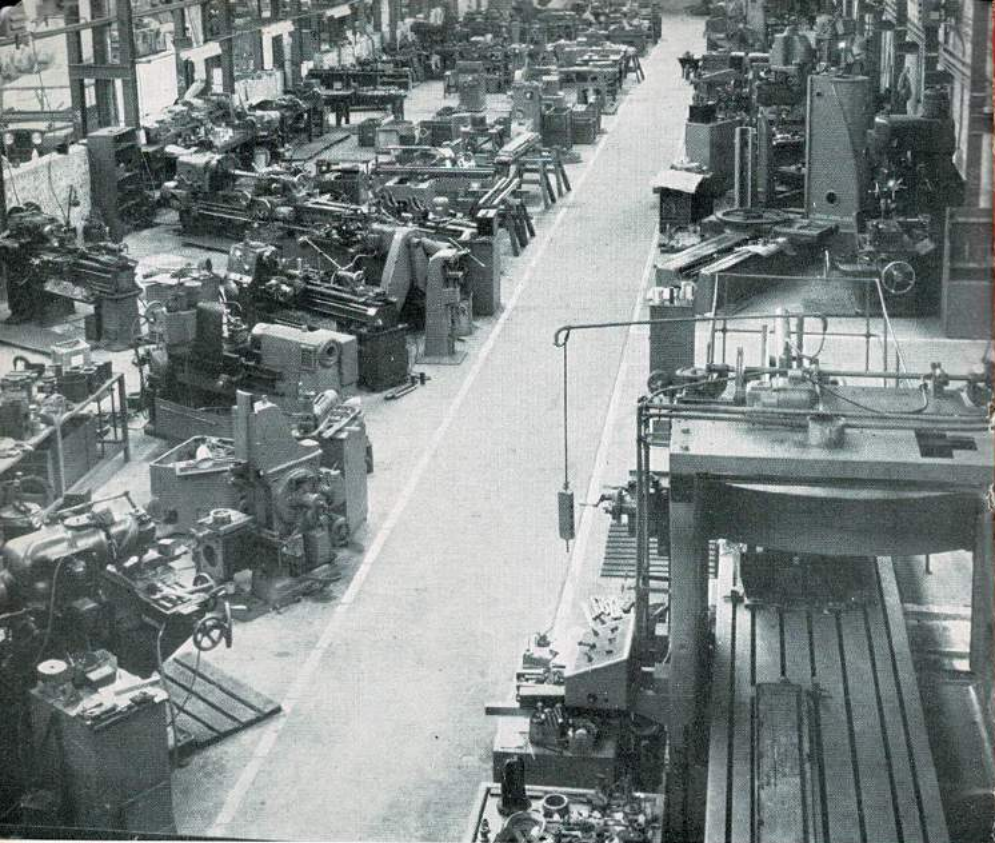


NEWALL
USED MACHINE
DIVISION

for re-precisioning

THE NEWALL USED MACHINE DIVISION
OUNDE ROAD, ORTON LONGUEVILLE, PETERBOROUGH.
Telephone : Peterborough 6116—Telegrams : 'Precision' Peterborough



A section of our well-equipped machine shops

introduction

With increasingly heavy demands for replacement plant, delivery times for a wide range of standard machines are frequently extended to periods beyond those convenient to industry. In addition, present day prices of new plant is a matter of serious consideration for both small and large organisations. Newall re-precisioning not only eliminates waiting time detrimental to production but ensures replacement of an outmoded, inefficient tool by a virtually new machine re-juvenated and re-precisioned for a double life at economic cost.

Established in 1948, the ten-fold extension of this division during the intervening period is, in itself, striking testimony of the country-wide appreciation of the service offered.



THE NEWALL USED MACHINE DIVISION

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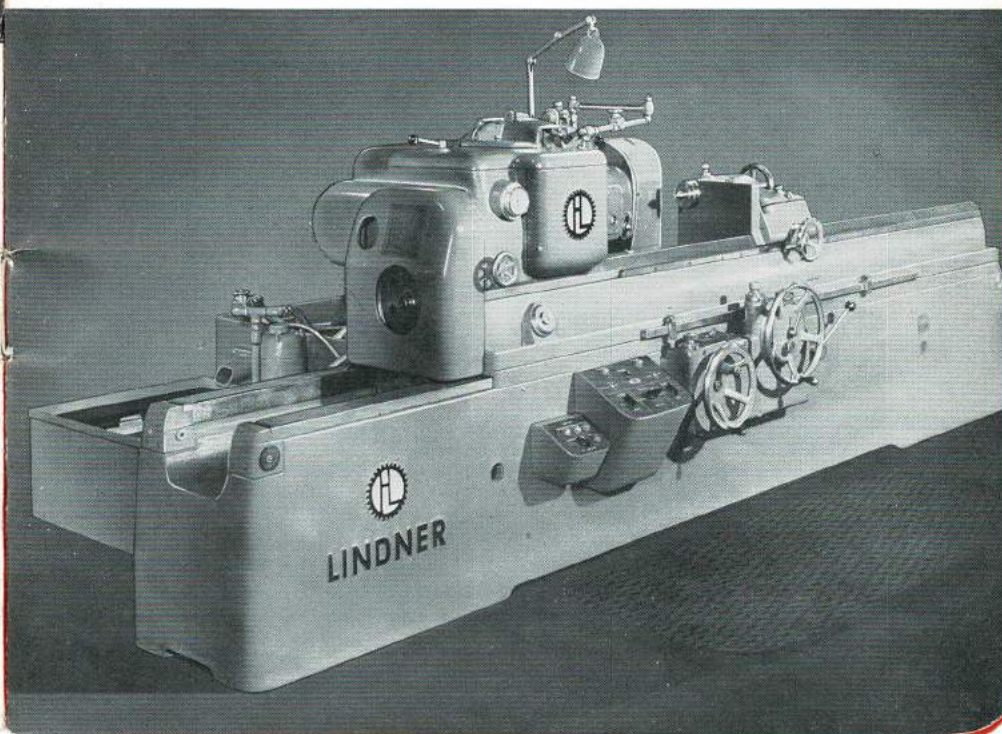
a comprehensive service

