

**2004.37**

**Crossley Brothers material**

**Dates:** 1931-1969

**Level of description:** Fonds

**Extent and medium:** 2 archive boxes

**Name of creator:** Howarth, Fred

**Biographical history:** The material was collected by Fred Howarth during his employment at Crossley Brothers Limited. Fred Howarth served as a Design Draughtsman Apprentice, working at Crossley Brothers Limited c.1955-1965, after which he went to work at Mirrlees for 12 months.

**Administrative history:**

Crossley Brothers was formed in 1867 by two brothers: Francis William (Frank) and William John Crossley from Dunmurry, County Antrim. They established a workshop in Great Marlborough Street, Chorlton on Medlock. In 1869 they obtained manufacturing rights to the "Otto" internal combustion engine patents and by 1875 claim to have built over 700 'silent' gas engines. Applications of these engines included the powering of mills, workshops, hydraulic stations, pumps and early electrical generating stations. The new Openshaw plant was opened in Pottery Lane in 1882.

William's eldest son, Kenneth, was born in February 1877. By 1888, the gas engines had been redesigned with a horizontal cylinder, poppet valves and hot tube ignition. In 1890, a private limited company was formed. By 1903 a four-cylinder side valve petrol engine had been developed; these were sold to the Lancashire Steam Motor Company, Leyland. They were sufficiently successful that Crossley Brothers started to build cars around 1905. A factory in Napier Street, Gorton was purchased and in 1908 Kenneth Crossley assumed control of the Company.

In 1910, the subsidiary, Crossley Motors Limited was established. By 1913, the company had obtained contracts to supply 15/20, 20/25 hp. models to the Admiralty, War Department and the Russian Government. During the First World War, these vehicles, generally known as 'Crossley RFC staff cars and tenders' were extremely successful in many theatres of war. By 1918 approximately 9900 of these vehicles had been supplied. Production capacity had been increased when the Crossley Street Works was opened.

In 1917 the company took control of Errwood Park Works, Heaton Chapel, for the Ministry of Munitions. From 1927 until 1956, the Errwood Park Works was used to produce commercial vehicles and buses. From the later 1930s Errwood Park built various electrically propelled vehicles such as trolley buses. From 1937 until c.1950, the commercial vehicle chassis was designed specifically for military use during World War Two.

The Openshaw works continued production of gas engines. Equipment was developed so that the 'gas engines' could run on alternative fuels. In 1922, Crossley Brothers bought out The Sanderson Tractor & implement Company Limited, Bedford. Crossley Motors was bought out by ACV in 1949. ACV became part of Leyland National Limited in 1969 with the closure of the Errwood Park Works. Crossley Brothers continued to make internal combustion engines, being restructured as NEI-Allen during the 1970s. This was absorbed into Rolls Royce Power Engineering Group in 1988. The Openshaw works continued to build large Pielstick combustion engines under licence during the 1990s.

**Immediate source of acquisition:** Gift of Fred Howarth on 10 March 2004

**Scope and content:** The material mainly consists of specifications for various diesel engines made by Crossley Brothers Limited. It also includes specifications from various off-shoot companies including Crossley Premier, Crossley International, Pielstick and Mirrlees National. The fonds also includes drawings, sales brochures, a small amount of correspondence, apprenticeship papers of the Fred Howarth, the creator and his father, also Fred Howarth, Crossley Chronicles and miscellaneous literature.

**Appraisal, destruction and scheduling information:** Material has been appraised in line with MSIM collecting policy guidelines.

**Accruals:** None expected

**System of arrangement:** Material has been arranged into 9 series reflecting the various Crossley companies. Series have been arranged into sub-series where appropriate to reflect the different products produced by the companies. Series and sub-series have been arranged chronologically in most cases except when a specific file has been listed to item level and the arrangement has not been altered.

**Conditions governing access:** None

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**Finding aids:** Catalogue is also available in electronic format, searchable in study area.

