

Technical Test - Scenario 1

Plant and Vehicle Marshaller



Notes to testers:

The aim of all the scenarios is for candidates to recognise an operator's limitations in visibility (as identified through the pink and blue/purple shading) when driving the dumper. The tester may clarify what is being sought and the candidate may draw or explain what is required. In this scenario of a loaded 6 tonne forward tipping dumper, the operator's vision to see the travelling surface when it is being driven in a forward and reverse direction is limited, particularly looking forward.

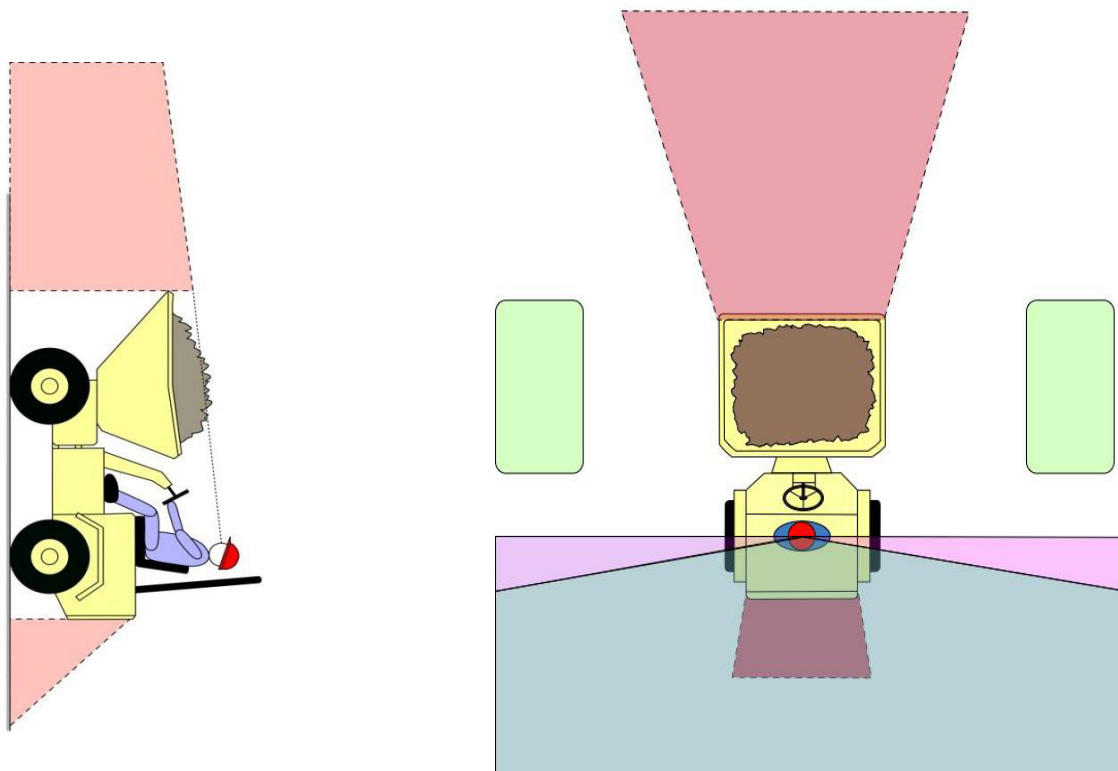
Candidates need to indicate when ground features can be seen by the operator - which due to graphics sizing, forward visibility restrictions exceeds the dimensions of this answer sheet. The candidate further needs to identify the area beyond the operator's natural horizontal (peripheral) field of vision when they are facing forward in the seat and with no movement of head or body to aid all-round vision.

Marks are awarded when the candidate fully recognises where the limits of visibility are, and where they should position themselves when guiding any machine in these scenarios, and in this case, when the FTD is driven in a forward direction and reverse direction.

When the dumper is to discharge the load, the marshaller should be in an area (as per either the shaded green areas) not be beyond the front of the machine, in the natural sightline of the operator, of sufficient distance away to be clear of the articulation crush zone, but near enough to convey instructions.

The identification of the area outside of the operator's natural field of vision (as identified by the blue/purple shading) assumes that there is no restriction of vision caused by machine components. Note: the area coloured purple is the acceptable margin of error accepted as the natural field of (far peripheral) vision is typically from 180 degrees to no more than 220 degrees.