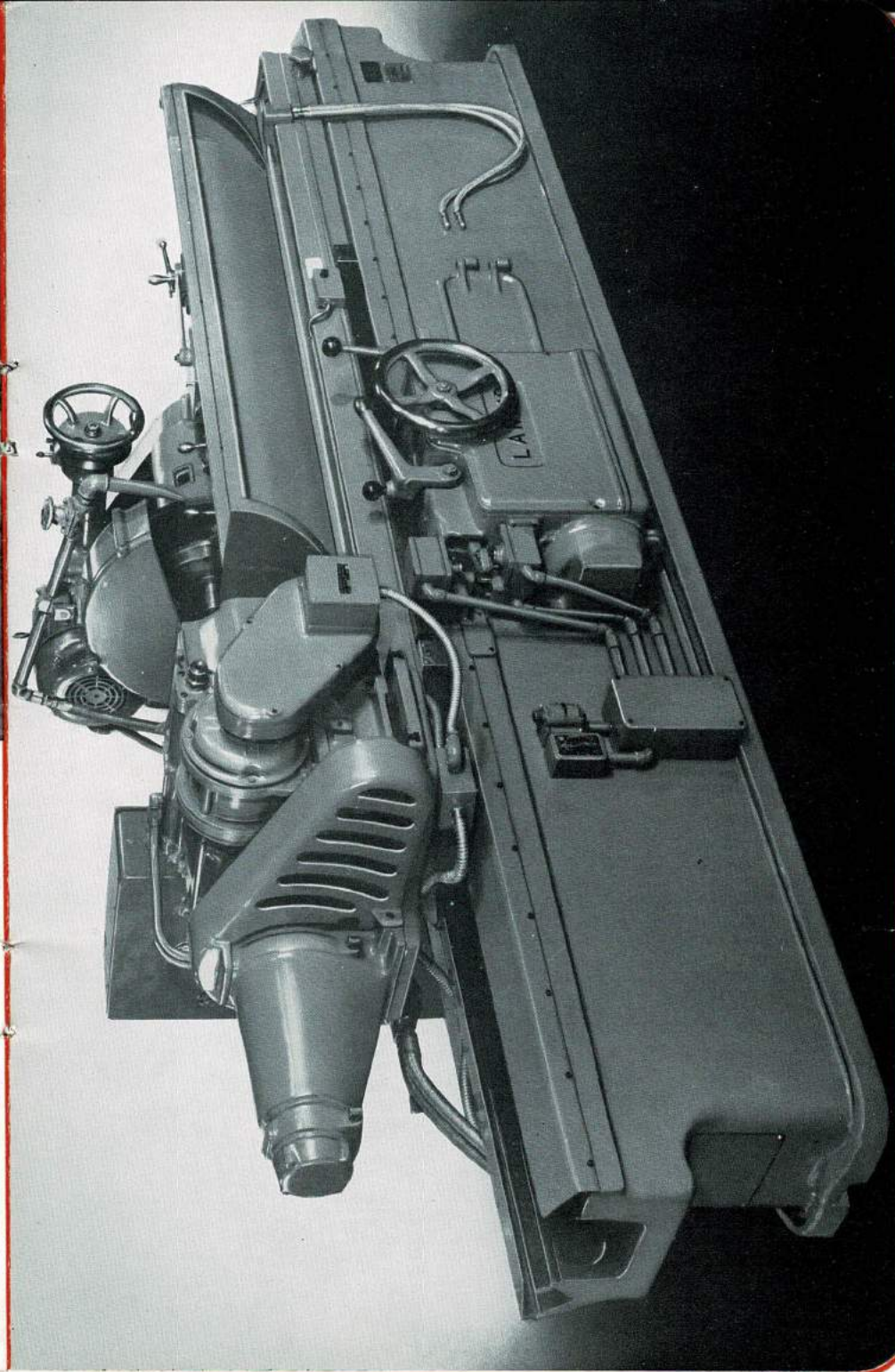
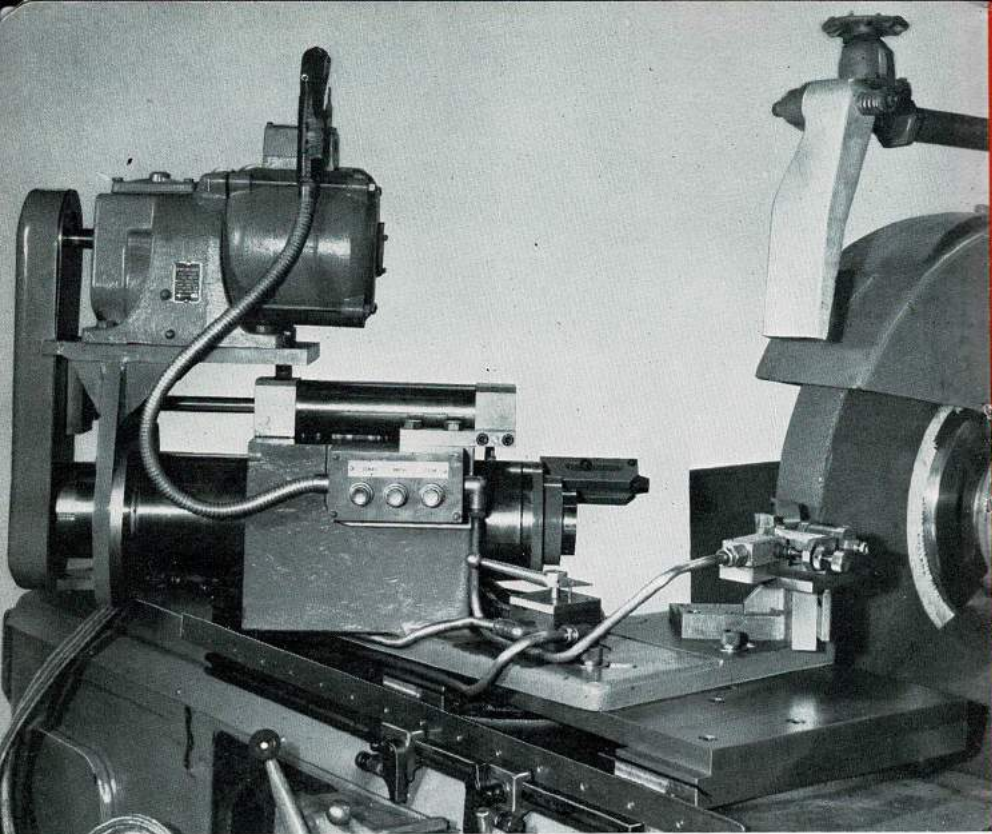
Originally planned for re-precisioning machine tools of Newall manufacture only, our venture has been so eminently successful that we have extended our field of service to include re-building of high precision machine tools such as jig borers, grinders of all categories, horizontal borers and planers. Some of the methods we employ and examples of our craftsmanship are featured in subsequent pages.

