WORK INSTRUCTION/FAULT FINDING

DOCUMENT	**GAR5 Compressor Update (oil in air filter fix)**
MACHINE/ GROUP	**SIMBA – L-M-E MT1613 9005 00**
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DOCUMENT No.	**MTU10197**
DATE	**19.2.2024**

Background

The check valve located below the scavenge hose (circled) prevents scavenge oil from flooding back to the screw inlet / air cleaner on shut down. When this occurs, compressor oil is ejected from of the compressor air outlet.

The problem is due to the check valve being poorly supported allowing it to dislocate from its spring and seat. This causes the check valve to kick sideways in the bore allowing reverse flow of air/oil. The modified check spool supplied by Maintenance Technique prevents this happening.

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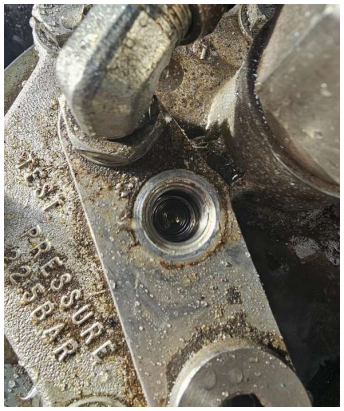
Recommended Procedure

Changing the Check Valve/Spool

1. Ensure the compressor is isolated and air is discharged.
2. Remove the scavenge hose and JIC adapter located in the top center of the oil separator.
3. Remove the spring and spool from the bore.
4. Transfer the o ring and spring to the new spool MT1613 9005 00. Install the spool O-ring down.
5. Fit the JIC adapter and hose back to the separator scavenge outlet. Ensure this hose connects to the bottom of the GAR screw.



General Fault Finding & Diagnosis

If the compressor still produces oil to the inlet or does not function correctly see below instructions for diagnosing the problem.

Compressor Will Not Load

1A. The minimum pressure valve (the large Stainless Steel nut on top of the separator) must function properly to build 3bar of pilot pressure. This enables the initial load cycle of the compressor via the unloader valve. Disassemble the check completely to inspect the main spring and spool which is located behind the pilot spring and spool.

1B. To test the Unloader Valve**,** unscrew the din plug from the unloader coil with the compressor running. Fit the din plug back onto the coil. The compressor should load and unload.

1C. When checking for a broken unloader spring, remove the air cleaner and watch that the unloader shaft moves up approx. 10mm to load, and down 10mm to unload. A broken unloader spring can cause partial load/ unload and oil to the filter.

Reduced Air Flow from Compressor

2A. Check the compressor speed (non-adjustable on Simba). It is common for pump or motor wear to reduce compressor speed (and output) to a point that pressure will no longer reach the unload spec of 3000(min) to 4000 rpm. The pump or motor could be damaged slowing compressor speed and output.

2B. Check the separator oil level is correct. Low oil levels reduce compressor efficiency.

2C. Check that the air intake is not blocked or restricted by dirt build up.

2D. Remove the air cleaner to check that the unloader is opening fully (see 1C)

2E. Check for leaks in the machines hydraulic system.

2F. Check the screw is not damaged by removing the unloader and inspecting the screw surface condition. Inspect for scoring or surface damage caused by dirt ingress and/or wear that may be reducing efficiency.

Compressor Will Not Unload.

3A. If the unloading solenoid is fitted 180deg rotated, the compressor will be forced to load constantly. The A stamped into the body must point to the air cleaner.

3B. The unloader is damaged (see 1B and 1C).

3C. Check the RCS settings. If the compressor fails to reach the compressor unload setting, the compressor will not unload. (see section 2 – Reduced Air Flow from Compressor)

Compressor Overheats

4A. Check that the compressor shut down needle is set to 115'C.

4B. Test with a digital temp gun that the screw temperature corresponds to the gauge reading.

4C. Check that oil level is correct (full to the separator filler point) and that the gauge is functioning.

4D. Check the screw condition (ref to 2F).

Related Part Numbers

Hydraulic Motor	**MT3177 3085 00**	**Axial Piston Motor**
Hydraulic Pump	**MT3217 8822 37**	**HE Pump for +10% flow increase**
Compressor Element	**MT1616 6575 93**	**Compressor Screw Unit**
Gauge Temp	**MT1089 0376 46**	**Temp and Shut Down**
Gauge Level	**MT1913 9020 00**	**Oil Level Gauge**
Separator	**MT1613 9014 00**	**Separator Element**
Belt	**MT5112 3083 78**	**Drive Belt (x2)**
COMPRESSOR GAR 5 (SERVICE EXCHANGE)	**MT8152 0059 58SX**	**Complete Unit**