

## THE EFFECT OF VEHICLE HOMOLOGATION IN B&H TO THE IMPROVEMENT OF VEHICLE AGE THROUGH A SIX-MONTH REVIEW OF TECHNICAL INSPECTION IN FB&H

**mr. sc. Fuad Klisura, Ibrahim Mustafić,  
Muhamed Barut,  
IPI (ICE) – Institute for Commercial  
Engineering, Zenica, Bosnia and Herzegovina**

**doc. Dr. Sabahudin Jašarević,  
University of Zenica, Faculty of Mechanical  
Engineering Zenica, Bosnia and Herzegovina**

### ABSTRACT

*In Bosnia and Herzegovina (B&H), and especially in Federation of Bosnia and Herzegovina, there is a start of organizing the work of stations for technical inspection in last four years, and since May 2009 a video surveillance system in real time was introduced. This work (paper) will present shorter data analysis from this area for the first halves of years 2008, 2009, 2010 and 2011. The regular and preventive technical vehicle inspections are among preventive maintenance on a constant date. Their proper application contributes to the reduction of technical failure of vehicles that are on our roads. Through the brief analysis, this work will present recent applications of a unique homologation system in B&H and its inobservance in B&H the period of 2006-2010. The work quality of the control of imported vehicles, in this case vehicles with EURO3 characteristics, should and has to contribute to the improvement of ecological aspects in B&H.*

**Key words:** the vehicle homologation, stations for technical vehicle inspection, the traffic safety

### 1. INTRODUCTION

On 6 March 1992 Bosnia and Herzegovina joined the „Agreement on accepting the unique conditions for homologation and reciprocal recognition of homologation of equipment and spare parts for motor vehicles“ (Genève 1958). These regulations were in force in Bosnia and Herzegovina until year 2006. Pursuant to Article 205 of the „Law on the basics of traffic safety on roads in Bosnia and Herzegovina“ (Official Gazette of B&H, number 6/06, 75/06, 44/07, 84/09 and 48/10), the Minister of Communication and Traffic, in cooperation with the Ministry or body in charge of Energy and Industry, makes the „Regulation on homologation of vehicles, spare parts, devices and vehicle equipment“.

The homologation is obligatory for the road motor vehicles and trailers covered by the vehicle categorization for homologation pursuant to the provisions of UN ECE (TRANS/WP.29/78/Rev.1/Amend.2, 1999; Annex 7/Rev.2 and its ammendment TRANS/WP.29/78/Rev.1/Amend.4 from 2005).

The approval for work and supervision over the work of stations for technical inspections, in accordance with the provisions of Article 219 of the Law on basics of traffic safety on the roads in Bosnia and Herzegovina, were given and conducted by the entity and cantonal ministries for traffic. It has been striving for introduction of order in the control of technical regularity by the strict enforcement of regulations and activities according to the legal procedures, standards and instructions of European Union.

## 2. THE TERM (CONCEPT) OF VEHICLE HOMOLOGATION

The homologation is a procedure of determining compatibility of vehicles, spare parts, devices and vehicle equipment with the provisions of this Regulation and technical specifications. It can be a homologation of the vehicle type and homologation of an individual vehicle. Homologation of the vehicle type is conducted for new standard vehicles and imported by legal or physical persons, registered for the further sale of vehicles, with intention to sell such vehicles in the area of B&H.

The homologation of an individual vehicle is the procedure that determines whether a particular vehicle meets technical demands prescribed by this Regulation and the relevant technical specifications, and in case of compliance it issues a Certificate of conformity of individual vehicle. So, the minimum technical requirements for newly produced and used vehicles during homologation of the vehicle type and homologation of individual vehicle (Euro 3) must be met. Unfortunately, the requirements of the Rules itself on homologation that these works can be performed only by companies employing graduate mechanical engineers, course of engines and motor vehicles, from the beginning brought many companies into unenviable position because there are very few experts from this working area in B&H. Some of the problems that have accompanied the implementation of homologation in the field are also the poor unpreparedness of workshops for this job, lack of information of citizens and similar stuff. Only by the abolition of the Decision of the Council of Ministers of B&H on imported vehicles up to seven years we started with the implementation of this project.

