THE DEVELOPMENT D.I.Y FUEL INJECTOR NOZZLE TESTER AS TEACHING AID MODULE

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1. ABSTRACT

Every machinery must be serviced within time in order to get a maximum quality or gained the optimum output work produced. So, this product was created to be used mainly by fishermen to service their own fuel injector and test its efficiency in case of they are having engine difficulties as such too much smoke coming out from their engine. This product does not highly cost, so fishermen will be able to buy each of the compartment and assemble it themselves

2. OBJECTIVES

i. To design & fabricate DIY fuel injector nozzle tester system that can be used for repair & maintenance of diesel engine fuel injectors

ii. To encourage fishermen and boat owner in developing their own fuel injector nozzle tester for injectors maintenance to save their operation cost and extend engine lifetime

3. METHODOLOGY

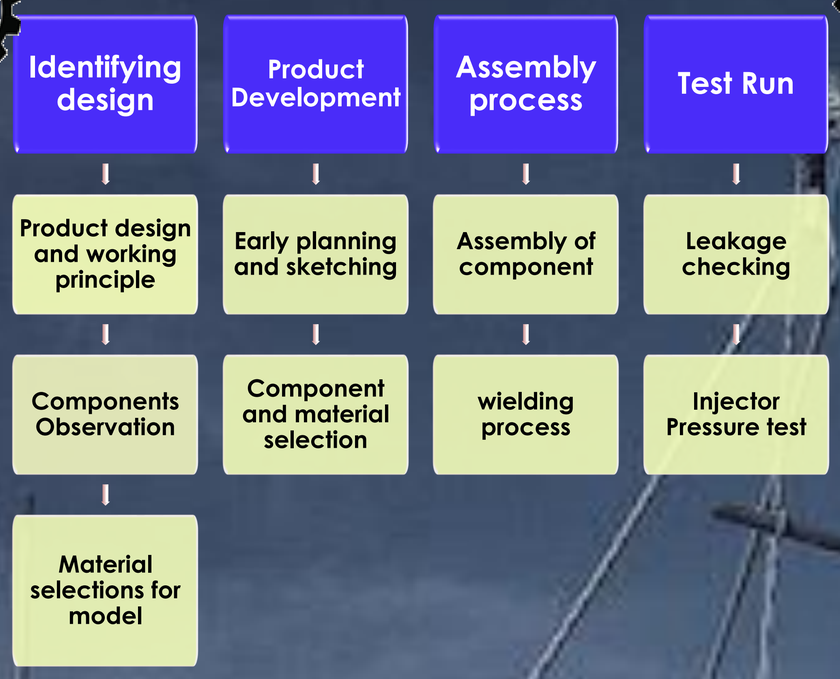

Fig. 1: Process flow of project

Fig. 2: Components of the HYRAULIC JACK

4. RESULTS

i. Injector Nozzle Tester developed using HYDRAULIC JACK.

ii. The Injector Nozzle Tester components were mainly build from recyle material.

iii. Two type of injector taken to test the injector nozzle system which are '3TGE Yanmar Injector' and 'Diesel Engine injector'

iv. Fuel injector performance observed from spray pattern produced during testing & commissioning

v. Teaching module developed to assist users in repair and maintenance their fuel injector

5. PROTOTYPE

Fig. 3 : Arrangement from various components to create the pressure tester

Fig. 4 : Leakage checking

Fig. 5 : Assembly of various components

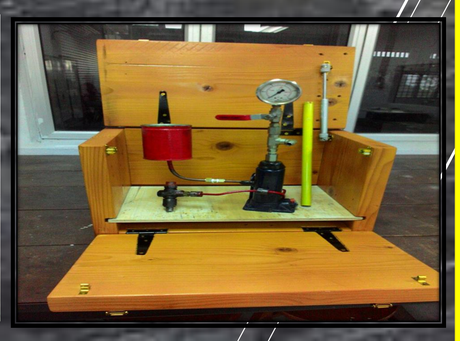

Fig. 6 : 'DIY Fuel Injector Tester' Product

6. COMMERCIALIZATION POTENTIAL

i. This product primarily focus for diesel engine users where they are able to test their fuel injector by themself thus resulting in cost saving of maintenance and repair cost

ii. The developement of DIY Fuel Injector Tester have been used as teaching aid module in various education institutes and fisheries department.

iii. Commercial vehicles

7. CONCLUSION

i. DIY fuel injector nozzle tester system successfully developed.

ii. Fuel injector nozzle tester has been used as teaching aid module.

8. INVENTORS

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10. ACHIEVEMENT

WON 1 BRONZE MEDAL