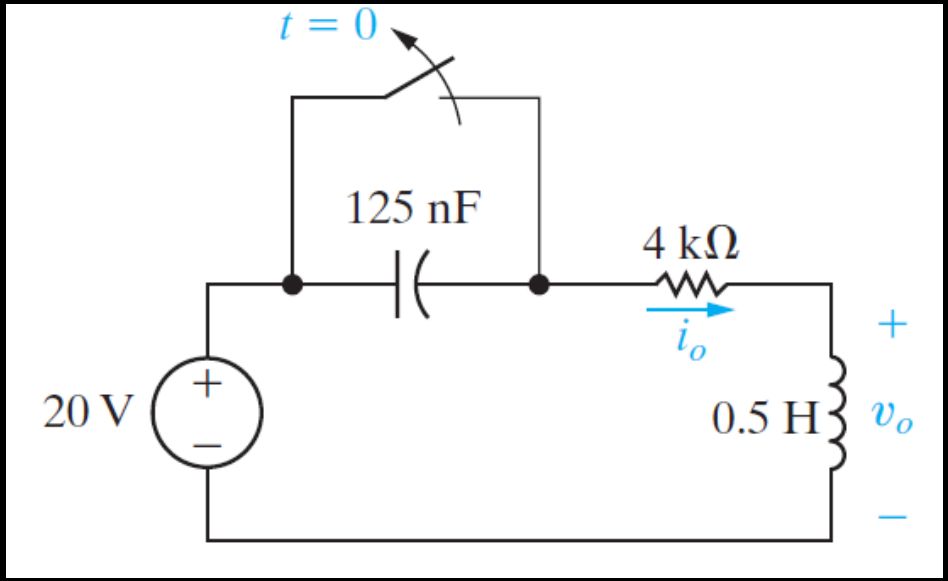
ENGR 065 Electric Circuits

Lecture 17 Some Practice Problems

Example #1(p13.10)



The switch in the circuit has been closed for a long time before opening at t= 0.

a) Find $i_0 \; for \; t \geq 0$.

b) Find $v_0 \; for \; t \geq 0$.

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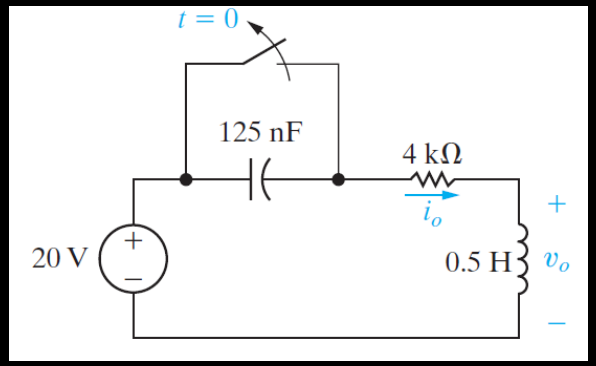

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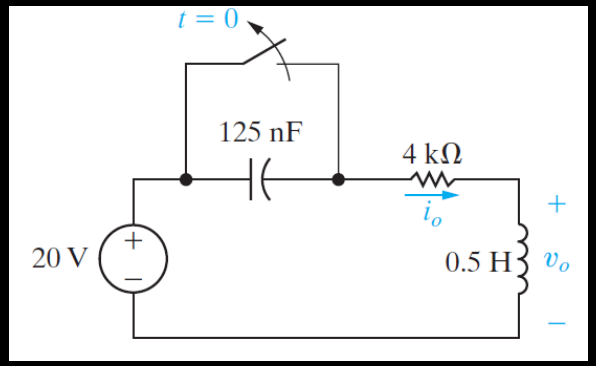

