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THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY


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COMMUNICATION CONCERNING THE GRANTING OF A COMPONENT TYPE-APPROVAL  
CERTIFICATE IN RESPECT OF A NON-ORIGINAL EXHAUST SYSTEM FOR A TYPE OF  
MOTORCYCLE PURSUANT TO DIRECTIVE 97/24/EC CHAPTER 9 OF 17 JUNE 1997

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Report No: 374-0021-09-ITA by technical service TÜV Italia Srl, TÜV Süd Group dated 8 June 2009.

Component type-approval No: e11\*97/24\*97/24/9/III\*0657\*00

1. Make of exhaust: Termignoni
2. Type of exhaust: XJ6
3. Name and address of manufacturer:  
  
Termignoni S.p.A.  
Via della Rampina, 16  
15077 Predosa (AL)  
Italy
4. If applicable, name and address of the manufacturer's authorized representative: Not applicable
5. Make(s) and type(s) and any variant(s) or version(s) of the vehicle(s) for which the exhaust system is designed: See list enclosed
6. Date system submitted for testing: See enclosure
7. Component type-approval has been GRANTED
8. Place: BRISTOL
9. Date: 26 JUNE 2009
10. Signature: 

A. W. STENNING  
Head of Technical and Quality Group





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APPROVAL NUMBER: e11\*97/24\*97/24/9/III\*0657\*00

## INFORMATION PACKAGE CONTENTS

### INDEX

**REVISION NUMBER: Not applicable**

Total number of sheets:	9 (Nine)
Number of separate drawings:	0 (Nil)
Number of separate photographs:	0 (Nil)

Reasons for Revision: Not applicable

Revision date  
&  
Office stamp





**Information Document relating to EC type approval as separate technical unit of exhaust systems for motorcycles (Directive 97/24/EC amended 2006/120/EC)**

1. *Make (trade name of manufacturer):* Termignoni
2. *Type and general commercial description:* XJ6
3. *Name and address of manufacturer:* Termignoni S.p.A.  
via della Rampina, 16  
I-15077 Predosa (AL)
4. *Name and address of manufacturer's authorized representative:* Not applicable
5. *Parts list:* Notice enclosure 1 of the test report
6. *Make and motorcycle type of the field of application:* See list enclosed
7. *Restriction and instructions for installing:* Notice assembly manual and field of application



Further details according to directive 97/24/EC, chapter 9, annex III, enclosure 2 A including amendment 2006/120/EC are mentioned in the motorcycle homologation (notice enclosure 2 of the test report).





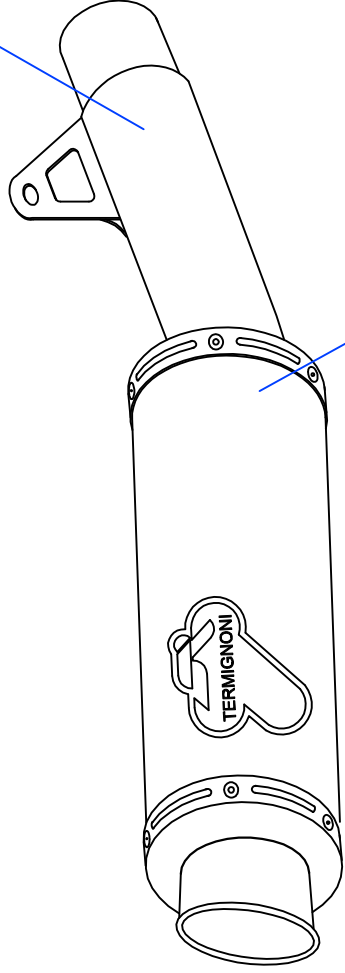
**Information Document relating to EC type approval as separate technical unit of exhaust systems for motorcycles (Directive 97/24/EC amended 2006/120/EC)**

