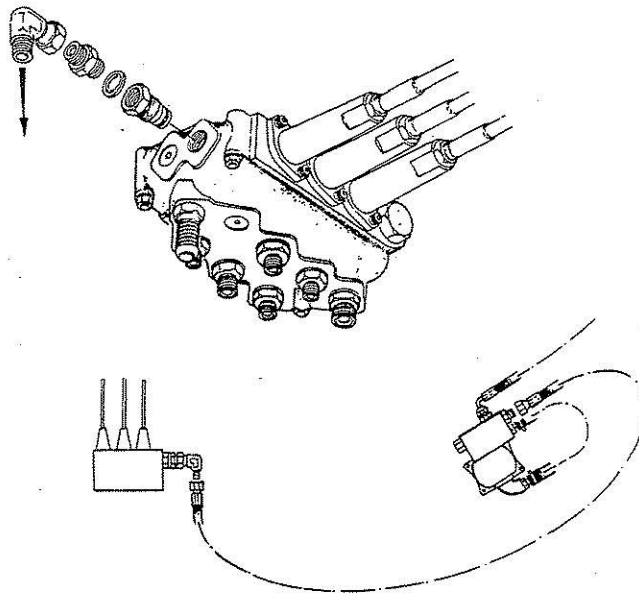
Note:- Where oil is returned to the transmission casing it may be necessary to extend the return hose.

CAUTION:- Connecting the return hose to a tractor's double acting spool can result in a blown shaft seal due to back pressure caused by the fan over-run and restricted return line.

Engagement of the debris blower is by the auxiliary control lever.

For debris blowers that are fitted to S.I. machines

The following modifications need to be carried out.

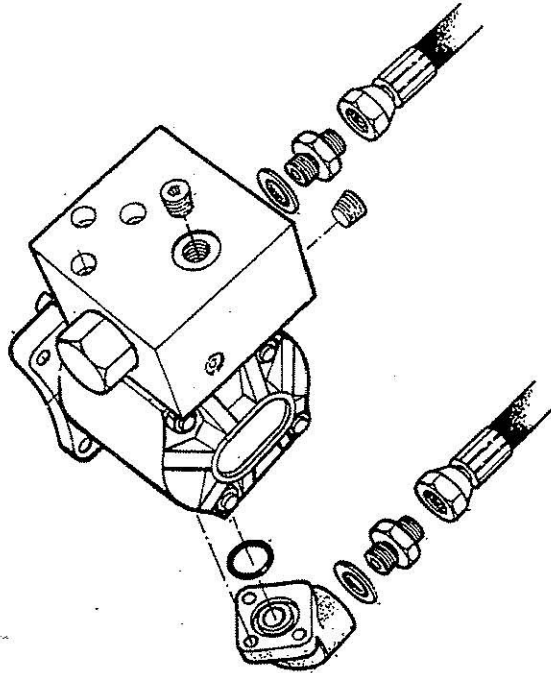


The plug from the end of the pressure gallery on the arm head control valve is removed and replaced with a pressure carry over adaptor, a union and a swivel elbow. The pressure supply to the debris blower is taken from this swivel elbow to the flow control valve block on the blower motor opposite the hexagon head of the valve.

The return hose is returned to the tractor transmission casing as for T.I. machines.

Note:- When debris blowers are fitted to S.I. machines the blower is automatically engaged when the tractor's auxiliary service is selected to power the arms. It does not have an individual control.

