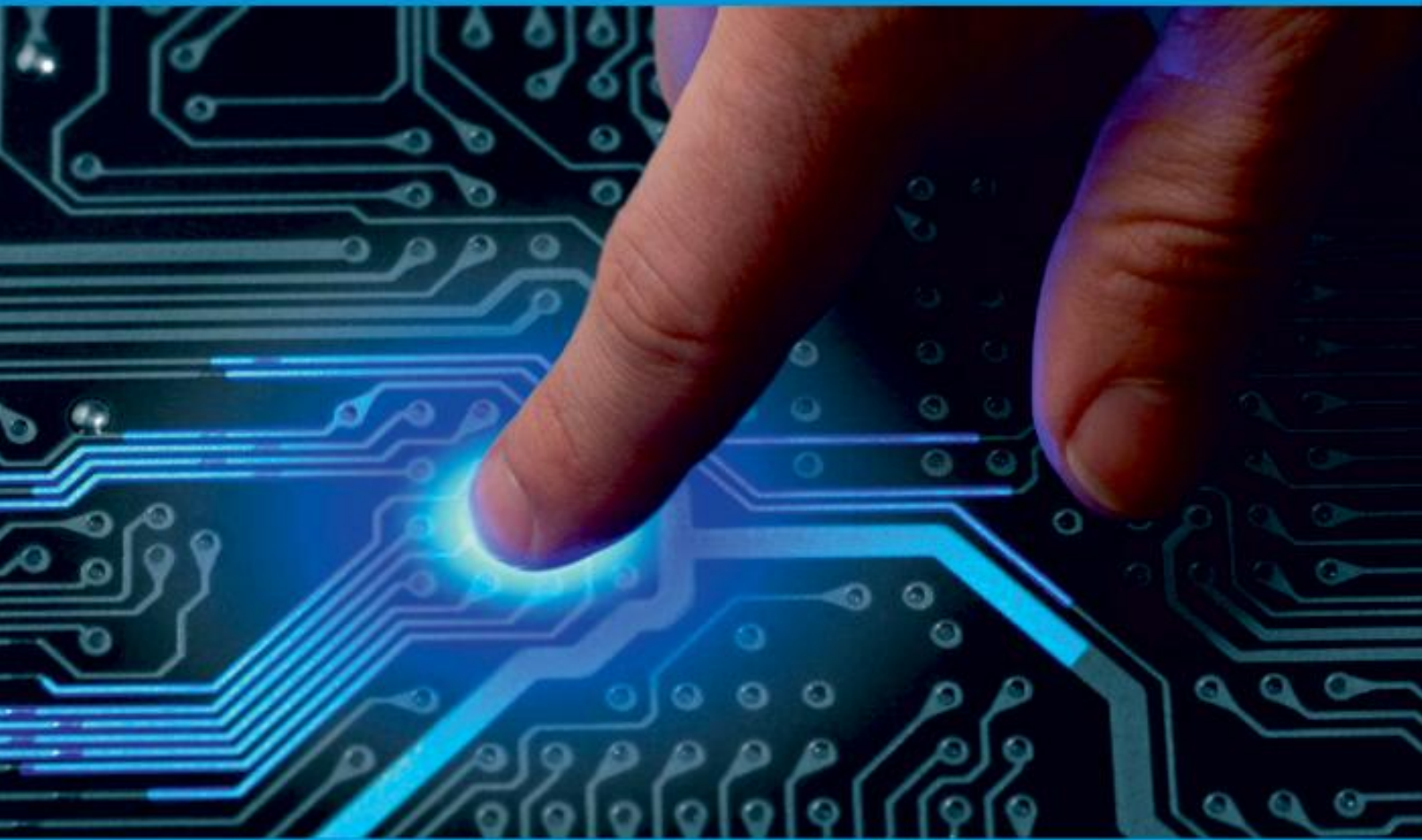




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Torque Testing Fixture for Multiple Parts

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ABSTRACT: Torque testing activity is a Customer requirement so, our project will be a working model which Torque testing fixture to measure torque by torque wrench. A torque wrench is used for measuring the torque on wise causes with nut assemble part for safety use in car so, torque testing activity is daily basis conduct because customer requirement. Also daily basis torque testing reading write down in report. Nut torque testing method is on wise conduct but this process is lengthy. In Torque testing fixtures, minimizing workpiece loading and unloading time is essential to maintain the testing accuracy. The fixture set up for component is done manually. For that more cycle time required for loading and unloading the material. So, there is need to develop system which can help in improving productivity and time. Fixtures reduce operation time and increases productivity and high quality of operation is possible.

