

# AgriQuip

AGRICULTURAL IMPLEMENT WHOLESALERS



## INSTRUCTIONS AND MAINTENANCE HANDBOOK

### PTO POWERED GEN SETS

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## **1) SAFETY REGULATIONS**

Read the instructions concerning the generators controllers carefully in order to intervene at the right moment if it is necessary.

Do not allow people to use it without previous training.

Do not let children or animals approach the generator when it is working.

Do not touch the generator with wet hands, it could provoke electric shocks if it is used in the wrong way.

## 2) TECHNICAL DATA (3000 rpm)

SPECIFICATIONS	GP6.5TR	GP10TR	GP12.5TR	GP16TR	GP20TR	GP25TR	GP30TR
CODE	00801	00802	00803	00804	00805	00806	00807
A.C. OUTPUT    KVA    380V 50Hz—3~	6.5	10	12.5	16	20	25	30
A.C. OUTPUT    KW    380V 50Hz—3~	5.2	8	10	12.8	16	20	25.2
A.C. OUTPUT    KW    220V 50Hz—1~	1.7	2.6	3.3	4.2	5.3	6.6	8.4
POWER FACTOR	0.8	0.8	0.8	0.8	0.8	0.8	0.8
ALTERNATOR	SYNCHRONOUS						
R.P.M.	3000						
GEARBOX	CAR 3P	CAR 3P	CAR 3P	M5	M6	M6	M7
RATIO	1 : 7						
R.P.M.	430						
INLET POWER (HP)	20	20	35	45	45	55	60

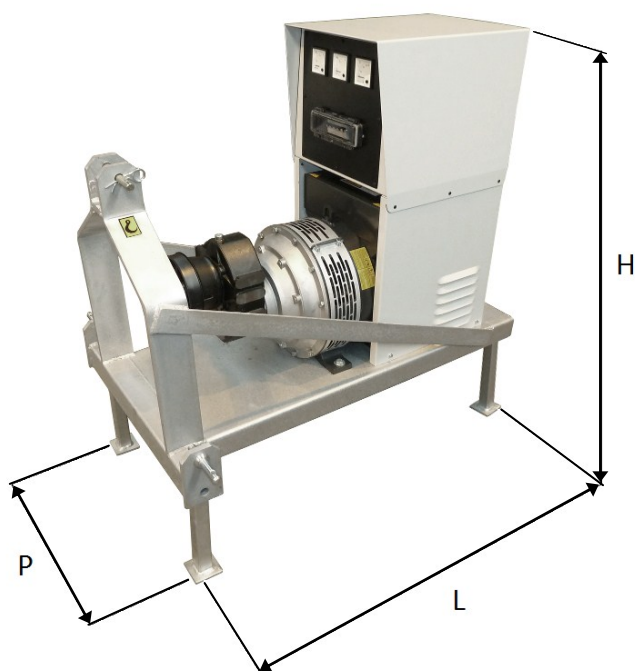
## 2) TECHNICAL DATA (1500 rpm)

SPECIFICATIONS			GP20 TR/S	GP30 TR/S	GP40 TR/S	GP50 TR/S	GP60 TR/S
CODE			00808	00809	00810	00813	00811
A.C. OUTPUT	KVA	380V 50Hz—3~	20	30	40	50	60
A.C. OUTPUT	KW	380V 50Hz—3~	16	24	32	40	48
A.C. OUTPUT	KW	220V 50Hz—1~	5.3	8	10.6	13.3	16
POWER FACTOR			0.8	0.8	0.8	0.8	0.8
ALTERNATOR			SYNCHRONOUS				
R.P.M.			1500				
GEARBOX			MGE5	MGE7			M10
RATIO			1 : 3.5				1 : 3
R.P.M.			430				500
INLET POWER (HP)			50	70	85	110	120

SPECIFICATIONS			GP70 TR/S	GP85 TR/S	GP85 TR/SF	GP105 TR/S	GP105 TR/SF
CODE			00812	00815	00814	00816	00827
A.C. OUTPUT	KVA	380V 50Hz—3~	70	85	85	105	105
A.C. OUTPUT	KW	380V 50Hz—3~	56	68	68	84	84
A.C. OUTPUT	KW	220V 50Hz—1~	18.6	22.6	22.6	28	28
POWER FACTOR			0.8	0.8	0.8	0.8	0.8
ALTERNATOR			SYNCHRONOUS				
R.P.M.			1500				
GEARBOX			M10	MGE9	-	MGE9	-
RATIO			1 : 3	1 : 3.5	1 : 1.8	1 : 3.5	1 : 1.8
R.P.M.			500	420	840	420	840
INLET POWER (HP)			130	150	150	170	170