Our business to-day is twofold, contract rebuilding to customers' requirements and sale of re-precisioned high accuracy and heavy machine tools to meet the more urgent needs of industry.

A phone call to Peterborough 6116 may provide delivery of a machine you require without delay.

A Lindner large capacity thread grinder re-precisioned to the manufacturer's limits.





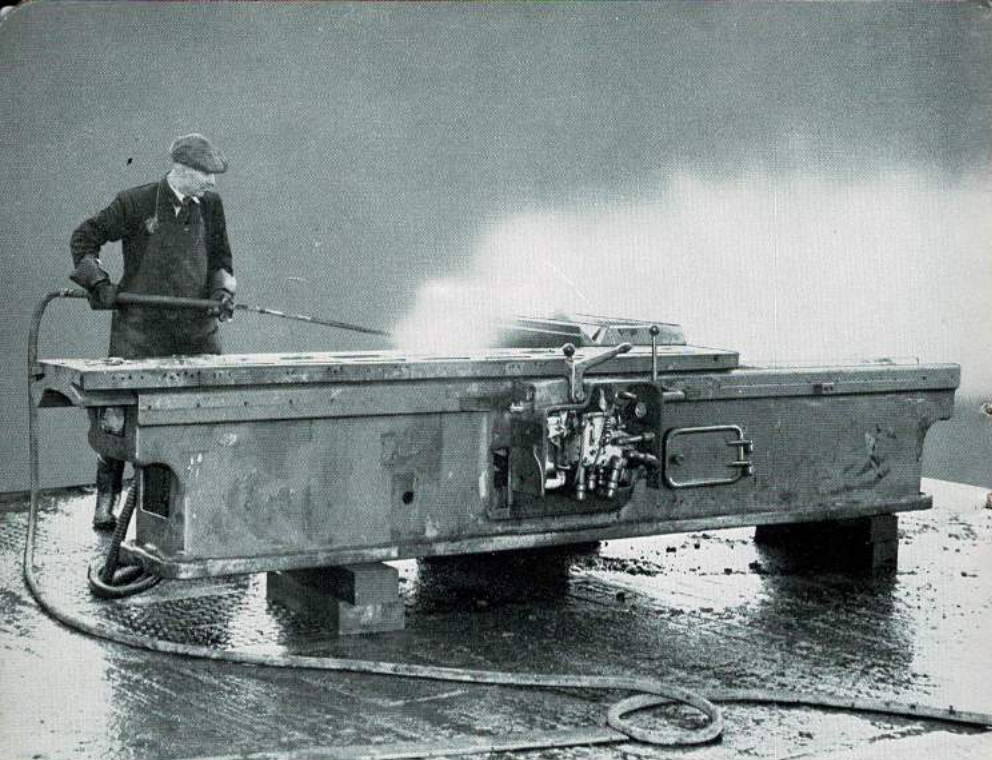
conversions

Modern manufacturing processes not infrequently call for a special purpose machine of a type not usually accepted in the production programme of manufacturers of new plant. In some cases an existing standard type machine can be modified or converted to meet customer's detailed requirements.

In recent years we have made a successful entry into this sphere of operations and our highly specialised advice is always at your disposal.

An example of this type of undertaking is the Landis Cam Grinder illustrated opposite. This was a war-time special purpose cam grinder fitted with a 4 in. grinding wheel for production of re-entrant type camshafts and was converted to employ a 20 in. diameter wheel for grinding automotive camshafts. The attendant cam pack and indexing mechanism were designed and manufactured by the division.

