



# IRST

Intl Road Safety  
Training Ltd



## ROLLOVER

Can your company afford one?

“At a 5% profit margin, a fleet could have to generate over £5 million in revenue to pay for ONE fuel rollover accident”



*Lessons for life*

**Telephone:** 01375 671111 **Visit:** [www.irst.co.uk](http://www.irst.co.uk)

A Part of The Sigma Group

Training? Don't think about it... act on it.

## What do IRST courses offer?

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Utilising the latest advances in EBS (Electronic Braking Systems), the courses IRST offer are designed to give drivers the advanced skills they are likely to need out on the road as they go about their jobs.

They emphasize the importance of drivers paying close attention to the road and its conditions, as well as how their behaviours and decisions can factor in a rollover.

At IRST we promote Safe Effective Driving Operations for the Transport Industry, providing specialised Rollover and Anti-Skid training courses.

Our Rollover and Anti-Skid training courses are approved by both JAUPT enabling each driver to obtain 7 hours towards their Driver CPC and also by Royal Society for the Prevention of Accidents (RoSPA).

## Over 20 years of IRST success

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IRST's training promotes Safe Effective Driving Operations for the Transport Industry. The '*Lessons for Life*' driving skills give the drivers the knowledge and confidence to act decisively to avoid road accidents caused by skidding, rollovers and jack-knifing. Through practical training, with specially equipped vehicles, drivers gain the experience and technique to be able to act correctly before critical situations develop.



## Useful Road Safety Terms

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**ABS:** Anti-lock Brake System.  
Prevents wheels from locking when braking.

**EBS:** Electronic Braking Systems.  
Prevents wheels from locking when braking.

**TC:** Traction Control prevents one wheel from spinning when starting off.

**ESP:** Electronic Stability Programme.  
This stabilises the vehicle and counteracts skidding and overturning

**TBA:** Trailer Brake Adaptation. This system ensures that the braking force of the truck and trailer interact so that no brakes are overused.

**EBA:** Emergency Brake Assist.  
Assists the driver with braking in an emergency braking situation

Just a rollover accident can cost your company in excess of **£300k per incident**

**213** rollover incidents involving LGV/HGVs occurred in **2015**

DfT Statistics

**464** LGV/HGVs skidded out of control and involved in accidents in **2015**

DfT Statistics

# Why do Rollovers Occur?

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Below is an outline of the primary reasons for vehicle rollover to occur:

## **Adverse weather conditions**

The most obvious weather condition associated with vehicle rollover is high winds. The probability of a vehicle rolling over in high winds is increased in situations where there is a high centre of gravity.

## **Avoidance**

This type of incident is where the driver attempts to avoid a hazard in their path, and turn too abruptly, resulting in a possible over turn situation.

## **Brakes**

For a driver to have maximum control over a vehicle, it is very important the braking system be in correct working order.

## **Excess speed**

A recent study has indicated that excessive speeds increase the likelihood of vehicle rollovers.

## **Driver error**

There are a number of factors that can be attributed to driver error or insufficient training. Misjudging the magnitude of a corner can result in the vehicle entering a corner too fast. Lack of attention can also contribute to vehicle rollover.

## **Cornering**

A large proportion of vehicle rollovers occur whilst cornering. Due to the higher centre of gravity, and low Rollover Threshold, entering a corner at excessive speeds encourages the vehicle to lean and thus rollover.

## **Load**

The majority of vehicle rollovers occur due to factors associated with the load. This can be because the load is inadequately secured or loaded incorrectly.



### Suspension settings

It is extremely important to have the appropriate suspension settings aligned to different situations to avoid the likelihood of rollover.

### Road design

Road design can also contribute significantly to vehicle rollover.

Roundabouts, adverse cambers, slip roads, dual carriageway contra-flow lane changes and double bends can all contribute to rollover.

### Tyres

A number of cases of vehicle rollover have been attributed to under-inflated tyres. Cornering with under-inflated tyres results in the vehicle leaning more than if the tyres were correctly inflated.

### Jack-knifing

The primary reason for Jack-knifing to occur is equipment failure, wheels locking due to braking and poor grip from adverse driving conditions.

Depending on the speed the vehicle is travelling, jack-knifing can result in vehicle rollover.

