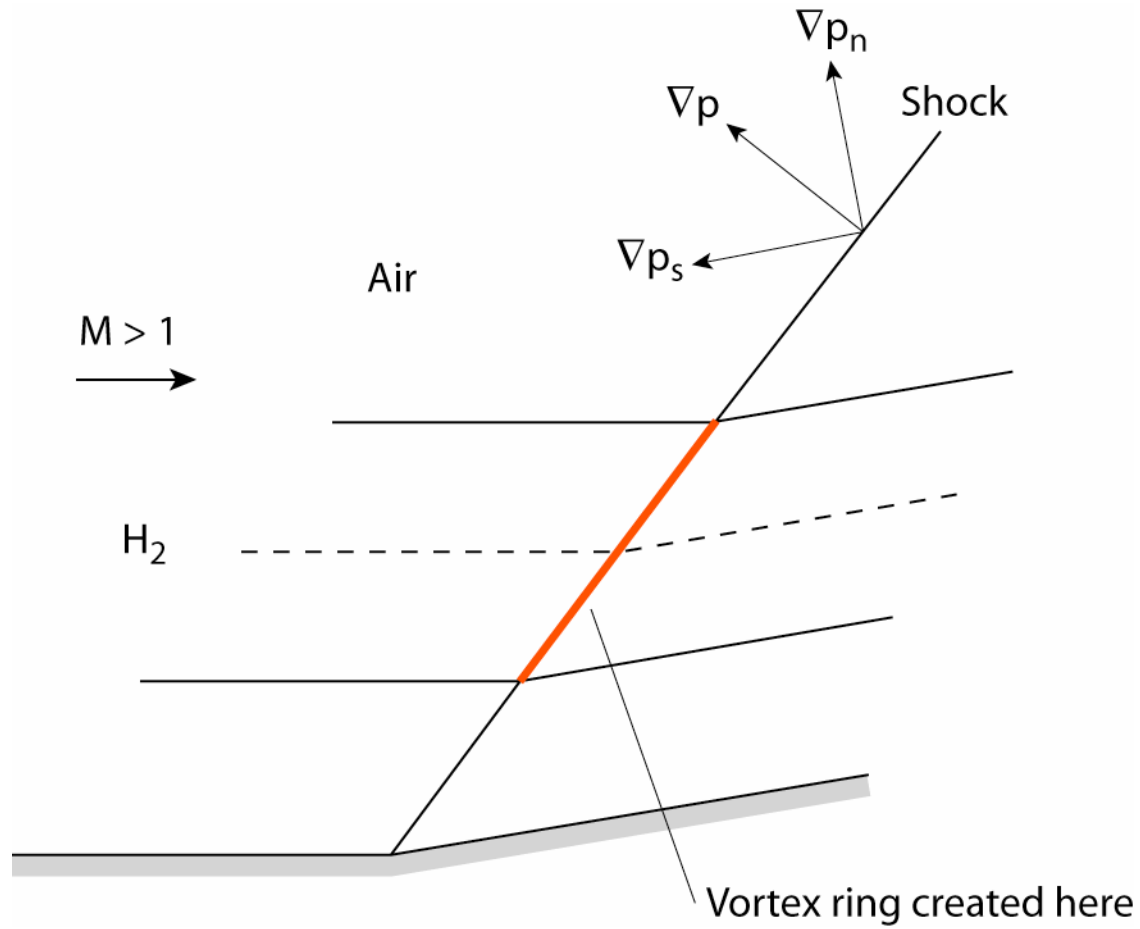# CREATION OF A VORTEX RING

- Suppose we have a cylinder of light gas flowing in a stream of heavier gas (Hydrogen in air)

- At some location the cylinder undergoes a pressure rise in the streamwise direction
  - This is (I hope) a simpler rendering of what is happening in the shock enhanced mixing problem

- Vorticity is created in what direction?

CREATION OF A VORTEX RING

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- This is our old friend "baroclinic torque" OR could think in terms of another old friend, Bernoulli

$$du/u = -dp/\rho u^2$$

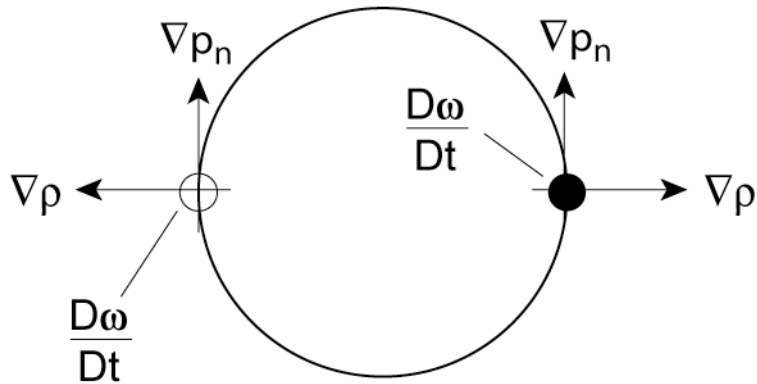- What happens to fluid with lower density?

SHOCK-ENHANCED MIXING

Vortex ring created here
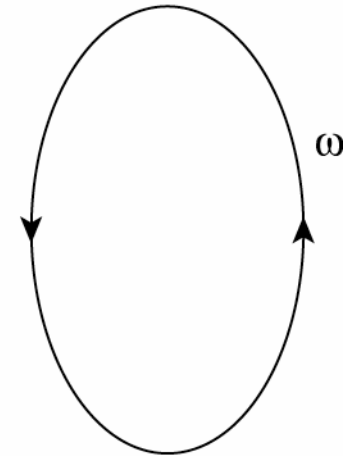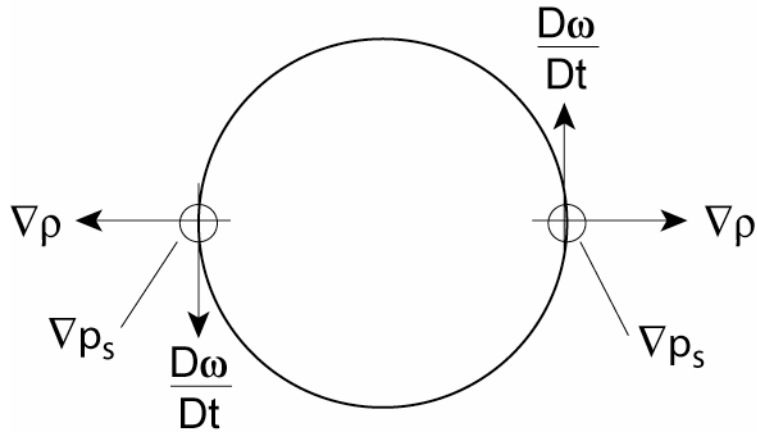
CREATION OF A VORTEX RING

Situation at Dashed Line

Creation of Vortex Ring