$[\{(\{A \wedge B\} \rightarrow D) \wedge D\} \rightarrow (C \wedge A)] \Rightarrow [\neg A \vee \neg B]$

A (1)	B (2)	D (3)	C (4)	$A \wedge B$ (5)	$(5) \rightarrow D$ (6)	$(6) \wedge D$ (7)	$C \wedge A$ (8)	$(7) \rightarrow (8)$ (9)	$\neg A$ (10)	$\neg B$ (11)	$\neg A \vee \neg B$ (12)	$(9) \Rightarrow (12)$ (13)
T	T	T	T	T	T	T	T	T	F	F	F	**F**
T	T	T	F	T	T	T	F	F	F	F	F	T
T	T	F	T	T	F	F	T	T	F	F	F	**F**
T	T	F	F	T	F	F	F	T	F	F	F	**F**
T	F	T	T	F	T	T	T	T	F	T	T	T
T	F	T	F	F	T	T	F	F	F	T	T	T
T	F	F	T	F	T	F	T	T	F	T	T	T
T	F	F	F	F	T	F	F	T	F	T	T	T
F	T	T	T	F	T	T	F	F	T	F	T	T
F	T	T	F	F	T	T	F	F	T	F	T	T
F	T	F	T	F	T	F	F	T	T	F	T	T
F	T	F	F	F	T	F	F	T	T	F	T	T
F	F	T	T	F	T	T	F	F	T	T	T	T
F	F	T	F	F	T	T	F	F	T	T	T	T
F	F	F	T	F	T	F	F	T	T	T	T	T
F	F	F	F	F	T	F	F	T	T	T	T	T

The statement is a fallacy (it is fallacious) since there is at least one condition (A is true, B is true, D is true, and C is false) for which the statement is true ***and*** there is at least one condition (A is true, B is true, D is true, and C is true) for which the statement is false.

Recall: a statement is a tautology (tautological) if for every truth-value of the prime statements, the result is true.
a statement is a fallacy (fallacious) if there is at least one condition of the prime statements for which the statement is true ***and*** there is at least one condition of the prime statements for which the statement is false.
a statement is a contradiction (contradictory) if for every truth-value of the prime statements, the result is false.

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