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Automotive

TECHNICAL REPORT

No. 374 - 0063 - 07 - 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* ***2005/30/EC dated 22-Apr.-2005***
concerning ***Chapter 9, annex III***
Approval mark according to annex VI point 6.1.1

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Automotive

0. Technical description

0.1.	Make:	Termignoni
0.2.	Type:	**HOR**
0.2.1.	Variants:	Not Applicable
0.3.	Name and address of the manufacturer:	Termignoni S.r.l. 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 (according to 2002/24/EC amended 2005/30/EC)

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I. Test object(s)

1.1.	Description of the vehicles the unit is used for:	Notice enclosure b
1.2.	Identification number:	TERMIGNONI HOR e1 - - - - 9 Prototype, marking after granting of EC Approval
1.2.1.	Structure of the non-original exhaust system:	Non-original exhaust system, consisting out of one silencer on the right, double cone log, min ∅ 45 mm, max ∅ 100 mm, total length 340 mm (without endcap), absorption- reflection- principle with an outlet pipe ∅ 38 mm with covering pipe ∅ 64 mm according to drawing no. HOR: SILENCER in combination with original header system.
1.2.2.	List of parts:	See Test Report
1.2.3.	Position of the marking:	On the silencer, see enclosure c1.
1.2.4.	Make Vehicles tested:	HONDA
1.2.5.	Material of the non-original exhaust system:	See Test Reports
1.3.	Remarks:	---

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Automotive

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 Reports enclosure
2.2.1	Summary of the Test Records:	See Test Reports enclosure
2.3.	General information about the Tests:	
2.3.1.	Weather condition:	See Test Reports enclosure
2.3.2.	Place of the test:	See Test Reports enclosure
2.3.3.	Date of the test:	See Test Reports enclosure

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Automotive

III. Enclosures

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

	Number	pages	date
1	374-0064-07-ITA	6	19/06/2007

b. Information Document n° HOR/97/24 rev. 00 19/06/2007

c1. Drawing HOR: SILENCER 10/05/2007

c2 Drawing HOR: ASSEMBLY 05/04/2007

c3. Drawing HOR: TAPPO 10/05/2007

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Automotive

IV. Final confirmation

The named information document and the described type correspond to the Directive 97/24/EC chapter 9, annex III including the amendment 2005/30/EC. There are no technical objections against granting an EC Type-approval.

This technical report consists of sheet 1 to 6.

Sechverständiger Prüflabor DIN EN ISO/IEC 17025 TÜV SÜD Automotive GmbH

Recognised Expert
Emmanuel Nucci

pv Sesto San Giovanni (MI),
the 19.06.2007

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Automotive

TEST REPORT

No. 374 - 0064 - 07 - 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 2005/30/EC dated 22-Apr.-2005 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:	**HOR**
0.2.1.	Variants:	Not applicable
0.3.	Name and address of manufacturer:	Termignoni S.r.l. Via della Rampina, 16 I-15077 Predosa (AL)
0.4.	Name and address of manufacturer's authorized representative:	Not applicable

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0.5.	No. of information document: Date:	HOR/97/24 rev. 00 19/05/2007
1.0.	Class of the vehicles the unit is used for:	motorcycle - L3e (according to 2002/24/EC amended 2005/30/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, double cone log, min ∅ 45 mm, max ∅ 100 mm, total length 340 mm (without endcap), absorption- reflection-principle with an outlet pipe ∅ 38 mm with covering pipe ∅ 64 mm according to drawing no. HOR: SILENCER in combination with original header system.

2.2.	Place of marking:	on the silencer, see drawing HOR: 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 middle right side of the vehicle

3. Test report

The tests were carried out in 1 series A at 10/05/2007.