TRACTORS WITH CLOSED CENTRE HYDRAULICS

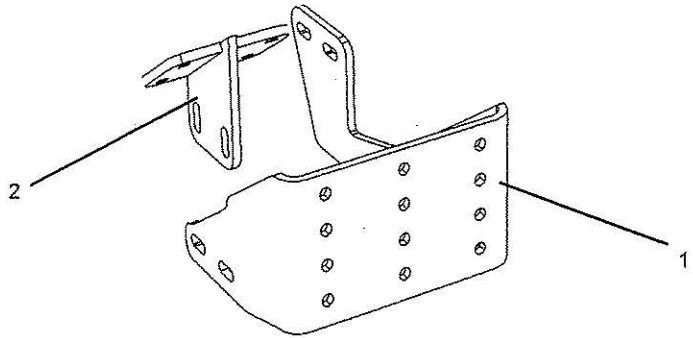
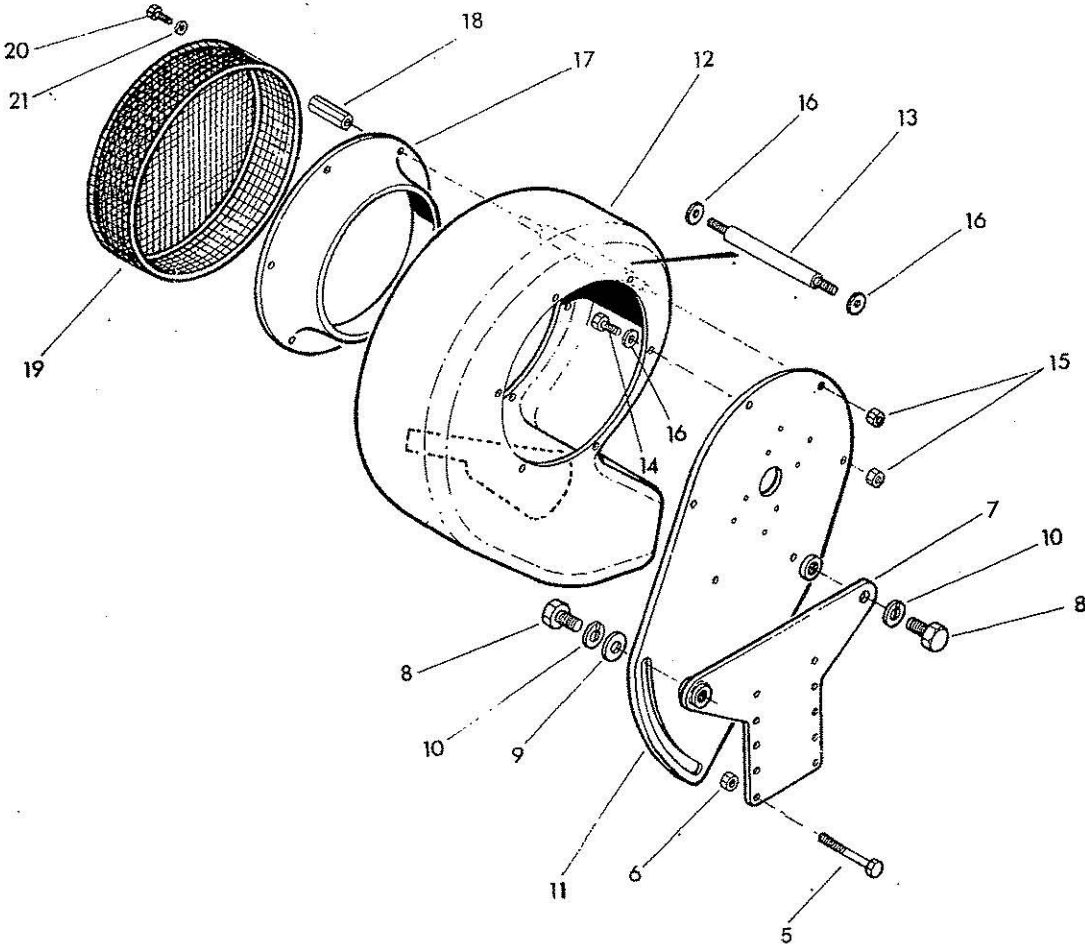


Where tractors have closed centre hydraulics the following modifications to both T.I. and S.I. installations are required. The long return hose, the short return hose and their connections are removed from the flow control block. The ports should be blanked using the plugs provided and PTFE tape.

