

# DRIVER SITUATION AWARENESS CHECKLIST:

*User guide*

**Authors:**

A. Irwin, I. Tone, G. Lipan



**NTSAg**  
NON-TECHNICAL SKILLS IN AGRICULTURE

# Why use a checklist?

- ✔ Checklists **improve the reliability of safety checks** by providing a series of cues or actions that can be followed every day.
- ✔ Checklists encourage **anticipation and then prevention of problems** during a task.
- ✔ If used in team briefings or safety discussions checklists can help **enhance communication** about safety.
- ✔ Using a checklist could **save you money** – early actions to rectify problems can prevent larger, more expensive, problems in the future.
- ✔ Checklists are used in a variety of industries and have been shown to improve safety and **reduce accidents** in healthcare and aviation among others.
- ✔ If you would like to see an example of checklist that has been implemented around the world you can read more about the WHO surgical checklist here: [https://www.who.int/patientsafety/safesurgery/faq\\_introduction/en/](https://www.who.int/patientsafety/safesurgery/faq_introduction/en/)

# Why use a checklist when operating a tractor?

During 2017/18 the HSE<sup>1</sup> reported **33 fatalities** associated with agricultural activities in the UK. **Six of those fatalities involved a moving farm vehicle:**

**2x**

**Run over by a reversing vehicle**

**1x**

**Crushed between tractor trailer and gatepost**

**3x**

**Crushed by unmanned vehicle moving due to poor maintenance or exiting and leaving the engine running**

## KEY RISKS ASSOCIATED WITH FARM TRACTOR USE INCLUDE:

- ⚠ Restricted line of sight means people, animals and obstacles may not be seen by the driver**
- ⚠ Entering and exiting the vehicle has the associated risk of slips and falls**
- ⚠ Exiting vehicle whilst the engine is running and the handbrake is off increases risk of crushing injuries**
- ⚠ Risk of rollover on steep terrain, ground conditions, ditches or due to stability issues**
- ⚠ Moving machinery parts carry the risk of entanglement and injury**
- ⚠ Contact with overhead power lines during operation**

**Using a checklist, alongside recommended safety procedures and risk assessment, could help you maximise your safety, and the safety of others, on the farm.**

For more detail on tractor risks, and safe operating procedures, check out the HSE guide to using tractors safely:

<http://www.hse.gov.uk/pubns/indg185.pdf>

# What this checklist is (and what it is not)

## THIS CHECKLIST SHOULD BE:

- ✓ Part of your usual safety process.
- ✓ Integrated into team / tool talks on tractor safety.
- ✓ Used to encourage communication on safety around the farm.
- ✓ Used as a memory prompt to support regular checks and safety actions.
- ✓ Used to enhance situation awareness around farm vehicles.

## THIS CHECKLIST IS NOT:

- ✗ A procedural guide for operating tractors. **If you wish to learn more about recommended safety procedures please check out the websites of the HSE, Teagasc, IOSH and the Farm Safety Foundation**
- ✗ A replacement for training – technical knowledge remains crucial.
- ✗ A replacement for usual risk assessment procedures.



# Situation awareness

## Cognitive skill

Situation awareness is a cognitive or thinking skill, part of the non-technical skills considered necessary for safe and efficient work practice. It complements technical knowledge.

Situation awareness is considered to be a key skill for drivers of all vehicles.

Situation awareness is thought to have three levels<sup>2</sup>:



**Perception:** Noticing what is going on around you.



**Comprehension:** Using your training and experience to weigh-up the situation.



**Anticipation:** Thinking ahead to identify potential problems and act to stay safe.

## Our research<sup>3</sup>

We asked farmers to fill in a survey about the key situation awareness elements for safe tractor operation.

Farmers identified several key aspects, including:

- ★ Monitoring internal cab instruments
- ★ Status of implements or trailer
- ★ Mental mapping of farm land, including locations of obstacles
- ★ The influence of stress and fatigue on situation awareness

This research was used to produce the checklist:

**Informed by farmer perceptions and created for farmers.**



# Using the checklist

- ✓ The checklist can be modified to suit your usual safety practice
- ✓ The checklist should be visible (pinned to a wall, stuck in the tractor cab)
- ✓ The farm owner / manager should introduce the checklist during a regular safety meeting
- ✓ The points on the checklist should be considered at the start of each day or tractor operation
- ✓ All workers should be encouraged to raise and discuss any safety concerns that are noticed during checklist use
- ✓ If an activity is marked as 'no-go', workers should stop and engage in safety and risk management practices before operations can resume.

## References

1. Health and Safety Executive (HSE). (2018) Fatal injuries in agriculture, forestry and fishing in Great Britain 2017/18. HSE, UK.
2. Endsley, M.R. (1995) Toward a theory of situation awareness in dynamic systems. *Human Factors*.
3. Irwin, A., Caruso, L. & Tone, I. (2019). Thinking ahead of the tractor: Driver safety and situation awareness. *Journal of Agromedicine*.



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