

**MINISTERE DES TRANSPORTS**

Luxembourg, le 18 juillet 2006  
19-21, Boulevard Royal  
L-2910 Luxembourg  
Tél 478-1 – Télécopieur 241 817 – Télex 1465 CIVAIR LU

REFERENCE: E13\*67R00\*67R01\*0086\*04

ANNEXES: Documentation technique



**Communication concernant:**

Communication concerning:

- ~~la délivrance d'une homologation~~  
approval granted
- ~~l'extension d'homologation~~  
approval extended
- ~~le refus d'homologation~~  
approval refused
- ~~le retrait d'homologation~~  
approval withdrawn
- ~~l'arrêt définitif de la production~~  
production definitely discontinued

**d'un type d'équipement GPL en application du Règlement N° 67**  
of a type of LPG equipment pursuant to regulation N° 67

**Numéro d'homologation:**

Approval number:

E13\*67R00\*67R01\*0086\*04

**Marque d'homologation:**

Approval mark:

 67R-01 0086

**1. Equipement GPL:**

LPG equipment considered: <sup>1</sup>

**Réservoir:**

Container:

- container

**Accessoires fixés au réservoir:**

Accessories fitted to the container:

- 80 % stop valve
- lever indicator
- pressure relief valve (discharge valve)
- remotely controlled service valve with excess valve
- with/without LPG fuel pump

**Bloc multivannes, y compris les accessoires suivants:**

Multivalve, including the following accessories:

- gas-tight housing
- power supply bushing (pump/actuators)
- LPG fuel pump
- vaporizer/pressure regulator
- shut-off valve
- non-return valve
- gas tube pressure relief valve
- service coupling
- flexible hose
- remote filling unit
- gas injection device or injector
- fuel rail
- gas dosage unit

- gas mixing piece
- electronic control unit
- ~~pressure/temperature sensor~~
- LPG filter unit

2. **Marque de fabrication ou de commerce:**  
Trade name or mark: Lovato or LovTec
- Type:** LovEco  
Type: commercial descriptions: LOV ECO, LOV 201 evo, LOV 201 pro, Loveco PRO Loveco-4EU
3. **Nom et adresse du fabricant:**  
Manufacturer's name and address: Officine Lovato S.p.A.  
Strada Casale, 175  
I-36100 Vicenza
4. **Le cas échéant, nom et adresse du mandataire du fabricant:**  
If applicable, name and address of the manufacturer's representative: not applicable
5. **Equipement présenté à l'homologation le:**  
Submitted for approval on: 05.06.2006
6. **Autorité déléguée:**  
Assigned authority: Société Nationale de Certification et d'Homologation  
L-5201 Sandweiler
- Service technique chargé des essais d'homologation:**  
Technical service responsible for conducting approval tests: Luxcontrol S.A.  
B.P. 349  
L-4004 Esch-sur-Alzette
7. **Date du procès-verbal délivré par ce service:**  
Date of report issued by that service: 14.07.2006
8. **Numéro du procès-verbal:**  
Number of test report issued by that service: LCA 54 309 007 6
9. **Homologation:**  
Approval: extended
10. **Raisons de l'extension (éventuellement):**  
Reason(s) for extension (if applicable): - refer to Annex A - Page 2 of technical report
11. **Lieu:**  
Place: Luxembourg
12. **Date:**  
Date: 18 juillet 2006
13. **Signature:**  
Signature: Pour le Ministre des Transports




Paul Schmit  
Commissaire du Gouvernement

14. **Des copies soumis dans le dossier d'homologation ou d'extension de l'homologation peuvent être obtenues sur demande.**

The documents filed with the application or extension of approval can be obtained upon request.

see index to type-approval report

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<sup>1</sup> **Biffer les mentions inutiles.**  
Strike out what does not apply

**Appendice 1 (réservoirs uniquement)**  
Appendix 1 (containers only)

**1. Caractéristiques du réservoir de base  
(configuration 00)**

Container characteristics from the parent container  
(configuration 00)