*Enclosures:*

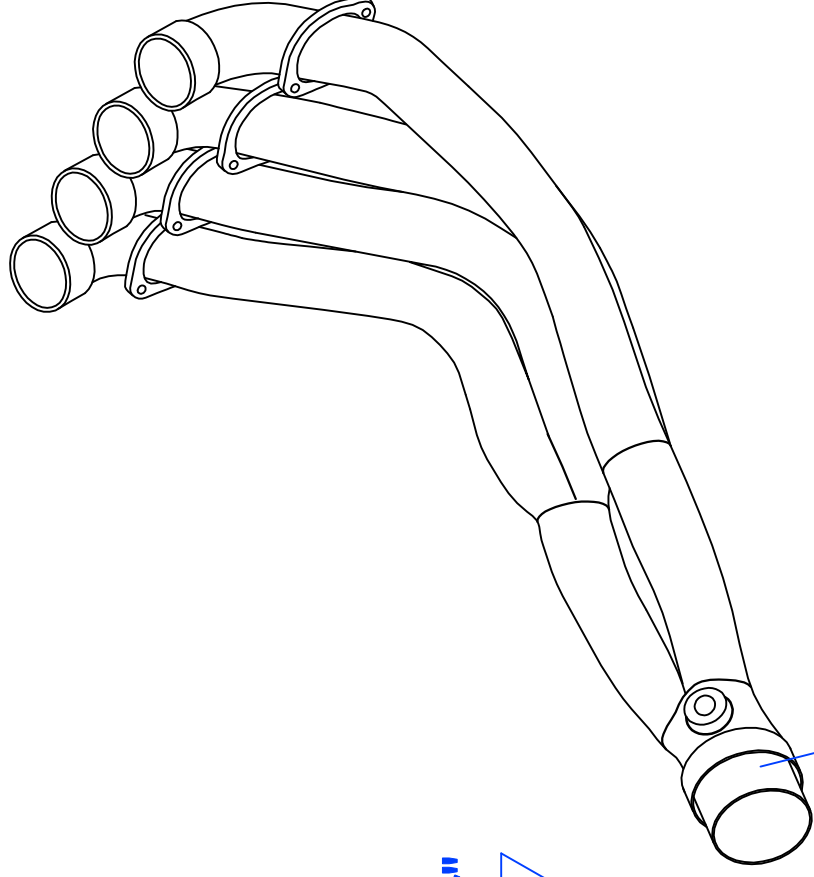
	<i>Drawing no.</i>	<i>Date</i>
c1. <i>Drawing of rear silencer</i>	XJ6: SILENCER	16/04/2009
c2. <i>Drawing of composition</i>	XJ6: ASSEMBLY	16/04/2009
c3. <i>Drawing of reduction</i>	XJ6: TAPPO	16/04/2009
c4. <i>Drawing of catalyst</i>	XJ6: CATALYTIC CONVERTER	16/04/2009
c5. <i>Drawing of collectors</i>	XJ6: COLLECTORS	16/04/2009
c6. <i>List of vehicles</i>		
c7. <i>Fitting instructions</i>		



**CATALYTIC CONVERTER**  
**see drawing "XJ6: Catalytic converter"**

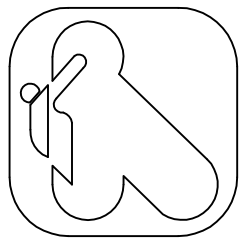


**SILENCER**  
**see drawing "XJ6: Silencer"**



**COLLECTORS**  
**see drawing "XJ6: Collectors"**

<b>SCALE:</b>	<b>MODEL:</b>
<b>DATE:</b> 16.04.2009	YAMAHA XJ6 N '09
<b>DES:</b> D.Zancanaro	4x2x1 STR code Y089
	XJ6 e11 0657 ⑤ ⑥
<b>TYPE:</b> XJ6: Assembly	