A further interesting conversion was a Newall standard type LA Cylindrical Grinder to a special purpose production machine for making rock drill bits. This modification entailed design and building of a special workhead shown above and extensive changes to both hydraulic and electric control systems.



What Newall Re-precisioning Entails

Stripping

Stage one of the re-precisioning process is the complete stripping of the machine down to major castings, thereby permitting a thorough and detailed examination of all components to be made.

Castings are subjected to steam and chemical cleansing processes which enable any defects to be detected. All units are checked for serviceability and any replacements such as ball races, components, belts, etc., that may be necessary.

Replacements

In the event of components no longer being serviceable, they are replaced by new parts. In the case of Newall machines, complete new sub-assemblies are fitted when necessary.

THE HALL-MARK OF RE-PRECISIONING

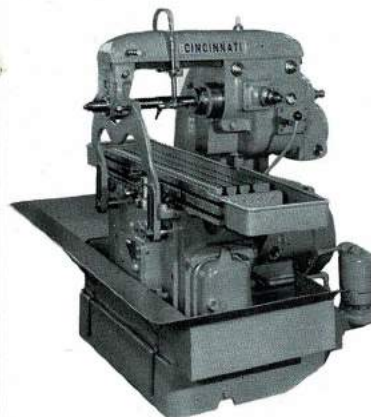


machining

The foundation of successful re-precisioning technique is associated with machining and scraping to accepted standards of precision of all flat surfaces.

Each machine re-built by us conforms with this practice and is carried out by highly skilled craftsmen trained specially for the work and who have established the Newall reputation "preferred for precision."

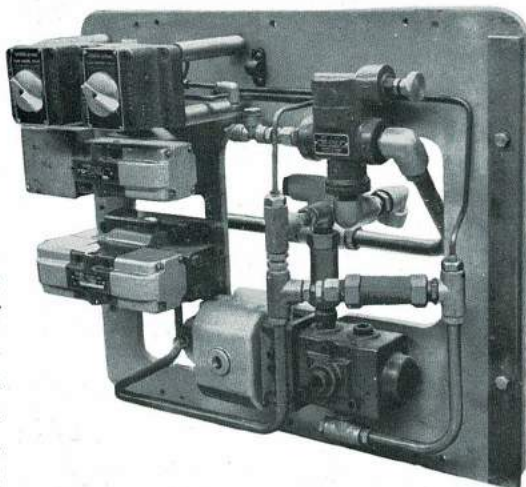
In keeping with the quality control system rigidly observed in all Newall factories, frequent inspection checks are made throughout the entire process of re-precisioning.



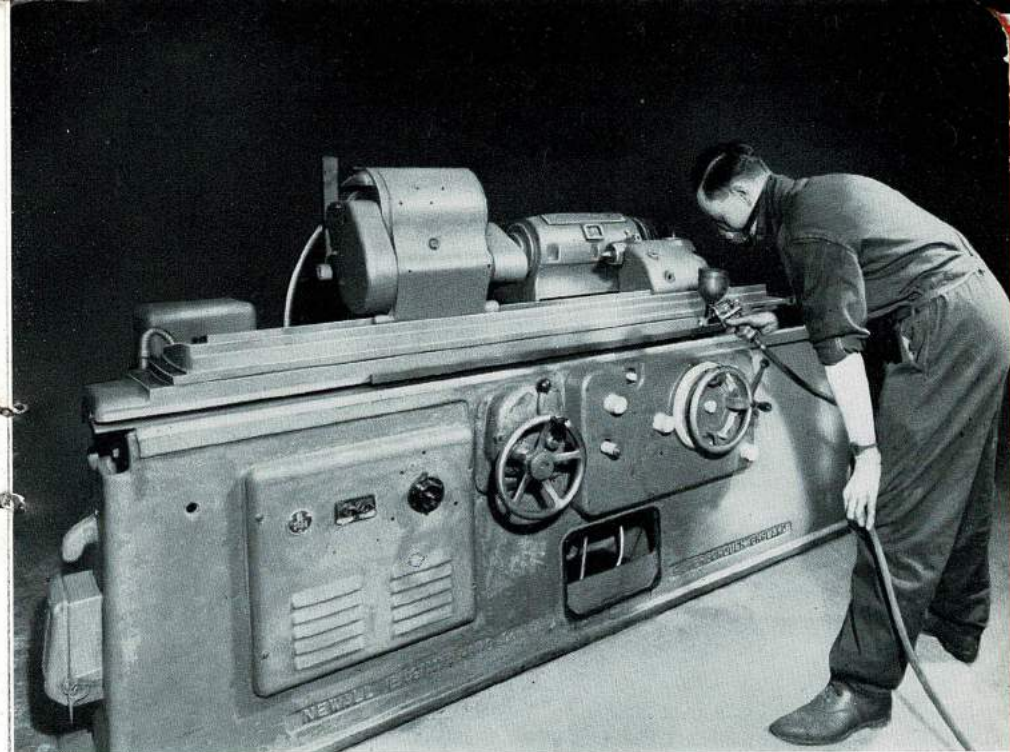
Cincinnati horizontal milling machine

hydraulic systems

Full facilities are available for testing and overhaul of hydraulic equipment and systems. In the case of extensive machine modifications or conversions, we both design and assemble the control units which are subjected to extensive testing under load before installation in the machine.



