RE-HOMOLOGATED 1-8-2018

Homologation Nº

78H / RH

ENGINE

Manufacturer	**IAME SPA**
Make	**IAME**
Model	**X30 125cc RL - TAG**
Validity of the Homologation	**6 years**
Number of pages	**75**
Most Recent Revision	**17 JANUARY 2023**

This Homologation Form reproduces descriptions, illustrations and dimensions of the engine at the time that Karting Australia conducted the homologation.

PHOTO OF DRIVE SIDE OF ENGINE

PHOTO OF OPPOSITE SIDE OF ENGINE

Signature and Stamp of Karting Australia

Ashley Woolner
National Technical Commissioner
2019

Shaune English
National Technical Commissioner
2023

Re-Homologated & Updated
1 August 2018

Further Updated
20 October 2020
14 December 2022

17 January 2023

RE-HOMOLOGATED 1-8-2018

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78H / RH

PHOTO OF DRIVE SIDE OF THE COMPLETE ENGINE

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Homologation Nº

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PHOTO OF OPPOSITE DRIVE SIDE OF THE COMPLETE ENGINE

PHOTO OF THE REAR OF THE COMPLETE ENGINE

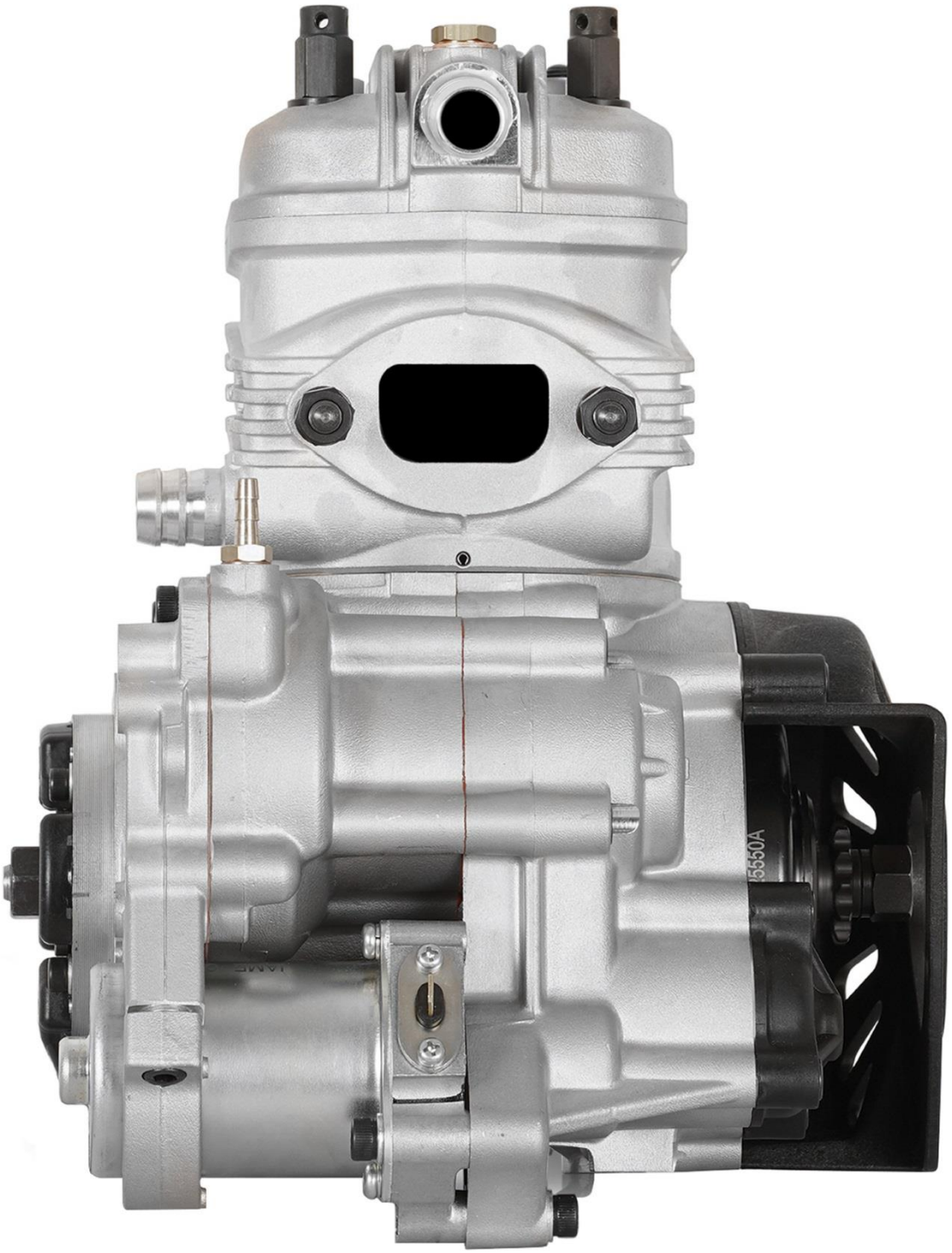


PHOTO OF THE FRONT OF THE COMPLETE ENGINE

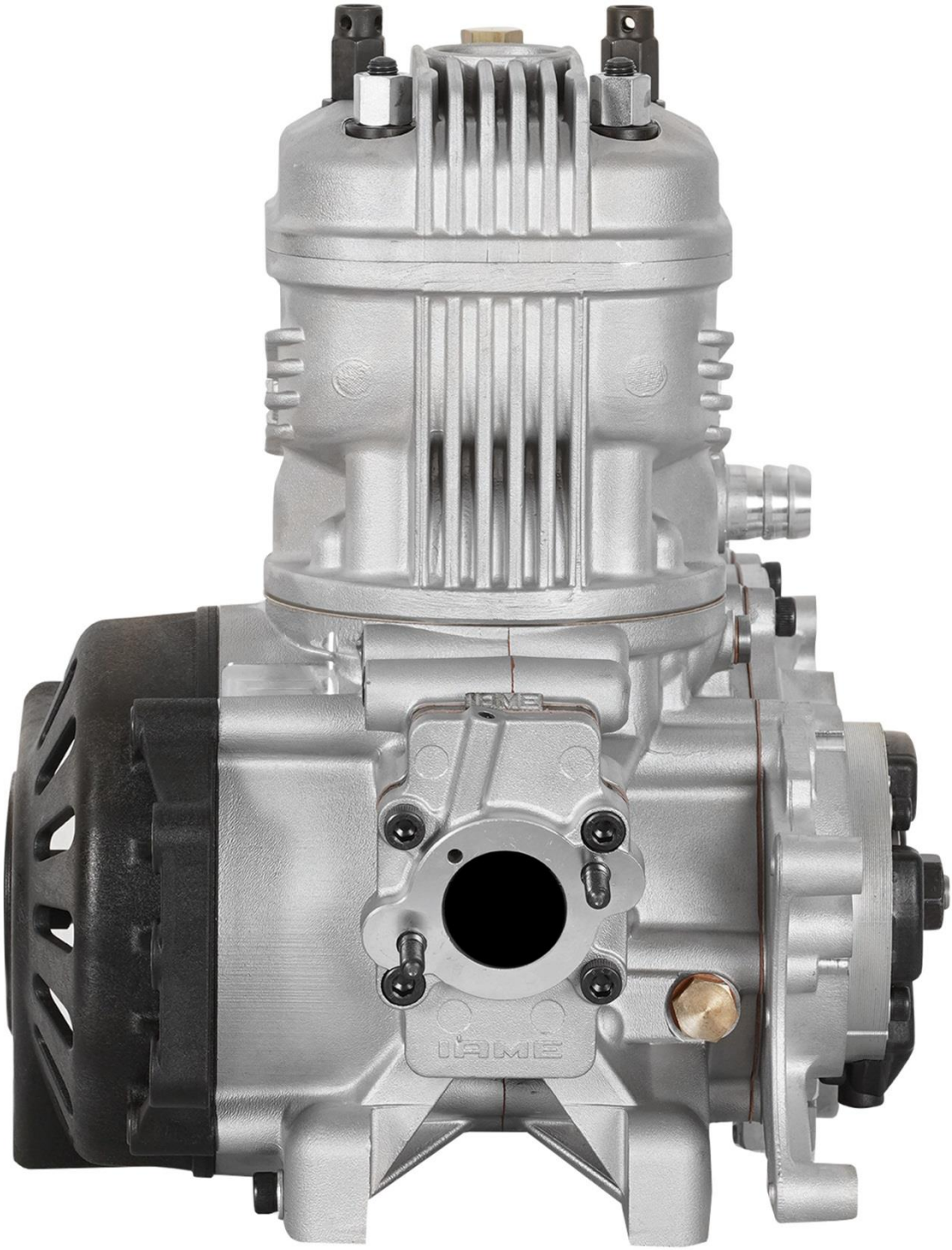


PHOTO OF THE COMPLETE ENGINE TAKEN FROM ABOVE

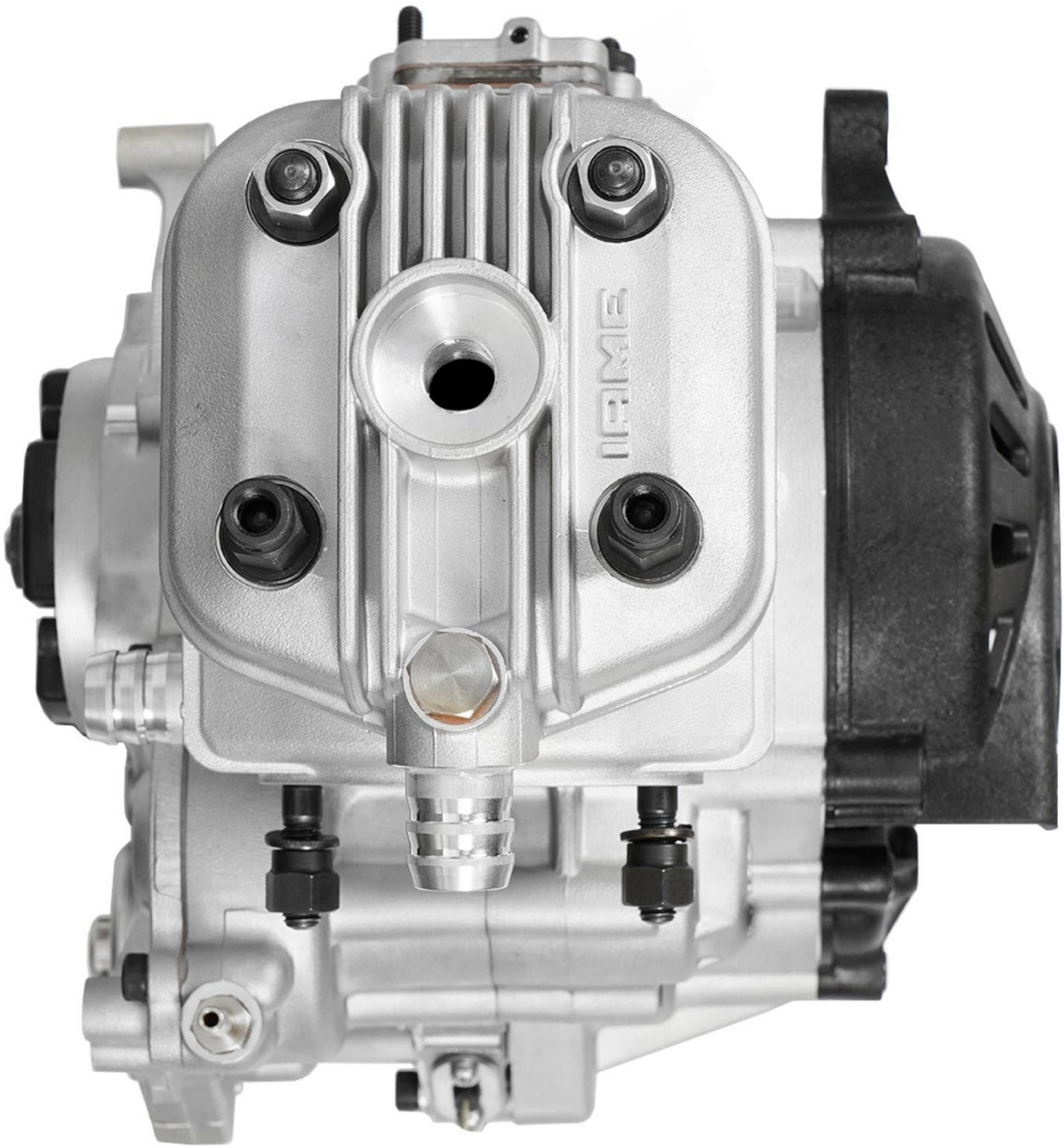
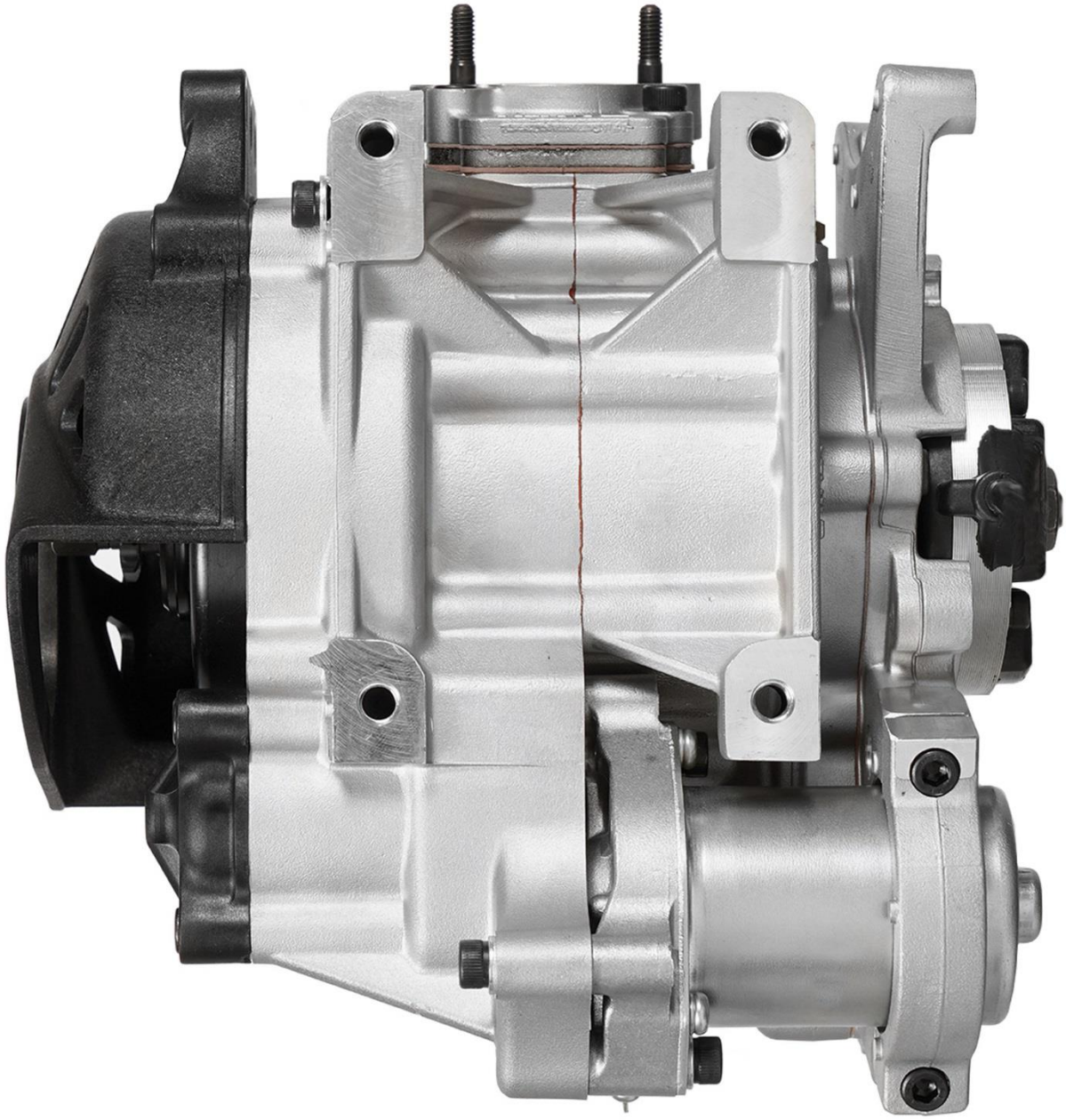


