FIXTURE DEPARTMENT

PRODUCERS OF QUALITY CHECKING FIXTURES AND GAGES

1030 58th ST SW – Wyoming MI, 49509 – Phone: 616-406-0681 – Fax: 616-406-0690

ALTHOUGH ALL TECH ENGINEERING IS WELL KNOWN FOR ITS MAIN PRODUCT OF AUTOMATED SPECIAL MACHINERY, THERE ARE SEVERAL OTHER DEPARTMENTS INSIDE THE WALLS OF ALL TECH.

HERE IS A LIST OF ALL OF THE DEPARTMENTS AT ATE

DESIGN & ENGINEERING DEPARTMENT
AUTOMATED SPECIAL MACHINERY
CHECKING FIXTURES AND GAGES
CMM DEPARTMENT
CNC DEPARTMENT
WELDING DEPARTMENT

SUMMARY & PERSONNEL

ALTHOUGH ATE HAS BUILT SOME CHECKING FIXTURES AND GAGES FOR ITS CUTOMERS SINCE THE COMPANY WAS FORMED IN 1989, WE DID NOT START UP A FORMAL DEPARTMENT WITH DEDICATED PERSONELL UNTIL LATE 2002.

OUR DEDICATED FIXTURE DEPARTMENT CONSISTS OF THE FOLLOWING PERSONELL:

DEPARTMENT MANAGER/PROJECT ENGINEER
TWO DESIGN ENGINEERS
SEVEN FIXTURE BUILDERS
CNC PROGRAMMER
TWO CMM TECHNICIANS
CNC OPERATOR
ENGINEERING ASSISTANT

- THE ABOVE PERSONNEL ARE DEDICATED TO ONLY BUILDING FIXTURES, BUT IN THE CASE WHEN WORKLOAD GETS TO BE MORE THAN WE CAN HANDLE, WE HAVE THE LUXUARY OF SHARING PERSONEL FROM OUR OTHER DEPARTMENTS.

ESTIMATING & PROJECT ENGINEERING

ALL ESTIMATING & PROJECT ENGINEERING IS PERFORMED BY THE SAME PERSON. YOUR COMPANY WILL ONLY NEED TO KEEP IN CONTACT WITH MYSELF WHO HAS OVER 20 YEARS OF QUOTING, BUILDING & PROGRAM MANAGEMENT EXPERIENCE.

DESIGN & ENGINEERING

AT THIS TIME ALL OF OUR DESIGNING IS DONE IN MECHANICAL DESKTOP, 3-D SOLID MODEL DESIGN. WE ARE ALSO CAPABLE OF READING ALL FORMS OF DATA. ALL OF OUR DESIGNS ARE FULLY DETAILED AND WE PROVIDE AN ENGINEERING BOOK WITH EACH FIXTURE, WHICH MAY INCLUDE THE FOLLOWING:

FIXTURE DESIGN LAYOUT
FIXTURE STOCKLIST
GD & T/PART PRINTS
CMM CERTIFICATION REPORTS
PREVENTIVE MAINTENANCE SCHEDULE
PART LAYOUT REPORTS (IF REQUIRED)
FIXTURE DESIGN DETAILS
FIXTURE SUPPLIER LIST WITH PHONE NUMBERS
GAGE R & R REPORTS (IF GRR IS PERFORMED)
ORIGINAL QUOTE & PO
CD WITH ALL OF THE ABOVE INFORMATION
ONE COPY PROVIDED IN 3 RING BINDER

- ALL FIXTURES ARE DESIGNED TO THE CUSTOMER REQUIREMENTS AND REQUIRE CUSTOMER SIGNOFF BEFORE WE PROCEED ONTO THE ACTUAL BUILD STAGE.

CONSTRUCTION

OUR FIXTURE ARE BUILT USING THE DOWEL PIN CONSTRUCTION METHOD. SINCE ARE DESIGNS ARE FULLY DETAILED ALL SCREW & DOWEL LOCATIONS ARE PUT IN PER PRINT. THIS MAKES ENGINEERING CHANGES MUCH EASIER & FASTER WITH THE FIXTURE ONLY NEEDED AT ATE FOR ASSEMBLY & CERTIFICATION.