Homologation of an individual vehicle is conducted for new as well as for the used vehicles that suppliers individually import for sale on for their own purposes. According to the Regulations, used vehicles are considered a vehicle at least three months from its first registration or which has passed at least 3,000 kilometers.

## 3. COSTS FOR THE VEHICLE HOMOLOGATION AND LOSSES OF HOMOLOGATION INOBSERVANCE

The fee includes the cost for professional vehicle inspection and documentation issued during the procedure of homologation of the vehicle type, preparation for issuing the certificate of compliance of the vehicle type, inspections of vehicle documentation and homologation of an individual vehicle.

Table 1. The fee for vehicle homologation by categories in B&H

Vehicle category	Fee (BAM), excluding VAT	
	Homologation of the vehicle type	Homologation of individual vehicle
M1 and N1	1.100,00	150,00
M2, M3, N2 and N3	1.800,00	250,00
O1 and O2	650,00	110,00
O3 and O4	900,00	150,00
L1, L2 and L3	550,00	80,00
L4 and L5	650,00	90,00
L6 and L7	750,00	100,00

Table 2. listed the data on number of registered vehicles in the period of 2006-2010. During this period number of registered vehicles is 184,743. Therefore, a rough calculation of losses referring to the state, Body for homologation and technical inspections is  $184,743 \times (\text{approx. } 200 \text{ BAM}) = 37,000,000 \text{ BAM}$ . This amount speaks for itself.

Table 2. Number of registered motor vehicles in the period of 2006-2010<sup>1</sup>

Registration year	Number of registered vehicles in B&H	Registration year	Number of registered vehicles in B&H
2006	769.682	2009	905.418
2007	778.474	2010	954.425
2008	881.389		

<sup>1</sup> Information for the period of 2006 – 2007 obtained from the FB&H Ministry of Interior, the RS Ministry of Interior, Brčko District Ministry of Interior, and for the period of 2008 – 2010 obtained from the Agency for identification documents, register and data exchange (IDDEA)

#### 4. SEMI-ANNUAL STATISTICAL DATA FOR CONDUCTED TECHNICAL INSPECTIONS AND VEHICLE HOMOLOGATIONS

Analyzing the data in a period of semi-annual reports for years 2008, 2009, 2010 and 2011 it is noted a continuous growth of “detected” failures in circuits or parts of vehicles during the conduction of technical inspection, which undoubtedly shows the process of improving the quality of work.

Table 3. Number of conducted inspections per first semesters of years 2008-2011

Time Frame	Technical-exploitation inspections	Regular inspections	Regular six-month inspections	Preventive inspections	Extraordinary inspections	Total
01.01-30.06.2008	17.562	229.729	0	27.521	0	274.812
01.01-30.06.2009	25.221	222.932	0	30.735	0	278.888
01.01-30.06.2010	28.231	225.087	15.055	15.468	9.852	293.693
<b>01.01-30.06.2011</b>	<b>26.320</b>	<b>232.642</b>	<b>20.595</b>	<b>9.981</b>	<b>4.087</b>	<b>293.562</b>

Statistical figures from the information system of a/TEST, its application and its constantly upgrade points to all issues in this work as well as the seriousness with which the professional institution of Institute for Commercial Engineering approached to this job. Data on number of detected failures that were 1,188 in the same period of 2008, “sharply” increased in year 2009 to 8,440 detected failures which is mainly contributed from 1 may 2009 by the introduction of video surveillance in the stations for technical vehicle inspections.

Table 4. Number of defective vehicles shown during in the period of the first semester

Time frame	Number of defective vehicles shown during the first inspection	Number of defective vehicles shown during the repeated inspection
01.01-30.06.2009	4.284	38
01.01-30.06.2010	4.777	79
01.01-30.06.2011	5.225	140

In relation to the total number of conducted inspections in this period, there are only 1,83% of returned vehicles during both the first inspection and repeated inspection, because of detected failures.