Hydraulic control unit designed and built for a special purpose fine borer



metal finishes and spraying

The highly efficient cleansing process to which castings, guards, etc., are submitted eliminates all traces of grease and dirt to provide a perfect surface for painting operations. The normal procedure of filling and priming is observed and a lasting finish provided either in our standard colour or to customer's special requirement.

Where applicable, the inside of castings is treated with heat-resisting paint.



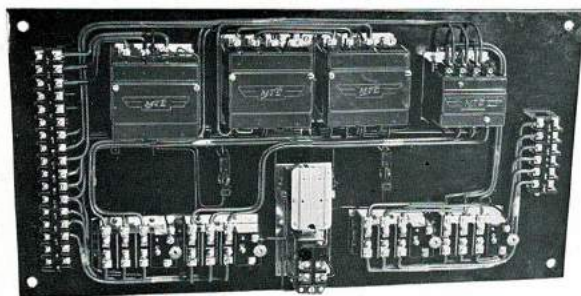
A Kamenicek universal grinder, one of many foreign products re-precisioned by Newall.

electrical controls

A self-contained electrical department, fully equipped and specialist manned, competently checks and overhauls electrical systems.

The department is qualified to design and build complete electrical systems required for complex modern machine tools.

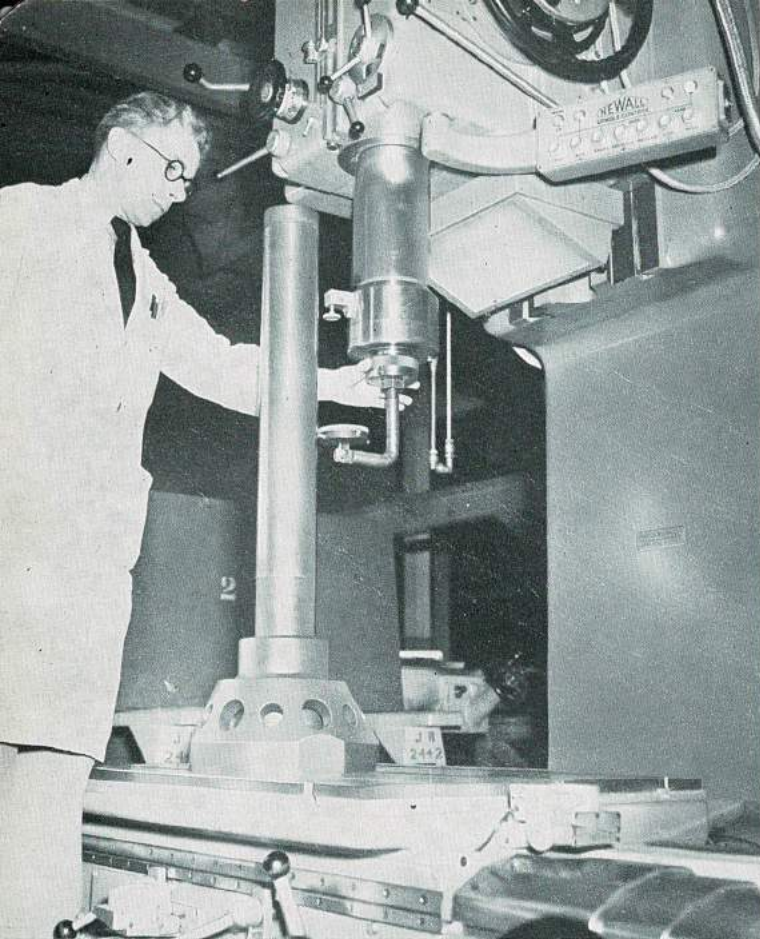
Rebuilt electrical control panel for the cylindrical grinding machine illustrated on the frontispiece