- BUILD TIME IS ALSO MUCH FASTER, BECAUSE SEVERAL PHASES OF THE BUILD CAN BE DONE CONSECITIVELY.

CERTIFICATION

WE FULLY CERTIFY EACH FIXTURE USING ONE OF OUR TWO NEWER CMM'S WITH PC DMIS SOFTWARE. FOR MORE INFORMATION SEE THE CMM DEPARTMENT INSERT.

OTHER REASONS TO USE ALL TECH ENGINEERING FOR FIXTURE AND GAGES

- WELL VERSED IN GD&T INTERPRETATION
- YOU GET THE BENEFITS OF WORKING WITH A SMALL COMPANY THAT CAN HANDLE THE WORK OF A LARGE COMPANY
- HIGH QUALITY WORKMANSHIP
- WE STAND BEHIND OUR PRODUCT ESPECIALLY AFTER IT IS SHIPPED
- FACILITIES AND EQUIPTMENT CAPABLE OF BUILDING VERY LARGE FIXTURES

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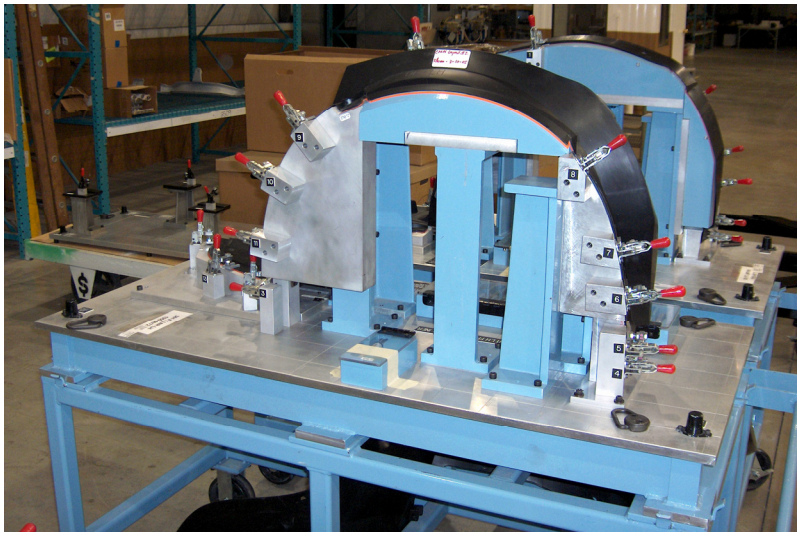


These are attribute style check fixtures for RH & LH Front Fender Liners. They are constructed of fixture plank and aluminum, built in car position on Tool Tec style welded bases.

We also provided this customer with welded steel tubing gage carts.

For this program we also provided a gage R & R using our CMM to get data. We also did a (3) part full CMM layout of the parts to GD & T and provide the entire package to the customer.

Providing the entire fixture and dimensional package has been very popular and makes it much easier for our customers to PPAP their parts.

This is a fixture for the Pontiac Solstice. It is called the "Tulip Panel". This fixture checks the part as an assembly.

