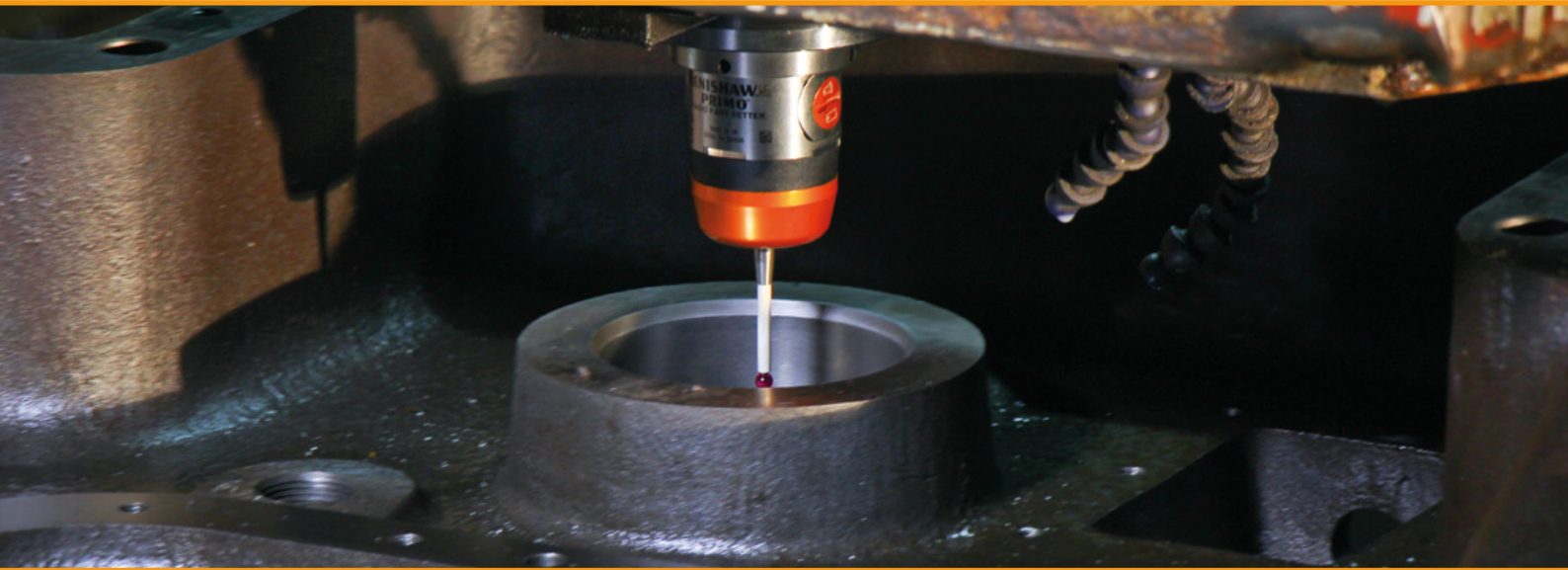


Unimac sees a return on investment of just four months using the new Primo™ system



Customer:

Universal Manufacturing Company (Unimac)

Industry:

Heavy industry

Challenge:

Eliminate manual setting errors, improve accuracy and part conformance, whilst reducing non-productive time and scrap.

Solution:

Introduction of automated on-machine part setting, inspection and tool setting processes using the Primo™ system.

The Pune-based Universal Manufacturing Company (Unimac) has consistently reduced inspection time by 90% over four months after installing a Primo™ system, designed for on-machine part setting, part inspection and tool setting. Unimac manufactures components for railway engines, power generation plants, cement manufacturing plants, and other heavy engineering applications. For Unimac, maintaining accuracy of 15-20 microns on large parts is vital.

A major challenge for Unimac has been the inspection of large parts during the manufacturing process. According to its Director, Mr Ashok Mungale, "The issue was resolved five months back when Renishaw's Primo system was installed on the machine, based on application requirements. The on-machine probe is not only easy to use, but performance driven, which has resulted in increased machine utilisation time. Renishaw has truly been instrumental in our growth by providing an outstanding probing system that helped shorten our cycle time."

