

# **IMPROVEMENT OF AUTO AIR-CONDITIONING INSTRUCTIONAL MODEL**

Undergraduate Design Project  
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of the requirements for the degree  
Bachelor of Industrial Technology



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*Improvement of auto air-conditioning  
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## ABSTRACT

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Air-conditioning system plays an important role on the operation of an automobile. It gives comfort to the driver and even the passengers as well. Generally, the study focused on the improvement of auto air-conditioning instructional model. Specifically, it aimed to design and construct a single air conditioning system mock-up to be used by other learners to learn the principles of auto air-conditioning.

The project design was useful and effective to gather more knowledge for the future students and made more efficient to understand the idea on how to improve an auto air conditioning system, its process, operations, and even enhance their skills through actual application. This would serve as a guide to further know the principles about car air-conditioning system.

The reconstruction and improvement of the design project begin with the cleaning and reconditioning of the existing trainer which was not normally functioning before. The existing metal frame was fully welded with a galvanized iron pipe stand to hold the weight and stability of the air-con model. The lacking parts was replaced with new one and the other was repaired. The electrical system components and accessories were also mounted and installed to fully attain a smooth working model. The newly installed glass framed chamber was installed with magic tint to attain the desired coldness in the chamber. It is connected from the evaporator passing through the washing machine hose that served as refrigerant passage from the main source or the compressor.



The trainer was proven effective in terms of giving technical knowledge and skills for the learners because the results showed a convincing 18 degrees Celsius of coldness after five minutes run time of the compressor. The result of the students and faculty evaluation also reveals the satisfaction of the evaluators since the weighted mean is 4.64, interpreted as outstanding.

Based from the result, it was highly recommended that an overload relay or circuit protection device must be installed on the connected wires from the converter before going to other components and to utilize other higher electric motor rating to obtain colder output.



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