U.S. Department
of Transportation
**Research and
Special Programs
Administration**

NOV 18 1998

400 Seventh Street S.W.
Washington D.C. 20590

DOT-E 10797
(EIGHTH REVISION)

EXPIRATION DATE: **October 31, 2000**

(FOR RENEWAL, SEE 49 CFR SECTION 107.109.)

1. GRANTEE: Tenneco Automotive, Inc.
Lake Forest, Illinois

2. PURPOSE AND LIMITATION: a. This exemption authorizes the manufacture, mark, and sale of certain shock absorbers and struts, containing a nonflammable gas, for transportation in commerce as accumulators, not subject to the Hazardous Materials Regulations (HMR) except as provided in this exemption.

   b. EXEMPTION SCOPE LIMITATIONS - An exemption authorization to manufacture, mark, sell, and transport only represents certification of safety for a package when it is an article of commerce in transportation. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with consumer use, use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107, and 171-180.

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR Parts 100 - 180, except as provided in this exemption.

5. BASIS. This exemption is based on Tenneco Automotive's application dated October 26, 1998, submitted in accordance with 49 CFR 107.109.

6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Materials description/proper shipping name	**Hazard Class or Division**	**Identification Number**	**Packing Group**
Accumulators, pressurized, pneumatic hydraulic (containing non-flammable, non-liquefied gas).	2.2	NA1956	N/A
Articles, pressurized, pneumatic or hydraulic (containing non-flammable, non-liquefied gas).	2.2	UN3164	N/A

7. PACKAGING AND SAFETY CONTROL MEASURES -

a. PACKAGING:

(1) Packaging prescribed is a shock absorber or strut considered as an "accumulator" as defined in the Hazardous Materials Regulations (HMR) 49 CFR 173.306(f). Accumulators authorized under this exemption, when conforming to the following and other provisions of this exemption, are not otherwise subject to the HMR.

(i) Each accumulator charged with non-liquefied, non-flammable gas may not have a gas space exceeding 0.50 liters (30.50 cubic inches).

(ii) Each accumulator must be designed for a minimum burst pressure not less than 5 times the charge pressure at 21.1°C (69.8°F). However, cartridges with a gas space less than 0.118 liters (7.22 cubic inches) may be designed for a burst pressure not less than 4 times the charge pressure at 21.1°C (69.8°F). The charge pressure for any accumulator may not exceed 40 bars (580 psig) 21.1°C (69.8°F). Each accumulator must be fabricated from a material which will not fragment upon rupture.

(iii) Each accumulator design type must be such that when subjected to fire, the internal pressure must be relieved by means of fire degradable seal, or a pressure relief device, in order to prevent accumulator rupture.

(iv) Each accumulator covered by this exemption must be manufactured under a written quality assurance program which monitors parameters controlling burst strength, burst mode and performance in a fire situation. A copy of the quality assurance program must be maintained at each facility at which each accumulator is manufactured, and must be made available to a DOT representative upon request.

(2) Each accumulator must be shipped as an inside packaging. Accumulators may be shipped unitized in cages, carts, boxes or similar overpacks when offered for transportation, or transported, by a private or contract motor carrier or a common carrier under exclusive use for such service, from a manufacturer to a distribution center, from a manufacturer or distribution center to retail outlet, or return. When not shipped as described above, accumulators must be packed in strong outside packagings and each package may not exceed 30 kg (66 pounds) gross weight.

b. TESTING -

(1) Design Type: A design type is defined as that representing accumulators with the same charge pressure, size, configuration, material of construction and finishing process. Design qualification test results must be maintained at each manufacturing facility and must be made available to a DOT representative upon request.

(2) Each design type must be qualified as follows:

(i) At least three accumulators for each design type must be hydrostatically pressurized to failure. The pressure at failure must exceed the minimum burst pressure specified in paragraph 7a(1)(ii) above. The observed failure mode may not be by fragmentation.

(ii) At least one accumulator for each design type must be subjected to a fire test in accordance with the Compressed Gas Association pamphlet CGA C-14. The test results must demonstrate that the pressure retention seals, and pressure relief devices, if any, are capable of preventing rupture of normally charged accumulators in a fire situation.

8. SPECIAL PROVISIONS.

a. Offerors for transportation of hazardous materials specified in this exemption may use the packaging described in this exemption for the transportation of such hazardous materials so long as no modifications or changes are made to the packages, all terms of this exemption are complied with, and a current copy of this exemption is maintained at each facility from which such offering occurs.

b. A copy of this exemption, in its current status, must be maintained at each manufacturing facility where accumulators are manufactured and must be made available to a DOT representative upon request.

c. MARKING - The marking requirements of 49 CFR 172.203(a) and 172.301(c) are waived.

d. For the hazardous material -Articles, pressurized, pneumatic or hydraulic (containing non-flammable, non-liquefied gas), Class 2.2, UN 3164, this exemption serves as a Competent Authority Approval (CA- 9802006), issued by the Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration (RSPA), of the United States Department of the Transportation, in accordance with Section 22 of the International Maritime Dangerous Goods (IMDG) Code and Part 1; 1.1 of the International Civil Aviation Organization (ICAO) Technical Instructions.

9. MODES OF TRANSPORTATION AUTHORIZED. Motor vehicle, rail freight, cargo aircraft only, passenger aircraft, and cargo vessel.

10. MODAL REQUIREMENTS: No modal-specific requirements apply to this exemption.

11. COMPLIANCE. Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. Section 5101 et seq.:

- All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.

- Registration required by 49 CFR 107.601 et seq., when applicable.

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Each "Hazmat employee", as defined in 49 CFR 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by 49 CFR 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when the exemption has expired or it is otherwise no longer in effect.

12. REPORTING REQUIREMENTS: The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (49 CFR 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder of this exemption must also inform the AAHMS, in writing, as soon as practicable of any incidents involving the package and shipments made under this exemption.

Issued at Washington, D.C.:

for Alan I. Roberts
Associate Administrator
for Hazardous Materials Safety

11/18/98
(DATE)

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590. Attention: DHM-31.

The original of this exemption is on file at the above office. Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

Copies of exemptions may be obtained from the AAHMS, U.S. Department of Transportation 400 7th Street, SW, Washington, DC 20590-0001, Attention: Records Center, 202-366-5046.

Dist: FHWA, FAA, FRA, USCG
PO: sln