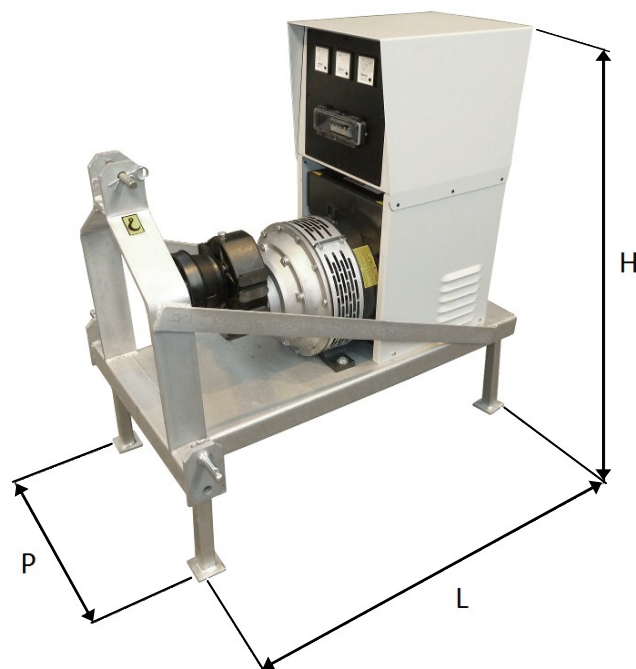
### 3) DIMENSIONS AND WEIGHT (3000 rpm)

	LENGTH (L) mm.	WIDTH (P) mm	HEIGHT (H) mm	WEIGHT Kg.
<b>GP 6.5 TR</b>	830	615	955	93
<b>GP 10 TR</b>	830	615	955	113
<b>GP 12.5 TR</b>	830	615	955	128
<b>GP 16 TR</b>	830	615	955	138
<b>GP 20 TR</b>	830	615	955	139
<b>GP 25 TR</b>	980	625	1060	163
<b>GP 30 TR</b>	980	625	1060	175



### 3) DIMENSIONS AND WEIGHT (1500 rpm)

	LENGTH (L) mm.	WIDTH (P) mm	HEIGHT (H) mm	WEIGHT Kg.
<b>GP 20 TR/S</b>	980	625	1060	175
<b>GP 30 TR/S</b>	980	625	1060	217
<b>GP 40 TR/S</b>	1265	730	1300	357
<b>GP 50 TR/S</b>	1265	730	1300	395
<b>GP 60 TR/S</b>	1265	730	1300	438
<b>GP 70 TR/S</b>	1265	730	1300	454
<b>GP 85 TR/S</b>	1265	730	1620	506
<b>GP 85 TR/SF</b>	1265	730	1620	506
<b>GP 105 TR/S</b>	1265	730	1620	572
<b>GP 105 TR/SF</b>	1265	730	1620	572





## 4) PTO SHAFT INSTALLATION AND PRELIMINARY CHECKS

The generator gearbox features as standard 1-3/8" diameter 6 spline drive shaft.

Connect power take off (PTO) shaft guard onto gearbox shaft.

Keep the generator and the tractor shafts parallel as much as possible.

### **DANGER**

Do not start the generator until the PTO shaft guard has been properly installed. Serious injury can result from using the generator without the shaft guard in place.

Before starting the gen set, check the gearbox oil level—see "Periodic Maintenance" section.

If necessary, add the recommended oil to the specific level as follows:

- a) Check the oil level at the sight glass.
- b) If the oil level is low, remove the breather and add SAE 90 GEAR LUBE oil through breather opening until oil is at the right level.
- c) When the gearbox oil level is correct, install and tighten the oil level breather.

