

MINISTERE DES TRANSPORTS

Luxembourg, le 26 avril 2005
19-21, Boulevard Royal
L-2910 Luxembourg
Tél 478-1 – Télécopieur 241 817 – Télex 1465 CIVAIR LU

REFERENCE: E13*67R00*67R01*0122*03

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approval withdrawn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*0122*03

Marque d'homologation:

Approval mark:



67R-01 0122 class 3

1.

Equipement GPL:

LPG equipment considered: ¹

Réservoir:

Container:

- container

Accessoires fixés au réservoir:

Accessories fitted to the container:

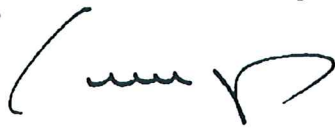
- 80 % stop valve
- lever indicator
- pressure relief valve (discharge valve)
- remotely controlled service valve with excess valve
- with/without LPG fuel pump

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 fabrique ou de commerce:**
Trade name or mark: Lovato or Lovtec
- Type:**
Type: EV00
- with following electrical bobin connecting variants:
- | | |
|--------------------------------|----------------------|
| Faston (two pins) | version: EV00 |
| <u>Faston (two pins)</u> | version: <u>EVG1</u> |
| AMP (connector + wires) | version: EV00 |
| <u>AMP (connector + wires)</u> | version: <u>EVG2</u> |
| MERCURY (connector + wires) | version: EV00 |
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: 10.01.2005
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: 14.04.2005
8. **Numéro du procès-verbal:**
Number of test report issued by that service: LCA 54 309 004 5
9. **Homologation:**
Approval: extended
10. **Raisons de l'extension (éventuellement):**
Reason(s) for extension (if applicable): - Versions EVG1 and EVG2 added;
- The editorial arrangement and the description of possible electrical connection variants corrected.

11. **Lieu:**
Place: Luxembourg
12. **Date:**
Date: 26 avril 2005
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

¹ **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)	Limiteur de remplissage à 80% 80% stop valve:	-	-	-
b)	Jauge Level indicator	-	-	-
c)	Soupape de surpression: Pressure relieve valve:	-	-	-
d)	Vanne d'isolement télécommandée avec limiteur de débit: Remotely controlled service valve with excess valve:	-	-	-
e)	Pompe à GPL: Fuel pump	-	-	-
f)	Bloc multivannes: Multivalve:	-	-	-
g)	Enceinte étanche: Gas-tight housing	-	-	-
h)	Raccord électrique d'alimentation: Power supply bushing:	-	-	-

i)	Soupape antiretour: Non return valve:	-	-	-
j)	Dispositif de surpression: 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 ²]	Configuration des accessoires Configuration of accessories [codes] ¹
-	-	-	-	-	-
-	-	-	-	-	-

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)	-	-	-	-	-

¹ 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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Luxembourg, le 26 avril 2005
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Tél 478-1 – Télécopieur 241 817 – Télec 1465 CIVAIR LU

REFERENCE: E13*67R00*67R01*0122*03

ANNEXES: Documentation technique

Index du dossier d'homologation
Index to type-approval

	Numéro d'homologation: Approval number:	E13*67R00*67R01*0122*03
	Marque de fabrique ou de commerce: Trade name or mark:	Lovato
	Type: Type:	EV00
1.	Procès-verbal d'essai Test report:	LCA 54 309 004 5
	- Technical report	Page <u>1</u> to <u>6</u>
	- Index:	Annex A – Page <u>1</u> & <u>2</u>
2.	Dossier du constructeur: Report of the manufacturer:	
	- Information document:	<u>Page 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47</u>
3.	Autres documents annexés: Other documents annexed:	not applicable
4.	Date de délivrance de l'homologation initiale: Date of issue of initial type approval:	26.01.2001
5.	Date de la dernière délivrance de pages révisées: Date of last issue of revised pages:	not applicable
6.	Date de la dernière délivrance d'une homologation révisée Date of last extension:	26.04.2005