Innovative probing

The Primo system consists of a Primo Radio Part Setter and a Primo Radio 3D Tool Setter. It enables automated on-machine

part setting, part inspection and tool setting, helping to eliminate manual setting errors, improve accuracy and part conformance, whilst reducing non-productive time and scrap. All of which increase productivity, improve quality and boost profits. The Primo system is straightforward to install and use, and represents a low initial financial outlay. It also has an exclusive, enhanced warranty to offer users peace of mind.

After installing the Primo system, the manpower cost, material handling costs, material equipment and power consumption charges are saved so no additional investment is required. It's an amazing experience to use Renishaw machine tool probes. The Primo system is definitely worth recommending for every engineering industry.

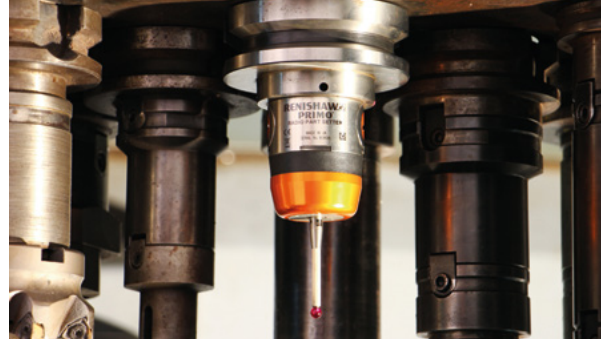
Universal Manufacturing Company (India)

Up and running in a day

It is so easy to use the Primo system that at Unimac its installation and evaluation were completed on the same day. The GoProbe training kit and pocket guide make it very quick to learn and implement the system. A key benefit is that there is no need for extensive G-code knowledge. Simple, single-line commands are used instead of multiple lines of code, removing the necessity for any special training.



Mr Ashok Mungale, Director, Unimac has been using Renishaw probing technologies for ten years and is a highly satisfied customer



Amazing 90% reduction in inspection cycle time on turbocharger housing

Unimac, the company

Mr Mungale started Unimac in 1987, after purchasing a second-hand machine from Germany for manufacturing components needed in sugar and cement plants. He later switched to manufacturing general engineering components. Currently, the company manufactures large precision parts used for railway engines, power generation plants, cement manufacturing plants and other heavy engineering applications. The company has its own tool room, horizontal boring machines, floor boring machines, HMCs and VMCs. One of the VMCs has a bed size of 4.5 m x 2.75 m.

Making a difference

Unimac manufactures precision components, such as turbochargers that are used in railway engines and one-off single components, for its customers. Before the Primo system was installed, the cycle time for machining a turbo charger housing was 46 hours. During this process, at the semi-finished stage, the part would be taken to an inspection facility to be checked for flatness, squareness, parallelism and positional accuracy. The part would then be brought back to the machine, and have to be realigned and set before further machining could take place. This process would take three hours and have to be carried out twice, meaning that the machine lay idle for six hours during each manufacturing cycle. In this manual process, part setting itself takes 30 minutes.

The Primo system enables inspection to take place on-machine, removing the need to breakdown and move the part, and reset it once it has been inspected. Now at Unimac, the new process takes just 30 minutes, has reduced inspection time by 90%, reduced cycle time by 12% and led to a very fast return on investment (ROI) in just four months.

Building trust

Unimac first heard about Renishaw when ten years ago it purchased its CMM, which came fitted with a Renishaw probe. Following this, Unimac formed a relationship with Renishaw, and received regular updates about new product developments. Renishaw engineers analysed all of the machining applications at Unimac thoroughly, and offered best practice advice and guidance on which Renishaw products would be most suitable for Unimac's needs. The Primo system is the company's first machine tool probe.

Mr Mungale concluded, "Since we were convinced with the sales, service and application aspects of Renishaw, we installed its telescoping ballbar to help maintain machine accuracy. After this, it was easy to ascertain whether the fault was during machining and the errors could then be eliminated. Results from the ballbar are always perfect so a mutual trust has developed between Renishaw and us".

For more information and to watch the video, visit www.renishaw.com/unimac

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