

[AE] Article Review Request 🔍 Kotak Masuk x



**Muji Setiyo** <setiyo.muji@228547822.t-sender-sib.com>  
kepada saya ▾

Jum, 5 Apr, 15:15 ☆ 😊 ↶ ⋮

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Suroto Munahar:

I believe that you would serve as an excellent reviewer of the manuscript, "Experimental Analysis of the Influence of a Compressed Natural Gas (CNG) - Air Mixer on Performance and Emissions in Partial Load CNG-Diesel Dual Fuel Engines," which has been submitted to Automotive Experiences. The submission's abstract is inserted below, and I hope that you will consider undertaking this important task for us.

Please log into the journal web site by 2024-04-12 to indicate whether you will undertake the review or not, as well as to access the submission and to record your review and recommendation. The web site is <https://journal.unimma.ac.id/index.php/AutomotiveExperiences>

The review itself is due 2024-04-19.

If you do not have your username and password for the journal's web site, you can use this link to reset your password (which will then be emailed to you along with your username). <https://journal.unimma.ac.id/index.php/AutomotiveExperiences/login/lostPassword>

Submission URL: <https://journal.unimma.ac.id/index.php/AutomotiveExperiences/reviewer/submission?submissionId=11195>

Thank you for considering this request.

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"Experimental Analysis of the Influence of a Compressed Natural Gas (CNG) - Air Mixer on Performance and Emissions in Partial Load CNG-Diesel Dual Fuel Engines"

The energy crisis and the threat of global climate change have spurred various research efforts and alternative initiatives to find substitutes for fossil fuels, improve energy efficiency, and reduce emissions, especially greenhouse gases. The shipping industry is one of the contributors to global emissions that has received particular attention due to the increasing demand for maritime transportation services. The use of natural gas is considered a potential solution due to its relatively clean nature, abundant availability, and competitive pricing. The CNG-Diesel Dual Fuel Engine design is developed with the principle of using natural gas as an alternative fuel without replacing the existing diesel engine. Minimal modifications are made to the intake manifold to accommodate CNG entry. Despite its advantages, the development of dual fuel engines faces challenges, such as increased methane emissions due to the potential for incomplete combustion. This research conducts experimental studies on the use of a Venturi-like mixer in the intake manifold to enhance the homogeneity of the CNG-air mixture before entering the combustion chamber. Testing the mixer's influence is carried out under various CNG injection durations at low and high engine loads at constant speeds. The results indicate that the addition of the mixer does not immediately improve combustion quality or reduce emissions. Attention to conditioning the homogenous mixture at the required air-fuel ratio before entering the combustion chamber is crucial. The selection of the appropriate mixer design, diameter size, and placement of holes needs careful consideration

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## [AE] Article Review Acknowledgement Kotak Masuk x



**Muji Setiyo** <setiyo.muji@228547822.t-sender-sib.com>  
kepada saya ▾

Sen, 29 Apr, 16.15 (11 hari yang lalu) ☆ 😊 ↶ ⋮

[Terjemahkan ke Indonesia](#) x

Suroto Munahar:

Thank you for completing the review of the submission, "Experimental Analysis of the Influence of a Compressed Natural Gas (CNG) - Air Mixer on Performance and Emissions in Partial Load CNG-Diesel Dual Fuel Engines," for Automotive Experiences. We appreciate your contribution to the quality of the work that we publish.

Muji Setiyo  
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## Result Review:

This article is quite interesting to discuss. However, there are several very crucial points that need to be explained, including:

1. Diesel engines work based on high compression pressure so that self-ignition/auto ignition occurs. Combustion is controlled based on the time of injection (fuel is injected several degrees before Top Dead Center) so that knocking does not occur. In this article CNG is added directly to the intake manifold. This construction has great potential to cause knocking. In this article it has not been explained whether the addition of CNG directly causes knocking or not. Provide arguments based on confirmable data. If this happens, provide a solution to prevent it because knocking can cause serious damage to the engine.
2. The emission results are explained in the article, however the testing apparatus (emission test set-up) has not been explained in the body of the article. Without this the data collection process is difficult to explain.
3. On the fifth page there is this information
4. CNG injection with a duration of 5 Ms, 7 Ms and 10 Ms. However, there is no explanation regarding injection systems such as simultaneous or sequential types.
5. The sixth page mentions power testing, however there are several points that need to be conveyed:
  - A. In the article we do not see the dynamics of the power generated in relation to changes in power per unit of time, so it is difficult to explain the power dynamics that occur. It is advisable to display changes in unit power over time and to display the differences between each system implemented.
  - B. Confirmed analysis is needed regarding changes in power to the injection duration system.
6. Figures 1-6 and Table 1-2 do not contain any explanation of the information in the previous paragraph so it will confuse the reader.
7. Figure 3 – Figure 6 contains information about A1, A2, A3, B1, B2, B3. This information is not clear even though on page 5 it is stated that A is a low load condition, B is a high load condition.
8. Figure 1 shows a PLC, electric water heater. What are the functions of these two components regarding the correlation of machine tests that are applied?
9. Figure 2 is still unclear. For this reason, it is necessary to provide notations to explain each item. Also explain where is picture a and picture b.
10. Figure 3 and Figure 6 show the research results, but there is no discussion that can be compared with previous researchers or other references as a reference/comparison.
11. For the emission results that have been measured, it is necessary to make a graph that can display data per unit of time that can be analyzed with each apparatus so that the dynamics can be seen.
12. This article requires several equations for the analysis of the system being developed.
13. From articles that have been published from the previous period: <https://journal.unimma.ac.id/index.php/AutomotiveExperiences/article/view/7807/3853> What are the advantages offered by this written article? compared with articles that have been published from the previous period.
14. The results of the mixer design and the actual object need to be displayed in the body of the article.
15. Abstracts need to display an introduction, method, results and discussion, but this article has not yet been seen explicitly.