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# COVER LETTER

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Dear,
I/We wish to submit an original research article entitled "[**RECONDITION INJECTOR NOZZLE AND ITS PRESSURE EFFECT ON PERFORMANCE PARAMETERS OF DIESEL ENGINE KOMATSU TYPES SAA12V140E-1**
]" for consideration by SINERGI.

I/We confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere.

I/We confirm that we will continue to follow and carry out the process of this article in accordance with the provisions and are willing to accept penalties for not implementing them.

In this paper, I/we report on / show that:

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| Topic | : | Reconditioning of injector nozzle |
| Brief Background | : | The injector is one of the main components in a diesel engine fuel system. A typical fuel injector has two basic parts: the nozzle and the injector body. If either of these components gets clogged or damaged, it will compromise the entire performance of the engine. Any injector problem can easily be fixed by cleaning, recondition or replacing. If the engine is producing low power, replacing of injector nozzle with a new injector nozzle is necessary so that engine performance reaches standard performance. However, replacing a new injector nozzle carries a huge maintenance cost. In this research Reconditioning or repair the used injector nozzle to increase the fuel injection pressure to the engine is one solution that can be done so that improve engine performance with low maintenance costs. |
| Research Problem | : | How to repair the used injector nozzle and then evaluating the effect injector pressure on the diesel engine performance. |
| Overview of Method | : | This research was conducted at Plant Rebuild Center of PT XYZ. The research was conducted in two phases. The first testing was done using a used injector nozzle or nozzle prior |

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| | | to repair or reconditioning. The second testing was carried out using a reconditioned injector nozzle. The performance parameters of the diesel engine for each phase were investigated.<br><br>There are three steps to the injector nozzle repair process. Initial testing of the injectors is carried out in the first stage which includes checking the coil resistance, inductance, and its fault to frame. In the second step, parts of the injector were disassembled and then washed. Before assembly the injector nozzle, replacing the needle valve and shim adjustment have been done. After that, the test was carried out using an injector tester as shown in figure 3. Verification of the nozzle pressure according to the standard was carried out in the 3rd step. If the injector nozzle pressure is higher than standard, replace the injector shim with a lower value of thickness and vice versa |
| Significant finding | : | As fuel injection pressure increases, brake power and brake thermal efficiency increase but specific fuel consumption decreases<br>For both used injector and repaired injector, the minimum specific fuel consumption (SFC) does not occur at the maximum brake power (BP) generated, this means that on the diesel engine never occurs in a condition of maximum power generated with minimum specific fuel consumption or vice versa. |

We have no conflicts of interest to disclose.

Thank you for your consideration of this manuscript.

Sincerely,

[ Amiral Aziz ]

# AUTHORSHIP STATEMENT

I/We wish to submit an original research article entitled "[***title of article***]" for consideration by SINERGI.

All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated sufficiently in work to take public responsibility for the content, including participation in the concept, design, analysis, writing, or revision of the manuscript.

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