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Automotive

3. **Test report** (continuation)

Series A: (no. 1)

3.1. Vehicle

	(0.1)	Make:	HONDA
3.1.1.	(0.2.)	Type / variant / version:	PC41 / 1 / 1
3.1.2.	(0.5.)	Manufacturer	Honda Italia Industriale S.p.A.
3.1.3.		Homologation no.:	e3*2002/24*0454
3.1.3.1		Extension:	00
3.1.4.		Vehicle identification no.:	*ZDCPC41A07F000414*
3.1.5.		Year of manufacture:	2007
3.1.6.	(2.1)	Weight of the vehicle:	198 kg

3.2. (3.) Engine

3.2.1.	(3.0.)	Manufacturer:	notice 3.1.2
	(3.1.)	Make:	HONDA
3.2.2.	(3.1.1)	Type:	PC41E
3.2.3.		Engine capacity:	599 cm^3
3.2.4.	(3.2.1.7)	Rated maximum engine power:	75 kW at 12000 min^{-1}

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Automotive

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):	dry 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	 1:0,474 / 1:0,372
	(4.6.)	Top speed:	230 km/h
	(5.2.)	Tires: front rear	 120/70 ZR17 180/55 ZR17
3.4.		assembly of the exhaust system (no. of parts, enclosure 1):	1.0., c1., c2., c3.

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Automotive

3.5. Power measurement

3.5.1. The tested max. power and the engine speed are in the ± 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 2005/30/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.
Emission test has not been carried out because the non original exhaust system does change neither catalyst nor vehicle performance

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 2005/30/EC) were checked and were fulfilled by the non original exhaust system / technical unit.

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Automotive

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 2005/30/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
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pv Sesto San Giovanni (MI),
the 19.06.2007

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Automotive

E N C L O S U R E 1 ***to test report no.*** **374-0064-07-ITA**
Type: **HOR**
Manufacturer: **Termignoni S.r.l.**

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.
1.0.	header pipes	original parts	-
c1.	rear silencer	one silencer on the right, double cone log, min ∅ 45 mm, max ∅ 100 mm, total length 340 mm (without endcap), absorption-reflection- principle with an outlet pipe ∅ 38 mm with covering pipe ∅ 64 mm	Drawing HOR: SILENCER
c2	drawing of composition	notice drawing	Drawing HOR: ASSEMBLY
c3.	reduction	notice drawing	Drawing HOR: TAPPO

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Automotive

E N C L O S U R E 3 ***to test report no.*** **374-0064-07-ITA**
Type: **HOR**
Manufacturer: **Termignoni S.r.l.**

Test results

No. of vehicle	Manufacturer	Make	Commercial name	Vehicle type (and no. of homologation)	Engine type	Stroke	Engine capacity in cm^3	Rated maximum engine power in kW/min^{-1}	Additional remarks:	Composition as shown in enclosure no. 1
1)	Honda Italia Industriale S.p.A.	HONDA	Hornet '07	PC41 (e3*2002/24* 0454*00)	PC41E	4-stroke	599	75/12000	with cat *)	1.0., c1., c2., c3.

*) The original catalytic converter remain in the original exhaust system. A degradation of catalyst efficiency is not expected.

- Noise and Power Test

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Automotive

E N C L O S U R E 3 ***to test report no.*** **374-0064-07-ITA**
Type: **HOR**
Manufacturer: **Termignoni S.r.l.**

Test results

					Sound levels driving vehicle in dB(A)					Sound levels stationary vehicle in dB(A)			
No. of vehicle	Engine power original kW/min^{-1}	Engine power non original kW/min^{-1}	Vmax original km/h	Vmax non original km /h	measured in gear ratio	Limit Value **)	Original mea-sured	Non original measured	at km/h	Vehicle type hom.	Original mea-sured	Non original measured	at min^{-1}
1) A*	69,02/12050	67,46/11800	-	-	2 / 3	80	79,8	80,4	50	93	93	92	6000

*) test series

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

TERMIGNONI	**INFORMATION DOCUMENT** **N° HOR/97/24 rev. 00**	**Date: 19/06/2007** **Page 1/2**

Information Document relating to EC type approval as separate technical unit of exhaust systems for motorcycles (Directive 97 / 24 / EC amended 2005 / 30 / EC)