PHOTO OF THE COMPLETE ENGINE TAKEN FROM BELOW



RE-HOMOLOGATED 1-8-2018

Homologation Nº **78H / RH**

TECHNICAL INFORMATION

A	*CHARACTERISTICS*

The number of decimal places must be 2 or comply with the relevant tolerance.		*Tolerances & remarks*
Cylinder		
Volume of cylinder	**123.67 cm³**	<125.00 cm³
Original bore	**54.00 mm**	--
Theoritical maximum bore	**54.28 mm**	--
Original Stroke	**54.40 mm**	--
Number of transfer ducts, cylinder / sump	**3 / 3**	--
Number of exhaust ports / ducts	**3 / 3**	--
Volume of the combustion chamber (with AUS insert)	**10.3 cm³**	minimum
Volume of the combustion chamber in the cylinder head	**12.8 cm³**	minimum
(with AUS insert)		
Crankshaft		
Number of bearings	**2**	--
Diameter of bearings	**30 mm**	±0.1mm
Minimum weight of crankshaft	**2150 g**	minimum
All parts represented on page 17 photo		
Balance shaft		
Minimum weight of balance shaft	**315 g**	minimum
Percentage of balancing	**52 %**	minimum
Connecting rod		
Connecting rod centreline	**102 mm**	±0.1mm
Diameter of big end	**26 mm**	±0.05mm
Diameter of small end	**18 mm**	±0.05mm
Min. weight of the connecting rod	**110 g**	minimum

Piston		
Number of piston rings	**1**	
Min. weight of the bare piston (ring incuded)	**128 g**	minimum
Gudgeon pin		
Diameter	**14 mm**	±0.05mm
Length	**44 mm**	±0.15mm
Minimum weight	**28.0 g**	Minimum
Clutch		
Minimum weight	**950 g**	minimum
Of all the parts represented on the page 20 technical drawing		

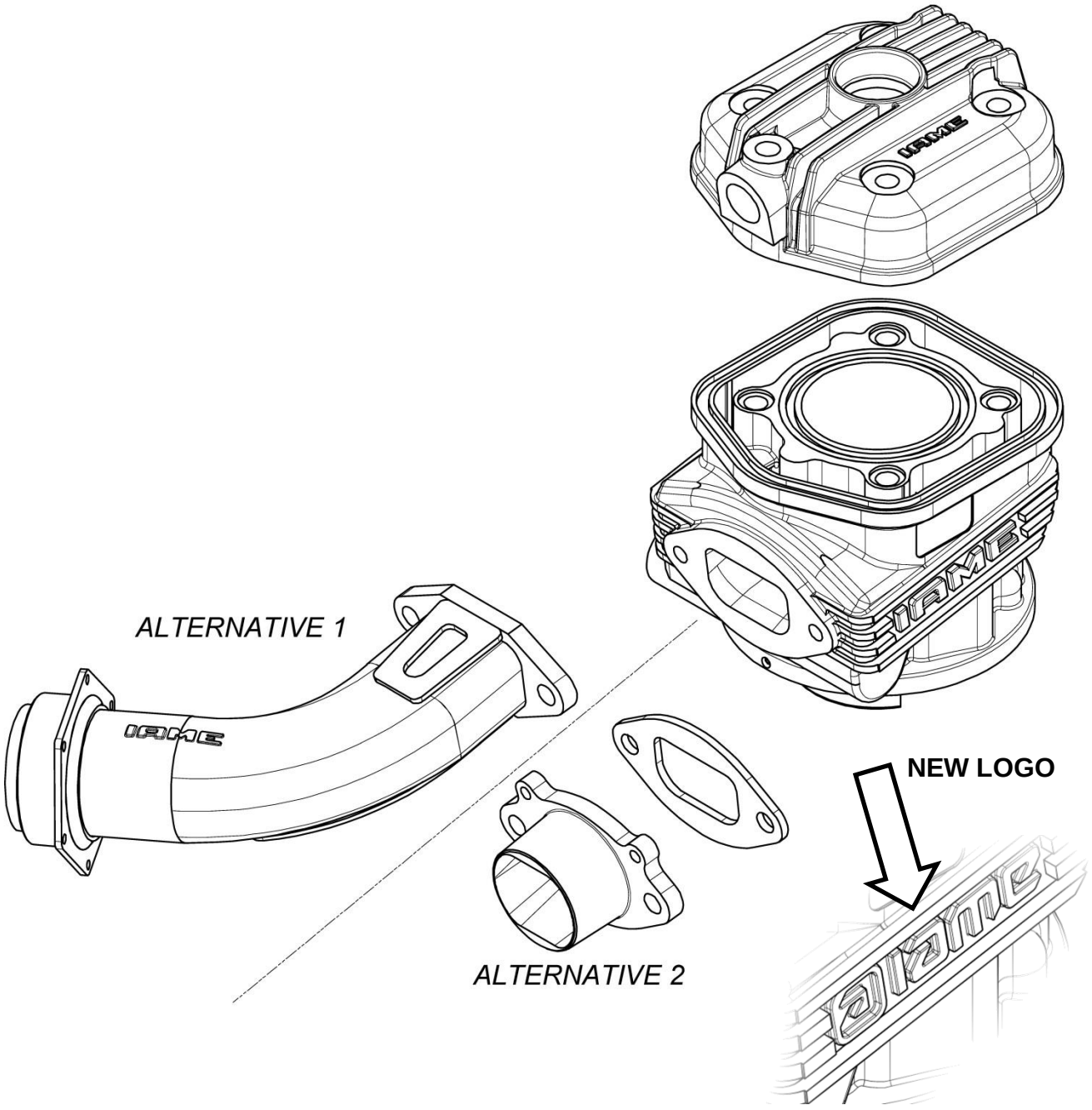
B	*OPENING ANGLES*	
Of the inlet (main transfer ports)	**126°**	±2°
Of the inlet (3th transfer duct engine)	**127°**	±2°
Of the exhaust	**177.5°**	MAX.
Of the boosters	**177.5°**	MAX.