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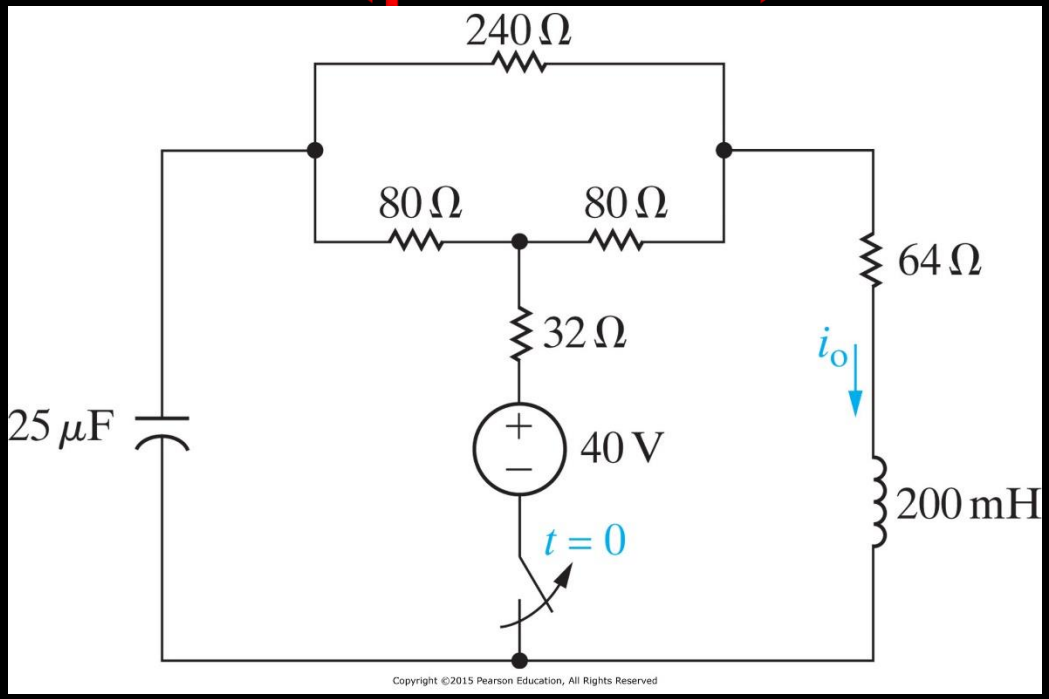

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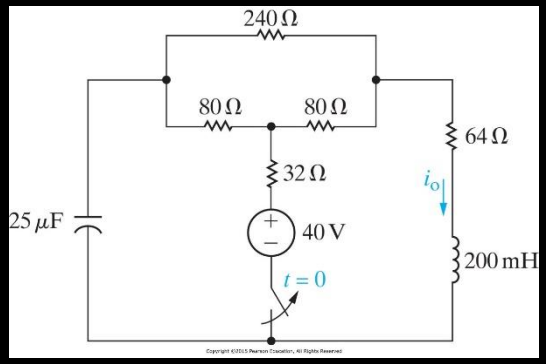

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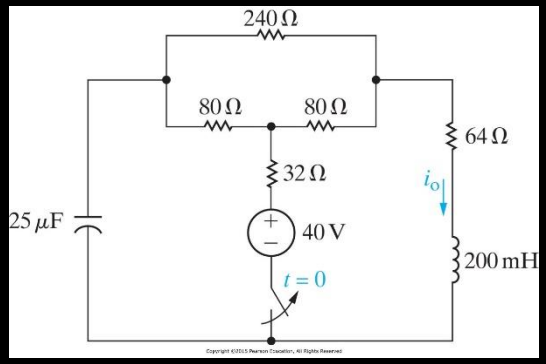

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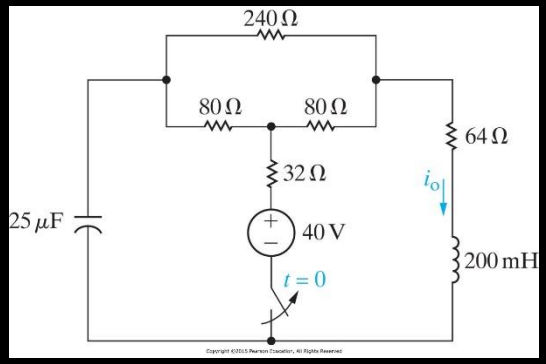

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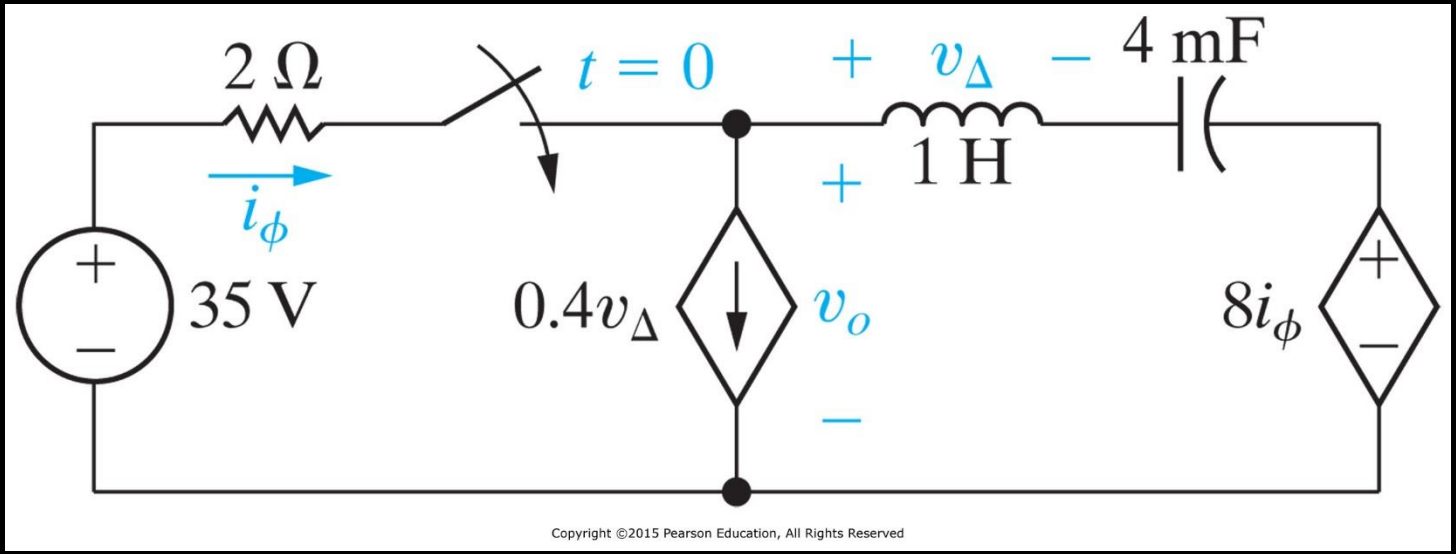