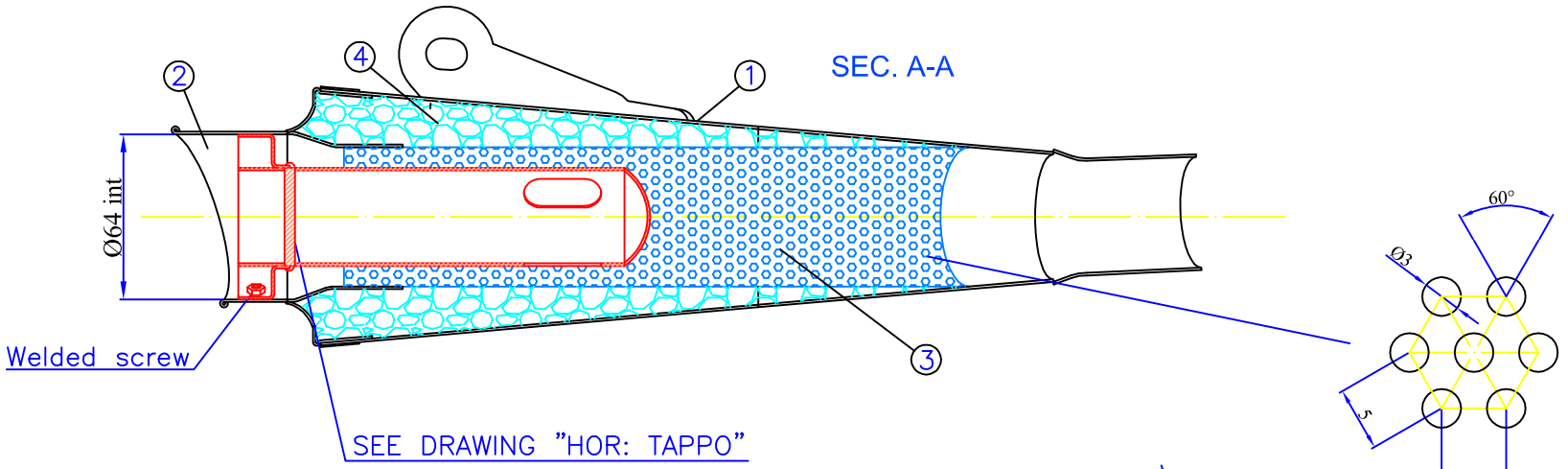
1.	*Make (trade name of manufacturer)*:	Termignoni
2.	*Type and general commercial description:*	HOR
3.	*Name and address of manufacturer:*	Termignoni S.rl. via della Rampina, 16 I-15077 Predosa (AL)
4.	*Name and address of manufacturer's authorized representative:*	*not applicable*
5.	*Parts list:*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

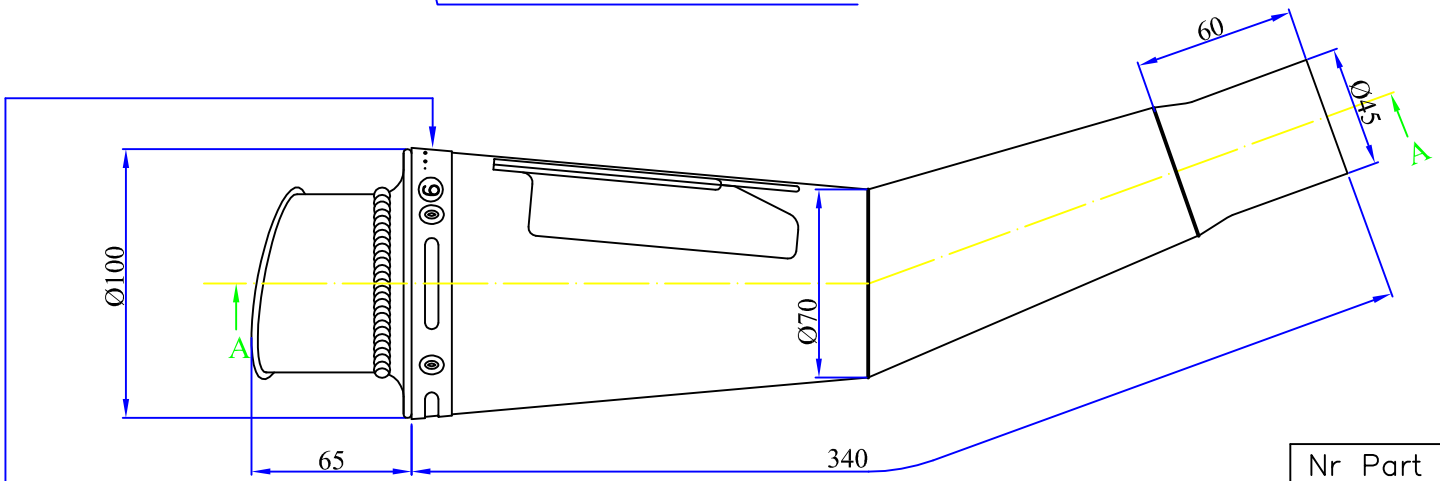
Further details according to directive 97 / 24 / EC, chapter 9, annex III, enclosure 2 A including amendment 2005/30 EC are mentioned in the motorcycle homologation (notice enclosure 2 of the test report).