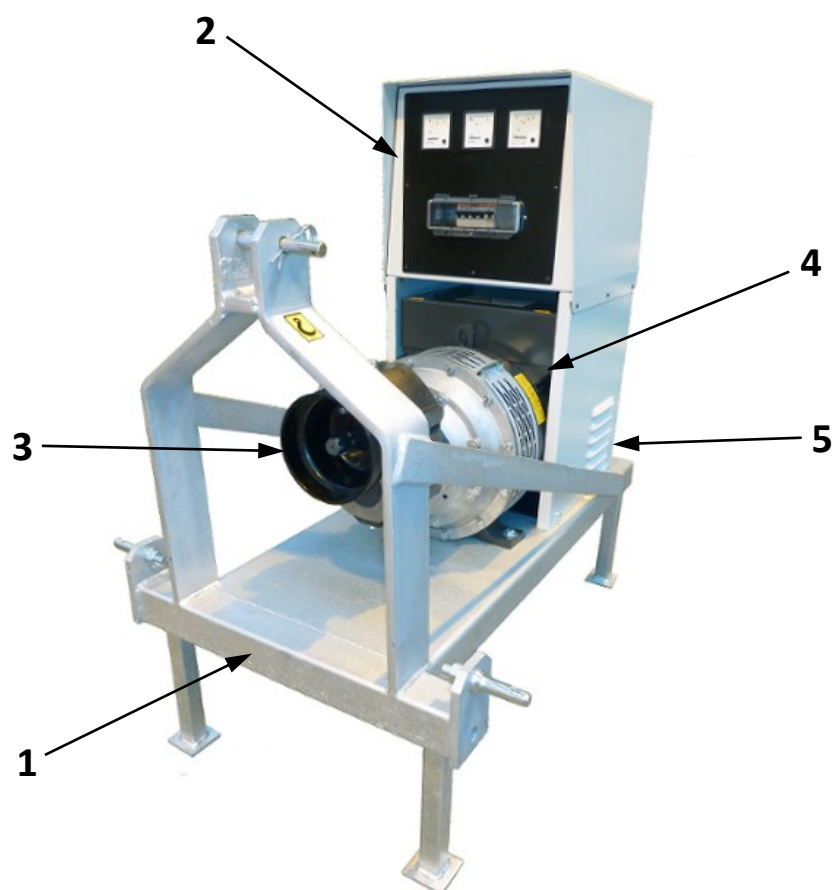
**Caution!** Operating the generator with low gearbox oil level may cause gearbox failure.