### Over steering

Over steering can occur due to a variety of reasons. Entering a corner at excessive speeds, or a sudden awareness of danger, are points previously mentioned that can result in over steer.



# Rollover Prevention

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There are many ways in which vehicle rollover can be prevented; however, altering driver behaviour is key. Educating drivers to the risks of vehicle rollover, and the ways in which they can prevent or limit the chances of it occurring will greatly help in reducing the number of accidents we see each year. As well as this, basic vehicle design, which lowers the centre of gravity, would also help in reducing rollover.

## Points to consider for reducing the chances of vehicle rollover:

- It is very important to pay attention to the road ahead. Keep a safe distance away from vehicles and ensure you are aware of the environment around you
- Ensure you do not enter a corner at excessive speed
- It is vital the load is secured properly and loaded in the most effective way.
- Before each journey, check all tyres on the vehicle. Make sure the tread is in sufficient condition and check the tyre pressure is correct for the load and conditions
- Ensure the vehicle is always steered in a smooth manner, limiting abrupt and sudden actions as much as possible
- Driver training and effective management.

If using an electronic system that enables the user to download information, it is very important to do so, and analyse when and how often the stability control program was triggered. It is extremely important for drivers to be educated to the dangers surrounding vehicle rollover, outlining the causes and explaining prevention. Increasing awareness will no doubt reduce the number of vehicle rollover accidents, and this guide will hopefully increase the awareness.

It should also be noted that electronic programs such as ESP, EBS, ABS, etc., act only as an assistance to the driver. The interaction of these programs suggests that an acceptable driving threshold has been exceeded.

## Legislation

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From the 11 July 2010, it became a mandatory requirement for all new trailers over 10 tonnes gross weight to be fitted with an electronic stability control (ESC), according to the Economic Commission for Europe regulation 13 (E/ECE/TRANS/505 – Concerning the Adoption of Universal Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts). This will also be the case for trucks and buses, starting with two-axle tractive units registered from July 2011.



# Rollover & Anti-Skid Training

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This one-day course is based on a minimum of 6 drivers attending with a maximum of 12 drivers in total. The course is Jaupt approved and counts as 7 hours towards the 35-hour DCPC training if required. The course starts with a 2-hour classroom theory session which includes the following subjects:

- Introduction to the Training
- Negotiating bends
- Transfer of Forces
- Rollover Theory session
- Braking

After the theory session has finished the drivers are taken outside for the following practical training which is carried out using IRST's training vehicles and includes the following exercises:

## Rollover Exercise

The rollover vehicle is loaded to make the training as realistic as possible. Drivers carry out manoeuvres to show that rollover can happen at very slow speeds.

## Anti-Skid Exercise

Each driver attempts several exercises with and without ABS. Each exercise starts at a slow speed which is increased after each practice run until a specified limit is reached.



Duration  
1 Day course



Drivers will experience up to 8 difference manoeuvring scenarios whilst undertaking the practical exercises.

### Main objectives of the training are:

- Avoiding Vehicle Rollovers
- Anti-jack-knifing procedures
- Vehicle and driver safety awareness
- Anti-skid techniques and the correct use of ABS
- Hazard recognition and emergency driving procedures
- Experiencing ESP
- Correct truck handling techniques
- Lane change and 50/50

**All exercises are carried out with and without ABS/EBS/ESP at normal road speeds**



For more information or to book your training course  
visit: [www.irst.co.uk](http://www.irst.co.uk) or call us on: 01375 671111

Duration  
Half-Day course

## Slow Speed Manoeuvring

Parking reversing and slow speed manoeuvring collisions are some of the most common accidents experienced by drivers.

IRST training can help prevent these types of accidents, by improving driver awareness, education and improving low speed manoeuvring skills.

Avoiding unnecessary collisions will help maintain your business safety record, keep your insurance premiums more stable and your vehicles in service for longer.

The highest proportion  
of insurance claims  
involve slow manoeuvring  
at **less than 20mph**

This course can be  
added to the **1 Day  
Rollover & Anti-Skid  
Training Course**

Duration  
1 Day course



# Defensive Driver Training for Fleet Car Drivers

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Defensive Driver Training courses are aimed at anyone who wishes to improve their driving performance and is particularly targeted at Company Car Drivers who cover high mileage. These courses are tailor made to meet the requirements of the customer. Defensive Driving is described as driving to save lives, time and money, in spite of the conditions around you and the actions of others.