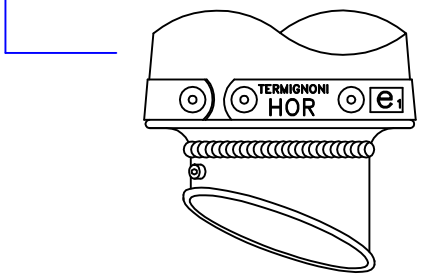
Information Document relating to EC type approval as separate technical unit of exhaust systems for motorcycles (Directive 97 / 24 / EC amended 2005 / 30 / EC)

Enclosures:

		drawing no.	*date*
c1.	*Drawing of rear silencer*	HOR: SILENCER	10/05/2007
c2.	*Drawing of composition*	HOR: ASSEMBLY	05/04/2007
c3.	*Drawing of reduction*	HOR: TAPPO	10/05/2007
	List of vehicles		
	Fitting instructions		





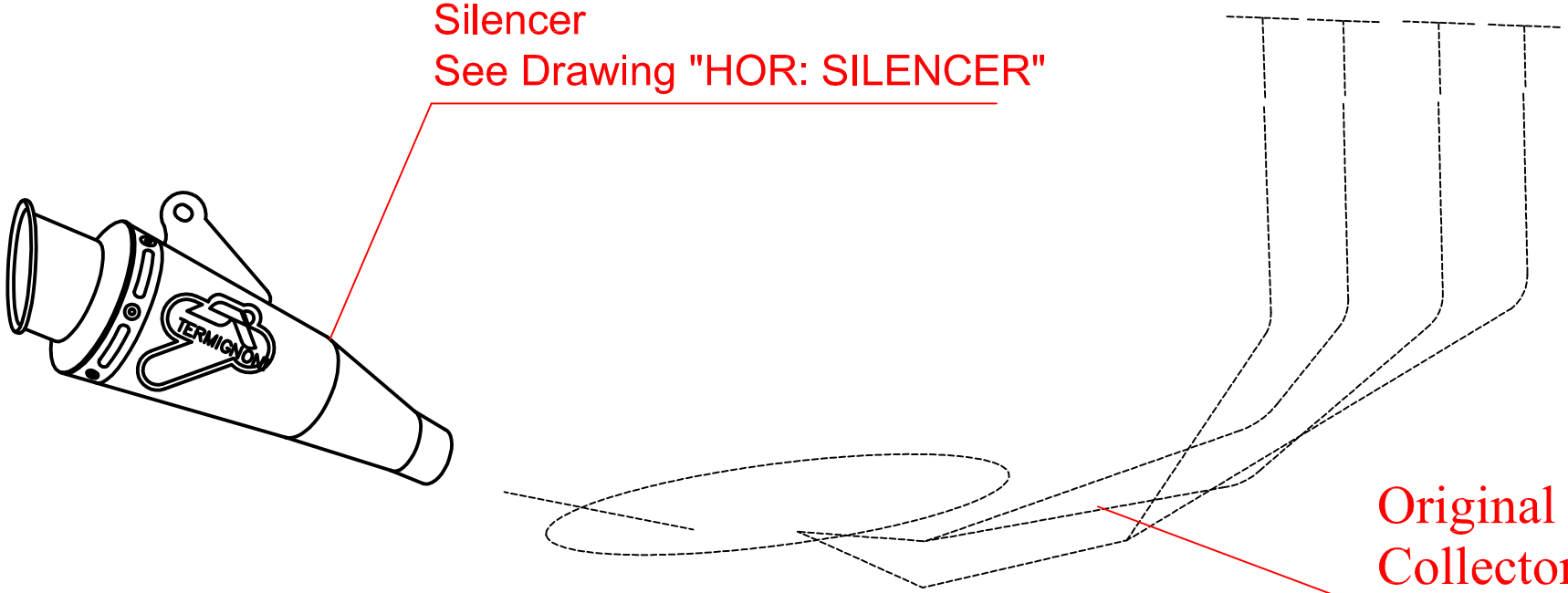


PART LIST

Nr	Part name	Material	Dimensions	Qt.
1	Shell	Stainless Steel	See Drawing	1x
	or	Titanium	See Drawing	1x
