

AUXILIARY COMPRESSOR

INTRODUCTION

Winders that have been fitted with air brakes and need a constant air pressure supply. This is done by compressors in a separate building. When the air supply has failed the driver must start an auxiliary compressor, which is in the engine room. Before describing the procedures and actions necessary to start or stop the auxiliary compressor, the following components are described. The main fittings on a compressor are: -

Safety valve, which opens when the pressure reaches a pre-set point. It is either weight loaded or spring loaded. It must be enclosed in a cover and locked to prevent unauthorised persons tampering with it. It must never be tied down and cast iron may not be used in its construction.

Fusible plug consists of a copper or brass plug with a lead/tin alloy in the centre. The lead and tin alloy melts when the temperature in the vessel rises too high and this allows excessive pressure to be released.

The manhole allows persons to examine the interior of the pressure vessel. The minimum size is:- circular 400mm diameter and elliptical the minimum diameter is 400mm x 300mm.

The thermometers (0 to 300° F) or pyrometers (300°F and higher) are instruments, which record the temperature in the vessel.

The pressure gauge shows the internal pressure in the vessel and is operated by means of a Bourdon tube. This is an oval curved copper tube, which is closed at the ends. Pressure causes this tube to straighten and this moves a rod, which in turn causes a gear attached to the pointer to rotate.

The drain cock is a valve that is opened to permit the water, caused by condensation, to drain from bottom of the vessel. It must also be opened when the pressure in the vessel rises to dangerous levels.

1. STARTING AN AUXILIARY COMPRESSOR

Should the constant air supply to the air brakes fail, the driver must start the auxiliary compressor. The procedure to be followed may differ slightly on different winders but will include the following actions,

The driver must: -

Secure the winder i.e. brakes on and control lever in neutral.

Make an entry in his logbook and state the time.

Close the valve on the main air column to the brake system.

Start the lubrication.

Start the cooling system.

Open the drain cock on the receiver.

Check the guards and fences.

Start the compressor by closing the main switch.

Check the lubrication system.

Check the cooling system.

Close the drain cock when water stops flowing out.

Open the admission valve to the brake system.

Return to the winder and reset the safety circuit.

Clear the entry in the logbook and state the time.

Await sufficient air pressure to release brakes.

Continue winding.

The auxiliary compressor does not run continuously but is controlled by a pressure-regulating switch.

2. STOPPING AN AUXILIARY COMPRESSOR

When the air supply has been restored and the winder is receiving constant air pressure

The driver must: -

Stop the auxiliary compressor by opening the main switch.

Stop the lubrication system.

Stop the cooling system.

Close the admission valve to the brake system.

Open the valve on the main air column to the brake system.

Make an entry in the logbook and state the time.