## 5) COMPONENT SPECIFICATION

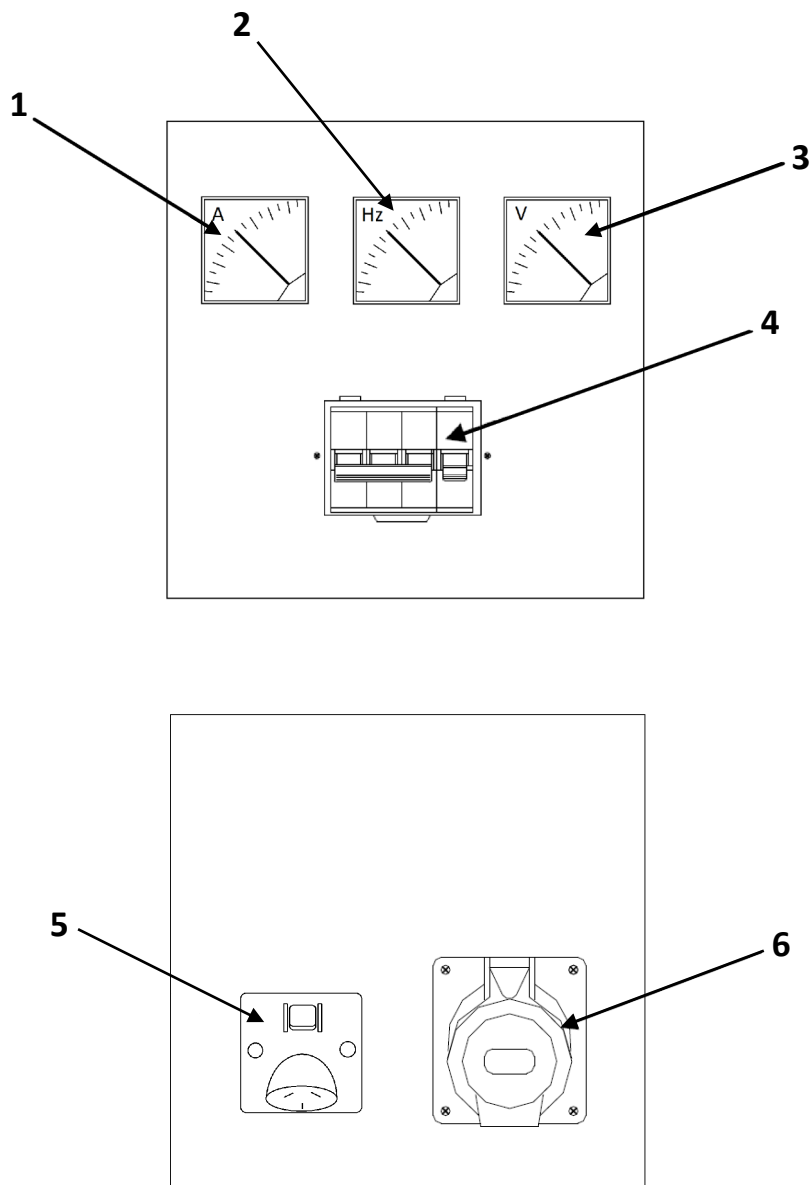
### 5.1) Machine specification

- 1) Frame
- 2) Dashboard
- 3) Gearbox
- 4) Alternator
- 5) Ground terminal



## 5.2) Dashboard

- 1) Ammeter
- 2) Frequency Meter
- 3) Voltmeter
- 4) Circuit breaker
- 5) Single-phase socket
- 6) Three-phase socket



## 6) HOW TO USE THE GENERATOR

### 6.1) PTO connection

Connect the PTO shaft to the tractor PTO drive system and to the generator's gearbox shaft. The shaft must be fully engaged with the tractor and the generator shaft. The generator and tractor shafts must be parallel as much as possible. Maintain PTO shaft joint angles equal and as small as possible.

### DANGER

Do not operate the generator unless it is securely connected. With an incorrect connection, the generator may tip over forcibly as soon as electrical loads are applied.

### 6.2) Starting the generator

Follow the steps below to start the generator:

- a– On the front panel of the generator, set the main circuit breaker to the OFF or OPEN position.
- b– Plug in the desired electrical loads.
- c– Start the tractor engine and engage the power takeoff (PTO) drive.
- d– Increase the tractor engine RPM slowly until the voltmeter on the generator panel indicates the right value (395-415 volts and 50 hertz).
- e– Set the generator main circuit breaker to the ON or CLOSED position. Now turn on the electrical load you want to power.
- f– Check the voltmeter reading on the panel. If voltage has dropped below the right value, increase the RPM of the tractor engine just enough to return to the correct voltage.

### WARNING

Never start (or stop) the generator with the main circuit breaker set to ON or CLOSED position. Connect electrical loads to the generator output when the voltmeter indicates the correct value (i.e. 400 V and 50 hertz). This voltmeter reading means that the generator's A.C. output frequency and voltage is correct. Some electrical loads may be damaged by incorrect voltage and/or frequency.

### 6.3) Turning off the generator

Follow these steps:

- a– Turn off electrical loads.
- b– Set the generator main circuit breaker to the OFF or OPEN position.
- c– Let the generator and tractor engine run for a few minutes at no-load to cool internal parts.
- d– Shut off the tractor engine.
- e– Remove the power take-off (PTO) shaft from generator and tractor.

We suggest that an electrician carries out the initial hook-up, staff training and a motor rotation check.

## 7) MAINTENANCE

### 7.1) Generator cleaning

Keep the generator clean and free of foreign material. Do not use forceful spray of water to clean the generator. Water can penetrate the generator stator and rotor windings, which could reduce insulation resistance and cause possible failure.

### 7.2) Gearbox oil level check

Check gearbox oil level before you first use it. Thereafter check this level every 10 hours of operation or once weekly, whichever comes first.

