



<b>Object:-</b>	<b>Allen S47</b>
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<b>Object ID:-</b>	1625	<b>Accession No:-</b>	IF:2006:015
<b>Date:-</b>	1934-01-01	<b>Works Number:-</b>	
<b>Category:-</b>	Engine		
<b>Collection:-</b>	W.H. Allen Heritage		
<b>Manufacturer:-</b>	W. H. Allen Sons and Co. Ltd		
<b>Made In:-</b>	Queens Engineering Works, Bedford		

<b>Description:-</b>
3 Cylinder vertical four-stroke diesel engine originally driving a multi-stage pump through a speed multiplier

<b>Location:-</b>	
<b>Status:-</b>	On Display
<b>Condition:-</b>	Running



### History:-

2005-03-07

Site inspection by Keith Farley and Paul Evans meeting Peter Stephenson from the Water Authority.

Agreement to take one engine and ancillaries.

2005-04-18

On-site, Keith Farley and Paul Evans, removed all fragile components such as pressure gauges and oilers.

2005-05-18

Engine No 5 delivered to the museum in part dismantled state.

Placed in storage in main yard.

2010-01-01

Crankcase installed in the courtyard (Hall 5). Crank installed and block fitted.

2011-10-16

First full public run at the 2011 End of Season Crank-Up. Water system incomplete so engine was run with the block filled.

Ran for 40 minutes total on the Saturday and 2 hours on the Sunday, no problems.

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**Conservation/Maintenance:-**

2006-02-04

Initial Check

Engine arrived stripped with most smaller components boxed. Crankshaft in good condition, one big-end bearing showed signs of break up.

2009-04-18

Strip and Inspection

Crank removed and found to be in good order. Number 3 big-end U/S with a large piece broken out of the top half.

Pistons removed, bores 1 and 2 in good condition having been chromed at some point. Number 3 liner in poor condition. All three pistons have stuck rings with several broken. All three gudgeon pins require refurbishment.

2010-02-19

Installation

Block/crank/flywheel/outrigger back together. Deflection less than 1 thou all round.

2011-07-23

Ongoing work

Remaining two flywheel bolts fitted and injection pumps set (by eye)

Knock on No 3 so big ends checked.

Big End Clearances

Cylinder	Initial	Current
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1	0.004"	0.004"
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2	0.004"	0.004"
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3	0.009"	0.004"
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2011-10-30

Further Work

Inlet and exhaust valves removed and ground, new water seals fitted on exhaust valves.

General sorting of remaining small jobs, missing studs, fuel leak on manifold.

Still needed, investigation of possible leak in oil cooler following fresh water found in sump.

2012-01-03

End of Season/Victorian Night/NYD 2011

Cooling system pressurised with no leaks. Engine ran for 2.5 hours at Victorian Night. Ran for 5 hours at New



Years Day event with no problems other than hunting on the governor. 5 gallons of fuel consumed.

2013-06-08

Circ Pump Failure

Circulating pump failed so the engine is currently U/S.

