# Scope

This micro-credential identifies the minimum required steps for an individual to prove competent in charging hydraulic accumulators using Nitrogen.

# MICRO-CREDENTIAL Hydraulic Accumulator Charging

### Has the candidate completed all training topics in workplace safety?

* All workplace safety topics MUST be complete before attempting this competency.

### Did the candidate perform a hazard assessment for the work to be demonstrated?

* Candidate MUST perform a hazard assessment for the area in which they are to demonstrate hydraulic accumulator charging. This assessment MUST be verbally communicated to the evaluator and include all recognized hazards. Examples of hazards include but are not limited to overhead, falls, slips, trips, pinch and nip points, crush, high pressure fluid, compressed gasses, Oxygen displacement, etc. Trainee MUST use safety glasses as a minimum requirement for PPE. Proper PPE MUST be selected and inspected for the hazards identified.

### If the system is installed on a hydraulic system (not detached), was the system made safe following a LOTO procedure?

* The candidate MUST follow a LOTO procedure and verify zero energy state of the hydraulic system if the accumulator is installed as part of a system when charging. The evaluator may supply the LOTO process to follow. This step is optional if the accumulator is detached from a system and the candidate is being evaluated solely on the process of charging the accumulator on its own.

### Did the candidate select and inspect the needed Personal Protective Equipment (PPE)?

* Trainee MUST have safety glasses. An air monitor is required if the service work is to be performed in an area which could become oxygen deficient in the event of a leak from the Nitrogen system. Trainee MUST inspect all PPE properly.

### Did the candidate assemble the charge kit and the compressed gas transfer system properly?

* Candidate MUST install the gas transfer system properly on the cylinder and correctly assemble and connect the service kit connections to the accumulator.

### Did the candidate correctly measure the pressure in the accumulator prior to adjusting the pressure?

* Candidate MUST measure the pressure that is contained in the accumulator prior to making any pressure adjustments.

### Did the candidate adjust the pressure in the accumulator to the assigned value?

* Candidate MUST adjust the pressure to the assigned value. This value can be obtained from a service manual or assigned by the evaluator. Candidate MUST be able to demonstrate raising the pressure to the correct value and MUST also demonstrate lowering the pressure to the correct value. Candidate MUST demonstrate purging the atmospheric air from the charging system assembly PRIOR to adding Nitrogen to the accumulator. Candidate MUST explain to the evaluator why purging is important.

### Did the candidate disconnect the fill system and tighten the fill screw to specification?

* Candidate MUST remove the filling tool from the accumulator and torque the fill screw to specifications using a manual torque wrench.

### Did the candidate properly disassemble and store the filling system?

* Candidate MUST use back-up wrenches where required and properly remove the filling system and store in the approved storage system.

### Did the candidate perform all tasks safely?

* Candidate MUST demonstrate the task safely while incorporating all identified PPE from the hazard assessment in Step 1.