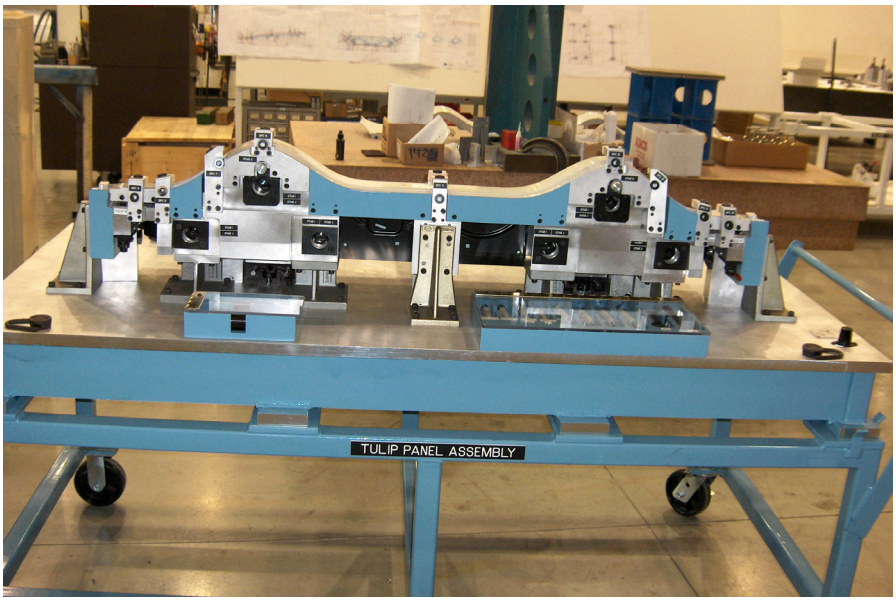
The assembly consists of three SMC pieces and one large Sheet metal piece.

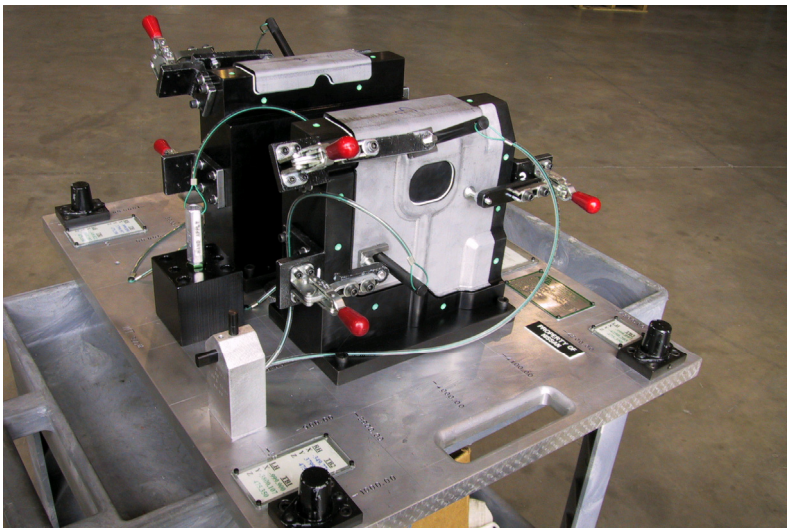
This fixture has (23) variable data points as well as attribute flush and feeler rails.

There are also (2) separate datum schemes to set this part up to.

Note the boxes mounted on top of the bases. They are storage cases for all of the go/no go & stab location pins.

Fixture was later updated to also check the Saturn Sky part.





Here is a picture of a smaller attribute style check fixture for a RH & LH steel stamping on a common 1" cast aluminum base.

The nests are CNC cut from pre hardened steel.

The dots you see in the picture are for color coding of the flush and feeler checks.