assembly

A section of our jig borer fitting section

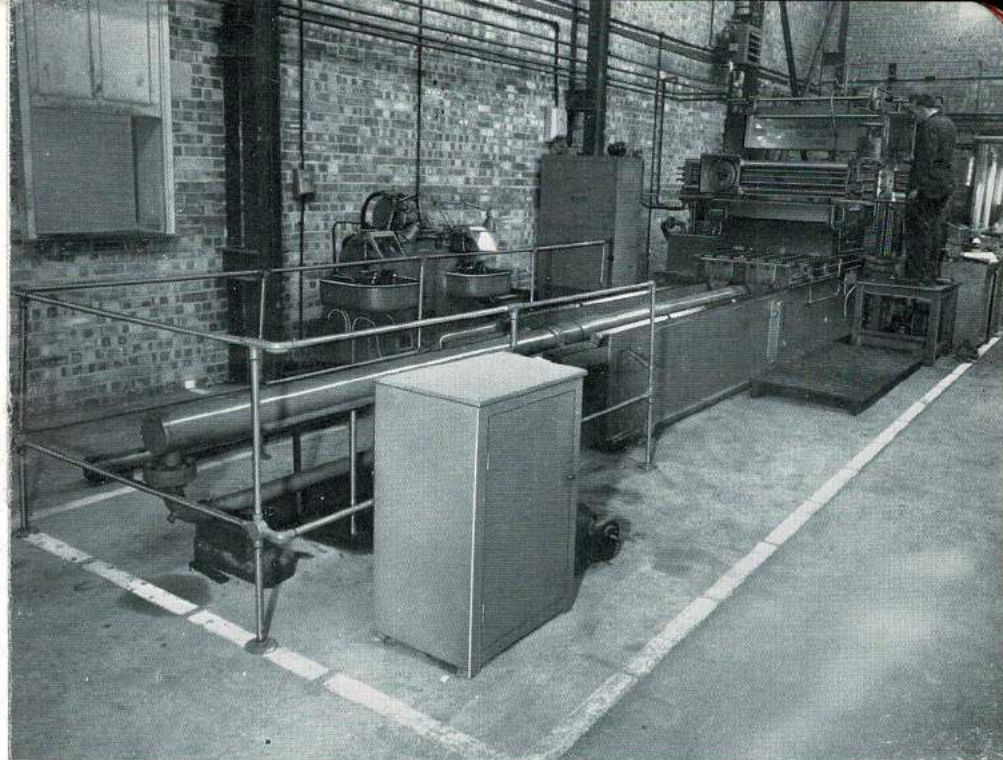


inspection

During all phases of re-precisioning, each part and component undergoes stringent tests by inspectors with a wide experience and trained in modern inspection methods at the metrology department of our parent company.

Completed machines of Newall manufacture must pass acceptance tests as laid down by the company for new machines. The products of other manufacturers can be re-built to the maker's original limits ; if this information is not available the standards of The Institution of Production Engineers, or Dr. Schlesinger are observed.

Special or converted machine tools are re-precisioned to test sheets specified by our chief inspector and in no case are components permitted to be used for re-assembly, unless they comply with the requisite standards.



A large capacity planer converted to hydraulic operation for our own use.

capacity

The main workshops of our new premises are equipped with a 20-ton transporter crane providing a 20 ft. lift. With these handling facilities and an installation of high precision machine tools, our service offers scope for re-building machines up to 30 tons dead weight.

The Company has its own transport division with vehicles available for floor-to-floor removal and installation of machines.

Copy for FILE
THE NEWALL ENGINEERING CO. LTD.
 PETERBOROUGH
 NORTHANTS
 Serial No. C.364
 Sheet No. 1 of 3

AIR MINISTRY APPROVED
 GAUGE TEST HOUSE 873797-28
CERTIFICATE OF TEST

To Messrs. _____ Customer's Order No. _____

The following items have been inspected with the results given below—

Pratt and Whitney Jig Boring Machine Type 2A, 16" x 18"

The machine was completely stripped and any worn parts replaced or reconditioned to function as new.

All slide-ways including quill housing were scraped, generally using the methods employed on the Newall No. 2 Jig Borer.

Feed screw, brackets, power drive shafts etc., were re-aligned to the re-scraped slide-ways.

All end measuring rods and both micrometers were scraped and replaced. The dial indicators were scraped and replaced with Newall financial indices as used on the Newall Jig Borer.

The machine was re-assembled and inspected as necessary during assembly.

The alignment and accuracy of the movements of this machine were then tested with the results shown on the attached sheets.

Certified Correct
 for and on behalf of The Newall Engineering Co. Ltd.

Date: 8. 6. 51.

Copy for FILE
THE NEWALL ENGINEERING CO. LTD.
 PETERBOROUGH
 NORTHANTS
 Serial No. C.364
 Sheet No. 2 of 3

AIR MINISTRY APPROVED
 GAUGE TEST HOUSE 873797-28
CERTIFICATE OF TEST

To Messrs. _____ Customer's Order No. _____

The following items have been inspected with the results given below—

Pratt & Whitney Jig Borer. Serial No. 114.
Fig. 16, R.T. 10.

Test	Actual error
Work Table.	
Parallelism of top surface to longitudinal and transverse movements.	.0004"
Parallelism of front datum edge to longitudinal movement.	.0007" in 36"
Movement of Headbox on Column.	
Squareness with table surface (tested at more than one position on table)	.0004" Front .0004" Side
Movement of Quill.	
Squareness with table surface (tested at more than one position on table)	.0004" Front .0004" Side
Clamping. Movement of quill (fully extended) due to application of headbox clamp.	within .0001"
Movement of quill (fully extended) due to application of quill clamp.	No movement
Co-ordinate movements.	
Squareness of longitudinal and transverse movements in plan view.	.00015" over 12"

Continued . . .

Date: _____ Certified Correct.
 for and on behalf of The Newall Engineering Co. Ltd.

Copy for FILE
THE NEWALL ENGINEERING CO. LTD.
 PETERBOROUGH
 NORTHANTS
 Serial No. C.364
 Sheet No. 3 of 3

AIR MINISTRY APPROVED
 GAUGE TEST HOUSE 873797-28
CERTIFICATE OF TEST

To Messrs. _____ Customer's Order No. _____

The following items have been inspected with the results given below—

Measuring Systems.

Accuracy of end measuring rods 6", 3", 1 1/2", 1" Rods
 Red Green

Test Plate Square on machine table.