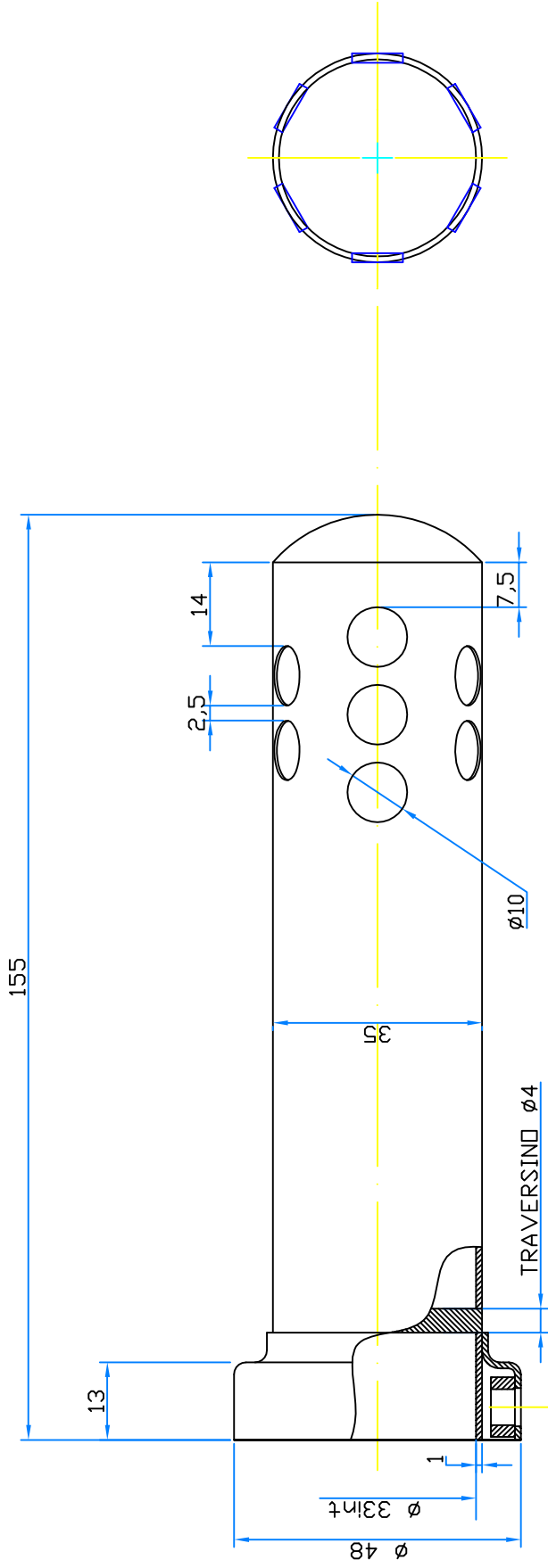


**Termignoni** S.p.A.

info@termignoni.it



MATERIAL: S.Steel or Titanium



6 HOLES AT 60°



SCALA:

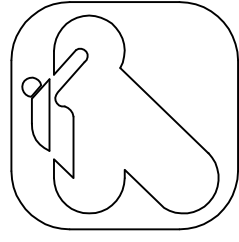
MODEL:

YAMAHA XJ6 N '09  
4x2x1 STR code Y089  
XJ6 e11 0657 ⑤ ⑥

DATE: 16.04.2009

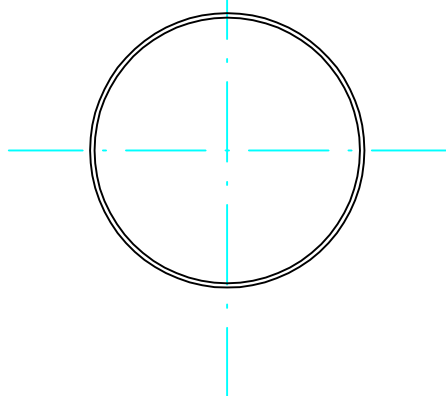
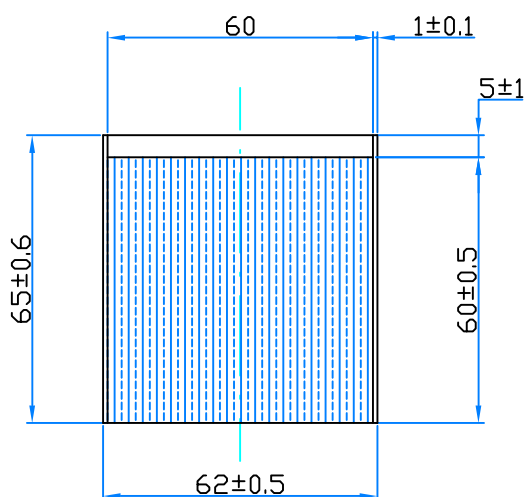
NAME: D.Zancanaro

TYP: XJ6: TAPPO



Termignoni S.p.A.





## CHARACTERISTICS

DIMENSIONS : Øi 60x60 mm.