The low pressure connection should be removed from the cast elbow on the return side of the motor and replaced by the 3/4" x 1/2" BSP union taken from the block. The long return hose is then connected and the oil is returned to the tractor direct to the transmission as detailed previously.

**REPLACEMENT PARTS
INFORMATION**

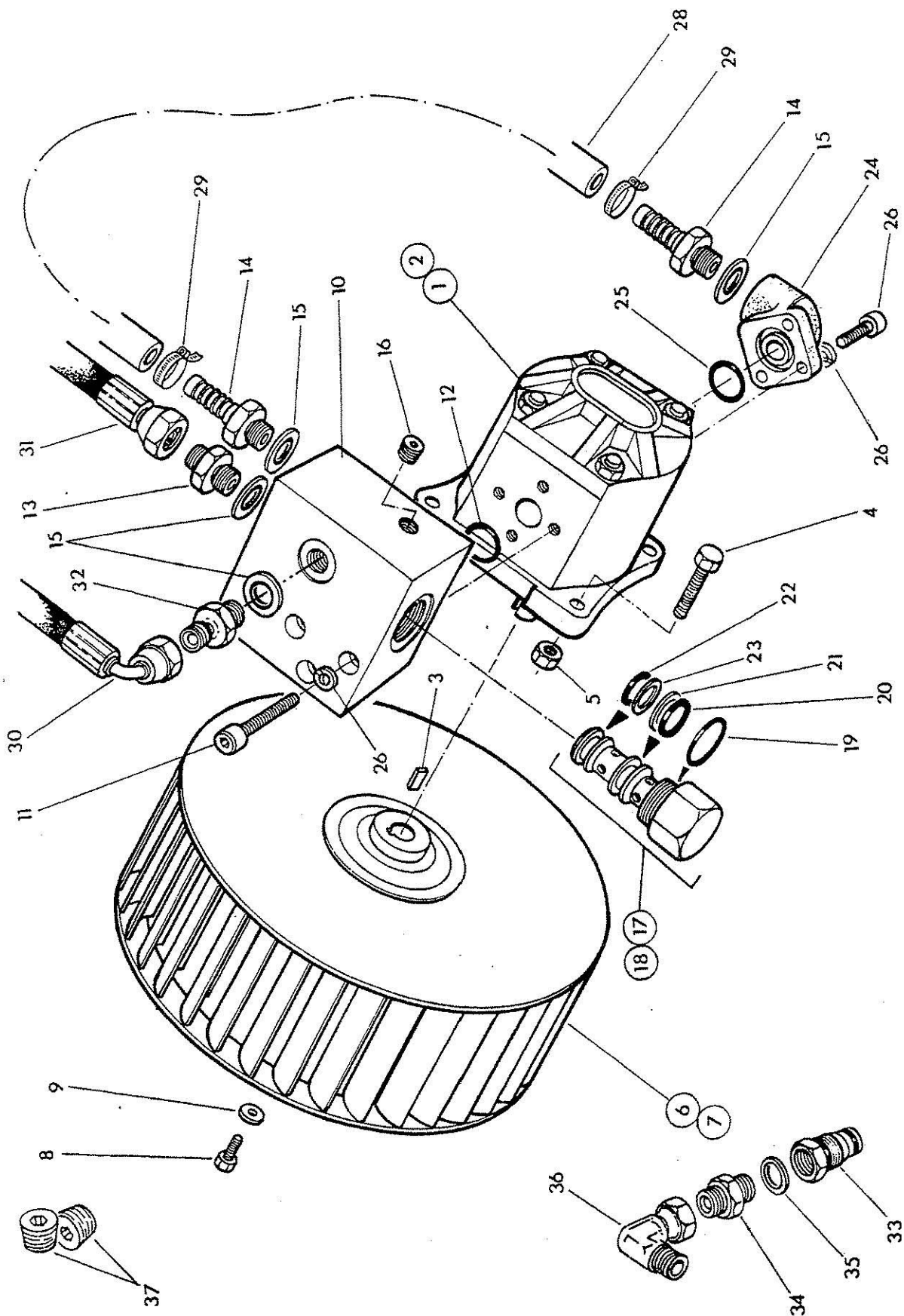
CASING & MOUNTING



DEBRIS BLOWER BODY

<u>Ref.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	199.321	1	Subframe Bracket
1	45429.01	1	Serial Number Plate
1	05.235.01	4	Hammer Drive Screws
2	199.320	1	Cover Bracket
5	92 13 066	4	Bolt M12 x 30
6	91 43 006	4	Nut M12
7	73 19 274	1	Pivot Plate
8	93 13 067	2	Setscrew
9	91 00 107	1	Plain Washer
10	91 00 207	2	Spring Washer
11	73 19 273	1	Back Plate
12	73 19 270	1	Fan Casing
13	73 19 005	3	Casing Spacer
14	93 13 054	3	Setscrew
15	91 43 004	6	Locknut
16	91 00 104	6	Plain Washer
17	73 19 271	1	Shroud
18	73 19 004	3	Guard Spacer
19	73 19 272	1	Guard
20	93 83 943	3	Pan Head Screw
21	91 00 103	3	Plain Washer

RADIAL WHEEL & MOTOR



MOTOR AND RADIAL WHEEL FOR T.I. M/CS WITH OPEN CENTRE HYDRAULICS