### 7.3) Gearbox oil change

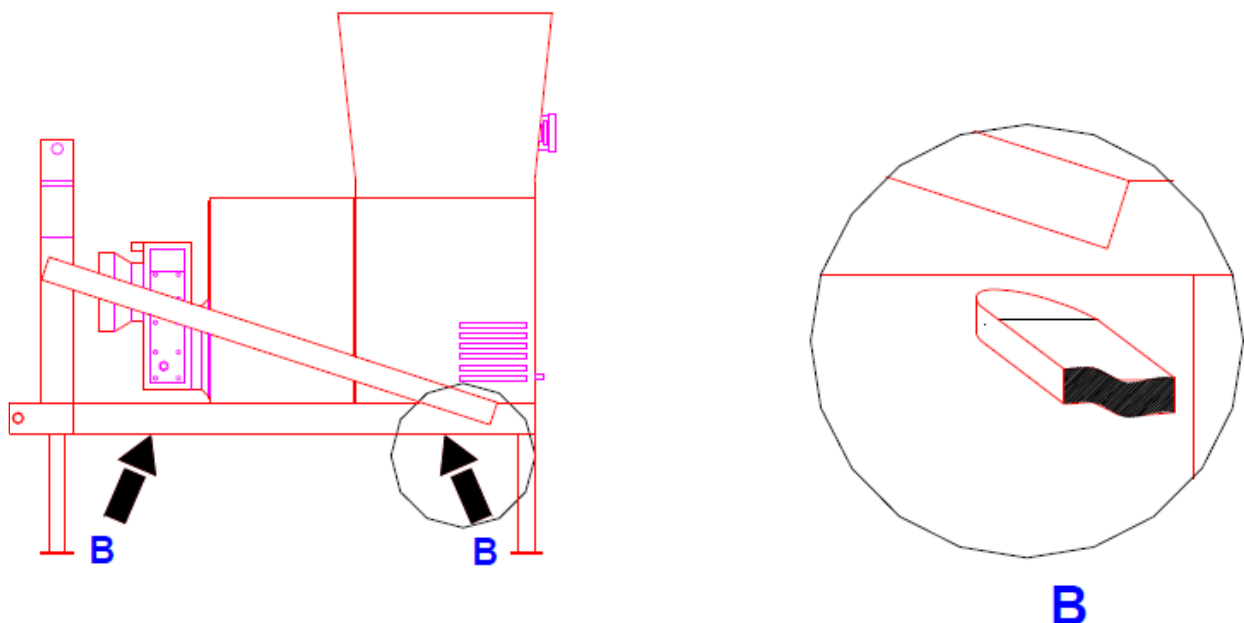
Change gearbox oil after the first 25 hours of operation. Thereafter change gearbox oil every 250 operating hours or every six months, whichever comes first.

## 8) HANDLING AND TRANSPORT

### 8.1) Loading/unloading instructions

By loading and unloading it is meant all the operations necessary at the delivery of a gen set or whenever a gen set needs to be installed into a place different from the original one.

