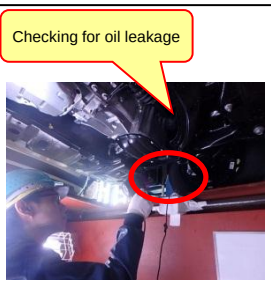
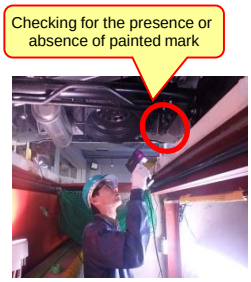
Process	Inspection	Approach for Kaizen	(4) Productivity improvement	Presented by	Shinya Shimada
Company name	Daihatsu Motor Co., Ltd				
Section	Quality Section No. 2, Honsha (Ikeda) & Kyoto Plant Quality Control Div. 2				
Title	Kaizen of chassis inspection/confirmation method in final confirmation inspection process				

Before Kaizen (situation and problem)

[Previous situation] An inspector was assigned to an in-pit final confirmation inspection process to check brake caliper bars and shock absorbers for oil leakage, as well as to check the presence or absence of painted marks that were put on bolts/nuts to assure that they were securely tightened in the assembly process.

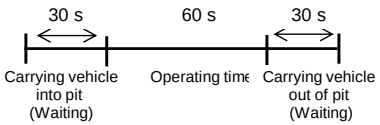
In the final commissioning inspection process, each completed vehicle was driven on a rough road (to impart loads by driving the vehicle on a harshness road and quick turning). Following the above process, the vehicle was carried into the final confirmation inspection pit to check for oil leakage or other abnormality.





Problems

- In the line tact time of 120 seconds, the inspector had to wait for 60 seconds while the vehicle was moved (carried into and out of the inspection pit), which generated the Muda waiting.
- The inspection pit was an only place where the inspector could inspect completed vehicles from underneath after they were subjected to the final commissioning inspection.
- Because the inspection pit was isolated, it was difficult to check the physical conditions of the operator (health, unsafe action, etc.)..



After Kaizen (description of Kaizen and **point of view for Kaizen**)

Is it necessary to assign an inspector to the pit? ⇒ It will be possible to save one inspector if completed vehicles could be inspected in a different place.

Objective: Saving one inspector

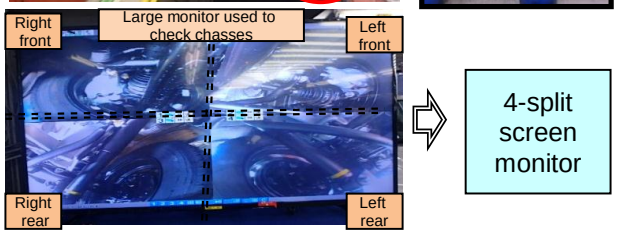
1. Installation of fixed point cameras at several points along the chassis path (for checking oil leakage and painted marks)
2. Setting a large monitor on which chasses can be inspected visually (Inspection is performed by the inspector in charge of the next process.)

Key points

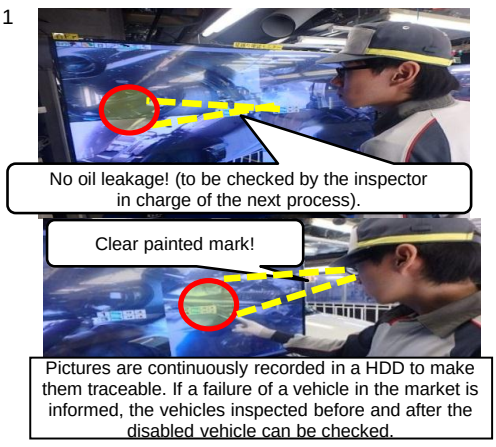
1. Use of a four-split screen monitor that allows the inspector to check the portion in question without switching the display
2. Taking the pictures of oil leakage and painted marks at the same time
3. Inspection is performed by the inspector in charge of the next process.
4. Pictures are continuously recorded in a HDD to make them traceable.

Fig. 1

Fig. 2



Procedure 1



Cost-effectiveness (**expenses for Kaizen versus cost reduced by Kaizen**)

- One worker could be saved by eliminating the final chassis confirmation inspection in pit.
- The conditions of vehicles when they are shopped can be traced back.
- Work safety has been enhanced.

Effect of Kaizen amount:
¥600,000/month