TECHNICAL REPORT

No.: LCA 54 309 004 5

Inspection concerning the

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

performed according to

ECE – Regulation No. 67

Type: **EV00**
Manufacturer: **Officine Lovato s.p.a.**
Strada Casale, 175
I-36100 Vicenza

Extension 3 to ECE Type Approval no.: E13*67R00*67R01*0122*00

Index:

	E13*67R00*67R01*0122*03	
	Société Nationale de Certification et d'Homologation	
1. General	L-5201 SANDWEILER (Luxembourg)	Page 2
2. Inspections and their results	Organisme accrédité OLAS EN 45011	Page 3
3. Evaluation of test results	Accréditation N° 5/001 (Portée communiquée sur demande)	Page 5
4. Statement of compliance		Page 6
5. Annex (beginning with an index)		

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■ Luxcontrol SA

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CCPL: LU80 1111 0581 9794 0000
BGLL: LU56 0030 1612 0727 0000
BCEE: LU95 0019 1100 7069 5000
TVA: LU 113 536 61
RC Lux.: n° B15664



1. **General**

1.1. **Test Provisions**

The inspection was carried out according to the requirements of ECE-Regulation No. 67 including Supplement 2 to the 01 series of amendments, which entered into force on July 16, 2003.

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:

Shut-off valve

type: EV00

with following electrical bobin connecting variants:

- Faston (two pins)	version:	EV00
- Faston (two pins)	version:	EVG1
- AMP (connector + wires)	version:	EV00
- AMP (connector + wires)	version:	EVG2
- MERCURY (connector + wires)	version:	EV00

[2.] Trade name or mark:

Lovato or 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: **10.01.2005**

[10.] Reason(s) of extension:

Addition of two versions EVG1 and EVG2

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Société Nationale de Certification et d'Homologation

L-5201 SANDWEILER (Luxembourg)

Organisme accrédité OLAS EN 45011

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



2. Inspections and their results

2.1. Version of the tested equipment

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

EV00, EVG1, EVG2

2.2. Inspection items

	Location of test:	Date of receipt of test item:	Date of test:	Inspector
Main Report	CSI S.p.A. V.le Lombardia, 20 I-20021 Bollate (MI)	02.12.2000	02.12.2000	P. Vinciarelli
Extension 1	Luxcontrol S.A. 1, Avenue Terres Rouges L-4004 Esch/Alzette	Not applicable	08.09.2001	P. Vinciarelli
Extension 2	CSI S.p.A. V.le Lombardia, 20	11.11.2004	11.11.2004	P. Vinciarelli
Extension 3	I-20021 Bollate (MI)	10.01.2005	10.01/21.03.2005	D. Durazzi

2.2.1. General

The marking requirements according to item 4.1. and 4.2. of Part I of the Regulation are fulfilled.

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

The fitting of the LPG-component, approved by this regulation into a full installation of LPG-equipment, must comply with relevant electromagnetic compatibility requirements according to Regulation R10.02 or equivalent.

The device has parts of class 3.

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* LCA 54 309 004 5 * Lovato * EV00 * -- * R67 *

