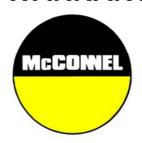
# DEBRIS BLOWER Mk2

# Operation & Parts Manual



# **IMPORTANT**

# **VERIFICATION OF WARRANTY REGISTRATION**



#### **DEALER WARRANTY INFORMATION & REGISTRATION VERIFICATION**

It is imperative that the selling dealer registers this machine with McConnel Limited before delivery to the end user – failure to do so may affect the validity of the machine warranty.

To register machines go to the McConnel Limited web site at www.mcconnel.com, log onto 'Dealer Inside' and select the 'Machine Registration button' which can be found in the Service Section of the site. Confirm to the customer that the machine has been registered in the section below.

Should you experience any problems registering a machine in this manner please contact the McConnel Service Department on 01584 875848.

### **Registration Verification**

Dealer Name:				
Dealer Address:				
Customer Name:				
Date of Warranty	Registration:	//	Dealer Signatur	re:

#### **NOTE TO CUSTOMER / OWNER**

Please ensure that the above section above has been completed and signed by the selling dealer to verify that your machine has been registered with McConnel Limited.

IMPORTANT: During the initial 'bedding in' period of a new machine it is the customer's responsibility to regularly inspect all nuts, bolts and hose connections for tightness and re-tighten if required. New hydraulic connections occasionally weep small amounts of oil as the seals and joints settle in – where this occurs it can be cured by re-tightening the connection – *refer to torque settings chart below.* The tasks stated above should be performed on an hourly basis during the first day of work and at least daily thereafter as part of the machines general maintenance procedure.

#### **TORQUE SETTINGS FOR HYDRAULIC FITTINGS**

HYDRAULIC HOSE ENDS					
BSP	Setting	Metric			
1/4"	18 Nm	19 mm			
3/8"	31 Nm	22 mm			
1/2"	49 Nm	27 mm			
5/8"	60 Nm	30 mm			
3/4"	80 Nm	32 mm			
1"	125 Nm	41 mm			
1.1/4"	190 Nm	50 mm			
1.1/2"	250 Nm	55 mm			
2"	420 Nm	70 mm			

PORT ADAPTORS WITH BONDED SEALS					
BSP	Setting	Metric			
1/4"	34 Nm	19 mm			
3/8"	47 Nm	22 mm			
1/2"	102 Nm	27 mm			
5/8"	122 Nm	30 mm			
3/4"	149 Nm	32 mm			
1"	203 Nm	41 mm			
1.1/4"	305 Nm	50 mm			
1.1/2"	305 Nm	55 mm			
2"	400 Nm	70 mm			

# WARRANTY POLICY

#### **WARRANTY REGISTRATION**

All machines must be registered, by the selling dealer with McConnel Ltd, before delivery to the end user. On receipt of the goods it is the buyer's responsibility to check that the Verification of Warranty Registration in the Operator's Manual has been completed by the selling dealer.

#### 1. LIMITED WARRANTIES

- 1.01. All machines supplied by McConnel Limited are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months, unless a different period is specified.
- 1.02. All spare parts supplied by McConnel Limited are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 6 months.
- 1.03. The manufacturer will replace or repair for the purchaser any part or parts found, upon examination at its factory, to be defective under normal use and service due to defects in material or workmanship. Returned parts must be complete and unexamined.
- 1.04. This warranty does not apply to any part of the goods, which has been subjected to improper or abnormal use, negligence, alteration, modification, fitment of non-genuine parts, accident damage, or damage resulting from contact with overhead power lines, damage caused by foreign objects (e.g. stones, iron, material other than vegetation), failure due to lack of maintenance, use of incorrect oil or lubricants, contamination of the oil, or which has served its normal life. This warranty does not apply to any expendable items such as blades, flails, flap kits, skids, soil engaging parts, shields, guards, wear pads or pneumatic tyres.
- 1.05. Temporary repairs and consequential loss i.e. oil, downtime and associated parts are specifically excluded from the warranty.
- 1.06. Warranty on hoses is limited to 12 months and does not include hoses which have suffered external damage. Only complete hoses may be returned under warranty, any which have been cut or repaired will be rejected.
- 1.07. Machines must be repaired immediately a problem arises. Continued use of the machine after a problem has occurred can result in further component failures, for which McConnel Ltd cannot be held liable, and may have safety implications.
- 1.08. Except as provided herein, no employee, agent, dealer or other person is authorised to give any warranties of any nature on behalf of McConnel Ltd.
- 1.09. For machine warranty periods in excess of 12 months the following additional exclusions shall apply:
  - 1) Hoses, external seals, exposed pipes and hydraulic tank breathers.
  - 2) Filters.
  - 3) Rubber mountings.
  - 4) External electric wiring.
- 1.10. All service work, particularly filter changes, must be carried out in accordance with the manufacturer's service schedule. Failure to comply will invalidate the warranty. In the event of a claim, proof of the service work being carried out may be required.

NB Warranty cover will be invalid if any non-genuine parts have been fitted or used. Use of non-genuine parts may seriously affect the machine's performance and safety. McConnel Ltd cannot be held responsible for any failures or safety implications that arise due to the use of non-genuine parts.