**a) Marque de fabrique ou de commerce:**

a) Trade name or mark: not applicable

**b) Forme:**

b) Shape: not applicable

**c) Matériau:**

c) Material: not applicable

**d) Ouvertures:**

d) Openings: not applicable

**e) Epaisseur de la paroi:**

e) Wall thickness: not applicable

**f) Diamètre (réservoir cylindrique):**

f) Diameter (cylindrical container): not applicable

**g) Hauteur (forme de réservoir spéciale):**

g) Height (special container shape): not applicable

**h) Surface externe:**

h) External surface: not applicable

**i) Configuration des accessoires fixés au  
réservoir (voir tableau 1):**

i) Configuration of accessories fitted to container  
(see table 1):

**Tableau 1:**

Table 1:

N° N°	Accessoire Item	Type Type	N° d'homologation Approval N°	N° d'extension Extension N°
a)	<b>Limiteur de remplissage à 80%</b> 80% stop valve:	-	-	-
b)	<b>Jauge</b> Level indicator	-	-	-
c)	<b>Soupape de surpression:</b> Pressure relieve valve:	-	-	-
d)	<b>Vanne d'isolement télécommandée avec limiteur de débit:</b> Remotely controlled service valve with excess valve:	-	-	-
e)	<b>Pompe à GPL:</b> Fuel pump	-	-	-
f)	<b>Bloc multivannes:</b> Multivalve:	-	-	-
g)	<b>Enceinte étanche:</b> Gas-tight housing	-	-	-
h)	<b>Raccord électrique d'alimentation:</b> Power supply bushing:	-	-	-

i)	<b>Soupape antiretour:</b> Non return valve:	-	-	-
j)	<b>Dispositif de surpression:</b> Pressure relief device:	-	-	-

2. **Liste des réservoirs de la même famille (les listes des réservoirs de la même famille indiquent le diamètre, la capacité, la surface externe et la (les) configuration(s) possible(s) des accessoires fixés au réservoir):**

List of container family (The lists of the container family indicate the diameter, capacity, external surface and the possible configuration(s) of the accessories fitted to the container):

**Tableau 2:**

Table 2:

N° N°	Type Type	Diamètre/hauteur Diameter/height [mm]	Capacité Capacity [l]	Surface externe External surface [cm <sup>2</sup> ]	Configuration des accessoires Configuration of accessories [codes] <sup>1</sup>
-	-	-	-	-	-
-	-	-	-	-	-

3. **Listes des configurations possibles des accessoires fixés au réservoir (indiquer la liste des accessoires possibles, qui diffèrent de la configuration essayée (code 00) et qui peuvent être fixés au type de réservoir en question. Pour tous les accessoires, préciser le type, le numéro d'homologation et le numéro d'extension, en indiquant pour chacun son propre code de configuration):**

Lists of the possible configurations of accessories fitted to the container (Specify a list of the possible accessories, which differ from the tested configuration of accessories (code 00) and which may be fitted to the type of container. Specify for all accessories, type, approval number and extension number, indicating its own configuration code):

**Tableau: 3**

Table 3:

N° N°	Accessoires Accessories	Type Type	N° d'homologation Approval N°	N° d'extension Extension N°	Configuration des accessoires [code] Configuration of accessories [code]
a)	-	-	-	-	-

<sup>1</sup> Code 00 et, s'il y a lieu, même(s) code(s) qu'au tableau 3.  
Code 00 and, if applicable, same code(s) from table 3.