C	*MATERIAL*
Cylinder head	ALUMINIUM
Cylinder	ALUMINIUM
Cylinder wall	CAST IRON
Sump	ALUMINIUM
Crankshaft	STEEL
Connecting rod	STEEL
Piston	ALUMINIUM

D	*PHOTOS, DRAWINGS & GRAPHS*

D.1 *CYLINDER UNIT*

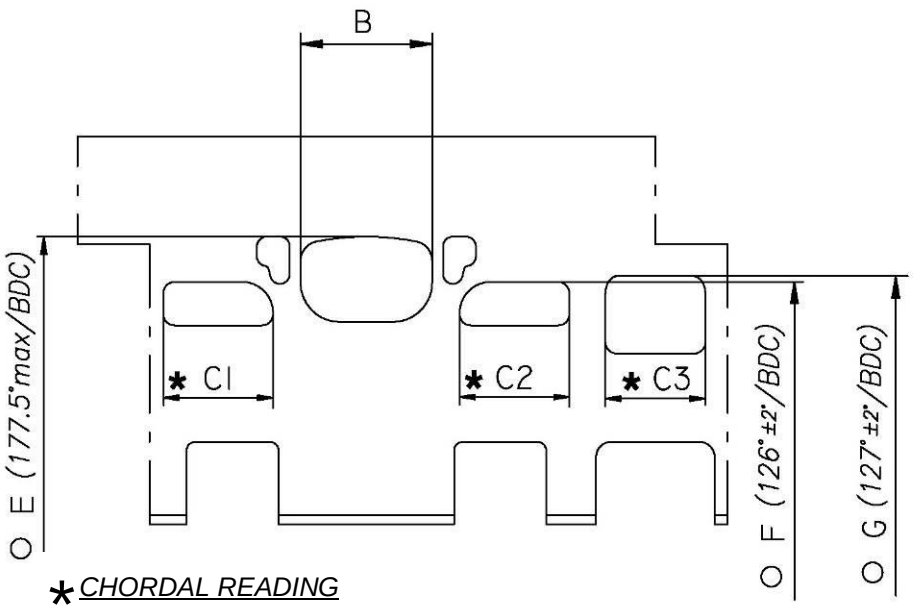
EXPLODED DRAWING OF THE CYLINDER, CYLINDER HEAD AND EXHAUST MANIFOLD UNIT



Without screws or gaskets.	***The aim of the exploded drawings is to identify the principles, the functioning and the whole mechanical unit***