CPSI : 400

FORMULATION : Pt/Pd/Rh

RATIO : 1/13/1

LOADING : 140 gr/ft<sup>3</sup>

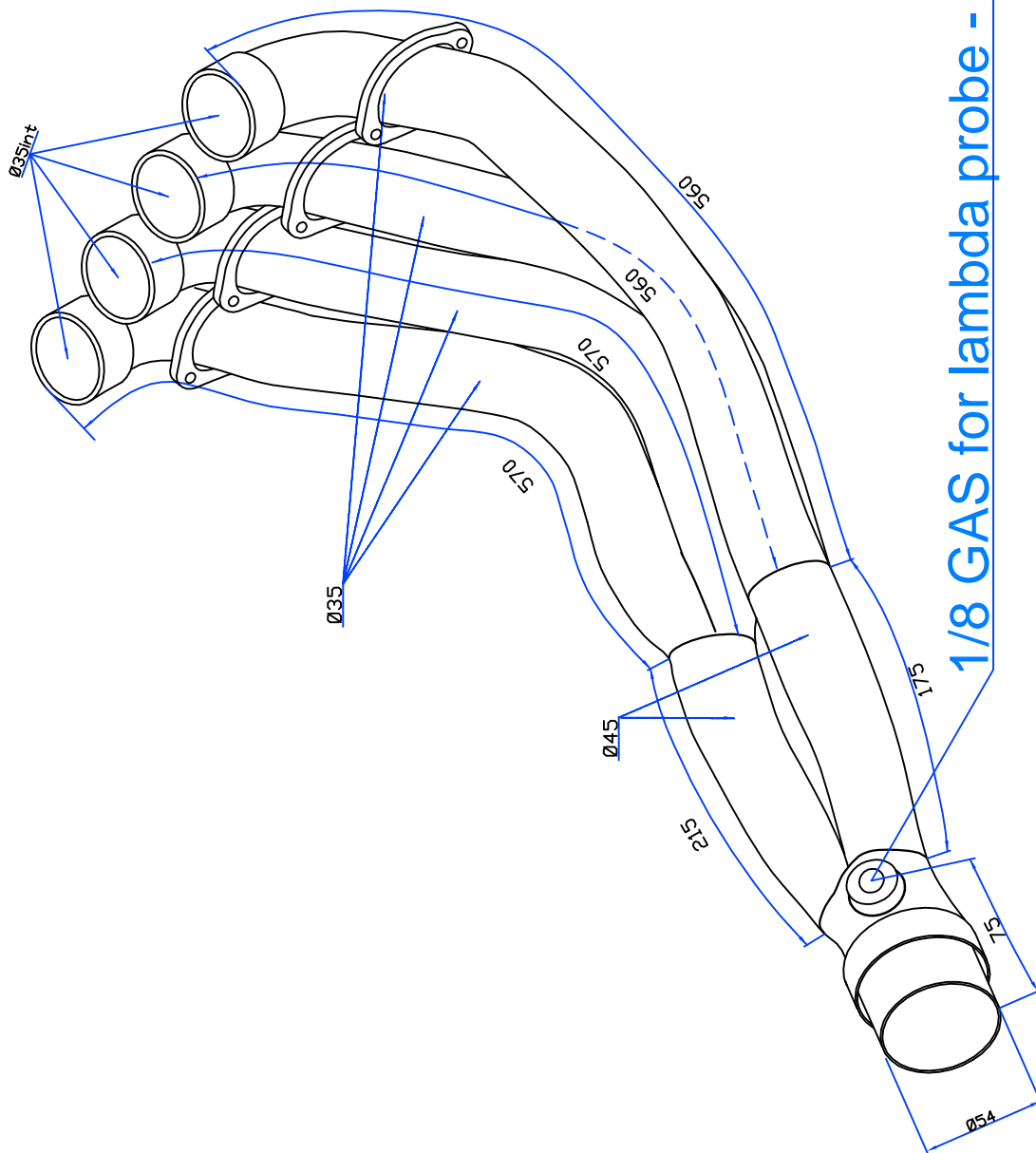
<b>SCALE:</b>	<b>MODEL:</b>
<b>DATE:</b> 16.04.2009	YAMAHA XJ6 N '09
<b>DES:</b> D.Zancanaro	4x2x1 STR code Y089
<b>TYPE:</b> XJ6: Catalytic converter	XJ6 e11 0657 © ©
<b>Termignoni S.p.A.</b>	