<u>Ref.</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Description</u>
1	83 01 286	1	Hydraulic Motor – low flow only
1	83 01 285	1	Hydraulic Motor – high flow only
3	82 01 161	1	Key
4	92 13 084	4	Bolt
5	91 43 004	4	Self locking nut
6	73 19 007	1	Radial wheel – LH only as illustrated
7	73 19 008	1	Radial wheel – RH only
8	93 13 033	1	Setscrew
9	73 19 013	1	Special washer
10	81 32 255	1	Flow control block
11	93 43 104	3	Cap screw socket head
12	86 00 402	1	O ring
13	85 81110	1	Union
14	80 02 059	2	Adaptor
15	86 50 104	4	Bonded seal
16	85 82 043	1	Taper plug
17	81 04 040	1	Flow control valve assy – high flow only
18	81 04 041	1	Flow control valve assy – low flow only
19	86 00 716	1	O ring
20	87 00 775	1	O ring
21	87 09 775	1	Anti extrusion ring
22	87 00 772	1	O ring
23	87 09 772	1	Anti extrusion ring
24	83 01 027	1	Return elbow
25	86 00 403	1	O ring
26	93 43 054	3	Capscrew socket head
27	91 00 204	5	Spring washer
28	85 01 059	1	Hose 5/8" low pressure x 15" long
29	09 04 204	2	Hose clip - 5/8" bore hose
30	85 37 015	1	Hose 3/4" BSP SF-90 deg F x 110" long
31	85 13 024	1	Hose 1/2" BSP SF-SF x 120" long
32	85 81 130	1	Adaptor

