How to Drive Solenoids with the Arduino

```
ARDUINO_DIGITAL_OUT

D1
1N4004
or MUR340

Solenoid L1

ARDUINO_GND

R1
1K or 2.2K

Base

Q1
TIP120 for solenoids up to about 4A

 collector

 emitter

Notes:

-- you will most likely need a heat sink on the transistor.
-- This diagram is for DC solenoids rated up to about 24W: i.e. 12V@2A, 6V@4A, 24V@1A etc.
-- The protection diode should preferable be a schottky type, which has better response times. Something like a MUR340 is good for loads up to 3A.