#### 2. REMEDIES AND PROCEDURES

- 2.01. The warranty is not effective unless the Selling Dealer registers the machine, via the McConnel web site and confirms the registration to the purchaser by completing the confirmation form in the operator's manual.
- 2.02. Any fault must be reported to an authorised McConnel dealer as soon as it occurs. Continued use of a machine, after a fault has occurred, can result in further component failure for which McConnel Ltd cannot be held liable.
- 2.03. Repairs should be undertaken within two days of the failure. Claims submitted for repairs undertaken more than 2 weeks after a failure has occurred, or 2 days after the parts were supplied will be rejected, unless the delay has been authorised by McConnel Ltd.
- 2.04. All claims must be submitted, by an authorised McConnel Service Dealer, within 30 days of the date of repair.
- 2.05. Following examination of the claim and parts the manufacture will pay, at their discretion, for any valid claim the cost of any parts and an appropriate labour allowance if applicable.
- 2.06. The submission of a claim is not a guarantee of payment.
- 2.07. Any decision reached by McConnel Ltd. is final.

#### 3. LIMITATION OF LIABILITY

- 3.01. The manufacturer disclaims any express (except as set forth herein) and implied warranties with respect to the goods including, but not limited to, merchantability and fitness for a particular purpose.
- 3.02. The manufacturer makes no warranty as to the design, capability, capacity or suitability for use of the goods.
- 3.03. Except as provided herein, the manufacturer shall have no liability or responsibility to the purchaser or any other person or entity with respect to any liability, loss, or damage caused or alleged to be caused directly or indirectly by the goods including, but not limited to, any indirect, special, consequential, or incidental damages resulting from the use or operation of the goods or any breach of this warranty. Notwithstanding the above limitations and warranties, the manufacturer's liability hereunder for damages incurred by the purchaser or others shall not exceed the price of the goods.
- 3.04. No action arising out of any claimed breach of this warranty or transactions under this warranty may be brought more than one (1) year after the cause of the action has occurred.

#### 4. MISCELLANEOUS

- 4.01. The manufacturer may waive compliance with any of the terms of this limited warranty, but no waiver of any terms shall be deemed to be a waiver of any other term.
- 4.02. If any provision of this limited warranty shall violate any applicable law and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provisions herein.
- 4.03. Applicable law may provide rights and benefits to the purchaser in addition to those provided herein.



# DECLARATION OF CONFORMITY

Conforming to EU Machinery Directive 2006/42/EC

We.

McCONNEL LIMITED.	Temeside	Works.	Ludlow,	Shro	pshire	SY8	1JL,	UK
-------------------	----------	--------	---------	------	--------	-----	------	----

Hereby declare that:

The Product; Hydraulic Powered Blower Attachment

Product Code; HKIT

Manufactured in; United Kingdom

Complies with the required provisions of the Machinery Directive 2006/42/EC The machinery directive is supported by the following harmonized standards;

- BS EN ISO 14121-1 (2007) Safety of machinery Risk assessment, Part 1: Principles Part 2: practical guide and examples of methods.
- BS EN ISO 12100-1 (2010) Safety of machinery Part 1: Basic terminology and methodology Part 2: Technical principles.
- BS EN 349(1993)+ A1 (2008) Safety of machinery Minimum distances to avoid the entrapment with human body parts.
- BS EN 953 (1998) Safety of machinery Guards General requirements for the design and construction of fixed and movable guards.
- BS EN 982(1996)+ A1 (2008) Safety requirements for fluid power systems and their components. Hydraulics

McCONNEL LIMITED operates an ISO 9001:2008 quality management system, certificate number: FM25970.

This system is continually assessed by the;

British Standards Institution (BSI), Beech House, Milton Keynes, MK14 6ES, UK BSI is accredited by UK Accreditation Service, accreditation number: UKAS 003. The EC declaration only applies if the machine stated above is used in accordance with the operating instructions.

Status: General Manager Date: May 2011

## **CONTENTS**

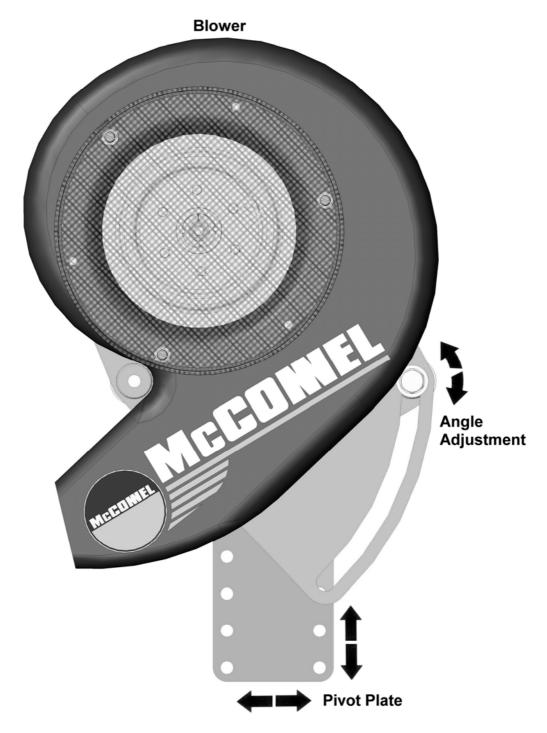
Operator Section	
Introduction	1
Safety Information	2
Fitting the Debris Blower	3
Tractor Oil Flow Rates	4
Hydraulic Connections	5
Operation	6
Parts Section	
Debris Blower Assemblies	8
Casing Modules	10
Motor Module	12
Manifold Assembly	13
Hydraulic Fitting Kit	14
Mounting Kits	15

#### INTRODUCTION

The McConnel 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 your Local Dealer or McConnel Limited for advice.