86 99 242

SEAL KIT for Hydraulic Motors

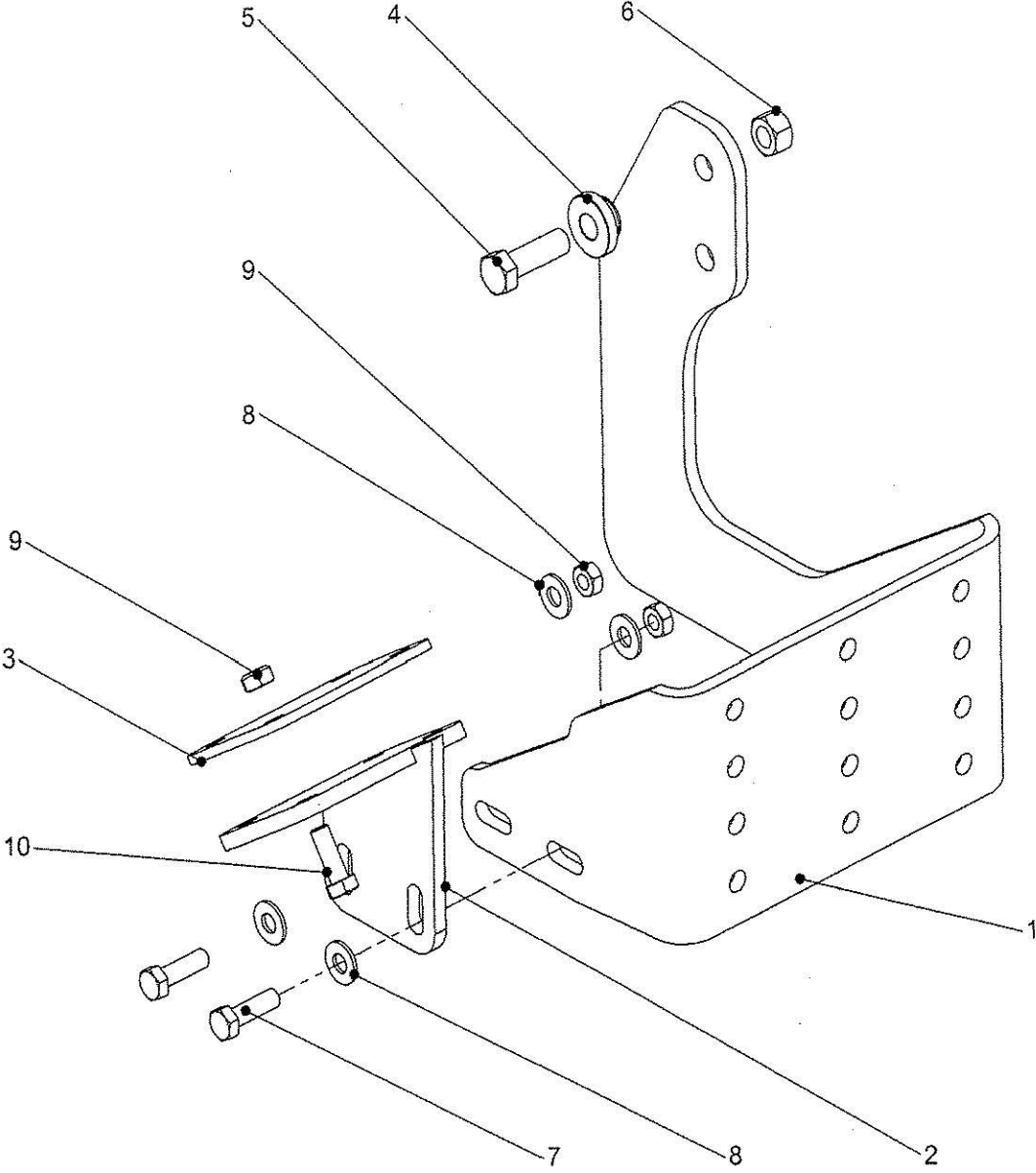
KIT FOR S.I. INSTALLTION

33	81 30 180	1	Pressure carry over
34	60 00 112	1	Union
35	86 50 103	1	Bonded Seal
36	85 81 215	1	Swivel elbow

