

## A Study on the Actual Condition of Automobile Mechanic's Coverall

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*Introduction:* The importance of services for automobile maintenance is increasing as more and more people use automobiles in their daily lives and become interested in the safety of automobiles. Automobile mechanics conduct not only simple maintenance works but also other works including welding, plate work, polishing, and painting, which expose them to many injurious factors. Therefore, they are in desperate need of work clothes which is functional enough to protect them from these factors and which eases discomfort while working. Kim (2007) suggested that the purpose of wearing work clothes is not limited to functionality such as simply enhancing work efficiency and protecting the body; rather, certain desires including elevating the mood of mechanics, showing the mechanics' characteristics, or increasing self-esteem in their job. It is obvious that automobile mechanics want work clothes in which aesthetics or expressions are reflected rather than only those with functionality. In order to develop work clothes that enable the mechanics to express their characteristics and have a sense of belonging while protecting their body and enhancing work efficiency, an investigation into the actual usage of working clothes by those in the field of services for automobile maintenance should be conducted in advance. In addition, there is a need to explore different types of work clothes, practical problems, and the ways to improve them. Therefore, this study aims to provide basic information for development of coverall which meets the needs of automobile mechanics by exploring the types and characteristics of the work clothes worn by them and investigating the current state of coverall, problems, and suggestions for improvement mainly in the automobile maintenance franchises of domestic conglomerates.

*Methods:* We conducted thorough investigation into the previous studies and literature regarding the work clothes of automobile maintenance mechanics in order to clarify the types and characteristics of the current work clothes worn by them. In addition, I visited the automobile maintenance franchise of domestic conglomerate in person to conduct an interview with 15 male employees with 5+ years job experience. Through in-depth interviews, we collected data on the problems and suggestions for improvements on the design, material, size, and suitability for working of the current work clothes.

*Findings:* The literature investigation indicated that there are two types of work clothes worn by automobile maintenance mechanics: coveralls and work clothes with a separate top and bottom. In case of coveralls, it is more difficult to put on or take off the clothes compared to the separate work clothes. However, the coverall is heat resistant and the possibility of injury is much lower. This is due to the coverall's connected top and bottom. On the other hand, the separate working clothes are much easier to take off, but it is not as heat resistant as coveralls. There is a higher

possibility of injury since the top and bottom are separate (Kim, 2016). The interview results showed that the mechanics wore different types of work clothes depending on their line of work, and that their problems or suggestions were different among the interviewees. The common problems and suggestions for improvement of coveralls are as follows. First, in case of design, they pointed out the ‘limited color’, ‘limited outer design choice’, ‘inconvenience in dressing and undressing’, negative connotations formed through the color or appearance of coveralls, inconvenience in bathrooms, and the inconvenience of changing. Second, they said that the lack of ‘oil-resistance’, ‘durability’, ‘flexibility’ were the problems of coveralls. They stated their need for work clothes that are durable and resistant to contamination. The mechanics have to wash their clothes often due to the oil or dirt they get in their course of work. Finally, in case of size and suitability for work clothes, they complained that ‘the arms or legs are short when they wear coveralls in the size of their casual clothes’, ‘it is uncomfortable when they need to raise their arms or squat’, and that the ‘back of their necks or their crotches are too tight when they are working’.

*Conclusions:* This study aimed to provide basic information for development of coveralls which reflect the needs of automobile mechanics. We explored the types and characteristics of work clothes worn by mechanics through previous studies and literature, and derived problems and suggestions for improvement of coveralls from the interviews on the automobile mechanics in the field. In a follow-up study, we aim to conduct survey through questionnaire based on this preliminary study to propose new coverall design developments that will reflect users’ demands in terms of design, material, and pattern. To evaluate these new designs, actual mechanics will conduct a functionality evaluation.

#### References

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