KEYWORDS: Torque testing fixture for multiple parts, Torque accuracy

I. INTRODUCTION

This project is made in JBM Auto limited, Chakan, Pune, Maharashtra. JBM company customer is a Skoda Volkswagen Pvt. Ltd.

At JBM company sheet metal part assembly produced for car and Model name SK-216 and SK-271

Cars Name:- 1) Kushaq 2) Taigun 3) Slavia 4) Virtus

VW Group procedure for safety parts important to human being. Torque testing fixture made for nut torque testing.

Torque testing fixture has daily basis use for nut torque testing.

Torque testing fixture is a strategy used by many different types of companies (Mainly Automotive). The fixtures are to hold multiple parts together in their proper relative position. Fixture are carefully made to hold the various parts welded in proper locations. The fixture must be pretty stable and rigid to withstand the welded nut on part test.

The fixture is a holding a work piece in proper position during torque test operation. For supporting the work piece, device is provided. Frequent checking, positioning, individual marking and non-uniform quality in manufacturing process is eliminated by fixture. This increase productivity and reduce operation time. Fixture is widely used in the industry practical production because of feature and advantages. To locate and immobilize workpieces for torque checking. A fixture consists of a set of locators. Locators are used to determine the position and orientation of a workpiece. The design of a fixture is a highly complex and intuitive process, which require knowledge. Fixture design plays an important role at the setup

planning phase. Car manufacturing is a large industry and requires a lot of attention when it comes to the quality and durability of the Car. When it comes to Car manufacturing one of the most important key characteristics is nut which needs to fit correctly and precisely so as to secure the Car completely. The quality of the Car cannot be compromised upon as it is interlined with the safety. The torque wrench was developed in between late 1920s and early 1930s by Walter Percy Chrysler for the Chrysler Corporation and a company known as Micrometric Hone. A torque wrench is almost universally used to work on cars and bikes, and it can be used to check nut strength. Torque wrenches are adjusted by hand, so you don't need any other tools to operate one. To use a torque wrench, adjust the handle and set it to a specific level of torque. The end of the handle to lock it in place. Then, fit it over the socket and turn it clockwise to check nut torque. When force is applied to the handle it will deflect predictably and proportionally with said force in accordance with Hooke's law. When you're done, turn the settings on the handle back to 0 and store it somewhere safe. Get your torque wrench calibrated at least once a year to ensure that the hash marks remain accurate. So, the aim of this project is to replace with bench wise machine to save time for loading and unloading of component.

II. PROBLEM STATEMENT

Torque checking fixture play a major role in the Automobile industry, product quality as well as productivity become important issues. Problems with torque measurement in operational tests are considered. Introduction with torque definition is included. Short overview Nut welded part is check torque on bench wise but problem is part faxing in

bench wise. This is not safe for human chances of accident torque taken time. Also because of excess time use for torque take.

III. RESULTS

Torque testing procedure



TORQUE TAKING PROCEDURE					
BEFORE	01	02	03	04	05
	Part Fix in bench vice	Bolt insert in nut	Limit serter	Display miter	Torque wrench fix in bolt and take torque in aniclockwise direction
AFTER	01	02	03	04	05
	Part locate on fixture	Bolt insert in nut	Limit serter	Display miter	Torque wrench fix in bolt and take torque in aniclockwise direction

Fixture implementation done with customer approval



- Fixture implementation done
- Torque testing fixture for multiple parts



Fig. Torque testing fixture

IV. CONCLUSION AND FUTURE WORK

This paper presented Torque measurement testing on fixture for multiple parts. Torque testing measurements were done on fixture by using torque wrench. Torque easily taken and torque measurement cycle time has reduced. Torque taken time the spring-style torque wrench produced values that changed significantly after multiple mechanical. Torque testing fixture is a strategy used is many different company's. Fixtures are essential elements of torque measuring and Responsible for holding the work accurately and securely. Fixture ensure that they fullfill their function economically is vital to the success.

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