

Pressure Gauge for Leaving Cert Engineering Project 2003

In response from a number of students who are experiencing some difficulty in finding a design for an easily constructed pressure gauge and pressure switch for the higher level Design and Make Leaving Certificate Engineering examinations, 2003, any of the following ideas could be developed and used as a solution to this part of the project problem.

Solution (1)

Use a clear polycarbonate single acting cylinder from a pneumatic set. The spring returns the piston when the pressure drops. The end of the push rod can easily be made to open a micro switch at maximum pressure in order to switch off the motor. The cylinder or rod can be graduated to show pressure. A master gauge of some sort is required for this task.

Solution (2)

Use a small injection type syringe. Some modifications are required, for example a light compression spring will have to be fitted and possibly the plunger end of the syringe may have to be changed in order to accommodate the spring. A micro switch activated by the end of the plunger rod can be used to switch off the motor at maximum pressure.

Solution(3)

Use a short tube approx. 30 mm diameter, any material will be suitable, brass, aluminium, copper etc. Attach a very light rubber diaphragm with a compression clip, cable tie or any suitable method to one end. The expanding rubber can be made to move a pointer to indicate pressure and to close a long lever micro switch at maximum pressure.

Others.?

If you have any other bright ideas for the pressure indicator and would like to share them you can E-mail same to < compskool.ias@eircom.net > for inclusion on this web site.