... Section D.1

DRAWING OF THE CYLINDER DEVELOPMENT



B	≤ 36.5 mm
C1 = C2	≤ 30 mm
C3	≤ 28.5 mm
E	177.5° max
F	126° ± 2°
G	127° ± 2°

* *CHORDAL READING*

O *ANGULAR READING BY INSERTING A 0.2x5 mm GAUGE*

DRAWING OF THE CYLINDER BASE without dimensions

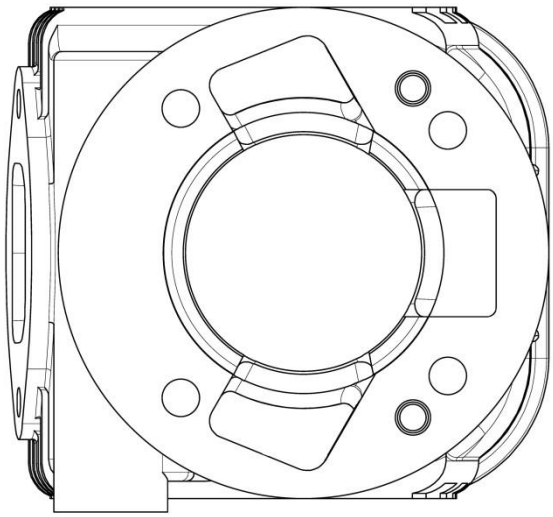
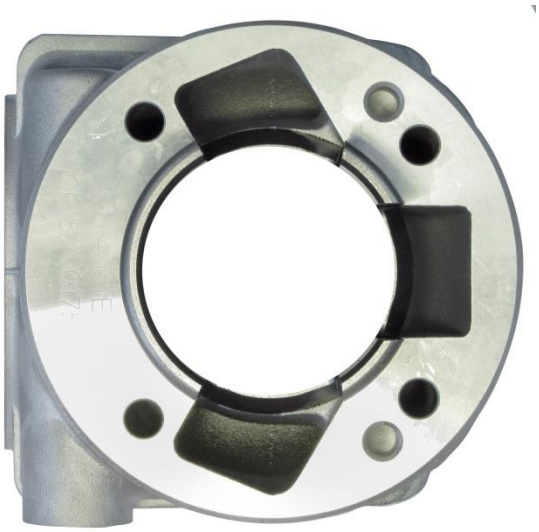
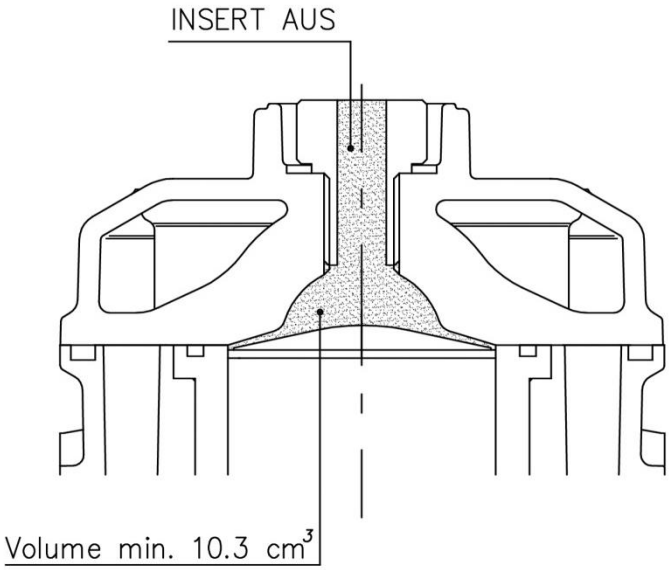


PHOTO OF THE CYLINDER BASE



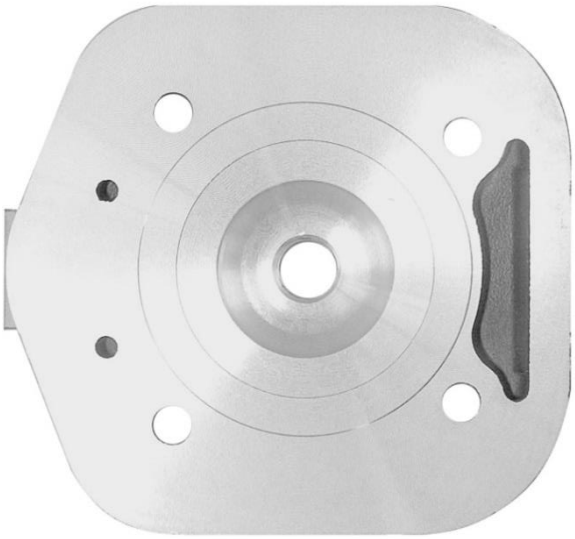
... Section D.1

DRAWING OF THE CYLINDER HEAD AND OF THE COMBUSTION CHAMBER without dimensions



COMBUSTION CHAMBER VOLUME TOT. = 10.3 cm³ min.

ATT. SQUISH MIN. = 0.90 mm
(measured with Ø2.0mm TIN)

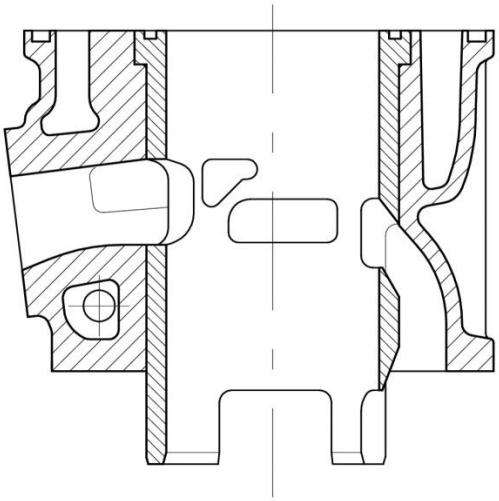
PHOTO OF THE CYLINDER HEAD	*PHOTO OF THE COMBUSTION CHAMBER IN THE CYLINDER HEAD*
	

