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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, DC 20549

**FORM 6 - K**

**REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE  
SECURITIES EXCHANGE ACT OF 1934**

For the month of August 2012

Commission File Number 001-33159

**AERCAP HOLDINGS N.V.**

(Translation of Registrant's Name into English)

**Stationsplein 965, 1117 CE Schiphol Airport, The Netherlands, +31-20-655-9655**

(Address of Principal Executive Office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F

Form 40-F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

**Note:** Regulation S-T Rule 101(b)(1) only permits the submission in paper of a Form 6-K if submitted solely to provide an attached annual report to security holders.

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7) ):

**Note:** Regulation S-T Rule 101(b)(7) only permits the submission in paper of a Form 6-K if submitted to furnish a report or other document that the registrant foreign private issuer must furnish and make public under the laws of the jurisdiction in which the registrant is incorporated, domiciled or legally organized (the registrant's "home country"), or under the rules of the home country exchange on which the registrant's securities are traded, as long as the report or other document is not a press release, is not required to be and has not been distributed to the registrant's security holders, and, if discussing a material event, has already been the subject of a Form 6-K submission or other Commission filing on EDGAR.

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**Other Events**

On August 20, 2012, AerCap Holdings N.V. ("AerCap") in a privately negotiated transaction purchased 10,000,000 of its ordinary shares from Fern S.a.r.l., an indirect subsidiary of Cerberus Capital Management, L.P., which is an affiliate of AerCap. The purchase was completed pursuant to the terms of a Share Purchase Agreement AerCap entered into with Fern S.a.r.l. on August 20, 2012. The aggregate purchase price for the ordinary shares was US\$120 million, which represented a discount of \$0.09 per share from the closing price of the ordinary shares on the New York Stock Exchange on Friday, August 17, 2012. This purchase was made outside of the Company's previously announced share repurchase program. After this transaction, Cerberus remains a holder of more than 10% of AerCap's outstanding ordinary shares.

This purchase is in addition to the previously announced repurchase program pursuant to which AerCap may purchase up to \$200 million of its ordinary shares prior to June 30, 2013. As of August 20, 2012, up to approximately \$104 million in additional shares may be purchased under this program.

This Form 6-K is incorporated by reference into the Company's Form F-3 Registration Statement File No. 333-155194 and Form S-8 Registration Statements File Nos. 333-180323, 333-154416 and 333-165839, and related Prospectuses, as such Registration Statements and Prospectuses may be amended from time to time.

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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AERCAP HOLDINGS N.V.

By: /s/ Aengus Kelly  
Name: Aengus Kelly  
Title: Authorized Signatory

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Date: August 20, 2012