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**MINISTERE DES TRANSPORTS**

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Luxembourg, le 18 juillet 2006  
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Tél 478-1 – Télécopieur 241 817 – Télex 1465 CIVAIR LU

REFERENCE: E13\*67R00\*67R01\*0086\*04

ANNEXES: Documentation technique

**Index du dossier d'homologation**  
Index to type-approval

	<b>Numéro d'homologation:</b> Approval number:	E13*67R00*67R01*0086*04
	<b>Marque de fabrique ou de commerce:</b> Trade name or mark:	Lovato, LovTec
	<b>Type:</b> Type:	LovEco
<b>1.</b>	<b>Procès-verbal d'essai</b> Test report:	LCA 54 309 007 6
	- Technical report	Page 1 to 6
	- Index:	Annex A – Page 1 & 2
<b>2.</b>	<b>Dossier du constructeur:</b> Report of the manufacturer:	
	- Index of information document:	refer to Annex A - Page 2 of technical report
<b>3.</b>	<b>Autres documents annexés:</b> Other documents annexed:	not applicable
<b>4.</b>	<b>Date de délivrance de l'homologation initiale:</b> Date of issue of initial type approval:	09.12.2000
<b>5.</b>	<b>Date de la dernière délivrance de pages révisées:</b> Date of last issue of revised pages:	not applicable
<b>6.</b>	<b>Date de la dernière délivrance d'une homologation révisée</b> Date of last extension:	18.07.2006

## TECHNICAL REPORT

No.: LCA 54 309 007 6

Inspection concerning the

### Specific equipment of motor vehicles using liquefied petroleum gases in their propulsion system

performed according to

**ECE – Regulation No. 67**

Type: **LovEco**  
Manufacturer: **Officine Lovato S.p.A.**  
**Strada Casale, 175**  
**I-36100 Vicenza**

Extension 04 to ECE Type Approval no.: E13\*67R00\*67R01\*0086\*00

#### Index:

1. General	Page	3
2. Inspections and their results	Page	4
3. Evaluation of test results	Page	4
4. Statement of compliance	Page	6
5. Annex (beginning with an index)		

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E13\*67R00\*67R01\*0086\*04

Société Nationale de Certification et d'Homologation  
L-5201 SANDWEILER (Luxembourg)  
Organisme accrédité OLAS EN 45011

...

Accréditation N° 5/001 (Portée communiquée sur demande)

**1. General****1.1. Test Provisions**

The inspection was carried out according to the requirements of ECE-Regulation No. 67 including Supplement 5 to the 01 series of amendments, which entered into force on June 23, 2005.

**1.2. Information concerning the vehicle type and the requested approval**

The statements below apply to the previous ECE type-approval as referred to on page 1.

**1.2.1. [] Numbering according to the communication concerning the approval of ECE-R67**

[1.] LPG equipment considered:

**Control unit**

**Type: LovEco**

**Commercial descriptions:**

**LOV ECO, LOV 201 evo, LOV 201 pro, Loveco PRO, Loveco-4EU**

[2.] Trade name or mark:

**Lovato, LovTec**

[3.] Manufacturer's name and address:

**Officine Lovato S.p.A.**

**Strada Casale, 175**

**I-36100 Vicenza**

[4.] If applicable, name and address of manufacturer's representative:

**Not applicable**

[5.] Submitted for approval on: **05.06.2006**

[10.] Reason(s) of extension:

**version with commercial description LOVECO-4EU has been added.**



## 2. Inspections and their results

### 2.1. Version of the tested equipment

The following variants have been used for testing (if not stated in part 1.2.1. of this report):

not applicable

### 2.2. Inspection items

	Inspectors	Location of test:	Date of receipt of test item:	Date of test:
Main:	--	I-CSI/Bollate (MI)	October 3, 2000	October 3, 2000
Ext. 1	--	Esch/Alzette (L)	Not applicable	January 29, 2001
Ext. 2	--	Esch/Alzette (L)	Not applicable	February 28, 2002
Ext. 3	D. Durazzi	Esch/Alzette (L)	Not applicable	February 24, 2005
Ext. 4	D. Durazzi	Esch/Alzette (L)	Not applicable	June 5, 2006

#### 2.2.1. General

No parts of the control unit are in contact with LPG.

Every material of the equipment in contact with LPG is compatible with it.

The control unit complies with the relevant electromagnetic compatibility requirements of amendment 95/54/EC of the Directive 72/245/EEC, which is considered as equivalent to Regulation R10.02.