2	Outlet Pipe	Stainless Steel	See Drawing	1x
	or	Titanium	See Drawing	1x
3	Punched-holes pipe	Stainless Steel	ø 54x0,8	1x
	or	Titanium	ø 54x0,8	1x
4	Sound deadener	Fiberglass	150 gr.	1x

SCALE:	**Model:** Honda Hornet 600 '07 1 SIL STR code H075 HOR e1 0___ ⑨
DATE: 10.05.07	
NAME: P.Pelizza	
Type:	HOR: SILENCER

Termignoni s.r.l.



SCALE:	MODEL: HONDA Hornet 600 07 1 sil STR COD H075 HOR e1 0___ ⑨
DATE: 05.04.07	
NAME: P.Pelizza	
TYPE: HOR: ASSEMBLY	

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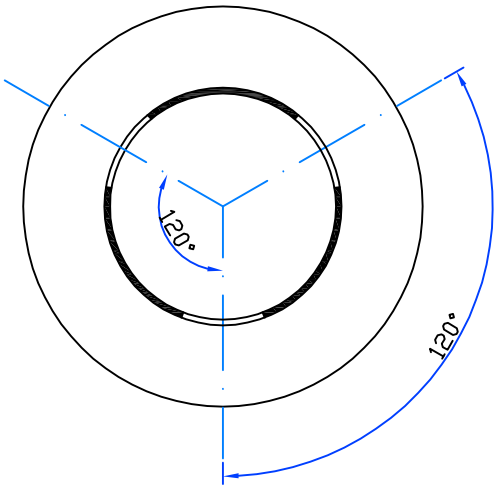
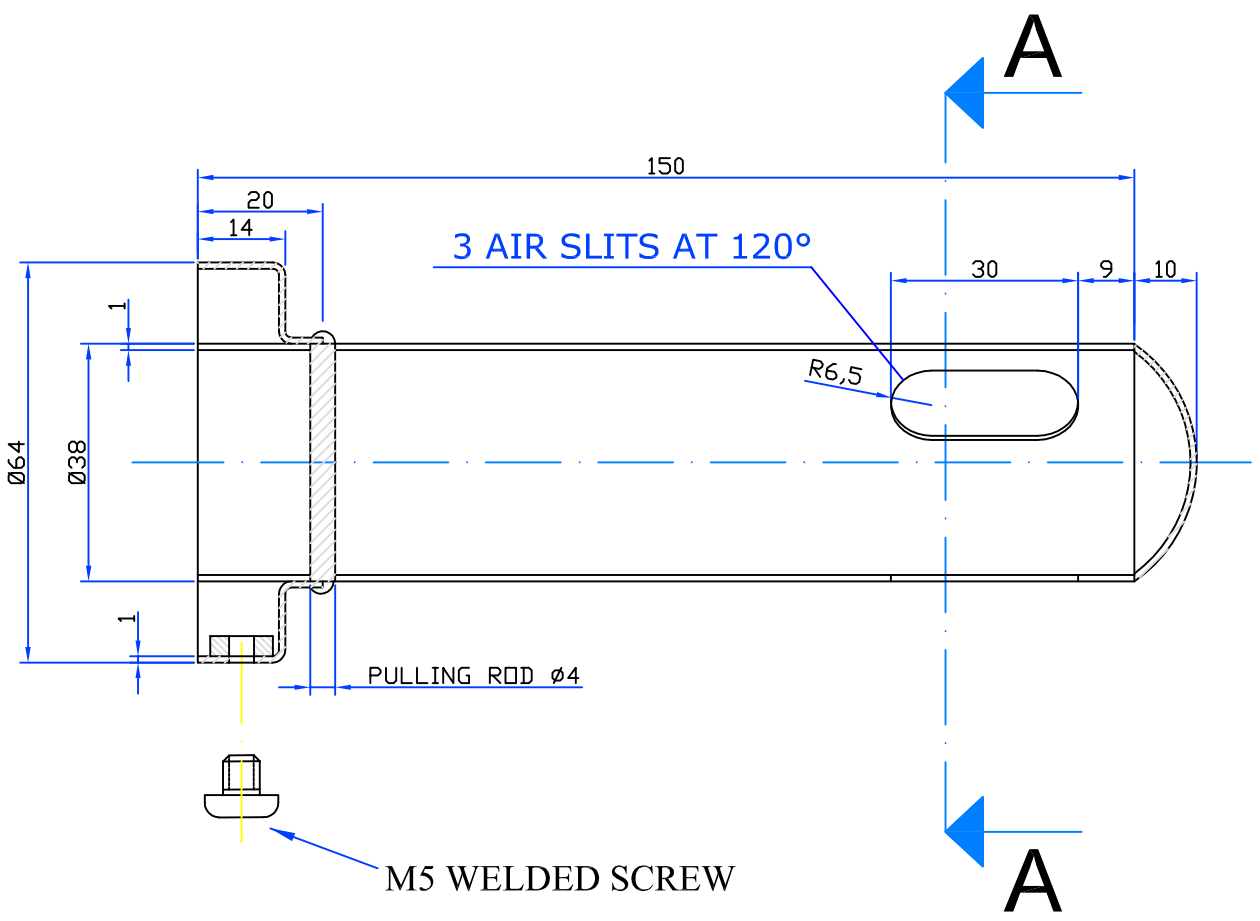
SEZ A-A