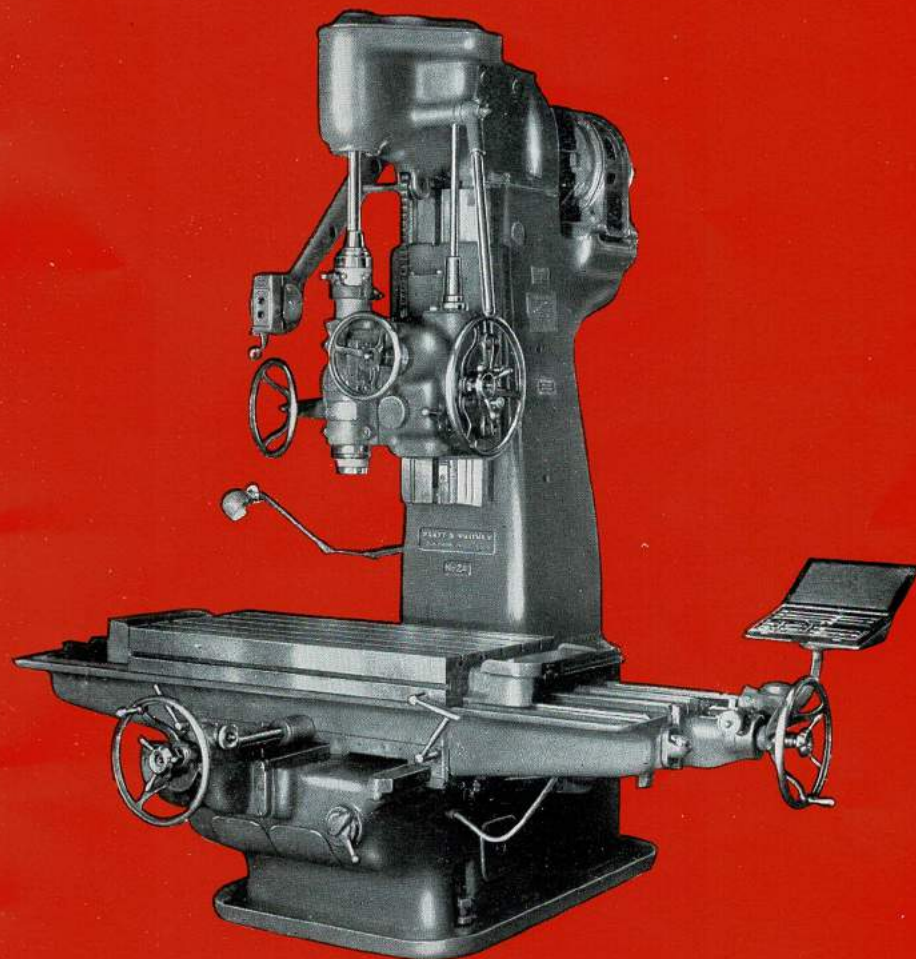
Actual error
 2.0001"
 2.00005"
 Within .0001"
 Within .0001"

Diagram showing test plate square on machine table with dimensions A, B, C, D, E and F.

Certified Correct.
 for and on behalf of The Newall Engineering Co. Ltd.

Date: 8. 6. 51.

Acceptance Charts for
 Pratt and Whitney Jig
 Boring Machine Type 2A



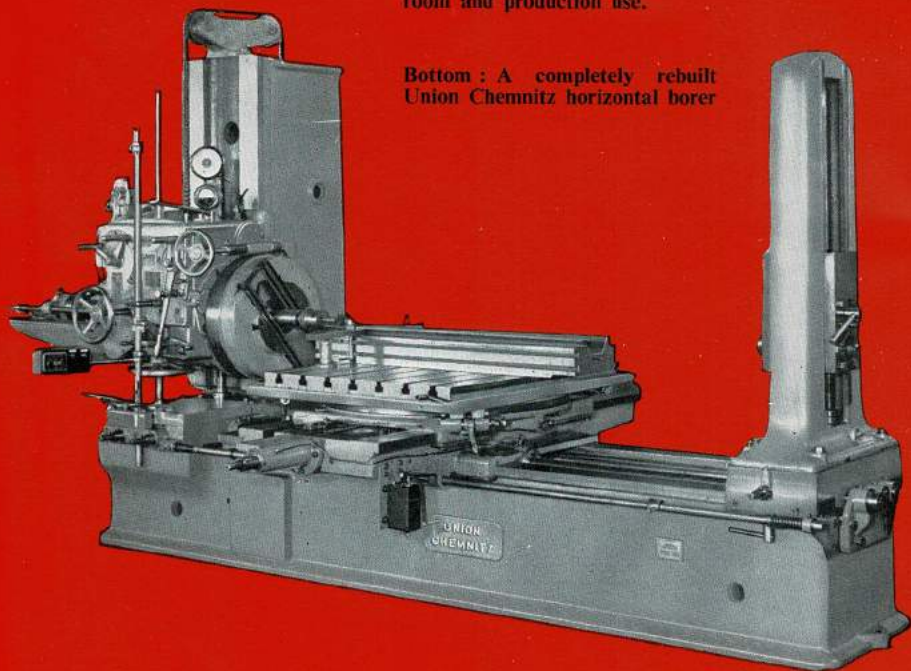
A PRATT AND WHITNEY No. 2A
 JIG BORING MACHINE

Re-precisioned to inspection charts with
 accuracy, finish and efficiency similar to a new
 machine.



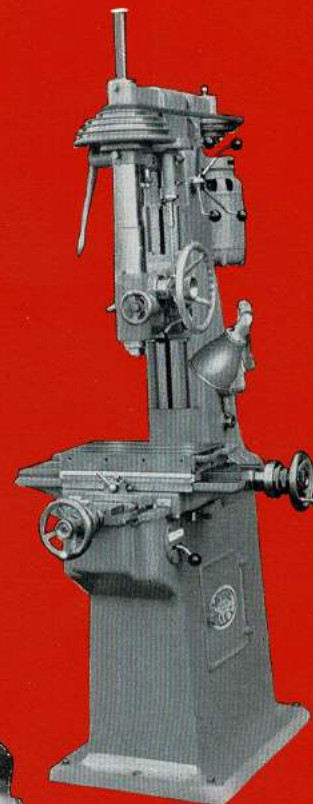
Top : Newall model 420 thread grinder re-precisioned for tool-room and production use.