NEW LOGO

... Section D.1

VERTICAL CROSS SECTION VIEW OF CYLINDER WITH LINER, without dimensions

OLD TYPE



CURRENT TYPE

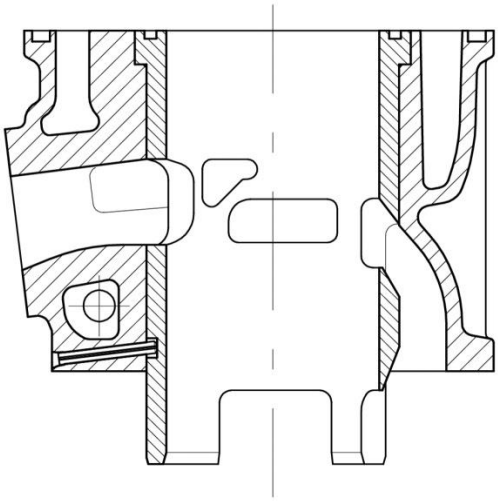


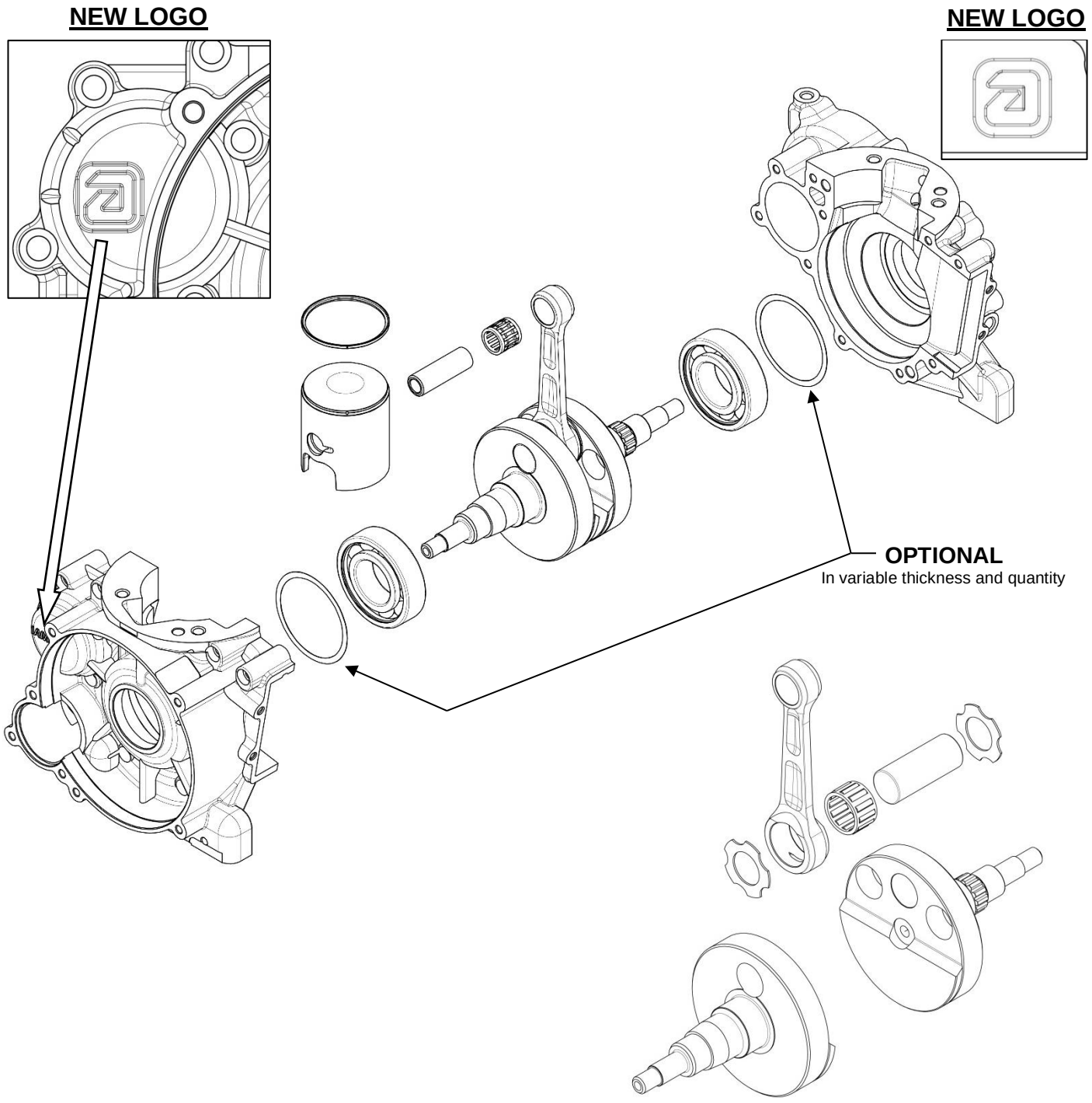
PHOTO OF THE CYLINDER FROM ABOVE

PHOTO OF THE CYLINDER FROM RH SIDE

NEW LOGO

D.2 *CONROD, CRANKCASE, CRANKSHAFT & PISTON*

EXPLODED DRAWING OF THE PISTON, CRANKSHAFT, CONNECTING ROD AND CRANKCASES UNIT (exploded crankshaft)



Without screws or gaskets.	***The aim of the exploded drawings is to identify the principles, the functioning and the whole mechanical unit***