## 1-hour Classroom Theory Session

This one-day course is based on a maximum of 6 drivers in total and starts with a 1-hour classroom theory session. After the theory session has finished the drivers are then taken outside for the following practical training which is carried out using their own vehicles or company cars, whichever is applicable. (We can supply a car as a last resort, as we do feel by driving their own vehicle would be far more beneficial to them).

## Practical Session – Anti Skid

The drivers will attempt a number of manoeuvres along a skid foil with and without ABS. Each exercise listed below starts at a slow speed which is increased after each practice run until a specified limit is reached.

Oversteer & Braking techniques, Defensive driving, Lane change and 50/50, Emergency procedure & Avoidance

The aim is to reduce the risk of driving by anticipating dangerous situations, despite adverse conditions or the mistake of others. It also shows the driver how to use the latest electronics fitted to their vehicles.

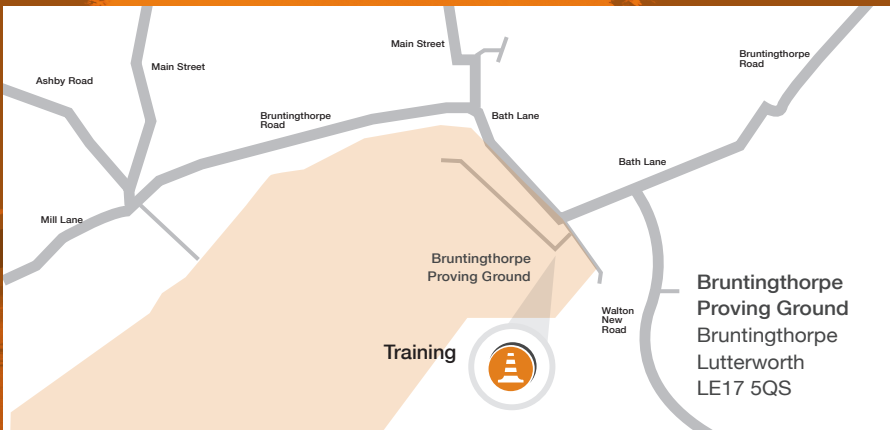
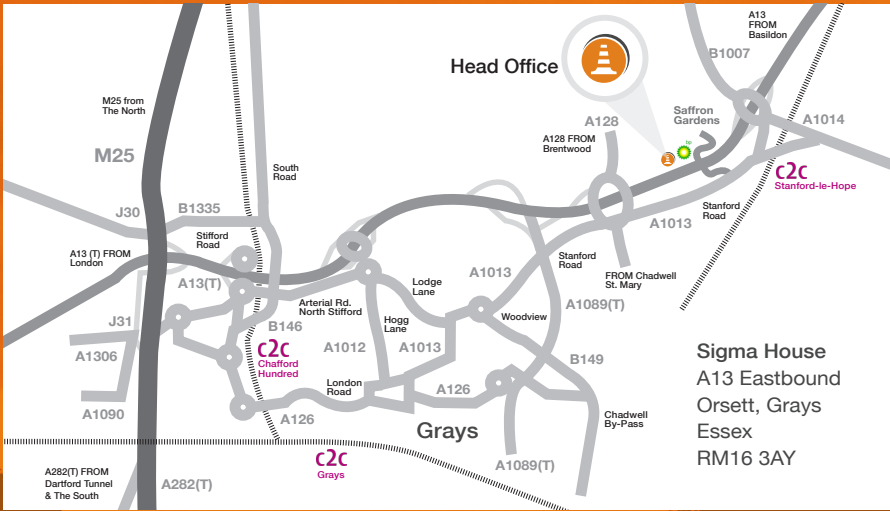
## Defensive Driving - On the Road Training

We can tailor the above course to include 'on the road assessments' for your drivers, which would consist of a maximum 3 drivers, 1 IAM qualified instructor and 1 vehicle and would include the following:

Planning ahead, The system of car control (position, speed, ear, acceleration), Observation, Awareness and Perception, Dealing with hazards, Overtaking & Motorway driving

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