**Related units of description:** Other Crossley Brothers collections held at MSIM include MS 0116, MS 0403/1-3, MS 0175, MS0169/1-33, MS 0322, 1996.630, 1996.2332, 1996.2535, 1998.62, MS 0684. For more detailed information see the index cards in the study area. There are also various Crossley Motors collections held at MSIM.

**Archivist's Note:** Catalogue produced by J. Pedley, September 2004.

## **Series 1: Crossley Brothers Limited**

### **1/1: Specifications**

#### **1/1/1: Diesel Marine Engines**

Item	Date	Description
1/1/1/1	c.1952	Specification for Crossley Diesel Marine Engines sizes 25 b.h.p. to 130 b.h.p. type BWM
/2	1957	Turbo-charged two-cycle diesel marine engines types HRVP and HGVP
/3	1961	Turbo-charged two-cycle diesel marine engines types HRP and HGP
/4	1962	Four-cycle diesel marine engines with built-in reverse and reduction gear type BWM

#### **1/1/2: Scavenge Pump Diesel and Diesel Marine Engines**

Item	Date	Description
1/1/2/1	1951	Gear coupled diesel power units: two direct-reversing scavenge pump diesel engines, electro-magnetic or hydraulic couplings and reduction gears, 2xCRL.6 and 2xCRL.8 types
/2	1953	Two-cycle scavenge pump diesel engines types HSVee 8 to HSVee 16
/3	1959	Two-cycle scavenge pump diesel marine engines types HRN and HGN
/4	1959	Two-cycle scavenge pump diesel engines types HSN 3 to HSN 8
/5	1961	Two-cycle scavenge pump diesel engines types CSL 4 to CSL 8
/6	1962	Two-cycle scavenge pump diesel marine engines types HRVee and HGVee
/7	1962	Two-cycle scavenge pump diesel marine engines types CRL and CGL
/8	1962	Two-cycle scavenge pump diesel engines types ESL 3 to 6

/9	c.1962	Specification for Crossley two-cycle scavenge pump diesel marine engines types ERL and EGL
/10	1964	Two-cycle scavenge pump diesel marine engines types ERN and EGN
/11	1964	Two-cycle scavenge pump diesel engines types ERVee and EGVee
/12	1964	Scavenge pump diesel engines types ESVee 8 to ESVee 16
/13	1964	Two-cycle scavenge pump diesel engines types ESN 3 to ESN 8

### **1/1/3: Two-cycle Diesel Engines**

Item	Date	Description
1/1/3/1	1961	Turbo-charges two-cycle diesel engines types HSP 3 to HSP 9
/2	1962	General purpose high pressure turbo-charged two-cycle diesel engine types HSBP stationary engines HGBP uni-directional engine with gearbox for marine propulsion HTBP rail traction engines
/3	1964	Two-cycle diesel engines types ESB and EGB
/4	1966	Turbo-charged two-cycle diesel engines types HSVP 8 to HSVP 16

### **1/1/4: Four-cycle Engines**

Item	Date	Description
1/1/4/1	1956	Four-cycle horizontal gas engines types G, GE, GES, S, SE, and SSE
/2	1959	Four-cycle Horizontal Diesel Engines: general data sheet
/3	c.1960	Four-cycle diesel engines types QS3 to QS8 8
/4	c.1961	Specification for Crossley four-cycle vertical diesel engines types BW.1 to BW.6
/5	1961	Turbo-charged four-cycle diesel engines

/6	1962	Diesel power units incorporating four-cycle basic vertical diesel and petrol engines types WHA4 and WLA4 diesel WL4P petrol
/7	1962	Four-cycle engines types: TVD diesel engines DFT dual fuel engines PCT pressure charged diesel engines NGT town or natural gas SGT producer gas
/8	1965	Turbo-charged four-cycle diesel engines types EPQ and EPX
/9	1965	Four-cycle horizontal diesel engines types IHD and IHH

