



Object:-	Ruston 6VE		
Object ID:-	1751	Accession No:-	IF:2007:6
Date:-	1930-06-30	Works Number:-	145430
Category:-	Engine		
Collection:-	Internal Fire Core Collection		
Manufacturer:-	Ruston and Hornsby Ltd		
Made In:-	Lincoln, England		

Description:-

6 cylinder four stroke diesel engine driving English Electric direct coupled generator. Originally supplied to the BBC as part of four sets for the Moorside Edge Transmitting Station near Huddersfield. Develops 300hp at 330rpm.

Location:-	
Status:-	On Display
Condition:-	Running

History:-

1930-01-01
Installed as one of four generating sets at the BBC Moorside Edge transmitting station near Sheffield in Yorkshire.

1984-01-01
Removed for preservation at Wortley Top Forge Museum near Sheffield.

Placed in external storage after inhibiting with ENSIS

2007-09-10
Moved to Internal Fire for restoration and display

2008-03-17
Final assembly and testing in the Hall 5 area complete.



Conservation/Maintenance:-

2007-09-21

Start of restoration

General check of the components arriving on site.

Crankshaft stripped out of crankcase and cleaned.

Main bearings removed and stored awaiting setting of crankcase.

2007-11-24

Flywheel end camshaft

Assembly stripped, cleaned and rebuilt ready for use.

Exhaust cam follower roller on number six replaced by new part made on site.

2008-01-14

Bearings

All bearings were inspected and measured.

Main bearings all in good order apart from light damage sustained during removal/transport/storage. These were all dressed and found to be ok.

No 5 big end bearing was breaking up and a spare new assembly was bored ready to be fitted.

2008-03-02

Injectors and Fuel Pump

A good set selected and tested. Long term a full set of injectors need to be reconditioned.

All fuel pump modules were stripped and cleaned. Spill valve passing slightly.

2011-07-23

Preparation for Regular Working

Big end checks done following initial assembly:-

<th>Cylinder</th><th>Initial</th><th>Current</th>

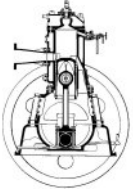
1 0.005" 0.005"

2 0.0035" 0.0035"

3 0.010" 0.004"

4 0.0045" 0.0045"

5 0.002" 0.00375"



6 0.014" 0.004"

Engine run, good oil pressure but no fuel on injectors 4,5 and 6. Slacking injector union on No 6 caused pressure drop on 1,2 and 3 indicating possible stuck delivery valve on the element for the flywheel side block. new pump ready for fitting.

2011-09-18

Progress Report

New pump assembled and tested ok. Engine test run and injectors 3 & 4 over fueling.

Dynamo aligned and connected, dynamo bed grouted in.

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Painting of main engine started

2011-10-30

Further Work

Painting of the engine was complete (first coat) in time for the 2011 End of Season Crank-Up.

As part of the ongoing investigation into the fuel system a replacement fuel distributor was fitted and set. Backlash in the operating mechanism for the distributor was taken up by manufacturing a new roller for the drive arm - as recommended in the manual.

Engine ran at the 2011 End of Season but was still over-fuelling on 3 and 4.

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2013-06-25

Injection Timing

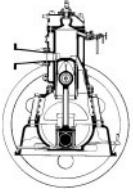
The fuel pump drive assembly was stripped and checked then the injection was timed again. There has been some uncertainty as to whether this was assembled correctly when the engine was built but the timing and assembly proved correct.

The reason for the poor running of the engine is almost certainly lack of compression on 4,5 & 6 so the liners will require sleeving.

2015-01-22

Head Joints

All cylinder head joints replaced with solid copper rings as per original drawings.



Fuel pump removed to solve leaking element on 4,5,6.