26-Jun-09  
info@termignoni.it

UK Approval Authority





## 1/8 GAS for lambda probe - TER011

**SCALE:**

**MODEL:**

**DATE:** 16.04.2009

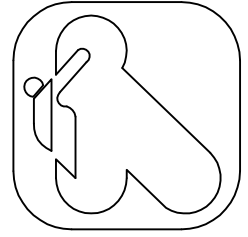
**YAMAHA XJ6 N '09**

**4x2x1 STR code Y089**

**DES:** D.Zancanaro

**XJ6 e11 0657 ©**

**TYPE:** XJ6: Collectors



info@termignoni.it



**Termignoni** s.p.a.

INFORMATION DOCUMENT N° XJ6/97/24 rev. 00 - List of the vehicles

No. of vehicle	Manufacturer	Make	Commercial name	Vehicle type (and no. of homologation)	Engine type	Stroke	Engine capacity in cm <sup>3</sup>	Rated maximum engine power in kW/min <sup>-1</sup>	Additional remarks:	Composition as shown in enclosure no.1
1)	Yamaha Motor Co. Ltd.	YAMAHA	XJ6N	RJ19 (e13*2002/24* 0323*)	J519E	4-stroke	600	57 / 10000	with cat	c1., c2., c3., c4., c5.



**TERMIGNONI S.p.A**  
Via della Rampina, 16  
15077 Predosa (AL)  
Italy  
C.F. e P.IVA 00862780061  
  
Phone +39 0131 71666  
Fax +39 0131 71696  
info@termignoni.it  
www.termignoni.it

## **FITTING INSTRUCTIONS**

### **For Termignoni exhaust systems**

#### **A. Dismantling the original exhaust system**

1. Remove any casing impeding clear access
2. Detach the silencer support(s) and the original silencer from the branch pipe and/or exhaust manifold

#### **B. Fitting Termignoni silencer(s)**

1. Fit the Termignoni silencer(s) to the original branch pipe, or use the Termignoni branch pipe to fit the exhaust manifold
2. Attach the silencer(s) with the mounting(s) supplied with the vehicle, leaving the screws and bolts loose
3. Adjust the exhaust system so that when fully inserted it is at least 5 mm from any other component of the vehicle
4. Tighten all screws and bolts
5. Test the vehicle and check all connections, tightening the screws and bolts if necessary
6. After about 100 km check all the connections again and tighten the screws and bolts if necessary

#### **WARNING:**

Take care when working on the exhaust system after testing the vehicle since the surfaces could be very hot





# TECHNICAL REPORT

## No. 374 - 0021 - 09 - ITA

about a test of a non-original exhaust system or a component

as a separate technical unit for motorcycles according to the directive of the Council  
of the European Community for adaptation to the laws of the Member States  
relating to

***the permissible sound level and exhaust systems for two or three-wheel motor  
vehicles***

***No. 97/24/EC including the last amendment 2006/120/EC dated 27-Nov.-2006  
concerning Chapter 9, annex III  
Approval mark according to annex VI point 6.1.1***



Automotive

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Technical Report No. 374-0021-09-ITA  
Manufacturer: Termignoni S.p.A.  
Type: XJ6

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97/24/EC, Chapter 9  
including 2006/120/EC  
Page 2 of 6

## 0. Technical description

- 0.1. Make: Termignoni
- 0.2. Type: **XJ6**
- 0.2.1. Variants: Not applicable
- 0.3. Name and address of the manufacturer: Termignoni S.p.A.  
Via della Rampina, 16  
I-15077 Predosa (AL)
- 0.4. Name and address of manufacturer's authorized representative: Not applicable
- 0.5. Class of the vehicles the unit is used for: Motorcycle - L3e