### **1 /2; Sales brochures for various engine types**

Item	Date	Description
1/2/1	1932	Horizontal petrol-paraffin engines four-cycle
/2	c.1951-1962	Explanatory notes; prices, powers and speeds lists; and specifications for various horizontal diesel engines and marine diesel engines
/3	c.1954	Scavenge Pump Diesel Engines catalogue for vertical scavenge pump 100-1400 b.h.p and vee-form scavenge pump 265-2160 b.h.p
/4	1964 Jun	List of overseas agents and representatives

### **1/3: Finance**

Item	Date	Description
1/3/1	1961-1964	Agents' Data Book Information for various spare parts and engines: includes letter about increase in spare parts prices by 3%  Enclosed: International Harvester Engines; list of orders received during financial year 1963-64  Percentage increase in engine prices 1963 Jun 20

## Series 2: Pielstick: marine diesel engines

### 2/1: Specifications

Item	Date	Description
		Folder cover with 'Chantiers de L'Atlantique, Penhoet Loire, by S.E.M.T. Pielstick containing:
2/1/1	c.1960	Pielstick turbo-charged four-cycle diesel marine engines type PCL2
/2		Moteurs Diesel S.E.M.T. Pielstick type PA, descriptions in French and English
/3		Moteurs Diesel S.E.M.T. Pielstick type PC Note: in French
/4		Moteurs Diesel Type P.A.4 Licence SEMT-Pielstick: photographs of motors, 14 items:
/5	c.1961	Specifications for Crossley S.E.M.T. Pielstick turbo-charged four-cycle diesel marine engine type PC2V 400 & PC2L 400
/6	1963	Four-cycle marine diesel engines: specifications and description and outline drawings
/7	1968	Four-cycle marine diesel engines: specifications and description and outline drawings
/8	1969	Four-cycle industrial diesel engines: specifications and description

### 2/2: Drawings

Item	Date	Description
2/2/1	c.1950s	Drawings on tracing paper of Crossley Pielstick engines type: 6PC.2L 8P.C. 2L 9P.C. 2L 8PC. 2V 10PC 2V 12PC 2V 14PC 2V 16PC 2V 18PC 2V Typical torque & ISO fuel consumption curves for Crossley-Pielstick PC.2

### **2/3: Sales**

Item	Date	Description
2/3/1	1962	List of agents of S.E.M.T. Pielstick type PC  Note: in French
/2	1969	Pielstick four-cycle industrial diesel engines: sales catalogue

### **Series 3: Mirrlees National Limited**

A Hawker Siddley Company based at Hazel Grove Works, Hazel Grove, Stockport, Cheshire

#### **3/1: Specifications and company information brochures**

**Note:** items 1-25 are contained in the same folder so no attempt has been made to rearrange the material into chronological order

Item	Date	Description
3/1/1	1962	'A 24-MW. Power Station for National Defence' article reprinted from <i>The Oil Engine and Gas Turbine</i> relating to power station at Fylingdales Moor, North Yorkshire
/2	1964	Mirrlees National, 'R Series, Marine Propulsion Diesel Engines'
/3	c.1960	'Mirrlees National in traction service, 300-2300 B.H.P.'
/4	1964	'F Series, Industrial Diesel Engines' from 285 to 1550 b.h.p.
/5	1965	'Diesel Engines for Tugs and Dredgers'
/6	1965	'AV Range industrial diesels'
/7	1964	'Marine Auxiliary Diesel Engines' R Series 229-864 B.H.P.
/8	c.1960	'K & KV range- marine diesels' includes technical drawings in back cover
/9	1964	'K & KL range- industrial diesels'
/10	1965	F Series II: marine propulsion diesels

- /11 1965 'TL Monobloc- industrial diesel engines' 157-405 B.H.P. diesel alternator sets 106-280 kW.
- /12 1964 'R Series- industrial diesel engines'
- /13 1965 'J Range- industrial diesels'
- /14 1965 'KV major range- industrial diesels'
  