2.2.2. Inspections: (according to Annex 7: Class 3 device)

Tests	Test results	Line item
Overpressure test	no rupture or permanent distortion at a pressure of 6750 kPa	Annex 15, par. 4
External leakage test	leakage from stem or body seals or other joints less than 15 cm ³ / hour under a pressure of 6750 kPa at room temperature, - 20°C and + 120°C	Annex 15, par. 5
High temperature test	leakage from stem or body seals or other joints less than 15 cm ³ / hour under a pressure of 6750 kPa at + 120°C after 8 hours of conditioning at + 120°C	Annex 15, par. 6
Low temperature test	leakage from stem or body seals or other joints less than 15 cm ³ / hour under a pressure of 6750 kPa at - 20°C after 8 hours of conditioning at - 20°C	Annex 15, par. 7
Seat leakage test	no leakage occurred	Annex 15, par. 8
Endurance test	after 6000 cycles of opening and closing, the valve passed the requirements of Annex 15, par. 5 and 8	Annex 15, par. 9
LPG compatibility	all the synthetic materials used satisfy the requirements	Annex 15, par. 11
Corrosion resistance	requirements fulfilled	Annex 15, par. 12
Resistance to dry heat	all the synthetic materials used satisfy the requirements	Annex 15, par. 13
Ozone ageing	all the synthetic materials used satisfy the requirements	Annex 15, par. 14
Creep test	all non metallic parts fulfilled the requirements	Annex 15, par. 15
Temperature cycle	all non metallic parts fulfilled the requirements	Annex 15, par. 16
Provisions regarding electrical insulation	requirements fulfilled	Part I, 6.15.2.
Provisions on valves activated by ext. power	requirements fulfilled	Part I, 6.15.3.1.

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Société Nationale de Certification et d'Homologation

L-5201 SANDWEILER (Luxembourg)

Organisme accrédité OLAS EN 45011

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

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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.

Inspectors stated under 2.2. of this report were in charge of performing and/or evaluating the tests.

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 shut-off valve:

- trade names as stated in the information document
- approval mark on top of shut-off valve or on side of shut-off valve
- versions as stated in the information document
- O'rings material as stated in the information document

3.2. Remarks

3.2.1. Main report:

not applicable

3.2.2. Extension 1:

A position of the approval mark has been added.

3.2.3. Extension 2:

Two new valve versions have been added (Elettrovalvola GPL 12V C Connettore AMP; Elettrovalvola GPL 12V Mercury). Inspections showed no significant changes compared to the existing versions. The existing test results are covering the added new versions.

3.2.4. Extension 3:

Two new shut-off valve versions have been added (EVG1; EVG2). New tests were performed and the existing test results cover these versions.

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Société Nationale de Certification et d'Homologation

L-5201 SANDWEILER (Luxembourg)

Organisme accrédité OLAS EN 45011

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



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 2 to the 01 series of amendments, which entered into force on July 16, 2003.

Esch-sur-Alzette, , 14 April 2005

Luxcontrol s.a.
Service Homologation-automobile

David Durazzi
Ingénieur-Inspecteur

Paul Wax
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*0122*00

Main Report

Technical Report No.: LCA 54 309 001 1 Pages 1 to 6

Composition of the Annex:

A: Index Page 1
B: Information folder Pages 1 to 20

Index to the information folder:

- manufacturer's information document (pages 1 to 20)
-

Extension 1

Technical Report No.: LCA 54 309 032 1 Pages 1 to 6

Composition of the Annex:

A: Index Page 1
B: Information folder
 To be changed Page 3
 To be added Page 3A

Contents of the extension

To be added:

- position of approval mark (on side of shut-off valve)
 - drawing showing the trade name LOVTEC
-

Extension 2

Technical Report No.: LCA 54 309 009 4 Pages 1 to 6

Composition of the Annex:

A: Index Page 1 and 2
B: Information folder
 To be replaced: Page 20
 To be added Page 21 to 40



Contents of the extension

To be added:

- The versions Elettrovalvola GPL 12V C Connettore AMP and Elettrovalvola GPL 12V Mercury)

Extension 3

Technical Report No.: LCA 54 309 004 5 Pages 1 to 6

Composition of the Annex:

A: Index	Page 1 and 2
B: Information folder	
To be deleted:	all pages
To be added	Page 1 to 47

Contents of the extension

To be added:

- The versions EVG1 and EVG2 with modification of O'ring material, of mobile core seal and of external shape. The difference between both versions are the electrical connections.

To be corrected:

- The editorial arrangement and the description of possible electrical connection variants

Index to the information folder:

- manufacturer's information document (page 1 to 47)
-