Material:
stainless steel or titanium

SCALE:	MODEL: HONDA Hornet 600 07 1 sil STR COD H075 HOR e1 0___ ⑨
DATE: 10.05.07	
NAME: P.Pelizza	
TYPE: HOR: TAPPO	

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TERMIGNONI CODE: TER199

INFORMATION DOCUMENT N° HOR/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^3	Rated maximum engine power in kW/min^{-1}	Additional remarks:	Composition as shown in enclosure no. 1
1)	Honda Italia Industriale S.p.A.	HONDA	Hornet '07	PC41 (e3*2002/24* 0454*00)	PC41E	4-stroke	599	75/12000	with cat *)	1.0., c1., c2., c3.

*) The original catalytic converter remain in the original exhaust system.

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FITTING INSTRUCTIONS

for Termignoni exhaust systems

A. Dismantling the original exhaust system

1. Remove any casing parts impeding clear access.

2. Detach the silencer support(s) and the original silencer from the branch pipe and/or exhaust manifold.

B. Fitting Termignoni silencers

1. Fit the Termignoni silencer(s) to the original branch pipe, or use the Termignoni branch pipe to fit to 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.

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ISTRUZIONI DI MONTAGGIO

per impianti di scarico Termignoni

A. Smontaggio dell'impianto di scarico originale

1. Rimuovere eventuali parti del rivestimento in modo che non siano d'impaccio.

2. Smontare il/i supporto/i marmitta e la marmitta originale dal tubo di raccordo e/o dal collettore di scarico.

B. Montaggio della marmitta Termignoni

1. Montare la/le marmitta/e Termigoni sul tubo di raccordo originale o utilizzare il tubo di raccordo Termignoni sul collettore di scarico.

2. Fissare la/le marmitta/e con il/i supporto/i in dotazione al veicolo, ma non stringere a fondo le viti ed i bulloni.

3. Disporre l'impianto di scarico in modo tale che anche quando completamente inserito abbia una distanza minima di ca. 5 mm da tutti i componenti del veicolo.

4. Serrare tutti i collegamenti a vite.

5. Effettuare una prova di funzionamento del veicolo, verificare che tutti i collegamenti siano ben fissati, eventualmente stringere ulteriormente.

6. Dopo ca. 100 km controllare nuovamente tutti i collegamenti ed eventualmente stringere le viti ed i bulloni.

ATTENZIONE:
In caso di interventi sull'impianto di scarico dopo una prova di funzionamento, prestare attenzione alla superficie dell'impianto che potrebbe essere molto calda.