



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

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

Location:-	Installed in Hall 1
Status:-	On Display
Condition:-	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.

src=http://www.internalfire.com/gallery2/main.php?g2_view=core.DownloadItem&g2_itemId=20199&g2_serialNumber=2>



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.

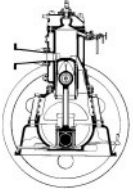
General sorting of remaining small jobs, missing studs, fuel leak on manifold.

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

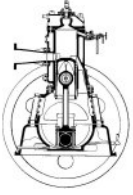


Years Day event with no problems other than hunting on the governor. 5 gallons of fuel consumed.

2013-06-08

Circ Pump Failure

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





Object:-	Allen Air Bottle
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Object ID:-	1697	Accession No:-	IF:2006:078
Date:-	1934-01-23	Works Number:-	1
Category:-	Ancillaries		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Queens Engineering Works, Bedford, England		

Description:-
Air bottle from Leatherhead S47s

Location:-	Courtyard
Status:-	Working
Condition:-	Unrestored



Object:-	Allen Air Bottle
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Object ID:-	1698	Accession No:-	IF:2006:079
Date:-	1934-01-23	Works Number:-	2
Category:-	Ancillaries		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Queens Engineering Works, Bedford, England		

Description:-
Air bottle from Leatherhead S47s

Location:-	Courtyard
Status:-	Working
Condition:-	Unrestored



Object:-	Allen Air Bottle
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Object ID:-	1699	Accession No:-	IF:2006:080
Date:-	1934-01-23	Works Number:-	3
Category:-	Ancillaries		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Queens Engineering Works, Bedford, England		

Description:-
Air bottle from Leatherhead S47s

Location:-	Courtyard
Status:-	Working
Condition:-	Unrestored



Object:-	Allen Air Bottle
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Object ID:-	1700	Accession No:-	IF:2006:081
Date:-	1934-01-23	Works Number:-	4
Category:-	Ancillaries		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Queens Engineering Works, Bedford, England		

Description:-
Air bottle from Leatherhead S47s

Location:-	Courtyard
Status:-	Working
Condition:-	Unrestored



Object:-	Allen Air Bottle
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Object ID:-	1701	Accession No:-	IF:2006:082
Date:-	1934-01-23	Works Number:-	5
Category:-	Ancillaries		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Queens Engineering Works, Bedford, England		

Description:-
Air bottle from Leatherhead S47s

Location:-	Courtyard
Status:-	Working
Condition:-	Unrestored



Object:-	Allen Air Bottle
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Object ID:-	1702	Accession No:-	IF:2006:083
Date:-	1934-01-23	Works Number:-	6
Category:-	Ancillaries		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Queens Engineering Works, Bedford, England		

Description:-
Air bottle from Leatherhead S47s

Location:-	Courtyard
Status:-	Working
Condition:-	Unrestored

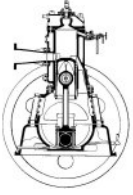


Object:-	Allen Air Bottle
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Object ID:-	1703	Accession No:-	IF:2006:084
Date:-	1934-01-23	Works Number:-	7
Category:-	Ancillaries		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Queens Engineering Works, Bedford, England		

Description:-
Air bottle from Leatherhead S47s

Location:-	Courtyard
Status:-	Working
Condition:-	Unrestored



Object:-	Allen Air Bottle
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Object ID:-	1704	Accession No:-	IF:2006:085
Date:-	1934-01-23	Works Number:-	8
Category:-	Ancillaries		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Queens Engineering Works, Bedford, England		

Description:-
Air bottle from Leatherhead S47s

Location:-	Courtyard
Status:-	Working
Condition:-	Unrestored



Object:-	Allen S47 Valve Spring Compressor
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Object ID:-	2041	Accession No:-	IF:2007:284
Date:-	1934-04-22	Works Number:-	
Category:-	Tools		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, UK		

Description:-
Floor mounted lever compressor from Leatherhead Pumping Station

Status:-	
Condition:-	Unknown



Object:-	S47 Piston Guide
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Object ID:-	3558	Accession No:-	IF:2010:168
Date:-	1934-01-01	Works Number:-	
Category:-	Tools		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		