#### 2.2.2. Inspections: (control unit; Annex 14)

Tests	Test results	Line item
Switching off delay	requirements fulfilled	Annex 14, par. 2
Electromagnetic compatibility	type approval: e13*72/245*95/54*0686*04	Annex 14, par. 3
Electrical failure	requirements fulfilled	Annex 14, par. 4
Output of electronic control unit	requirements fulfilled	Annex 14, par. 5

### 2.3. Remarks

Inspection results are only applicable to items, which have been tested.

### 2.4. Test facilities

Calibration of measuring and test equipment used to carry out the inspections is in accordance with the EEC-Directive and/or ECE-Regulation stated in 1.1. of this report and with ISO 17025.



**3. Evaluation of test results**

**3.1. Variants and equipment covered**

The tests carried out cover the following variations as far as these are relevant for the gas unit:

- LOV ECO, LOV 201 evo, LOV 201 pro, Loveco PRO, Loveco-4EU

**3.2. Remarks**

3.2.1. Main report:

Not applicable

3.2.2. Concerning Extension 1:

A new trade name has been added. The component remains technically unchanged.

3.2.3. Concerning Extension 2:

Added 2 new versions with commercial description LOV 201 evo and LOV 201 pro. The new versions were tested again. The existing test results remains valids.

3.2.4. Concerning Extension 3:

Added new versions with commercial description LOVECO PRO. The new version was tested again. The existing test results remains valids.

3.2.5. Concerning Extension 4:

Added new version with commercial description LOVECO-4EU. The existing test results remains valids.



4. **Statement of compliance**

The inspections items and measurements carried out have shown the compliance of the vehicle type described in this report and the attached Annex with the requirements of ECE-Regulation No. 67 including Supplement 5 to the 01 series of amendments, which entered into force on June 23, 2005.

Esch/Alzette, 14 July 2006

Luxcontrol s.a.  
Service Homologation-automobile

David Durazzi  
Ingénieur-Inspecteur

Angelo Tomasini  
Ingénieur-Inspecteur

**Annex**



Index to the information package, including a summary in chronological order, concerning extensions and/or amendments

**EEC type-approval No.: E13\*67R00\*67R01\*0086\*00**

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### Main Report

Technical Report No.: LCA 54 309 013 0 Page 1 to 6

Composition of the Annex:

A: Index Page 1  
B: Information folder Pages 1 to 4

### Index to the information folder:

- manufacturer's information document (pages 1 to 4)

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### Extension 1

Technical Report No.: LCA 54 309 004 1 Page 1 to 6

Composition of the Annex:

A: Index Page 1  
B: Information folder  
To be added Page 5

Contents of the extension:

To be added:  
- The trade name LovTec

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### Extension 2

Technical Report No.: LCA 54 309 003 2 Page 1 to 6

Composition of the Annex:

A: Index Page 1, 2  
B: Information folder  
To be replaced: Page 1, 2  
To be added: Page 2A, 3A, 3B

Contents of the extension:

To be added:  
- The commercial descriptions LOV 201 evo and LOV 201 pro



### Extension 3

Technical Report No.:	LCA 54 309 002 5	Page 1 to 6
Composition of the Annex:		
A: Index		Page 1, 2
B: Information folder		
To be replaced:		Page 1
To be added:		Page 2B, 7, 8, 9
Contents of the extension:		
To be added:		
-	The new version with commercial description LOVECO PRO	
To be modified:		
-	The editorial arrangement	

### Extension 4

Technical Report No.:	LCA 54 309 007 6	Page 1 to 6
Composition of the Annex:		
A: Index		Page 1, 2
B: Information folder		
To be replaced:		Page 1
To be added:		Page 10 to 12
Contents of the extension:		
To be added:		
-	The new version with commercial description LOVECO-4EU	
-	updated supplement level of the regulation	

### Index to the information folder:

- manufacturer's information document (pages 1, 2, 2A, 2B, 3, 3A, 3B, 4 to 12)