- /15 c.1960 'When Power must not fail...Consult Hawker Siddley' brochure intended as a general guide to the advantages of standby diesel generating sets
- /16 1964 'Marine Propulsion Diesel Engines- Monarch Series 1600 to 7072 S.H.P.
- /17 1964 'KV Range'
- /18 1965 'Welcome to Mirrlees National' leaflet for visitors including photos and names of Directors, Executives and Senior Staff, a concise history of the company and review of products
- /19 c.1960 Mirrlees National Ltd: general brochure in foreign language
- /20 1965 Feb 'TL Monobloc, Marine Propulsion Diesel Engines', 123-366 S.H.P.
- /21 c.1951 'TL Monobloc, Marine Auxiliary Diesel Engines', 135-432 B.H.P, 90-300kW
- /22 1964 'R Series Marine Propulsion Diesel Engines'
- /23 c.1960 'Marine Propulsion Diesel Engines, Range'
- /24 1962 'Sovereign, Direct Reversing and Uni-directional Marine Propulsion Diesel Engines'
- /25 1964 'Marine Auxiliary Diesel Engines, F Series', 285-1550 B.H.P
- /26 Mirrlees National Limited, Hazel Grove, Stockport: technical publications file includes:  
Mirrlees were a Hawker Siddley Group Company  
Mirrlees factory at Hazel Grove originated in 1908 with approx 300 personnel and produced diesel engines from 50-750 b.h.p.



**Series 4: Crossley Premier; Sales**

Item	Date	Description
4/1/1	c.1950s	Horizontal vis-à-vis oil engine: running instructions for engine type 0.0.8.
/2	1951	Crossley Premier: horizontal vis-à-vis oil engines: sales catalogue of Crossley premier Engines Ltd., Sandiacre, Nottingham

**Series 5: Crossley International; Sales**

Item	Date	Description
5/1/1	c.1962-1963	File of Crossley International brochures
/2	1964	Crossley International UDT 817- 150KVA Alternator units: correspondence and specification for order supplied to Caroline Port Generating Station, Dundee  Enclosed: technical brochures on Crossley International vertical four-cycle diesel engine and Crossley diesel power units incorporating basic four-cycle vertical diesel engines
/3	1965	Crossley International Marine Engines: price lists for UD817 and UDT817  Enclosed: temporary price list for the above engines for use in pleasure craft, petrol and interceptor launches, workboats and fishing boats; a note on mains failure equipment and note on screw shafts

**Series 6: Crossley Chronicles**

Item	Date	Description
6/1/1	c.1960s	Crossley Chronicles; numbers: 153 163 166 175 182 186 187 205

**Series 7: Apprenticeship papers**

Item	Date	Description
7/1/1	1931 Aug 19	Indenture of Apprenticeship of Fred Howarth as a printer for C. Nicholls & Co. Ltd., Philips Park Press, Manchester
/2	1957 Oct 20	Articles of Apprenticeship of Fred Howarth (son of Fred Howarth mentioned above) to Crossley Brothers Ltd., Openshaw, Manchester

**Series 8: Miscellaneous literature**

Item	Date	Description
8/1/1	1931 Mar 5	'Gas & Oil Power' organ magazine of the Internal-Combustion engine
/2	1962- 1964	'Virtues of Direct-Reversing, Cylinder Liner Wear 'H' Type Engines': technical circular letter  Enclosed: statistics for Heat Dissipation for all engines
/3	1963	Proceedings of The Institution of Mechanical Engineers Internal Combustion Engines Group: 'Turbocharged Loop Scavenge Diesel Engine' paper presented by Mr S.H. Henshall, Director and Chief Engineer of Crossley Brothers Limited
/4	1964- 1965	The Institution of Marine Engineers Transactions: 'Service Performance of S.E.M.T. Pielstick Engines' paper presented by Mr S.H. Henshall, Director and Chief Engineer of Crossley Brothers Limited and J. Gallois  Enclosed: Pielstick PC.2 Engines, Heavy Fuel and Exhaust Valve Life; technical circular letter