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(54) **HYDRAULIC LASH ADJUSTER**

(57) A hydraulic lash adjuster (100) for insertion into a bore (108C,118,140,150,218) of an engine cylinder head (106) of an internal combustion engine, is disclosed. The hydraulic lash adjuster (100) comprises a body (102) for insertion into the bore (108C,118,140,150,218). The body (102) comprises a first hydraulic fluid flow path for allowing hydraulic fluid from a hydraulic fluid supply of the engine cylinder head (106) to flow to a valve train component of the internal combustion engine. At least part of the hydraulic fluid flow path is defined by a portion (130) of the outer surface of a side wall of the body (102). A hydraulic lash adjuster (100) comprising one or more air purge holes (114,144) or air purge grooves (224,244) in a side wall of the hydraulic adjuster is also disclosed.

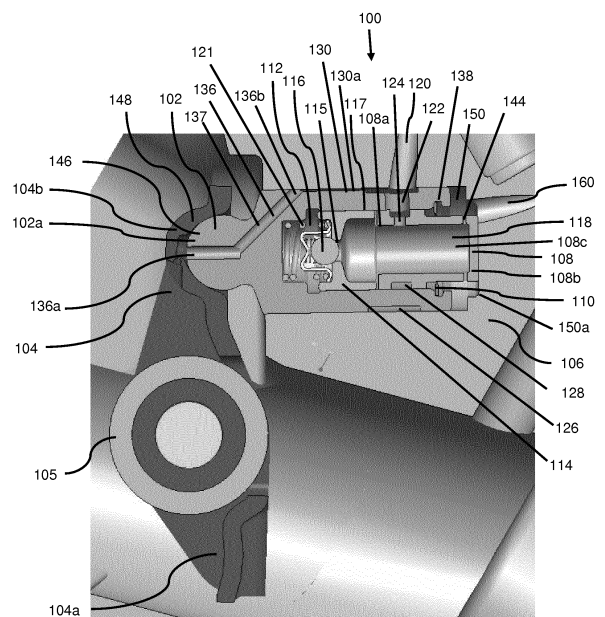


Figure 2



EUROPEAN SEARCH REPORT

Application Number  
EP 16 20 4879

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DOCUMENTS CONSIDERED TO BE RELEVANT				
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		-/--		
The present search report has been drawn up for all claims				
Place of search <b>The Hague</b>		Date of completion of the search <b>12 October 2017</b>	Examiner <b>Aubry, Yann</b>	
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document		

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EP 16 20 4879

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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Place of search The Hague		Date of completion of the search 12 October 2017	Examiner Aubry, Yann
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	

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**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

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Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

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No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

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**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

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see sheet B

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All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

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As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

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Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

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None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

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The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

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**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number  
EP 16 20 4879

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

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1. claims: 1-6, 13, 14(completely); 12, 15(partially)

Hydraulic lash adjuster with oil path for valve train component lubrication.

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2. claims: 7-11(completely); 12, 15(partially)

Hydraulic lash adjuster with air purge holes.

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ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 16 20 4879

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
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12-10-2017

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82