KIT FOR CLOSED CIRCUIT HYDRAULICS

37	81 03 001	2	Taper plug
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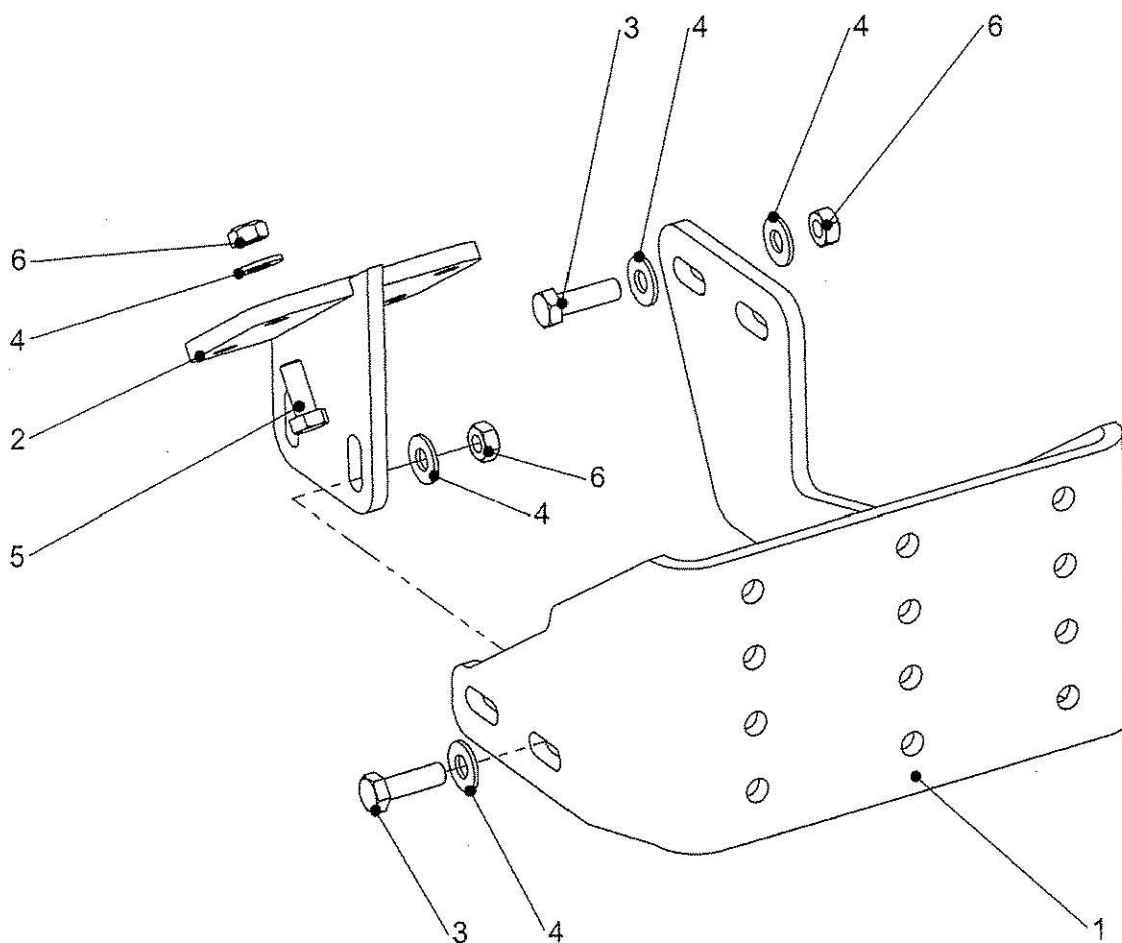
MOUNTING - S TYPE MACHINES



Mounting Bracket S Type Machines

1	194.202	Main Bracket	1
2	194.205	Cover bracket	1
3	194.206	Support Plate	1
4	194.204	Spacer	2
5	05.264.37	Setscrew M16 x 50	2
6	05.287.04	Self Locking Nut M16	2
7	05.264.25	Setscrew M12 x 40	2
8	05.281.03	Flat Washer M12	4
9	05.287.03	Self Locking Nut M12	6
10	05.264.24	Set Screw M12 x 35	4

MOUNTING - TS TYPE MACHINES



Mounting Bracket TS Type Machines

1	199.320	Main Bracket	1
2	199.321	Cover bracket	1
3	9213086	Setscrew M12 x 40	4
4	05.281.03	Flat Washer M12	12
5	9313066	Setscrew M12 x 30	4
6	9143006	Self Locking Nut M16	8

