

# EmptySkies - Revisiting *The Lone Wolf scenario*

This document reviews a game with the *EmptySkies* (ES) tool, an unofficial Java-based play aid for the *Black Cross / Blue Sky* (BCBS) board game by Blue Sky Enterprises ([www.blueskygameworks.com](http://www.blueskygameworks.com)), helping to solitaire-play the (required) original game.

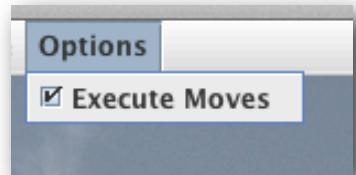
In this test run, I used a somewhat improved version of the previous code. This new version featured

- an additional movement status flag (to indicate units have been moved),
- automatic movement execution for AI-controlled units,
- an improved formation-level AI logic, and
- diverse small bug fixes and improvements.

For details about the usage of ES please refer to the first test run.

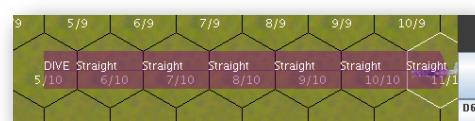
## Turn 1

The initial configuration is identical to that of the first test run: the single Hurricane must prevent the two Heinkel He-111 from escaping via the right board side. There is a new user interface element for resetting the turn of all units, directly above the dice panel:

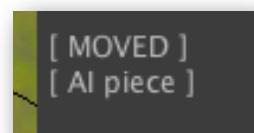


Hitting the Reset Turn button will set back all flags indicating a unit has been moved. These flags are set automatically when executing the movement for all AI-units. Internally, this allows the logic to distinguish between unmoved and moved units, for example to determine a consistent movement path for an entire formation. If the automatic execution flag (see screenshot to the right) is activated in the Options menu, all AI-controlled units will be moved automatically when their movement path is computed. Note that this still requires that one has to trigger this computation manually.

The movement paths for the two Heinkels show an expected pattern:



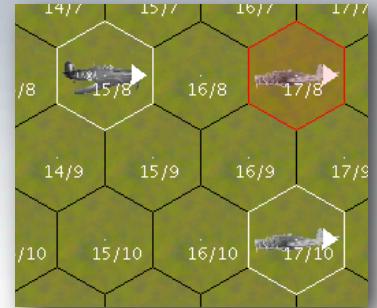
Note the two units automatically move to the end position. It is indicated in the info panel that these units have been moved (see screenshot right). I follow with the Hurricane and compute the fire targets for the bombers. In this version, the tool lets you know if no AI-determined fire targets can be reached:



From this distance (the Hurricane moved level this turn to maintain at least one altitude level distance to the bombers) it is no surprise that all shots missed their targets.

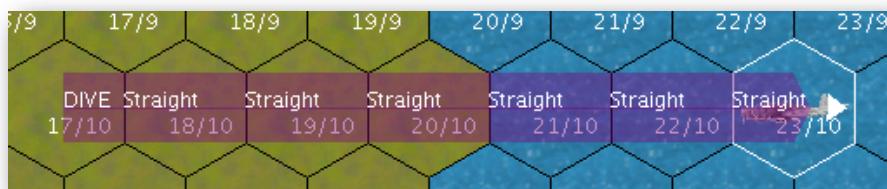
## Turn 2

At the turn start, the Reset Turn button is pressed to remove all movement flags from the AI-controlled units. Then the movement phase is executed as usual, starting with the bombers. The two bombers moved similarly to the first turn, further evading the pursuing Hurricane. The two formation aircraft kept one hex between them, covering each other. Closing in, the Hurricane manages to score three hits on the first of the bombers - not enough to shoot it down, but still a start.



## Turn 3

The final playable turn brings no surprise, except from four additional hits scored by the Hurricane. Again, this is not enough to shoot down the targeted bomber, as the Heinkel can withstand some 11 points of damage. However, the dice weren't that lucky in this turn, and no critical hits have been scored. Unfortunately, both bombers escaped, although taking some damage. It would have been possible to further close in on the bombers, but that would have allowed them to fire back at the pursuing fighter.



## Conclusion

The updated version of EmptySkies introduced a more balanced behavior of formation-level AI decisions. The new *Execute Moves* option allows to quickly play movement phases for multiple units without having to readjust all their status values by hand. Next, the tool will see more testing on a second scenario using more aircraft units.