The debris blower is mounted on brackets attached to the hedge cutter and is powered by the tractors hydraulic system. Various mounting brackets are available to suit a wide range of McConnel machines.

The angle of the blower may be varied to suit specific applications and conditions.



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

#### SAFETY INFORMATION



In addition to the advice stated below the main safety implications surrounding the use of this machine relate to the safe use of the hedgecutter it is fitted to; it is therefore vital that all users have read and understood all safety information in the operation manual provided with that machine.

#### **General Safety Advice**

- ▲ Ensure the operator is, or has been, properly trained to use the machinery.
- ▲ Ensure all safety guards are fitted correctly, are undamaged and kept properly maintained.
- ▲ Ensure hydraulic pipes are carefully and correctly routed to avoid damage by chaffing, stretching or pinching and that they are held in place with the correct fittings.
- ▲ Check that the machine fittings and couplings are in good condition and tightened correctly.
- ▲ Never use a machine that is poorly maintained.
- ▲ Never use a machine if guards are missing or damaged.
- ▲ Never use a machine on which the hydraulic system shows signs of wear or damage.
- ▲ Never use a machine to perform a task it has not been designed to do.
- ▲ Never approach the machine whilst it is running.
- ▲ Never carry out maintenance on any part or component of a machine that is raised unless the part or component has been properly and substantially braced or supported.
- ▲ Never attempt to detect a hydraulic leak with your hand use a piece of cardboard.
- ▲ Never allow children near to, or play on, a tractor or machine under any circumstances.

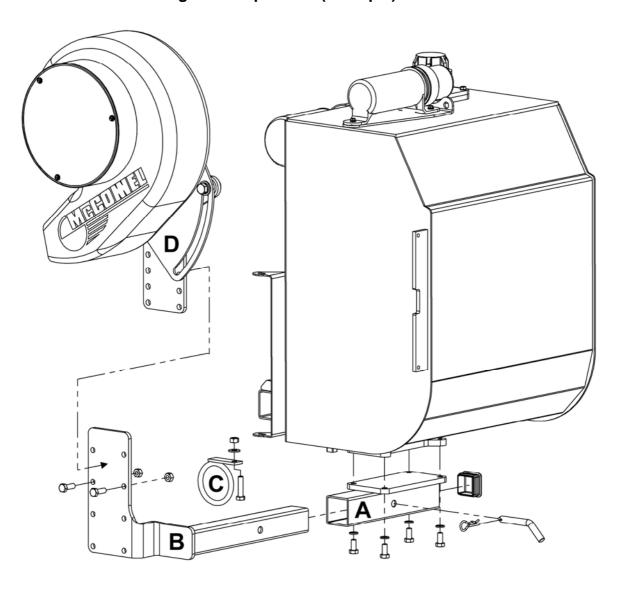
Although the information given here covers a wide range of safety subjects, it is impossible to predict every eventuality that can occur under differing circumstances whilst operating this machine. No advice given here can replace 'good common sense' and 'total awareness' at all times, but will go a long way towards the safe use of your McConnel machine.

### FITTING THE DEBRIS BLOWER

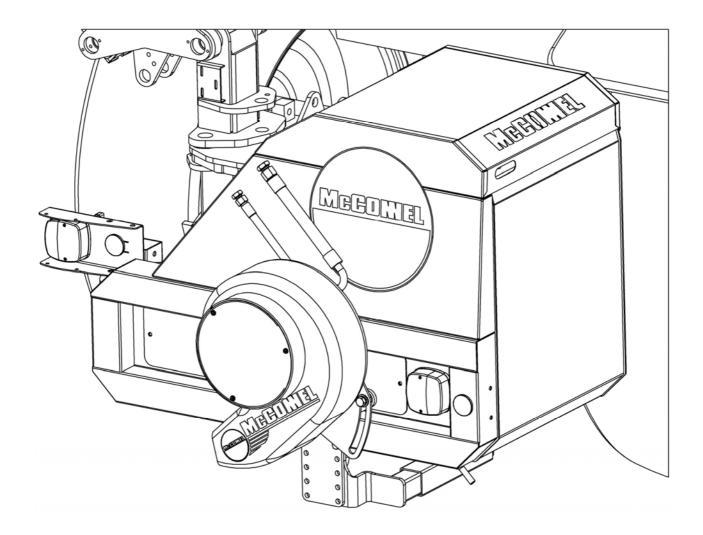
Debris Blowers are attached to the hedgecutter using a mounting kit specifically designed for the particular machine, a 'T' shaped plate which carries the blower unit is then bolted to the carrier bracket; both are equipped with a series of holes which allows vertical and side to side adjustment.