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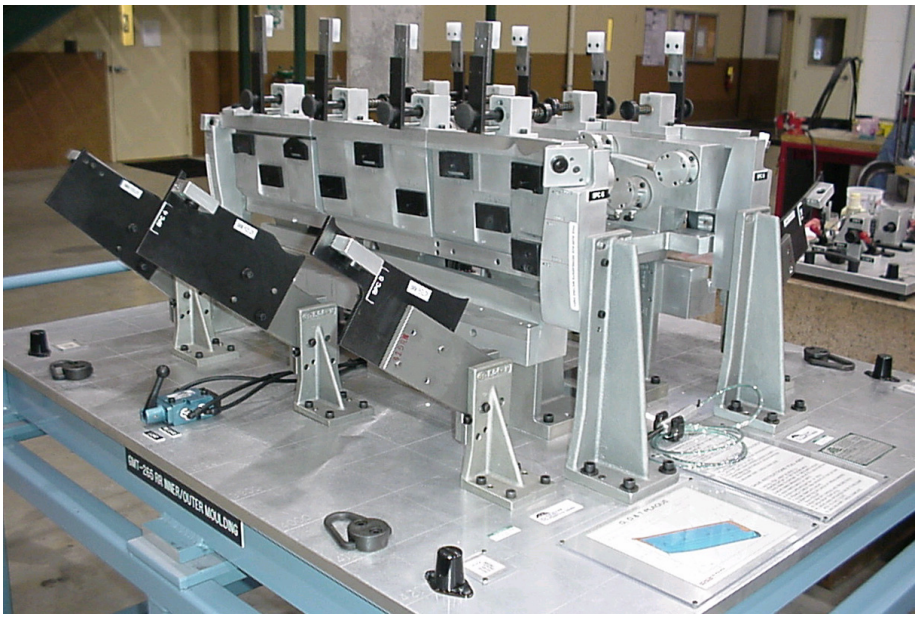
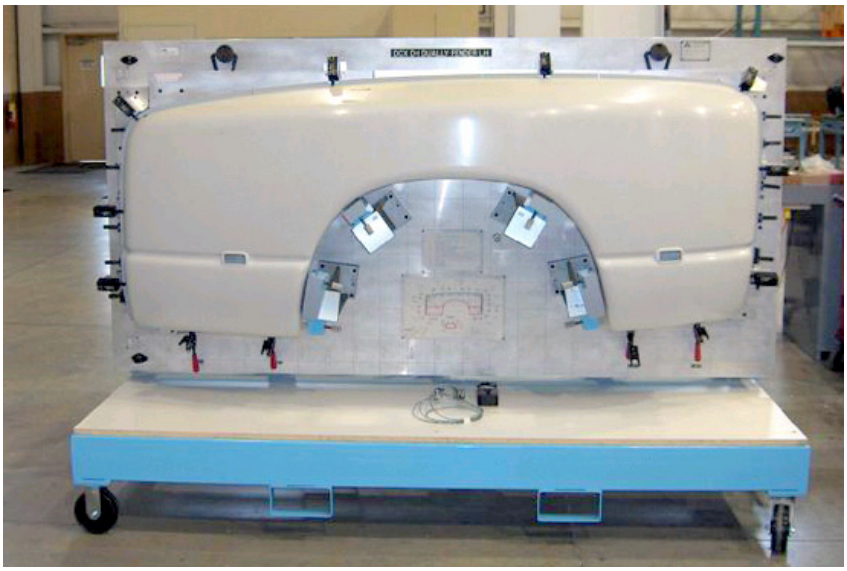
This is a picture of an air operated fixture. This fixture is checks a RH/LH Door Panel Molding.

This fixture is capable of check the part three different ways.
1 - **As molded** – This version checks the part after it is molded

2 - **As an Assembly** – The nets interchange and when clips are on the part they snap on the fixture similar to how they snap on the vehicle. The air cylinders (9 per hand) strip the part off the fixture without damaging the parts.

3 - **Representing sheet metal** – the feeler rails interchange. One set of feeler rails are CNC cut 6mm feeler to the part and another set of feeler rails represent sheet metal.





Here is one of our larger fixtures we have built. This is one hand of the Rear Fender for the Dodge Ram Dually Pick-up Truck.

This fixture has a full flush feeler rail and (8) SPC checks.

The fixture holds the part in car position, but can be removed from the frame and also checked 90 degrees to car position.

Here's a birds eye view of the fixture area. The entire shop floor is over 60,000 square feet and the fixture department uses approx 10,000 square feet when filled.

The shop has several 5 & 10 ton cranes which also are accessible in the fixture department, so no job is too big.

If you are in need of a quality checking fixture or gage, no matter what size, please contact us here at All Tech Engineering. We would be glad to talk to you and arrange for you to come to the shop and see what we have to offer your company.

Thank-You from the employees of ATE – All Tech Engineering, Inc.