Bottom : A completely rebuilt Union Chemnitz horizontal borer

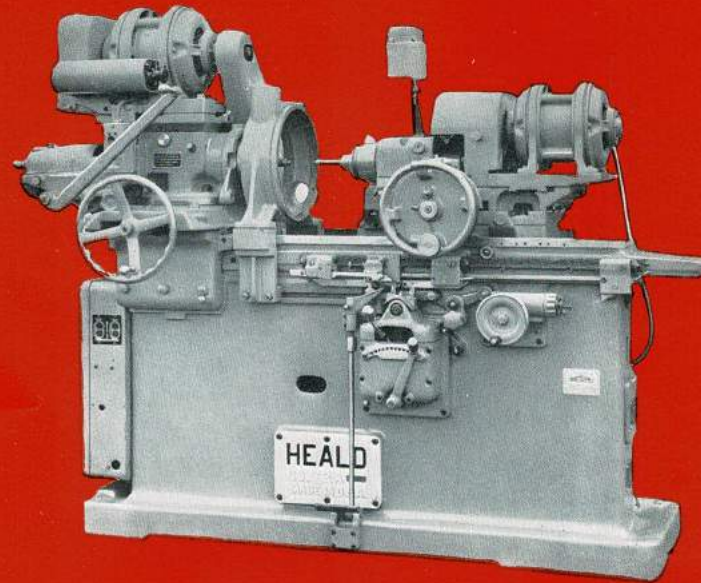
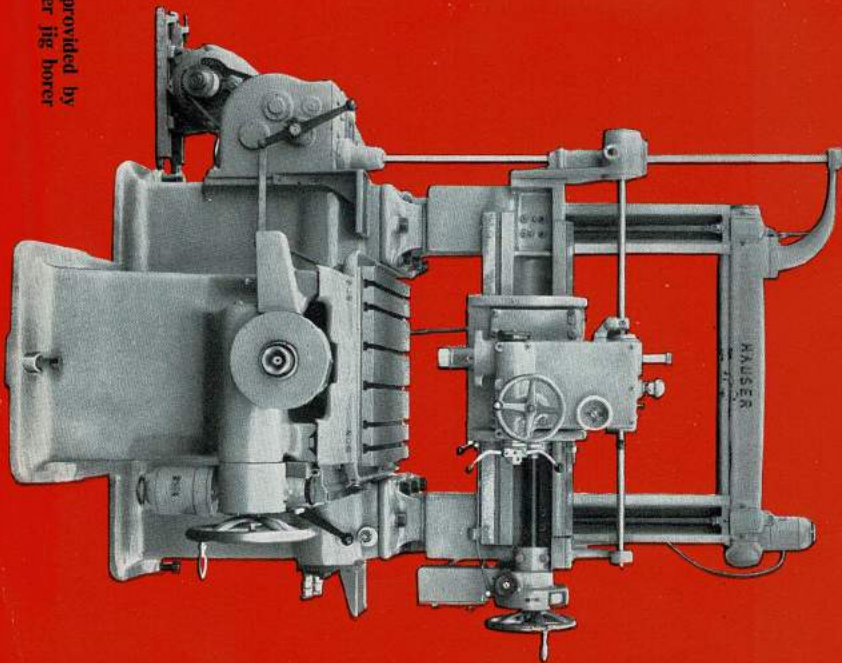
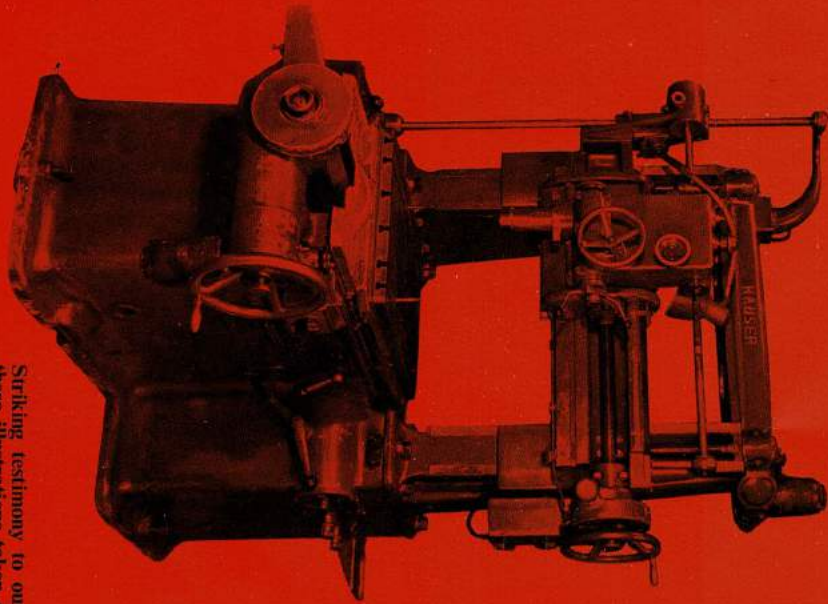


Right : A Moore jig borer, typical of many small capacity machines rebuilt to precision standards.

Below : This Lumsden surface grinder illustrates the diverse range of machines re-precisioned by Newall.



Striking testimony to our skill is provided by these illustrations taken of a Hauser jig borer before and after re-precisioning



Two examples of medium capacity internal grinders rebuilt in our factory. Above a Heald and below, a Keighley type KN machine