## I. Test object(s)

- 1.1. Description of the vehicles the unit is used for: Notice enclosure b
- 1.2. Identification number: TERMIGNONI XJ6 e11 0657 (5) (9)
- 1.2.1. Structure of the non-original exhaust system: Non-original complete exhaust system, consisting out of one silencer on the right, cylindrical,  $\varnothing$  110 mm, total length 640 mm (without endcap), absorption-reflection- principle with an outlet pipe  $\varnothing$  33 mm with covering pipe  $\varnothing$  64 mm according to drawing no. XJ6: SILENCER in combination with non original header system according to drawing no. XJ6: COLLECTORS. Equipped with catalytic converter inside of the silencer according to drawing no. XJ6: CATALYTIC CONVERTER. Carbon fiber- alternatively aluminium- alternatively titanium- alternatively stainless steel-cover.
- 1.2.2. List of parts: See Test Report
- 1.2.3. Position of the marking: On the silencer, see enclosures c1.
- 1.2.4. Make vehicles tested: YAMAHA
- 1.2.5. Material of the non-original exhaust system: See Test Report
- 1.3. Remarks: ---



## II. Test Report

- 2.1. Test equipment: The tests were effected with an equipment that corresponds to the test requirements
- 2.2. Condition under which the above mentioned test Records have been achieved: See Test Report enclosure
- 2.2.1 Summary of the Test Records: See Test Report enclosure
- 2.3. General information about the Tests:
- 2.3.1. Weather condition: See Test Report enclosure
- 2.3.2. Place of the test: See Test Report enclosure
- 2.3.3. Date of the test: See Test Report enclosure



Automotive

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Technical Report No. 374-0021-09-ITA  
Manufacturer: Termignoni S.p.A.  
Type: XJ6

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97/24/EC, Chapter 9  
including 2006/120/EC  
Page 5 of 6

### III. Enclosures

- a. Test Report  
Composition of the non original exhaust system;  
Field of application;  
Test Records.

	Number	Pages	Date
1	374-0022-09-ITA	6	08/06/2009
b.	Information Document n° XJ6/97/24 rev. 00		07/05/2009
c1.	Drawing XJ6: SILENCER		16/04/2009
c2.	Drawing XJ6: ASSEMBLY		16/04/2009
c3.	Drawing XJ6: TAPPO		16/04/2009
c4.	Drawing XJ6: CATALYTIC CONVERTER		16/04/2009
c5.	Drawing XJ6: COLLECTORS		16/04/2009





Automotive

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Technical Report No.	374-0021-09-ITA	97/24/EC, Chapter 9
Manufacturer:	Termignoni S.p.A.	including 2006/120/EC
Type:	XJ6	Page 6 of 6

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#### IV. Final confirmation

The named information document and the described type correspond to the Directive 97/24/EC chapter 9, annex III including the last amendment 2006/120/EC.

There are no technical objections against granting an EC Type-approval.

This technical report consists of sheet 1 to 6.



Recognised Expert  
Pietro Vergani

pv Sesto San Giovanni (MI),  
the 08.06.2009

194200





Test Report No.	374-0022-09-ITA	97/24/EC, Chapter 9
Manufacturer:	Termignoni S.p.A.	including 2006/120/EC
Type:	XJ6	Page 1 of 6

# TEST REPORT

## No. 374 - 0022 - 09 - ITA

*about a test of a non-original exhaust system or a component  
as a separate technical unit for motorcycles according to the directive of the Council of the  
European Community for adaptation to the laws of the Member States relating to  
the permissible sound level and exhaust systems for two or three-wheel motor vehicles*

*No. 97/24/EC including the last amendment 2006/120/EC dated 27-Nov.-2008  
concerning chapter 9, annex III  
Approval mark according to annex VI point 6.1.1*

### 0. General information

- 0.1. Make: Termignoni
- 0.2. Type: **XJ6**
- 0.2.1. Variants: Not applicable
- 0.3. Name and address of manufacturer: Termignoni S.p.A.  
Via della Rampina, 16  
I-15077 Predosa (AL)
- 0.4. Name and address of manufacturer's  
authorized representative: Not applicable



Test Report No.	374-0022-09-ITA	97/24/EC, Chapter 9
Manufacturer:	Termignoni S.p.A.	including 2006/120/EC
Type:	XJ6	Page 2 of 6

- 0.5. No. of information document: XJ6/97/24 rev. 00  
Date: 07/05/2009
- 1.0. Class of the vehicles the unit is used for: Motorcycle - L3e (according to 2002/24/EC amended 2006/120/EC)
- 1.1. Description of the vehicles the unit is used for: Notice enclosure 2

## 2. Composition of the separate technical unit

### 2.1. Kind of technical unit:

Technical unit, consisting out of one silencer on the right, cylindrical, Ø 110 mm, total length 640 mm (without endcap), absorption- reflection- principle with an outlet pipe Ø 33 mm with covering pipe Ø 64 mm according to drawing no. XJ6: SILENCER in combination with non original header system according to drawing no. XJ6: COLLECTORS. Equipped with catalytic converter inside of the silencer according to drawing no. XJ6: CATALYTIC CONVERTER.