The blower carrier bracket, which is bolted to the 'T' plate, is furnished with a radial slot to allow the angle of the blower to be adjusted.

### **Debris Blower & Mounting Kit Components (Example)**



- A) Mounting Bracket
- B) Carrier Bracket
- C) Hose Ring
- D) Debris Blower



Note; when fitting is complete there should be 36mm ( $1\frac{1}{2}$ ") of clearance between the rear of the tank and the blower motor.

It is the aim to mount the blower as far as possible towards the outside edge of the tank to give maximum coverage of the road. The height to the centre of the blower from the ground should be approximately  $650 \, \text{mm}$  (26") whilst the angle is decided by operation experimentation.

These settings are recommendations for general flail operations; it is permissible to vary the mounting positions should special individual conditions require it.

#### **Tractor Oil Flow Rates**

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

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

Working a low flow debris blower on a high flow tractor will result in the same degree of blow but the oil will overheat.

### HYDRAULIC CONNECTIONS - Tractors with 'Open Centre' Hydraulics

#### T.I. Machines

For debris blowers that are fitted to T.I. machines the pressure supply hose is taken from the tractors 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 tractors transmission casing. The oil must be returned beneath the transmission casing oil level. Contact your dealer for the correct procedure for individual tractors.

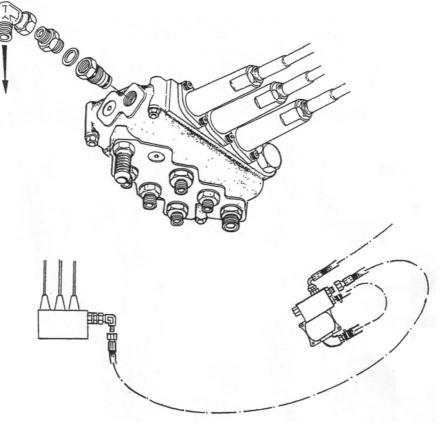
Note; where oil is returned to the transmission casing it may be necessary to extend the return hose.

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.

#### S.I. Machines

For debris blowers that are fitted to S.I machines the following modifications need to be carried out:

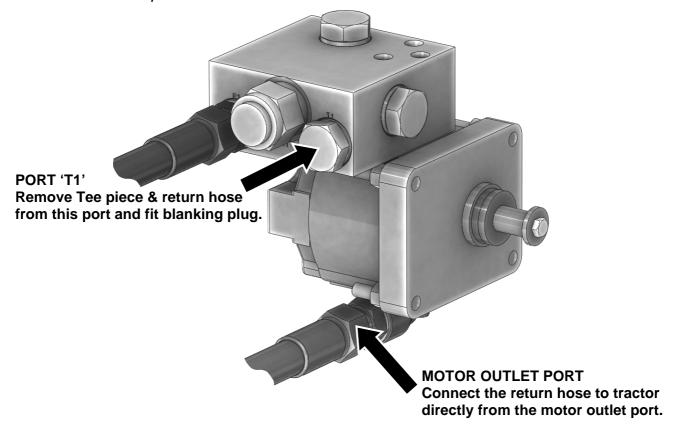


The plug from the end of the pressure gallery on the armhead control valve is removed and replaced with a pressure carry over adaptor, a union and a swivel elbow. The pressure supply to the debris blower is taken from this swivel elbow to the flow control valve block on the blower motor opposite the 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 debris blower is automatically engaged when the tractors auxiliary service is selected to power the arms, it does not have an individual control.

### HYDRAULIC CONNECTIONS - Tractors with 'Closed Centre' Hydraulics

For tractors with closed centre hydraulics the following modifications to both T.I and S.I. installations are required:



The Tee piece, the long return hose to the tractor and the short return hose from the motor outlet port should be removed from port 'T1'.

Port 'TI' should be fitted with a blanking plug as shown in the illustration above.

The long return hose is then connected directly to the motor outlet port, oil is then returned direct to the tractor's transmission as detailed previously.

### **OPERATION**

The Debris Blower incorporates a speed control valve to govern the fan maximum speed. Pumping excessive oil through the debris blower will not increase speed and only heat the oil. After connecting the debris blower it is suggested the following procedure is followed.

- Turn the flow control on the tractor's spool to minimum.
- Start the debris blower by engaging the spool valve.
- Set the engine to normal operating speed.
- Turn the flow control up, on the tractor's spool valve, until the debris blower fan reaches its maximum speed and set it there.

To stop the debris blower reduce the engine speed to idle and move the spool valve lever into float or neutral. Float is the best option as this allows the motor to run down smoothly.

