Asia with expertise in high pressure hydraulics." Verghese points out that Forms & Gears pioneered the use of high pressure hydraulic fixtures with the Tata Indica cylinder block fixtures for Heller machines supplied to Tata Motors in 1997 which was a landmark project.

High pressure hydraulic fixtures

Over the past decade, Forms & Gears has steadily been introducing the Indian automobile industry to high pressure hydraulic fixtures. Among Forms & Gears' high profile clients are Ford, Maruti Suzuki, Mahindra & Mahindra, Ashok Leyland, Tata Motors, Eicher, Caterpillar, to name a few.

"We have three units in the Guindy Industrial Estate to manufacture the fixtures, which are high precision hydraulic ones," Verghese remarks.

Forms & Gears, which exports fixtures to the US, Japan and Singapore, has a full-fledged design centre to complement its manufacturing facility. Exports constituted around 15 percent of Forms & Gears' business last year. Recently, the company executed a big project for Toyota, which involved manufacture of state-of-the-art fixtures including internal piping and air sensing. "This was a test of our capabilities and we are happy to do have done that," Verghese says.

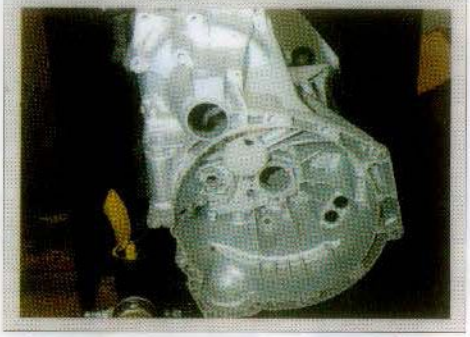
In his opinion, making high pressure hydraulic fixtures needs a high level of precision and the company has the latest equipment including five jig boring machines and a whole range of surface and cylindrical grinding and milling machines to do the job. On the possible turnaround time required for a product, he says it is between 12 and 16 weeks with design.

High pressure hydraulics, widely used in the US and Europe, has several benefits, the most important of these being the high clamping forces and excellent vibration dampening during machining which enables high cutting parameters to be used resulting in higher productivity. Forms & Gears high pressure hydraulic fixtures now run at most automobile plants in India especially for the precision engine and transmission components, says Verghese.

Companies like Mahindra Auto, John Deere, Tata Motors, Cummins and Eicher have seen improved productivity and reduced cycle times by using Forms & Gears' high pressure hydraulic fixtures, he says.

FACTFILE FORMS & GEARS

Set up 30 years ago by R T Varghese, a mechanical engineer from IIT Kharagpur, Forms & Gears is synonymous with quality precision fixtures used by the world's leading machine tool and automobile manufacturers. The company offers a complete solution from design and manufacture to cutting trials and run-offs on its in-house machining centres.



Reji Verghese: "We are thinking of acquiring toolrooms abroad."

New clientele

Forms & Gears has recently added Cummins India to its client base. Cummins India, as part of its ongoing technology upgradation and capacity expansion plan, has awarded a large contract to the company to design and manufacture precision hydraulically clamped test cells and test carts.

These are high precision devices on which the Cummins 16 and 12 cylinder V-type engines are mounted and tested for performance. This is also the first time that the US-based company is investing in state-of-the-art test cells with hydraulic clamping for their plant in India.

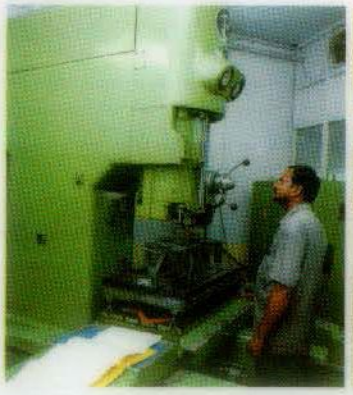
By going in for hydraulic clamping and match plate quick coupling technology, Cummins will benefit by way of quick setup times, less operator dependence and less operator fatigue resulting in higher productivity, says Verghese. "It is a significant order (from Cummins) and adds to our profile, with an impressive list of automobile manufacturers and OEMs already included."

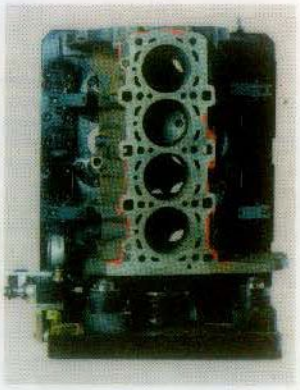
Forms & Gears precision engine components customers include Toyota, Hyundai, Ford, Cummins, John Deere, Maruti Suzuki and Mahindra & Mahindra. Its machine tool clients include Mazak India and Japan, Makino Asia, Toyoda, NTC -Japan, LMW and BFW.

Among the products made by Forms & Gears is the 12-station hydraulic tombstone fixture supplied to Mushashi Auto to machine multiple models of Honda conrods. Increased clamping speed is one of the advantages of hydraulic fixtures, explained Verghese. Also, rather than taking several minutes to manually tighten and loosen the clamps on a component, a machine operator can activate the complete clamping system in a few seconds.

"We are among the best in fixture manufacture in Asia," says Verghese and adds that several companies from the West are conducting discussions on future business which Forms & Gears is keen to tap. The company is also looking at tying up with fixture manufacturing companies in the USA and Europe in a bid to cut costs. "We are also thinking of acquiring toolrooms outside India in this regard," says Verghese.

The company expects to close this fiscal with a turnover of around Rs 25 crore but clearly the stage is set for bigger business to come. ■





Operators at work; some of the fixtures made at the unit.