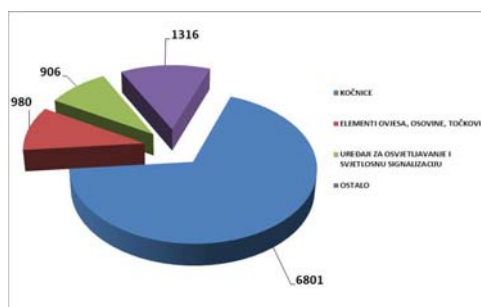


Chart 1. The total number of failures per sistem failures presented by the diagram for the period of 1 Jan – 30 Jun 2011.

Number of noticed failures/defects which are mostly detected during conduction of technical inspection, and it is presented by the Chart No. 1. The defects, classified into certain groups, which were detected during conduction of technical inspection according to their representation are the following:

- Brake failures, 6,801;
- Axle suspension, axles and wheels, 980 defects;
- Others – 1,316 detected defects;
- Defects from a group of lights – 906 detected defects.

Compared to the previous period it is reported a significant increase of number of detected defects, but with a note that this trend of growth of number of detected defects during conduction of technical inspection does not follow a significant decrease of number of returned during repeated technical vehicle inspection.

The Decision of the Council of Ministers to abolish age limit during the import of vehicles even after the beginning of work of professional institution for homologation of situation in terms of roadworthiness and vehicle age is slightly improving.

Since all of these vehicles are the vehicles meeting the criteria of EURO 3, i.e. maximally aged up to 12 years, this indicator also affected “decrement” of the age in statistics upon the registration of the same vehicles.

Table 5. The average age of vehicles by vehicle type in Federation fo B&H – the fist semester of 2011

Vehicle type	Mark	Average age	Vehicle type	Mark	Average age
MOPED	L1	5,89	TRUCK	N3	15,54
MOPED	L2	4,6	TRAILER	O1	10,18
MOTORCYCLE	L3	10,66	TRAILER	O2	14,92
MOTORCYCLE	L4	31,33	TRAILER	O3	21,33
MOTOR TRICYCLE	L5	12,33	TRAILER	O4	13,92
LIGHT FOUR-WEHEL DRIVE CYCLE	L6	4,25	WORKING MACHINE	-	13,59
FOUR-WEHEL DRIVE CYCLE	L7	3,64	TRACTOR	T1	24,32
PASSENGER CAR	M1	15,83	TRACTOR	T2	24,1
BUS	M2	13,06	TRACTOR	T3	22,34
BUS	M3	17,35	TRACTOR	T4	21,36
TRUCK	N1	11,94	TRACTOR	T5	19,86
TRUCK	N2	18,18	-	-	

Table 6. Official indicators of the first semester about the number of conducted homologations in B&H

Number of conducted homologations (information from the Consortium)	Number of conducted identifications (information from the Consortium)	Number of imported vehicles (information from Indirect Taxation)
18.528	2.662	24.370

## 5. CONCLUSION

It also represents an encouragement that other supporting activities along with this project, through a unique IT solution, be put under control. The homologation project is in the development phase, and there are established technical systems for homologation which are the most responsible ones. Also, the working system of stations for technical vehicle inspections in entire B&H is an important link in the chain of increment of the quality of work with improved work of customs, Ministries of Interior, technical Services and stations for technical vehicle inspections and thus the increment of overall traffic safety on the roads in B&H.

It is expected that, in the future period, there will be significantly decreased age of vehicles in B&H, and thus improved safety aspects to traffic that arise from all this, as well as the ecological aspects.

The task of the B&H Ministry of Transport and Communications is to speed up the adoption of regulations on homologation of the spare parts, as well as the tractors, in order to have overall system in B&H perfect, because at this time spare parts are been imported without the control and with dubious quality that negatively affect vehicle maintenance, and thus the system of traffic safety.

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