

# **REKONDISI SISTEM PENDINGIN *ENGINE STAND* MESIN TOYOTA COROLLA 4A-FE**

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## **ABSTRAK**

Penulisan laporan Proyek Akhir ini bertujuan untuk: 1) mengetahui prosedur pemeriksaan komponen sistem pendingin pada *engine stand* mesin Toyota Corolla 4A-FE, 2) mengetahui proses rekondisi sistem Pendingin pada *engine stand* mesin Toyota Corolla 4A-FE, 3) mengetahui kinerja sistem pendingin *engine stand* setelah dilakukan rekondisi sistem pendingin mesin Toyota Corolla 4A-FE.

Proyek akhir ini dilaksanakan melalui beberapa tahapan yaitu, perancangan, proses rekondisi dan pengujian kinerja sistem pendingin. Proses perancangan yang dilakukan adalah merancang proses rekondisi yang akan dilakukan, merancang kebutuhan alat dan bahan yang akan dibutuhkan, merancang jadwal pelaksanaan proses rekondisi dan pengujian, dan merancang anggaran biaya yang diperlukan untuk merekondisi sistem pendingin ini. Proses rekondisi dimulai dengan mengidentifikasi kerusakan *engine stand* mesin Toyota Corolla 4A-FE dilakukan dengan cara memeriksa kondisi komponen, memeriksa kinerja komponen, dan melakukan pengukuran. Dan kerusakan terdapat pada sistem pendingin karena terdapat kebocoran pada sistem pendingin. Oleh karena itu, Proses rekondisi sistem pendingin *engine stand* mesin Toyota Corolla 4A-FE dilakukan melalui beberapa tahap yaitu identifikasi terhadap kerusakan-kerusakan yang terjadi, penggantian komponen yang mengalami kerusakan ataupun hilang dan tidak bisa digunakan lagi, dan pengujian sistem pendingin.

Dari hasil kinerja mesin Toyota Corolla 4A-FE yang awalnya berada dalam kondisi mati dan tidak dapat berfungsi, setelah dilakukan proses rekondisi sistem pendingin yaitu dengan melakukan perbaikan komponen radiator, penggantian selang radiator, penggantian tutup radiator, penambahan *reservoir tank* dan komponen lainnya sehingga sistem pendingin dapat berfungsi kembali untuk digunakan praktikum di bengkel Jurusan Pendidikan Teknik Otomotif Fakultas Teknik Universitas Negeri Yogyakarta.

Kata kunci: rekondisi sistem pendingin, mesin toyota corolla

# **RECONDITION OF THE ENGINE STAND COOLING SYSTEM TOYOTA COROLLA 4A-FE**

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## **ABSTRACT**

*The writing of this Final Project report aims to: 1) know the cooling system component inspection procedure on the Toyota Corolla 4A-FE engine stand engine, 2) know the cooling system recondition process at the Toyota Corolla 4A-FE engine stand engine, 3) know the performance of the engine coolant system stand after reconditioning the Toyota Corolla 4A-FE engine cooling system.*

*This final project is carried out through several stages, namely, design, reconditioning process and cooling system performance testing. The design process undertaken is designing the reconditioning process that will be carried out, designing the needs of tools and materials that will be needed, designing the implementation schedule for the reconditioning and testing process, and designing the budget needed to recondition the cooling system. The reconditioning process begins by identifying the damage to the Toyota Corolla 4A-FE engine stand by checking the condition of the components, checking the performance of the components, and taking measurements. And there is damage to the cooling system because there is a leak in the cooling system. Therefore, the process of cooling the engine cooling system of the Toyota Corolla 4A-FE engine is carried out through several stages, namely identification of damages that occur, replacement of damaged or missing components that cannot be used anymore, and cooling system testing.*

*From the results of the performance of the Toyota Corolla 4A-FE engine which was initially in a dead condition and cannot function, after the cooling system reconditioning is done by repairing radiator components, radiator hose replacement, radiator cap replacement, adding reservoir tanks and other components so that the cooling system can function again for practicum use in the workshop of the Department of Automotive Education, Faculty Of Engineering Yogyakarta State University.*

*Keywords: reconditioning cooling system, Toyota corolla engine*