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**FORM 6 - - K**  
**SECURITIES AND EXCHANGE COMMISSION**

Washington, DC 20549

**Report of Foreign Private Issuer**  
**Pursuant to Rule 13a - 16 or 15d - 16 under**  
**the Securities Exchange Act of 1934**

For the month of October 2010

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):

Indicate by check mark whether the registrant by furnishing the information contained in this form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Act of 1934.

Yes  No

If "Yes" is marked, indicated below the file number assigned to the registrant in connection with Rule 12g3-2(b): 82 — N/A

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**Other Events**

On October 11, 2010, AerCap Holdings N.V. released a summary of its completed transactions during the third quarter of 2010.

**Exhibits**

99.1 AerCap Holdings N.V. Press Release

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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/ Klaus Heinemann  
Name: Klaus Heinemann  
Title: Authorized Signatory

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**EXHIBIT INDEX**

99.1 AerCap Holdings N.V. Press Release.



PRESS RELEASE

**AerCap Holdings N.V. Announces Third Quarter 2010 Transactions**

Amsterdam, The Netherlands; October 11, 2010 - AerCap Holdings N.V. ("AerCap," "the Company," NYSE: AER) today announced the completion of the following transactions during the third quarter 2010:

- Signed new lease agreements for three aircraft,
- Delivered 13 aircraft and 12 engines under lease agreements,
- Purchased 12 aircraft and eight engines,
- Sold five aircraft and five engines, and
- Disassembled seven aircraft and six engines.

Transaction Overview	Third Quarter 2010			Year to Date 2010		
	Owned	Managed	Total	Owned	Managed	Total
<b>Lease Agreements</b>						
<i>Aircraft (Contracts)</i>	2	1	3	11	1	12
<i>Aircraft (Letters of Intent)</i>	7	1	8	8	1	9
<b>Deliveries</b>						
<i>Aircraft</i>	12	1	13	41	2	43
<i>Engines</i>	12	NA	12	35	NA	35
<b>Purchases</b>						
<i>Aircraft (Closed)</i>	12	NA	12	51	NA	51
<i>Engines (Closed)</i>	8	NA	8	15	NA	15
<i>Aircraft (Contract Signed, to be Delivered)</i>	NA	NA	NA	2	NA	2
<i>Aircraft (Letters of Intent)</i>	1	NA	1	1	NA	1
<i>Engines (Letters of Intent)</i>	1	NA	1	2	NA	2
<b>Sales</b>						
<i>Aircraft (Closed)</i>	3	2	5	13	2	15
<i>Engines (Closed)</i>	5	NA	5	13	0	13
<i>Aircraft (Contract Signed, to be Delivered)</i>	NA	NA	NA	6	NA	6
<i>Aircraft (Letters of Intent)</i>	NA	1	1	NA	1	1

**Lease Activities: Contracts Signed for Three Aircraft and Twelve Engines — Thirteen Aircraft Delivered**

**New Lease Agreements**

AerCap signed three new lease agreements for aircraft in the third quarter 2010:

- Two Airbus A320s for LAN Airlines (Chile), and
- One Boeing B737 for Air North (Canada).

The average term of lease agreements for new aircraft signed during the first three quarters of 2010 was 138 months. The average term of lease agreements for used aircraft was 62 months (including letters of intent).

AerCap entered into 12 engine lease agreements in the third quarter and delivered the engines to the lessees in the same period. Nine of the leased engines were CFM-56 engines and three were CF6 engines.

**Deliveries**

AerCap completed 13 aircraft deliveries in the third quarter under contracted lease agreements:

- Two new Airbus A320s for Alitalia (Italy),
- Two new Airbus A320s for Wizz Air (Hungary),
- One new Airbus A320 for Spirit Airlines (USA),

- One new Airbus A320 for Kuwait National Airways (Kuwait),
- One new Airbus A320 for Spring Airlines (China),
- One new Airbus A330 for Sichuan Airways (China),
- One new Airbus A330 for Asiana Airways (South Korea),
- One Airbus A300 Freighter for MNG Airlines (Turkey),
- Two Airbus A320s for LAN Airlines (Chile), and
- One Boeing B737 for Air North (Canada).

**Purchase Activities: Purchases Closed for Twelve Aircraft**

During the third quarter, AerCap acquired three new Airbus A320s and two new Airbus A330s under existing commitments with Airbus. In addition, AerCap acquired seven new Airbus A320s from third parties and signed a letter of intent for the acquisition of one Boeing B737.

AerCap also expanded its engine pool with the acquisition of six CFM-56 engines, one CF6 and one Pratt & Whitney engine and signed a letter of intent for the acquisition of one CFM-56 engine.

**Sales Activities: Five Aircraft Sold**

During the third quarter, AerCap closed sales transactions for two new Airbus A320s and one new Airbus A330 from its owned portfolio, and for one Boeing B737 and one Boeing B757 from its managed portfolio.

In addition to the completed sale transactions, AerCap signed a letter of intent for the sale of one Boeing B757 from its managed portfolio.

AerCap also sold five CFM-56 engines from its owned engine pool.

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**Disassembly: Seven Aircraft and Six Engines Disassembled**

In the third quarter, AerCap’s subsidiary AeroTurbine disassembled three aircraft and three engines from its own inventory, and four aircraft and three engines for third parties.

**Debt Facilities: \$110 Million of New Debt Facilities Signed in the Third Quarter and a Total of \$830 Million in the Year to Date**

AerCap signed agreements for \$110 million of new debt facilities in the third quarter and a total of \$830 million in the year to date.

AerCap also closed its second ECGD guaranteed bond transaction for \$74 million in the third quarter.

**Portfolio Summary**

As of September 30, 2010, AerCap’s portfolio consisted of 324 aircraft and 83 engines that were either owned, on order, under contract or letter of intent, or managed. This includes aircraft that AerCap added through the acquisition of Genesis Lease in March 2010. These aircraft are still managed by GECAS and the respective transactions are included in the activity report.

The information in this press release also includes transactions completed by AeroTurbine, AerCap’s subsidiary which focuses on engine leasing and trading, airframe and engine disassembly, part sales and MRO services.

**About AerCap**

AerCap is the world’s leading independent aircraft leasing company. AerCap also provides engine leasing, aircraft management services, aircraft maintenance, repair and overhaul services and aircraft disassemblies. AerCap is headquartered in The Netherlands and has offices in Ireland, the United States, China, Singapore and the United Kingdom.

**This press release may contain forward-looking statements that involve risks and uncertainties. In most cases, you can identify forward-looking statements by terminology such as “may”, “should”, “expects”, “plans”, “anticipates”, “believes”, “estimates”, “predicts”, “potential” or “continue” or the negative of such terms or similar terminology. Such forward-looking statements are not guarantees of future performance and involve significant assumptions, risks and uncertainties, and actual results may differ materially from those in the forward-looking statements.**

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