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Objective:

To create right hand steps to access the window and to adjust the mirror. In addition to relocating the toolbox on the Case IH and New Holland tractors. All of this needs to conform to the European standards of 2.55 meters (8' 4"). The design for the steps need to be able to conform around the fuel tank and the toolbox needs to be accessible from the ground level. This idea should be very robust and durable.

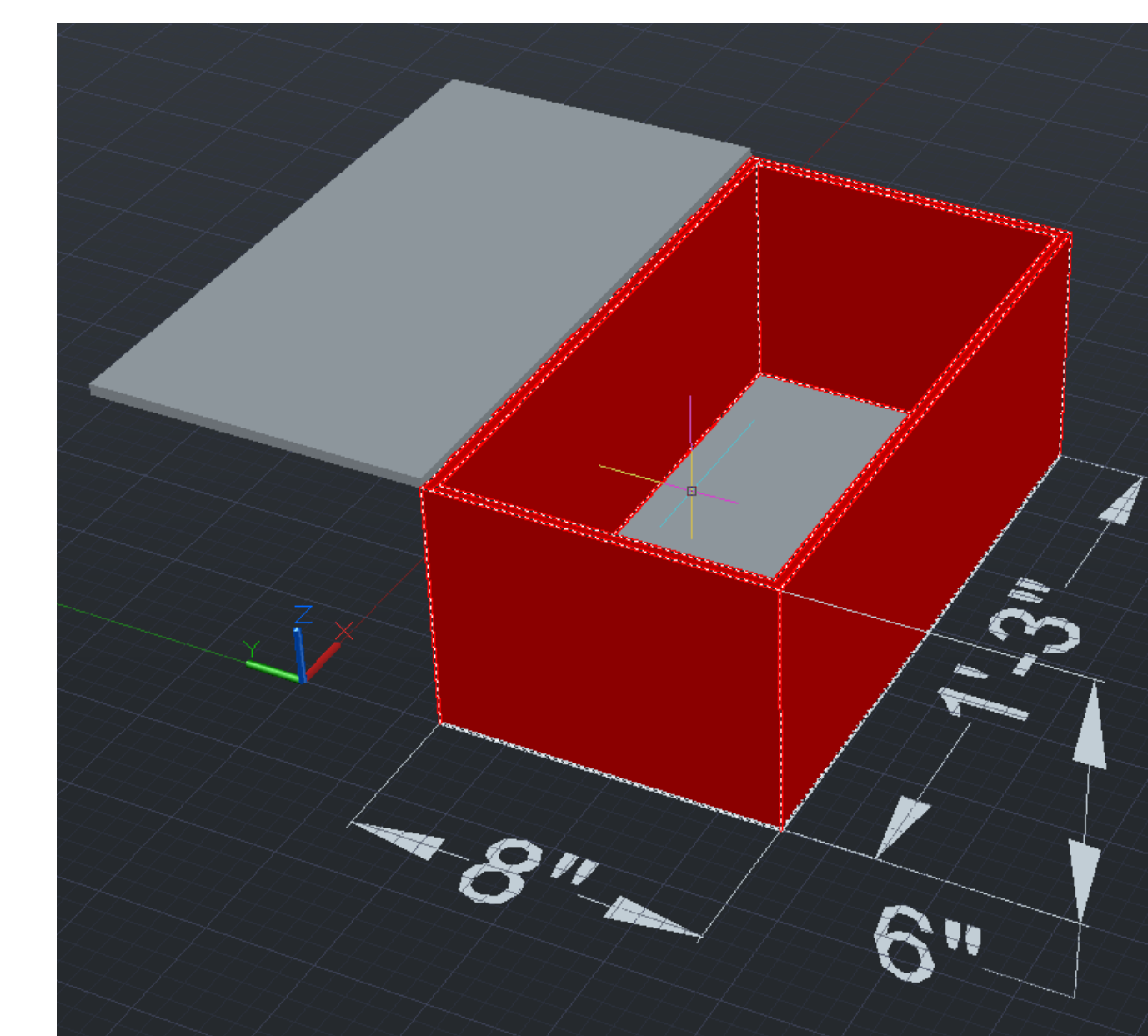
Statement of Problem: The current model of Case IH Magnum tractors lack steps on the right hand side of the tractor. With the addition of the steps, the toolbox will have to be relocated to accommodate the top step to clean the windows and to adjust the mirror. The ease of accessibility to reach the toolbox was an issue with the original placement. Focusing on this issue needed us to generate an idea to reach the toolbox from the ground level.

Alternative Solutions:

- Mount the toolbox on the weight bracket, so that the toolbox is placed in front of the weights.
- Build the steps so that they are mounted underneath the fuel tank and that can be slid out and pinned to a bracket towards the top of fuel tank making the mirror, windshield and lights accessible.
- Build a frame to fit above and below the fuel tank and build a removable step section that can be installed and taken off as needed.

Background Information:

- In many cases now, the tractor manufacturers are adding steps to the right side of the tractor to be able to clean the window and adjust the mirrors. Right now on the CNH tractors there are no steps to access the mirror and window. The toolbox is currently where we are going to put the top step on the right side and relocating the toolbox to the left side.
- The steps we built for the right side will be mounted to a fuel tank support bracket. There are going to be three steps that will fold up to meet the European standards of 2.55 meters.
- The bottom step retracts in order to avoid obstacles in the field. The top step offers a platform for the operator to step on to clean the window and adjust the mirror.
- The toolbox will act now as a step on the left side. This idea gives us the chance to save space to meet the requirements.



Budget Information:

Metal:	\$120
Paint:	\$ 25
Nuts, Bolts, & Latch	\$ 46
Steps:	\$ 30
Heat Shield	\$222
Total:	\$443

Final Recommendation:

- The final product will be fully functional and will be placed on the tractor that will be present for the presentation.
- The toolbox is accessible from the ground level and will act as a step to get into the cab.
- The steps will be easy to step on and will be able to fold up so they are out of the way when operating the tractor.

