1	$M1(x1) \bigvee \neg H(x1)$
2	$M1(x2) \lor \neg B1(x2)$
3	$C(x3) \lor \neg M1(x3) \lor \neg E(x3)$
4	$C(x4) \lor \neg M1(x4) \lor \neg S1(x4) \lor \neg S2(x4)$
5	$L(x5) \lor \neg C(x5) \lor \neg B2(x5) \lor \neg B3(x5)$
6	$F(x6) \lor \neg C(x6) \lor \neg B2(x6) \lor \neg M2(x6)$
7	H(a)
8	B2(a)
9	B3(a)
10	E(a)

To prove the validity of L (a), put ¬L (a) into a clause set and check whether inference leads to inconsistencies.

Step		
1	C1	¬L(a)
	C2	$L(x5) \lor \neg C(x5) \lor \neg B2(x5) \lor \neg B3(x5)$
	R	¬C(a) ∨ ¬B2(a) ∨ ¬B3(a)
2	C1	¬C(a) ∨ ¬B2(a) ∨ ¬B3(a)
	C2	$C(x3) \lor \neg M1(x3) \lor \neg E(x3)$
	R	¬B2(a) \lor ¬B3(a) \lor ¬M1 (a) \lor ¬E(a)
3	C1	¬B2(a) \lor ¬B3(a) \lor ¬M1 (a) \lor ¬E(a)
	C2	B2(a)
	R	¬B3(a) \lor ¬M1 (a) \lor ¬E(a)
4	C1	¬B3(a) \lor ¬M1 (a) \lor ¬E(a)
	C2	B3(a)
	R	¬M1 (a) ∨ ¬E(a)
5	C1	¬M1 (a) ∨ ¬E(a)
	C2	M1(x1) ∨ ¬H(x1)
	R	¬E(a) ∨ ¬H(a)
6	C1	¬E(a) ∨ ¬H(a)
	C2	E(a)
	R	¬H(a)
7	C1	¬H(a)
	C2	H(a)
	R	Φ

END

Since a contradiction has been derived, L (a) cannot be denied, and L (a) always holds.

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