- 2.2. Place of marking: On the silencer, see drawing XJ6: SILENCER
- 2.3. Assembly of the exhaust system for testing (no. of parts, enclosure 1): Notice 3.4
- 2.4. Position and direction of the tail pipe: On the rear right side of the vehicle

## 3. Test report

The tests were carried out in 1 series A at 07/05/2009 and 04/06/2009.



Test Report No. 374-0022-09-ITA  
Manufacturer: Termignoni S.p.A.  
Type: XJ6

97/24/EC, Chapter 9  
including 2006/120/EC  
Page 3 of 6

### 3. **Test report** (continuation)

#### Series A: (no. 1)

#### 3.1. **Vehicle**

- (0.1) Make: YAMAHA
- 3.1.1. (0.2) Type / variant / version: RJ19 / II / i
- 3.1.2. (0.5) Manufacturer Yamaha Motor Co., Ltd.
- 3.1.3. Homologation no.: e13\*2002/24\*0323\*  
3.1.3.1 Extension: 00
- 3.1.4. Vehicle identification no.: \*JYARJ195000003502\*
- 3.1.5. Year of manufacture: 2009
- 3.1.6. (2.1) Weight of the vehicle: 205 kg

#### 3.2. (3.) **Engine**

- 3.2.1. (3.0) Manufacturer: Notice 3.1.2
- (3.1) Make: YAMAHA
- 3.2.2. (3.1.1) Type: J519E
- 3.2.3. Engine capacity: 600 cm<sup>3</sup>
- 3.2.4. (3.2.1.7) Rated maximum engine power: 57 kW at 10000 min<sup>-1</sup>



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Test Report No.	374-0022-09-ITA	97/24/EC, Chapter 9
Manufacturer:	Termignoni S.p.A.	including 2006/120/EC
Type:	XJ6	Page 4 of 6

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**3. Test report (continuation)**

**3.3. (4.) Transmission**

- (4.1) Drawing of transmission: Notice vehicle homologation no. s. 3.1.3.
- 3.3.1. (4.2) Kind of transmission: Mechanical
- (4.3) Clutch (kind): Wet multi-plate type
- (4.4) Gearbox
- 3.3.2. (4.4.1) Kind: Mechanical
- (4.4.2) Kind of activity: Foot shifted
- 3.3.4. No of gears: 6
- 3.3.5. (4.5.) Transmission ratios:  
primary / final: Notice vehicle homologation no. s. 3.1.3.
- (4.6.) Top speed: 200 km/h
- (5.2.) Tires:  
front: 120/70 ZR17  
rear: 160/60 ZR17
- 3.4. Assembly of the exhaust system  
(no. of parts, enclosure 1): c1., c2., c3., c4., c5.



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Test Report No.	374-0022-09-ITA	97/24/EC, Chapter 9
Manufacturer:	Termignoni S.p.A.	including 2006/120/EC
Type:	XJ6	Page 5 of 6

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### 3.5. Power measurement

- 3.5.1. The tested max. power and the engine speed are in the  $\pm 5\%$  tolerance in comparison with the original exhaust system.
- 3.5.2. Testing of top speed with non-original exhaust system:  
Not applicable, because vehicle class : motorcycle

### 3.6. Conditioning

By pulsation

### 3.7. Test results

- The results of
- 3.7.1. Sound testing
- 3.7.2. Power measurement
- 3.7.3. Top speed
- 3.7.4. Emission test

are attached in the enclosure 3.

The results of the sound tests with the original and non original exhaust systems fulfil point 3.5.2.1.1 of Directive 97/24/EC chapter 9, including last amendment 2006/120/EC. All motorcycles with the same serial exhaust system and same or fewer performance mentioned in enclosure 2, can be taken into the field of application due to the measurement with the above named motorcycle/s.

- 3.7.5. The described non-original exhaust system / technical unit is suitable for an application at the vehicles listed in enclosure 2.
- 3.7.6. The general specifications concerning point 3.5.1 of Directive 97/24/EC Chapter 9 (including last amendment 2006/120/EC) were checked and were fulfilled by the non original exhaust system / technical unit.