Adjustments may be made accordingly as the aim is to establish the principle of where limited visibility can occur and where effective positioning should be. The areas of limited visibility in all scenarios are variable depending on machine type and size, the size and height of the load, and the dexterity of the operator.

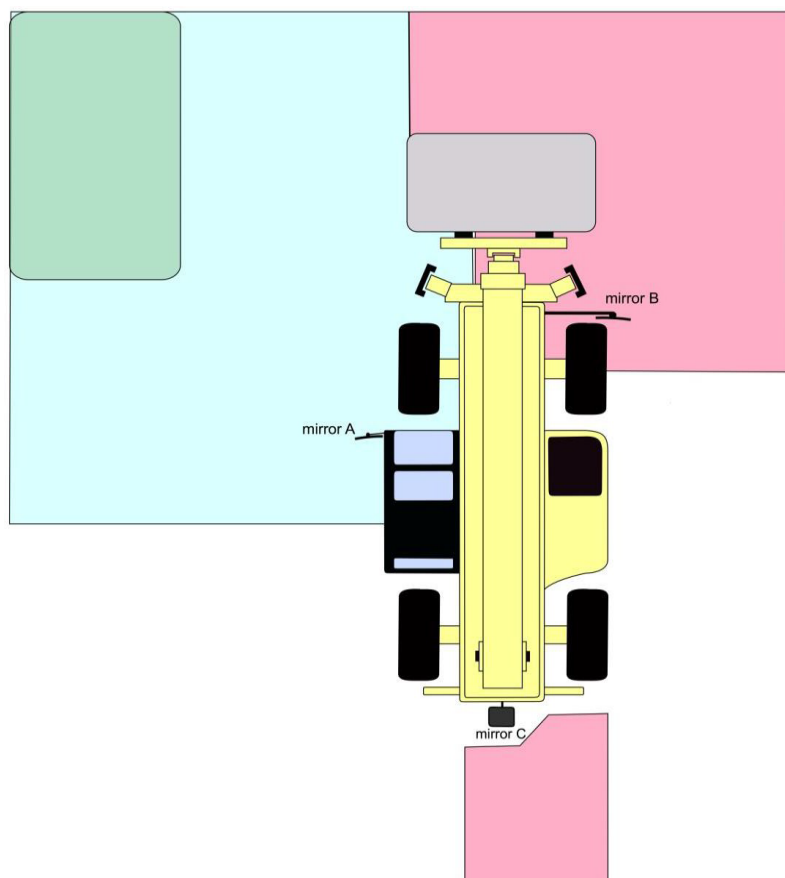


Notes to testers:

The aim of the scenario is for candidates to recognise the operator's limitations in visibility (as identified through the pink shading) when a loaded 14 metre reach tele-handler is being driven in a forward direction, and aims to check the candidate's understanding of large loads and offset cabs.

The operator's forward visibility to see the travelling surface is limited by the size of the load and the area around the offside or right hand side of the machine until the offside rear view mirror takes effect. This area of limited visibility is variable depending on machine type, size, boom travelling height and load size. The lack of rear visibility is shown as the rear mounted mirror generally only deals with close proximities. The operator's clear, natural and comfortable sightline (shaded in light blue) extends approximately from 90 degrees on the left side to the straight ahead position.