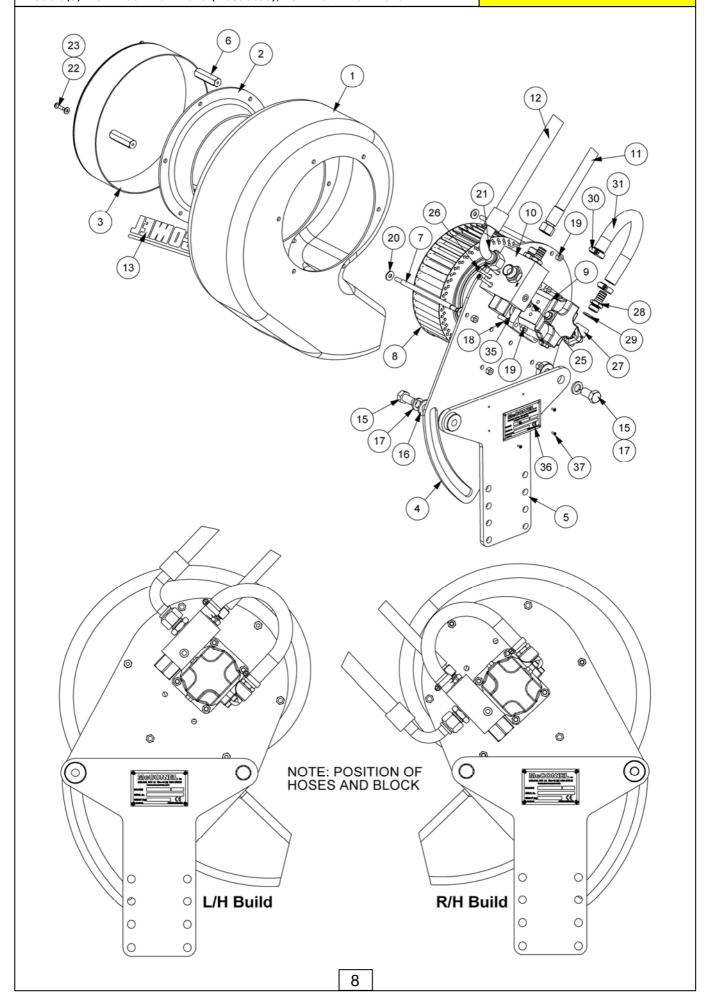


Parts Manual

### **DEBRIS BLOWER Mk2**

Module(s): 7319255 – L/H Build (illustrated), 7319254 – R/H Build





## DEBRIS BLOWER Mk2

Module(s): 7319255 – L/H Build (illustrated), 7319254 – R/H Build

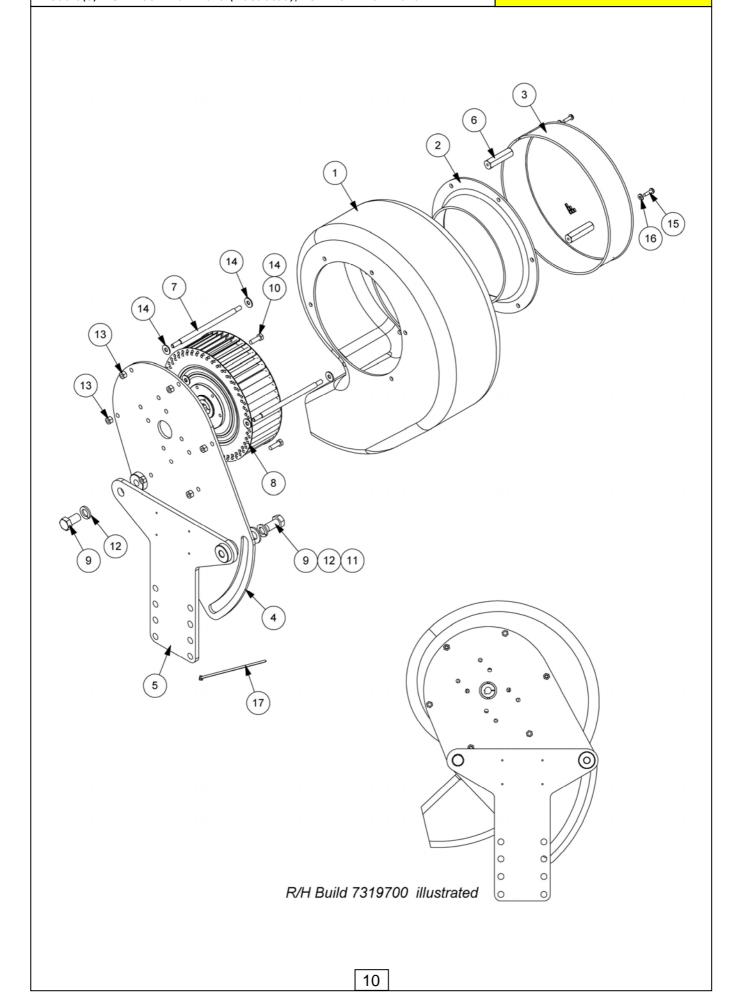


REF.	QTY.	PART NO. 7319254	DESCRIPTION DEBRIS BLOWER ASSEMBLY - R/H Build
		7319255	DEBRIS BLOWER ASSEMBLY - L/H Build
1	1	7319270	FAN CASING
2	1	7319271	SHROUD
3	1	7319272	MESH GUARD
4	1	7319273	BACKPLATE
5	1	7319274	PIVOT PLATE
6	3	7319004	GUARD SPACER
7	3	7319005	CASING SPACER
8	1	7319018	FAN ASSEMBLY - L/H Build
	1	7319019	FAN ASSEMBLY - R/H Build
9	1	8301317	HYDRAULIC MOTOR (8cc 250BAR)
10	1	8132259	FLOW CONTROL ASSEMBLY
11	1	8513024	HOSE - 1/2" BSP FS/FS x 120"
12	1	8537015	HOSE - 3/4" BSP FS/F90 SWEPT x 110"
13	1	1290317	DECAL - L/H Build
	1	1290318	DECAL - R/H Build
14	1	7319013	SPECIAL WASHER
15	2	9313067	SETSCREW
16	1	100106	FLAT WASHER
17	2	9100207	SPRING WASHER
18	4	9213074	BOLT
19	10	9143004	SELF-LOCKING NUT
20	9	9100104	FLAT WASHER
21	3	9313054	SETSCREW
22	3	9383043	SLOTTED SETSCREW
23	3	9100103	FLAT WASHER
24	1	9313033	SETSCREW
25	1	8600112	O RING
26	3	9343103	CAPSCREW
27	1	8301045	ELBOW C/W CAPSCREWS & O RING
28	1	8002059	RETURN CONNECTION
29	1	8650104	BONDED SEAL
30	2	904204	HOSE CLIP
31	1	8501100	HOSE (330mm)