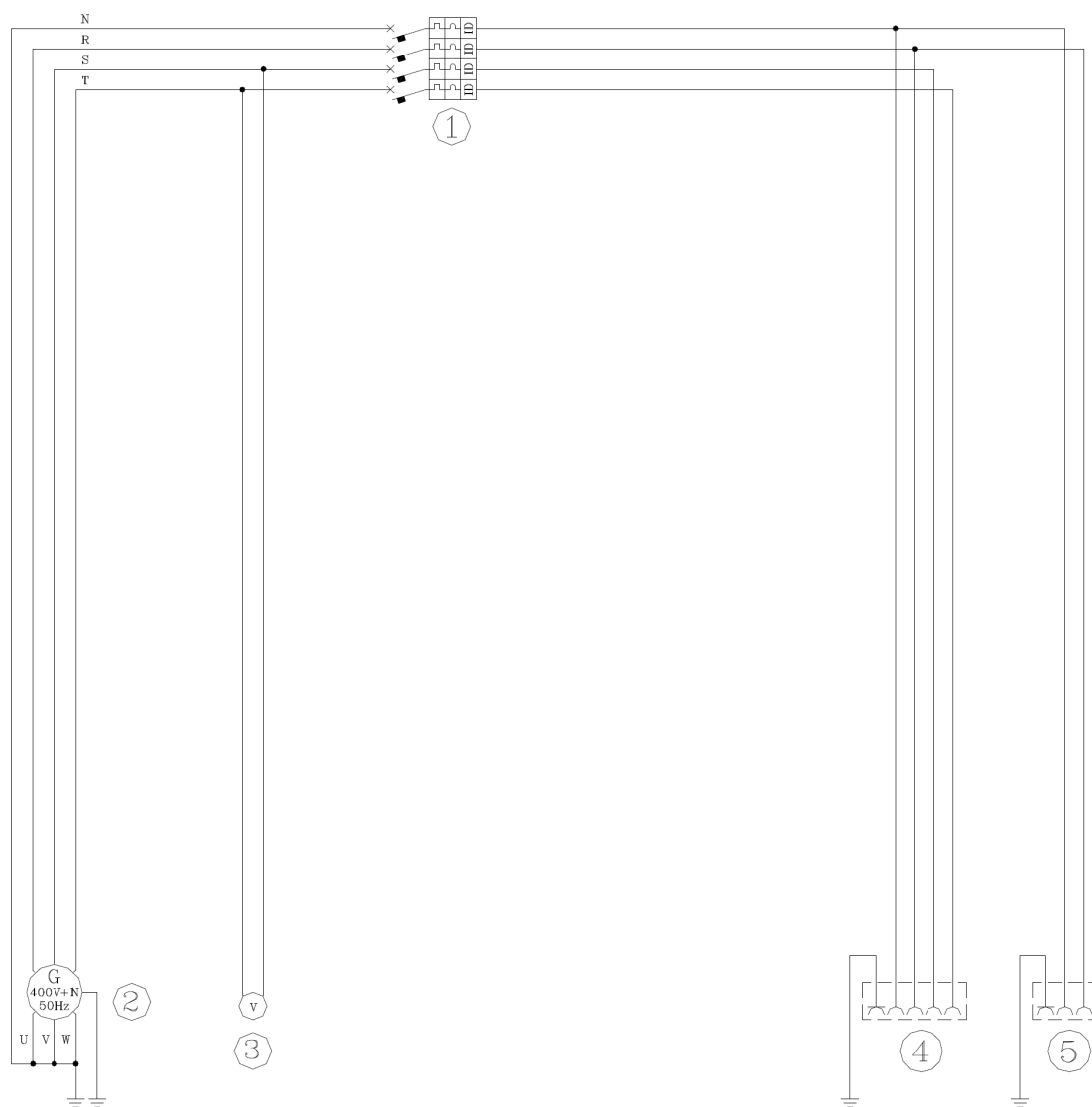
#### 8.1.1) Unloading by forklift truck



## 9) WIRING DIAGRAM

PTO POWERED GEN SETS

400 V THREE PHASE



### DESCRIPTION

- 1) Magnetothermic
- 2) Alternator
- 3) Voltmeter
- 4) Three phase socket (3P+N+E)
- 5) Single phase socket (2P+E)

## 10) GEN SET WARRANTY

### Warranty terms

1. All Agriquip gen sets are covered with a comprehensive 12 month warranty against faulty materials and workmanship provided that:
  - (i) The gen set is operated in normal use as set out in the parts and operating manual;
  - (ii) The gen set is correctly serviced and maintained as specified in this operating manual;
  - (iii) The gen set is worked within its stated capacity (i.e. horsepower limit and P.T.O. speed);
  - (iv) The gen set is not subject to any modifications, including non-genuine parts, or defects resulting from repair or alteration performed by anybody other than authorised Agriquip dealers;
  - (v) Agriquip is in receipt of duly signed pre-delivery and installation certificate;
  - (vi) The gen set has not been damaged from improper use or by the use of non-genuine parts.
2. Agriquip guarantee, subject to the working conditions mentioned above, that should any defect in workmanship or materials occur in the gen set, within 12 months from the date of original purchase, we will repair or, at our option, replace the defective goods without making any charge for labour or materials. We will also allow provision within our terms and conditions a labour charge of \$35 (+GST) where repairs are to be carried out by an authorised dealer.
3. Machines sold into the hire industry shall be void of warranty.
4. The following items are not covered by Agriquip warranty:
  - (i) Power take-off shafts;
  - (ii) Freight costs;
  - (iii) Loss of income from the machine due to warranty fault;
  - (iv) Use of non-genuine parts to re-instate the machine.
5. Definition of Warranty Period

The warranty expiration date is determined by calendar months from date of delivery to the first owner/user and is not affected or prolonged because the machine is idle for any part of the warranty period.
6. Agriquip Warranty Procedure:
  - (i) Phone Agriquip and discuss problem before attempting any repair;
  - (ii) Any parts required must be supplied by Agriquip unless authorised otherwise by Agriquip;
  - (iii) Work can only be carried out after authorisation from Agriquip.





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