Automotive

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Test Report No.	374-0022-09-ITA	97/24/EC, Chapter 9
Manufacturer:	Termignoni S.p.A.	including 2006/120/EC
Type:	XJ6	Page 6 of 6

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#### 4. **Enclosures**

Enclosure 1, Composition of the non original exhaust system (Page 1)

Enclosure 2, Field of application (Page 1)

Enclosure 3, Test results (Page 1)

#### 5. **Summary**

The named information document and the described type correspond to the Directive 97/24/EC including the amendment 2006/120/EC chapter 9, annex III.

There are no technical objections against granting an EC Type-approval.

This test report contains the pages 1 to 6 and enclosures



Recognised Expert  
Pietro Vergani

pv Sesto San Giovanni (MI),  
the 08.06.2009

194200



**ENCLOSURE 1**

**to test report no.**

**Type:**

**Manufacturer:**

**374-0022-09-ITA**

**XJ6**

**Termignoni S.p.A.**

**Composition of the original exhaust system + original parts**

No.	Components parts, dimensions in mm	Dimensions of the part in mm or original part / replacement part	Part no. or homologation no.
c1.	Rear silencer	One silencer on the right, cylindrical, Ø 110 mm, total length 640 mm, absorption-reflection- principle with an outlet pipe Ø 33 mm with covering pipe Ø 64 mm	Drawing XJ6: SILENCER
c2.	Drawing of composition	Notice drawing	Drawing XJ6: ASSEMBLY
c3.	Reduction	Notice drawing	Drawing XJ6: TAPPO
c4.	Catalytic converter	Notice drawing	Drawing XJ6: CATALYTIC CONVERTER
c5.	Header pipes	Notice drawing	Drawing XJ6: COLLECTORS



**ENCLOSURE 2**

**to test report no.**

**Type:**

**Manufacturer:**

**374-0022-09-ITA**

**XJ6**

**Termignoni S.p.A.**

**Field of application**

**Page 1/1**

No. of vehicle	Manufacturer	Make	Commercial name	Vehicle type (and no. of homologation)	Engine type	Stroke	Engine capacity in cm <sup>3</sup>	Rated maximum engine power in kW/min <sup>-1</sup>	Additional remarks:	Composition as shown in enclosure no. 1
1)	Yamaha Motor Co. Ltd.	YAMAHA	XJ6N	RJ19 (e13*2002/24* 0323*)	J519E	4-stroke	600	57 / 10000	with cat	c1., c2., c3., c4., c5.

## ENCLOSURE 3

to test report no.

Type:

Manufacturer:

374-0022-09-ITA

XJ6

Termignoni S.p.A.

## Test results

Page 1/1

### - Noise and Power Test

No. of vehicle	Engine power original kW/min <sup>-1</sup>	Engine power non original kW/min <sup>-1</sup>	Vmax original km/h	Vmax non original km/h	measured in gear ratio	Sound levels driving vehicle in dB(A)			Sound levels stationary vehicle in dB(A)				
						Limit Value **)	Original measured	Non original measured	at km/h	Vehicle type hom.	Original measured	Non original measured	at min <sup>-1</sup>
1) A*	57,0/10000	56,6/10000	-	-	2 / 3	80	79,50	81,00	50	95	93	95	5000

\*) test series

\*\*) Limit value of directive which was valid by vehicle type homologation

### - Emission Test

#### Test Type I

Emission of gaseous pollutants in an urban cycle.

	CO [g/km]	HC [g/km]	NOx [g/km]	equivalent inertia [kg]
Test 1	1,357	0,185	0,044	280
Test 2	--	--	--	--
Test 3	--	--	--	--
Arithmetic mean	1,357	0,185	0,044	280
% of limit	67,9	61,7	29,3	
limits	2,0	0,3	0,15	

#### Test Type II

Emission of Carbon monoxide and hydrocarbon at normal idling speed:

Engine revolution [min <sup>-1</sup> ]	CO [%]	HC [ppm]	Oil temperature [K]
1200 ± 100	0,03	233	363
2300 ± 100	0,03	130	363

Note: Emission test has been performed with all the components, as listed in Enclosure 1