32	1	05.433.06	PLUG
33	1	05.313.01	BLANKING PLUG
34	1	7135084	CABLE TIE
35	1	7319014	SPACER
36	1	1335246	SERIAL No. PLATE
37	4	7103230	POP RIVET

## **DEBRIS BLOWER CASING MODULES**

Module(s): 7319700 - R/H Build (illustrated), 7319701 - L/H Build



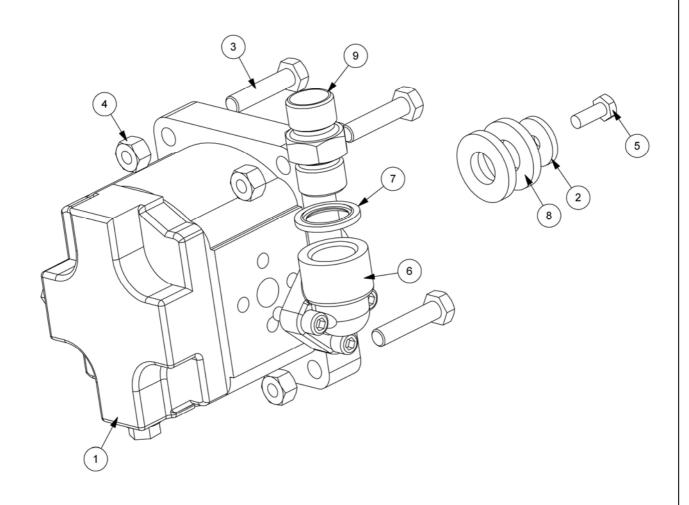


## **DEBRIS BLOWER CASING MODULES**

Module(s): 7319700 – R/H Build (illustrated), 7319701 – L/H Build



REF.	QTY.	PART NO. 7319700 7319701	DESCRIPTION BLOWER CASING MODULE - R/H Build BLOWER CASING MODULE - L/H Build
1	1	7319270	FAN CASING
2	1	7319271	SHROUD
3	1	7319272	MESH GUARD
4	1	7319273	BACKPLATE
5	1	7319274	PIVOT PLATE
6	3	7319004	GUARD SPACER
7	3	7319005	CASING SPACER
8	1	7319008	BLOWER WHEEL - R/H Build
	1	7319007	BLOWER WHEEL - L/H Build
9	2	9313067	SETSCREW
10	3	9313054	SETSCREW
11	1	0100106	FLAT WASHER
12	2	9100207	SPRING WASHER
13	6	9163004	NYLOC NUT
14	9	9100104	FLAT WASHER
15	3	9383043	SLOTTED SETSCREW
16	3	9100103	FLAT WASHER
17	1	7135084	CABLE TIE

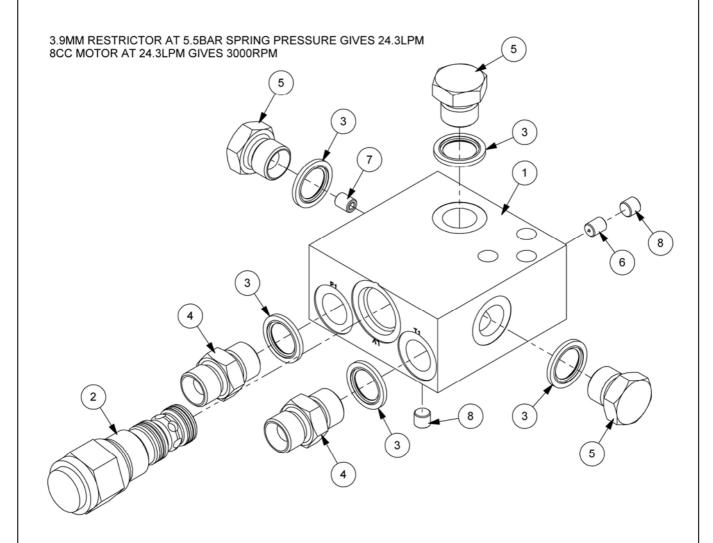


REF.	QTY.	PART NO.	DESCRIPTION
		7319702	MOTOR MODULE (Low Flow)
1	1	8301317	HYDRAULIC MOTOR (8cc 250BAR)
2	1	7319013	SPECIAL WASHER
3	4	9213074	BOLT
4	4	9163004	NYLOC NUT
5	1	9313033	SETSCREW
6	1	8301045	ELBOW C/W CAPSCREWS & O RING
7	1	8650104	BONDED SEAL
8	2	7319014	SPACER
9	1	8581110	ADAPTOR

