

Quality Inspection Services

Inspection Houses are a Great Alternative to Companies with Limited Inspection Capabilities

It was only six months ago that partners Wayne Jordan and Bill Reilly took the plunge and set up Quality Inspection Technologies (QIT), a high quality inspection and calibration house. The pair studied various markets and identified the Beamsville area as an ideal location because it is not serviced by competitors locally, and it is perfectly situated for companies who formerly sent inspection work south of the border. "If you studied trade directories and the Internet, it's obvious that inspection houses are very popular in the United States," says Jordan, "but surprisingly few exist in Canada."

In industries like the automotive business, inspection is an area of ultimate importance, but by the same token, it can also become the bottleneck as well. While they are geared up to handle the inspection workload on a regular day to day basis, neither the OEM, nor the supplier have capacity to maintain the pace when production takes a sudden leap forward. Contract inspection labs are ideally suited to these situations because; both their state of the art equipment and staff are strictly dedicated to inspections, making them ideally suited to high volume situations.

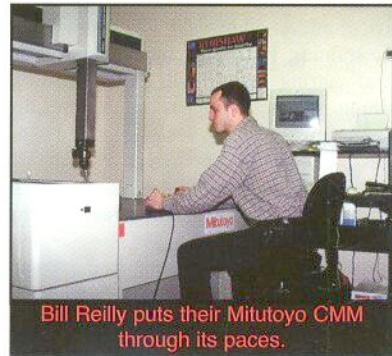
Contract inspection can save money as well. Contract inspection labs have the best and fastest equipment available and they focus solely on inspection, so they can do a part much quicker than a typical manufacturing inspector, considering that an inspector usually has many other duties to fulfill. Many companies cannot justify the expense of these high-tech inspection machines. A typical medium sized DCC CMM machine costs \$150,000 including set-up, taxes, computer and software. A temperature controlled room for the CMM costs roughly \$1,000 a month including floor space and electricity. An annual

maintenance contract (software, calibrations etc.) costs around \$2,500 a year. A skilled programmer/operator costs at least \$50,000 a year. Allowing for 15% cost of capital for the CMM, this comes to \$87,000 a year or \$43.50/hr (if the machine is in use 40 hrs a week). In the real world, CMM's in a manufacturing environment are only busy 50% of the time. In that case it is \$87.00/hr. Only if you use a CMM 40 hours or more every week is it cheaper to do it in-house, and that is rare. QIT charges \$75/hr for their inspection services.

To be able to deliver high quality inspection and calibration work with quick turnaround capabilities they decided to only purchase new state of the art equipment. "We believe that purchasing only the latest in inspection equipment and software will keep us on the cutting edge for today's demands on quality," says Reilly. For inspection work we chose a Mitutoyo Bright 910 DCC CMM; a Mitutoyo PH-3500 Profile Projector and a Fowler Horizontal Calibration Center. With the type of equipment they have and dedicated personnel, QIT usually turns calibration or inspection work around within three to five days where the norm is a week to ten days or more. "For do or die situations where just a small amount of inspection or calibration is involved," says Jordan, "we have been known to do the calibrations and inspections overnight or on a weekend to help a client meet their deadline."

On the CMM they provide first article/prototype inspection; full layout with correction report and PPAP reports; inspection from CAD model; digitizing; reverse engineering; lot inspections; capability studies; part programming for Mitutoyo CMM's; and training on Mitutoyo CMM's. The Profile Projector, with fiberoptic surface illumination and edge detection features, offers support to the CMM for inspecting small intricate parts or small features on parts, including: measuring angles, radii, etc.

The Fowler Calibration Center enables our clients to meet the requirements of section 4.11 of ISO9000/QS9000 for Calibration and Test Equipment. This standard states that suppliers must control all measuring and test equipment that affects product quality. This machine has the Sylvac measuring system, which ensures excellent measuring results with easy manipulation. This helps QIT ensure cus-



Bill Reilly puts their Mitutoyo CMM through its paces.

tomers that quick throughput does not sacrifice high quality standards. Resolution of this machine is 0.00001 in. with a repetitive accuracy of 0.00005 in. "With this versatile machine we can do quick calibrations on dial indicators; external diameters; checking pitch diameters of internal threads; setting of internal comparative measuring instruments; checking external micrometers and checking plug gages," says Jordan.

For ISO 9000/QS 9000 customers QIT can do capability studies where suppliers are required to have proven process capability. In order to achieve this, data is required. Using the DCC CMM program to inspect parts at precisely the same location on each part, process variations are accurately measured. Using a sample size sufficient to emulate the population, statistical analysis can be applied to determine the control limits of any dimensional characteristics.

QIT offers some important tips when considering an inspection house:

1. Make sure they have the right equipment for your job (do they have the right software available to read in and check data if the part is defined by a dataset.)

2. What is the cost of the entire inspection process.

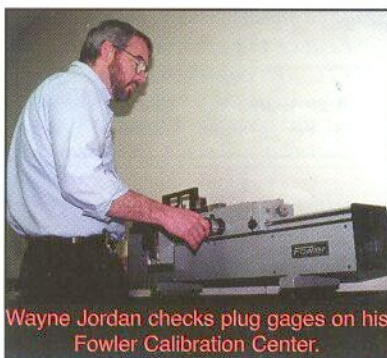
3. What kind of a reputation do they have - check out their references and do they offer a guarantee.

4. What is their current turnaround time and what changes are they willing to make if the volume takes a sudden increase.

5. Visit their facility and meet their staff. It is the dedication of their staff that will keep their service on track.

For more information contact Quality Inspection Services in Beamsville, Ontario.

Reply#369Q



Wayne Jordan checks plug gages on his Fowler Calibration Center.