

Winch Maintenance

Vehicle Recovery Ref. 16289

Module overview

This module is aimed at technicians who maintain and repair recovery type winches as part of a maintenance routine. This includes using a load cell and the resetting of load limiting switch fitted to BHW winches to meet BSEN 14492.

Course aims

- To understand how to identify the health and safety requirements when using a recovery winch unit
- To understand the variations in winch construction
- To show an understanding of lubrication points and identify where they are located and when they need to be used
- To understand the types of winch ropes and assess their condition used for vehicle recovery
- To understand the purpose and function of the ancillary equipment used with recovery winches
- To understand what the resistances to winching are and how to calculate the effects of them
- How to set up and take readings from a load cell
- To understand how to reset or adjust the load limiting switch on the winch
- To understand the hand signals used to direct a winch operator

Learning objectives

By the end of the course the student will be able to:

- Define the health and safety requirements applicable to the use of a recovery winch unit
- Describe the variations in winch construction
- Show how lubrication points are used and when
- Describe the types of winch rope used in vehicle recovery and the inspection and maintenance regimes used for them
- Demonstrate how to use the different types of ancillary equipment used in winching operations
- Demonstrate how to use a load cell correctly
- Demonstrate how to change the setting on the load limiting switch
- Demonstrate the hand signals used to direct a winch operator and winch a casualty under the direction of a banksman

Assessment methods

Assessment to check that learning has taken place and that the student is competent to use the equipment will be on going throughout the morning. The students will be asked to carry out winching operations, check loads and reset load limiter switches.

Training aids

The following training aids will be required. A suitable vehicle and winch, including ancillary recovery equipment; a load bearing anchor point such as a secondary vehicle or ground anchor; a laptop or PC loaded with PowerPoint suitable for the presentation; projector, flipchart or whiteboard; winching calculation cards and exercises; paper, pens and calculators.

Safety

The overriding priority during the course will be the safety of the students and anyone in the vicinity of the practical training sessions. Instructors must be aware of the safety requirements and risk assessments of venues they are visiting. They should also carry out their own risk assessment for the course. Practical training areas **MUST** be segregated by warning signs to ensure the public, or those not involved in the training course do not enter the area. The instructor must supervise the students at all times to ensure their safety.

General approach

A full training course will take approximately 2 days with adequate breaks. The course is made up of a PowerPoint presentation, practical demonstrations and assessments, questions and answer sessions and finishes with an open forum, before undertaking the assessments.

The group size will be kept to a maximum of 6 students per course, keeping to a ratio of 6 students, 1 instructor and 1 machine.

The student will need to be relatively fit as they will have to demonstrate practices that they have learnt where a certain amount of physical effort will be required.

The course will follow an “EDIP” type format, Explain, Demonstrate, Imitate, and Practice.

The students will be participating at all times being coached and assessed by the instructor.

Textbooks and other course materials

Text books will be supplied to all the students attending the course.

All other course material including a recovery vehicle and equipment, winch calculation cards pens and question sheets will be supplied.

Equipment such as laptops, projectors and screens will also be supplied, if required.

Students with any special requirements

Students and/or their companies should contact the course provider/instructor with any special requirements before booking the course to see if they can be accommodated, special requirements may include numeracy and literacy difficulties and dietary requirements, where food is being provided or ordered.

Training venues

Training venues will need to have welfare and toilet facilities (male and female)

They must have a training room capable of accommodating up to 6 students comfortably; tables and chairs will also be required for up to 6 students, with adequate lighting and power points for the instructor's electrical equipment. There must be ample space for a screen, whiteboard or flipchart. The training room should be used exclusively for training (during the training session), and external noise should be controlled to a minimum level. External training areas must be available for exclusive use of the training course to minimise safety risks. It must also be marked off as a training area. Winching situations should be of a realistic nature.