There is no energy stored in the circuit at the time the switch is closed.

a) Find $v_0 \; for \; t \geq 0$.

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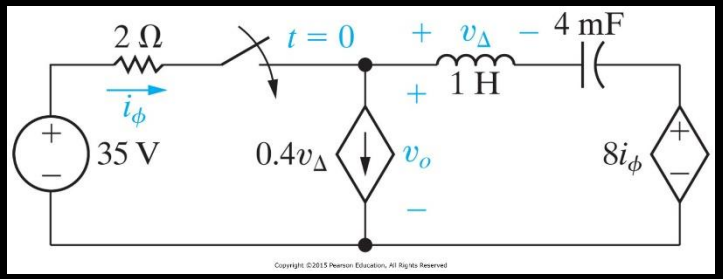

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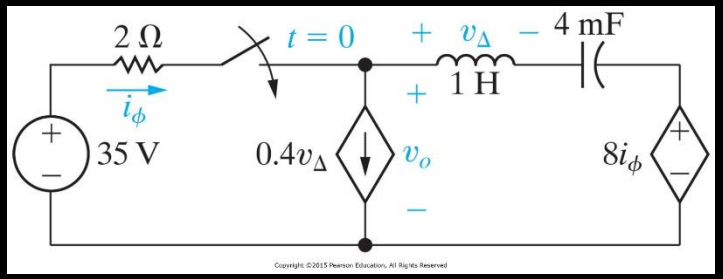

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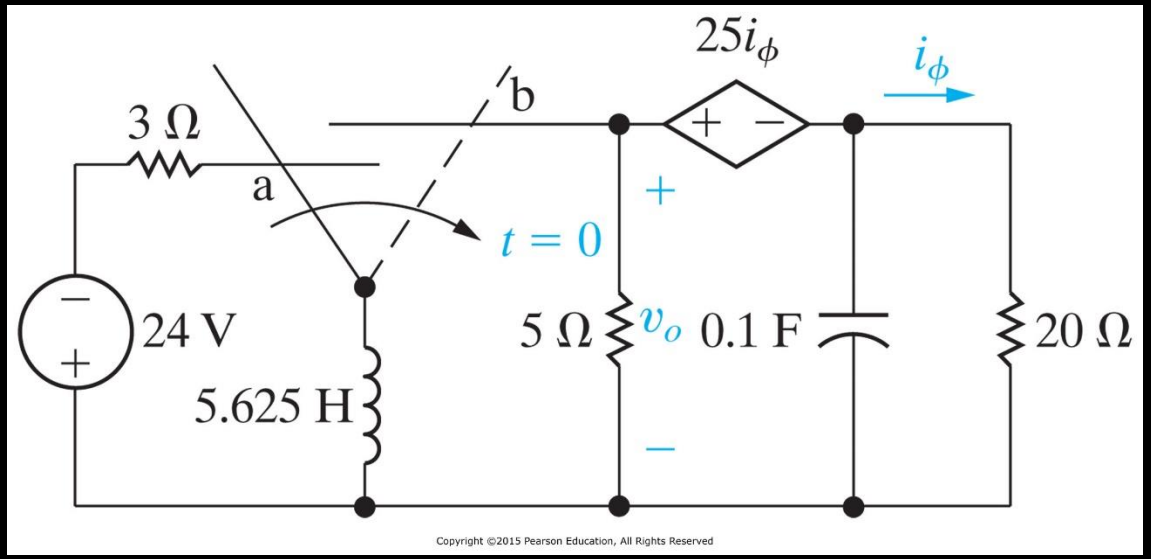

The switch in the circuit has been in position **a** for a long time. At t = 0, it moves instantaneously to position **b**.