## DEBRIS BLOWER MANIFOLD ASSEMBLY

Module(s): 8132315



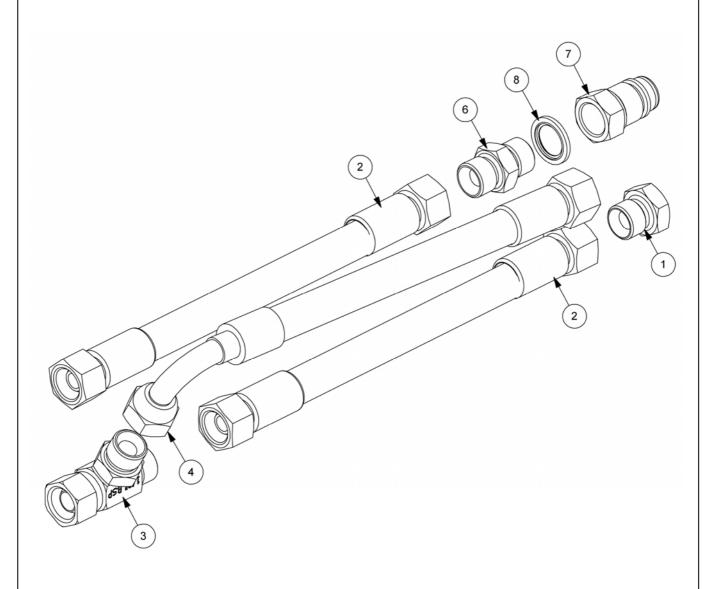


REF.	QTY.	PART NO.	DESCRIPTION
		8132315	MANIFOLD ASSEMBLY
1	1	8132312	DEBRIS BLOWER MANIFOLD
2	1	8104048	LOGIC VALVE
3	5	8650104	BONDED SEAL
4	2	8581110	ADAPTOR
5	3	05.433.06	PLUG WITH CONE
6	1	9363056	RESTRICTOR - 0.7mm
7	1	9363060	RESTRICTOR - 3.9mm
8	2	8582041	TAPER PLUG

# DEBRIS BLOWER HYDRAULIC FITTING KIT

Module(s): 7319704



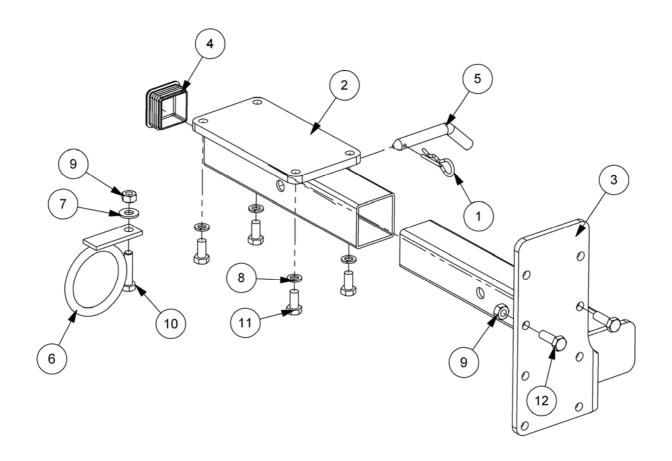


REF.	QTY.	PART NO.	DESCRIPTION
		7319704	HYDRAULIC FITTING KIT
1	1	05.433.06	PLUG WITH CONE
2	2	10.005.30	HOSE - 1/2"BSP FS/FS x 2000mm
3	1	8581296	TEE ADAPTOR
4	1	10.006.07	HOSE - 1/2" BSP FS/F90 x 350mm
6	1	8581110	ADAPTOR
7	1	8590074	QUICK RELEASE
8	1	8650104	BONDED SEAL

### DEBRIS BLOWER MOUNTING KIT

Module(s): 7150770 – L/H Build (illustrated), 7150771 – R/H Build





REF.	QTY.	PART No. 7150770 7150771	DESCRIPTION DEBRIS BLOWER MOUNTING KIT - L/H Machines DEBRIS BLOWER MOUNTING KIT - R/H Machines
1	1	0431105	SPRING COTTER
2	1	43492.01	BLOWER BRACKET
3	1	43492.05	BLOWER BRACKET - L/H Build
	1	43492.06	BLOWER BRACKET - R/H Build
4	1	7191108	PLASTIC PLUG
5	1	7192023	LEG PIN
6	1	7319282	HOSE RING
7	1	9100106	FLAT WASHER
8	4	9100206	SPRING WASHER
9	3	9143006	SELF-LOCKING NUT
10	1	9213106	BOLT
11	4	9313056	SETSCREW
12	2	9313076	SETSCREW