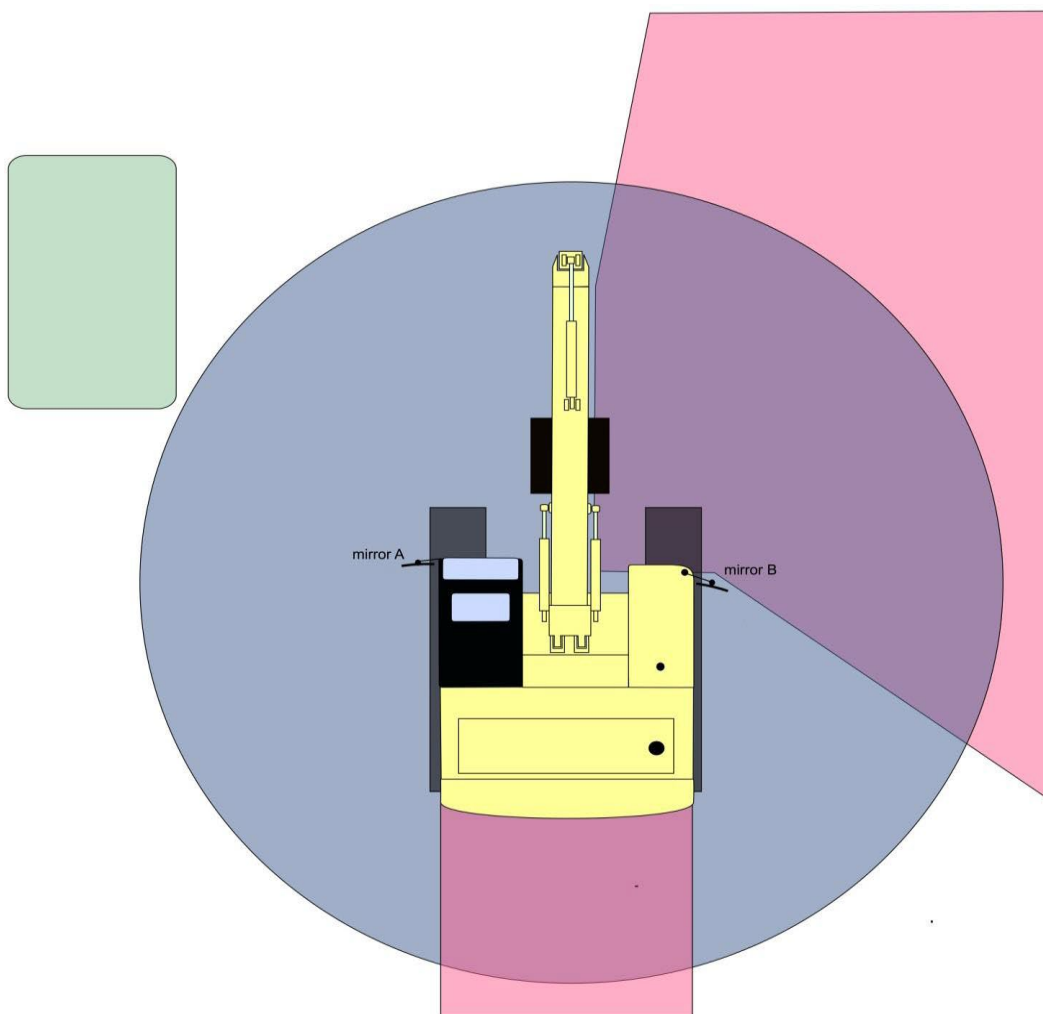
The marshaller should position themselves in the area of the operator's natural sightline, clear of the turning circle of the machine and forward enough to see the front of the load (as per the shaded green area). Adjustments can be made to accommodate variables such as size etc.



Notes to testers:

The aim of this scenario is for candidates to recognise the operator's limitations in visibility (as identified through the pink shading), the danger area of the machine and the optimum position for marshalling when the excavator being travelled, and aims to check the candidates understanding of the effects of an offset cab.

The operator's ability to see the travelling surface is limited by the position of the boom and bodywork on the offside or right hand forward side of the machine, although the distances are relevant to machine size. Lack of rearward visibility is a result of the length and height of the engine cover/counterweight area and the danger area (shaded in blue) is the radius of the machine over the potential 360 slewing zone. The marshaller needs to be positioned outside of the potential slewing zone and at a position within the natural sightline of the operator and forward enough to check for approaching hazards (as per the shaded green area).



Notes to testers:

The aim of the scenarios is for candidates to recognise the operator's limitations in visibility (as identified through the pink shading) when the excavator - which has a sideways-folded back hoe - is reversing. The scenario aims to check the candidate's understanding that components on a machine can severely restrict rear visibility and not seen by the machine's rear view mirrors.

The optimum positioning for marshalling this vehicle when reversing (shaded in green) is by being in a position able to see the rear of the machine and of sufficient distance to be clear of the front wheels if steering action takes place, but staying within the operator's comfortable line of sight (as per the shaded green area). Cab design on these types of machines can provide a variation on optimum positioning.