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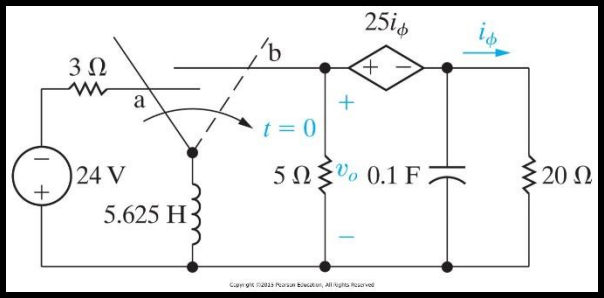

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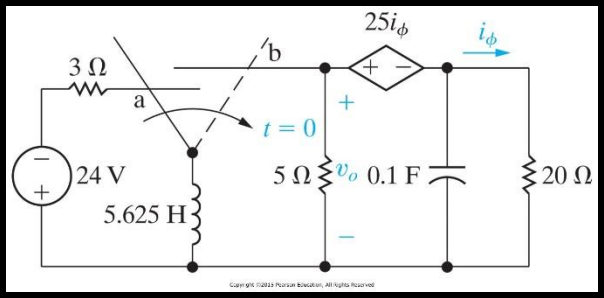

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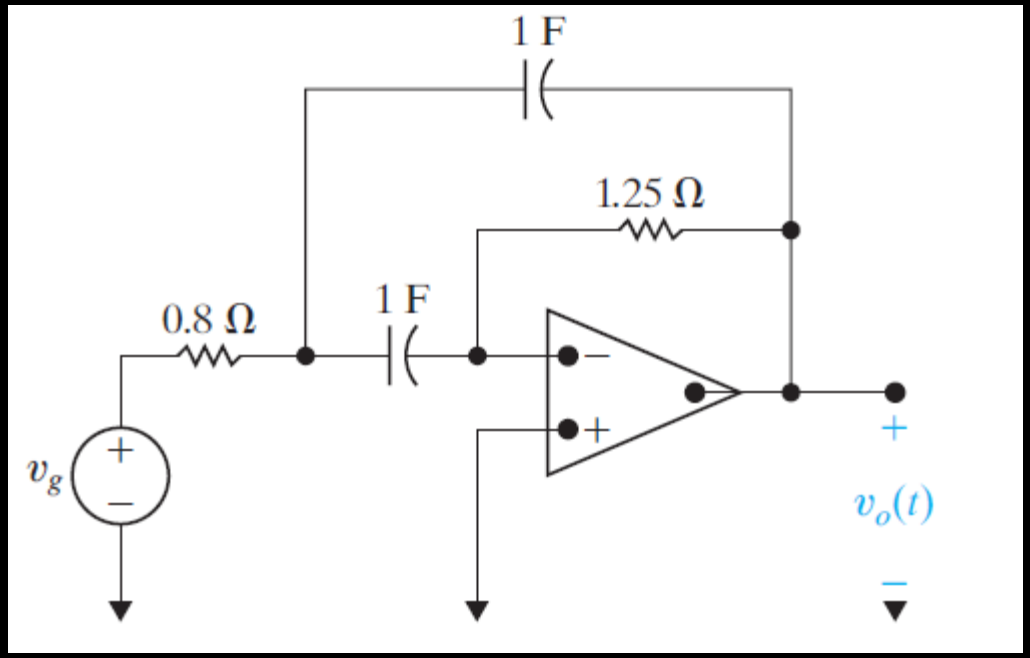

The initial energy stored in the above circuit is zero. Find $v_0(t)$ if the ideal op amp operates within its linear range and $v_g = 4.8u(t)\ mV$. If $v_g = 4\cos(2t + 45^0)\,u(t)\ mV$, what is the steady-state $v_{oss}(t)$?

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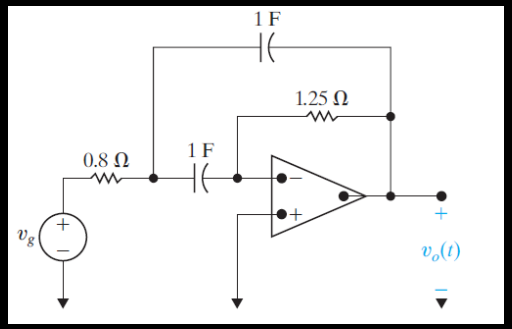

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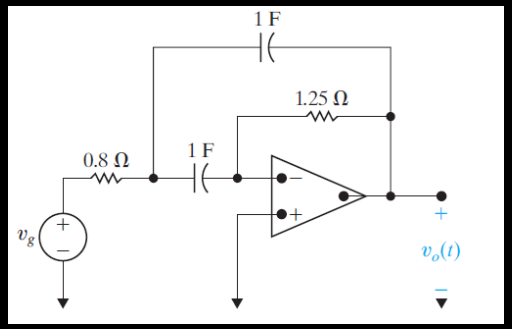

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