HW 12-7 Soln)

Source is approaching the observer and the observer is approaching the source, so use both upper signs.

$$f' = f_o \, \frac{v_{\text{Sound}} \pm v_{\text{Observer}}}{v_{\text{Sound}} \mp v_{\text{Source}}} = 3000 \, \frac{340 + 15}{340 - 45} = 3610 \text{ Hz}$$

This assumes no wind.