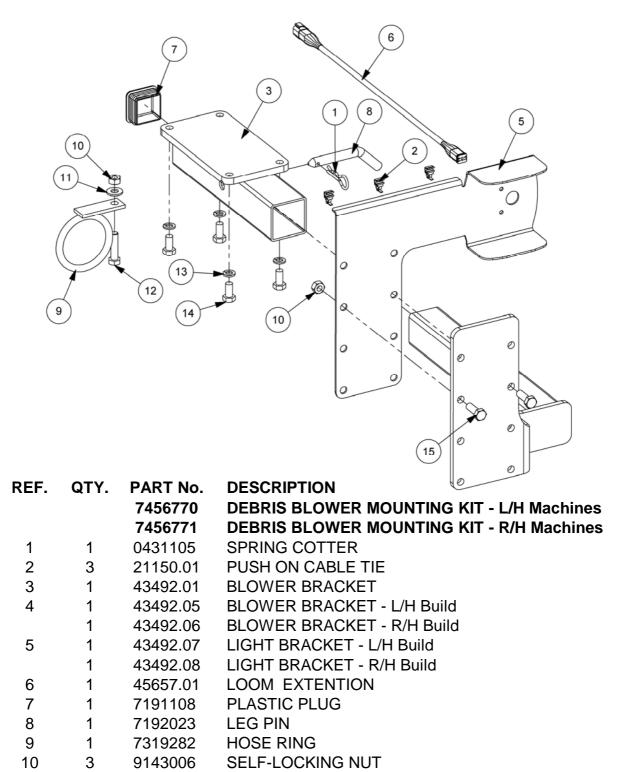
Suitable for the following machines:

PA32, PA41, PA45\*, PA47 Mk1\*, PA47 Mk2, PA48, PA50Mk1\*, PA50 Mk2, PA55/60 (\* without lightbars)

### DEBRIS BLOWER MOUNTING KIT

Module(s): 7456770 - L/H Build (illustrated), 7456771 - R/H Build





Suitable for the following machines:

PA45\*, PA47 Mk1\*, PA50 Mk1\*, PA52, PA59, PA550, PA650, PA8000 (\* with lightbars)

FLAT WASHER

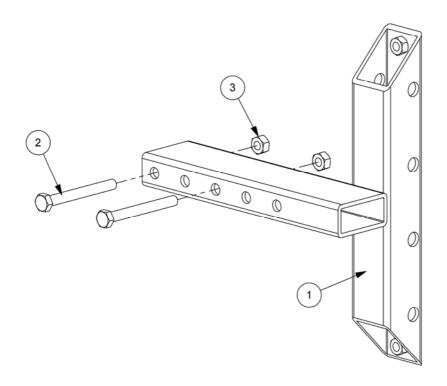
**SETSCREW** 

**SETSCREW** 

SPRING WASHER

**BOLT** 

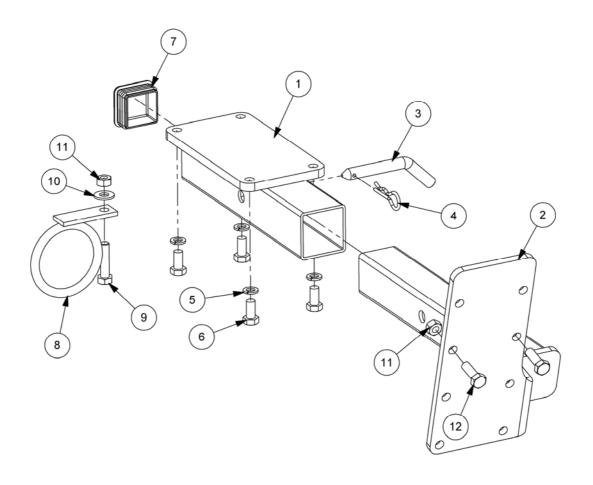




REF.	QTY.	PART No.	DESCRIPTION
		7650770	DEBRIS BLOWER MOUNTING KIT - L/H & R/H
1	1	7319276	LEG MOUNTING BRACKET
2	2	9213226	BOLT
3	2	9143006	SELF-LOCKING NUT

Suitable for the following machines: PA5000, PA6000, PA7000





REF.	QTY.	PART No. 7756770 7756771	DESCRIPTION DEBRIS BLOWER MOUNTING KIT - L/H Machines DEBRIS BLOWER MOUNTING KIT - R/H Machines
1	1	43492.01	BLOWER BRACKET
2	1	43492.03	BLOWER BRACKET - L/H Build
	1	43492.04	BLOWER BRACKET - R/H Build
3	1	7192023	LEG PIN
4	1	0431105	SPRING COTTER
5	4	9100206	SPRING WASHER
6	4	9313056	SETSCREW
7	1	7191108	PLASTIC PLUG
8	1	7319282	HOSE RING
9	1	9213106	BOLT
10	1	9100106	FLAT WASHER
11	3	9143006	SELF-LOCKING NUT
12	2	9313076	SETSCREW

Suitable for the following machines: PA5600(M), PA6400(M), PA6500T, PA7700T.