Description:-
Piston fitting guide from the S47s at Leatherhead

Status:-	Not on display
Condition:-	Good



Object:-	Part of Fuel Tank Room - Leatherhead New Works		
Object ID:-	3663	Accession No:-	IF:2012:014
Date:-	1934-01-01	Works Number:-	K102450A
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	Arrangement of Water Tank Room - Leatherhead New Works		
Object ID:-	3664	Accession No:-	IF:2012:015
Date:-	1934-01-01	Works Number:-	K102450B
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	Arrangement of Bore Hole Pump Pipes - Leatherhead New Works		
Object ID:-	3665	Accession No:-	IF:2012:016
Date:-	1934-01-01	Works Number:-	K102450C
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	Force Pump Drawings (part) - Leatherhead New Works		
Object ID:-	3666	Accession No:-	IF:2012:017
Date:-	1934-01-01	Works Number:-	K102450D
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	Arrangement of Auxiliaries - 3S47 Leatherhead New Works		
Object ID:-	3667	Accession No:-	IF:2012:018
Date:-	1934-01-01	Works Number:-	K102450E
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	Cooling Pipework Drawing - 3S47 Leatherhead New Works		
Object ID:-	3668	Accession No:-	IF:2012:019
Date:-	1934-01-01	Works Number:-	K102450F
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	Bedplate Drawing - 3S47		
Object ID:-	3669	Accession No:-	IF:2012:020
Date:-	1934-01-01	Works Number:-	K89393
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	Foundation Drawing - 3S47 Leatherhead New Works		
Object ID:-	3670	Accession No:-	IF:2012:021
Date:-	1934-01-01	Works Number:-	K91582-2
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	General Arrangement Drawing - 3S47 - Leatherhead New Works		
Object ID:-	3671	Accession No:-	IF:2012:022
Date:-	1934-01-01	Works Number:-	K93368
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	General Arrangement of Pumping Station - Leatherhead New Works		
Object ID:-	3675	Accession No:-	IF:2012:026
Date:-	1934-01-01	Works Number:-	K45674X
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	East Surrey Water Company		
Made In:-	Leatherhead, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	Front View - Leatherhead New Works		
Object ID:-	3676	Accession No:-	IF:2012:027
Date:-	1934-01-01	Works Number:-	1604
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	East Surrey Water Company		
Made In:-	Leatherhead, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	Extension to Pumphouse - Leatherhead New Works		
Object ID:-	3677	Accession No:-	IF:2012:028
Date:-	1939-01-01	Works Number:-	2030
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	East Surrey Water Company		
Made In:-	Leatherhead, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	View Through Water Tank Room End of House - Leatherhead New Works		
Object ID:-	3678	Accession No:-	IF:2012:029
Date:-	1934-01-01	Works Number:-	K93180-1
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	View Through Silencer Chamber & Centre of House - Leatherhead New Wo		
Object ID:-	3679	Accession No:-	IF:2012:030
Date:-	1934-06-09	Works Number:-	K93180-2
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	View Through Fuel Tank Room End of House - Leatherhead New Works		
Object ID:-	3680	Accession No:-	IF:2012:031
Date:-	1934-06-09	Works Number:-	K93180-3
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	View Looking on Silencer Chamber & Tank Rooms Wall - Leatherhead New		
Object ID:-	3681	Accession No:-	IF:2012:032
Date:-	1934-06-09	Works Number:-	K93180-4
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	View Looking on Silencer Chamber & Tank Rooms Wall - Leatherhead New		
Object ID:-	3681	Accession No:-	IF:2012:032
Date:-	1934-06-09	Works Number:-	K93180-4
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	View Looking on Front of Foundation Block Engine End - Leatherhead New		
Object ID:-	3682	Accession No:-	IF:2012:033
Date:-	1934-06-09	Works Number:-	K93180-5
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	View Looking on Pumps End of Foundation Block Showing Water Pipes - I		
Object ID:-	3683	Accession No:-	IF:2012:034
Date:-	1934-06-09	Works Number:-	K93180-6
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		



Object:-	Arrangement of Machinery - Leatherhead New Works		
Object ID:-	3684	Accession No:-	IF:2012:035
Date:-	1934-01-01	Works Number:-	K93180-7
Category:-	Drawings		
Collection:-	W.H. Allen Heritage		
Manufacturer:-	W. H. Allen, Sons & Co. Ltd		
Made In:-	Bedford, England		
Status:-	Available		
Condition:-	Copy Only		