...Section D.2

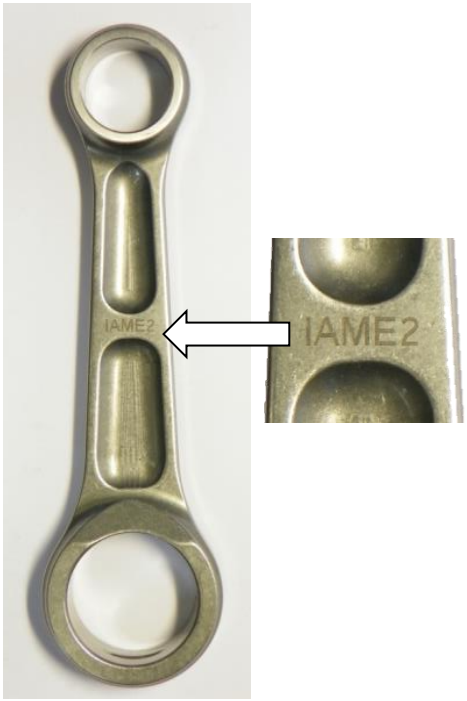
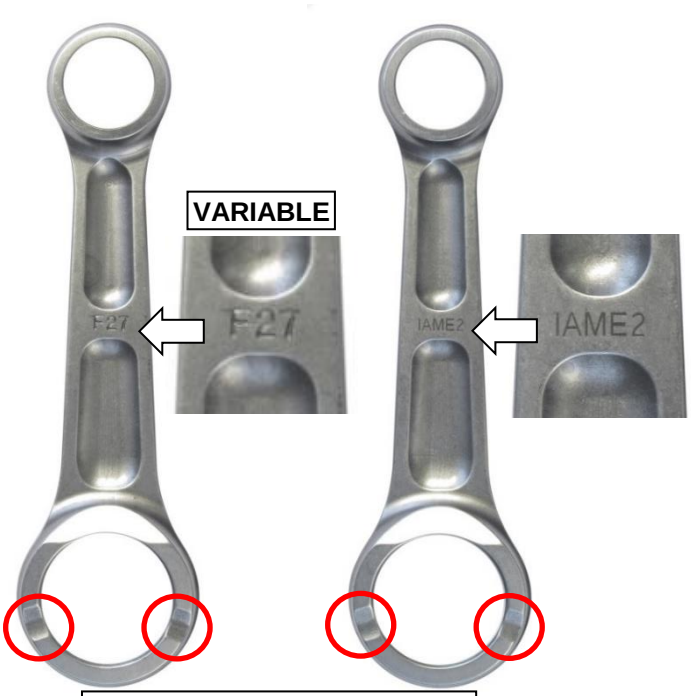
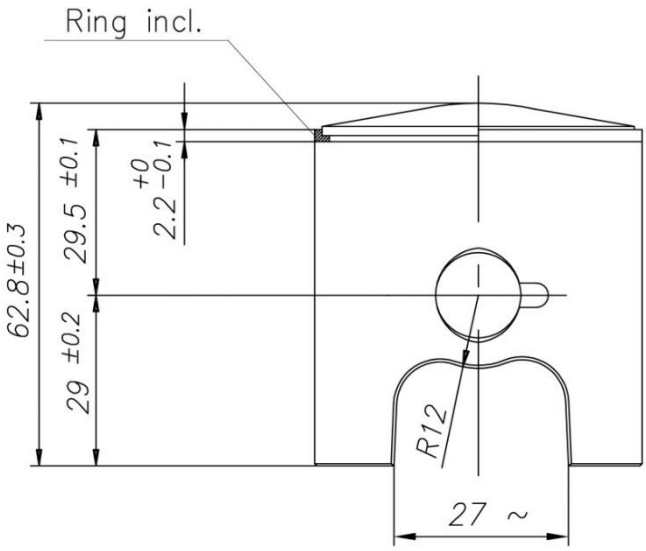
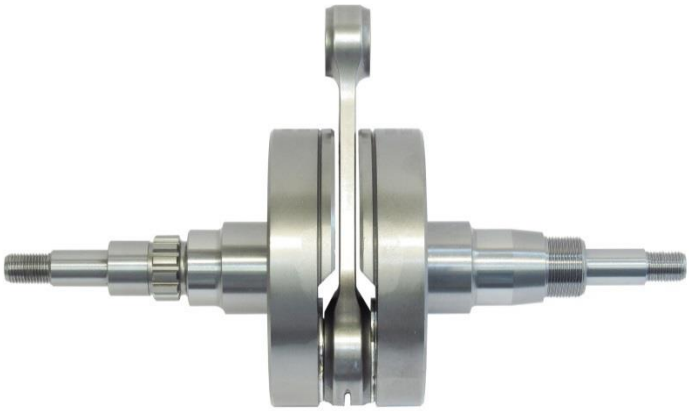
PHOTO OF THE CONROD	*PHOTO OF ALTERNATIVE CONROD*
	 **Lubrication Slots - Circled**
DRAWING OF THE PISTON (MAIN DIMENSIONS incl. tolerances)	*PHOTO OF THE CRANKSHAFT & CONROD*
	

PHOTO IDENTIFICATION OF SMALL END CONROD BEARING – TYPES ALTERNATIVE

TYPE 1

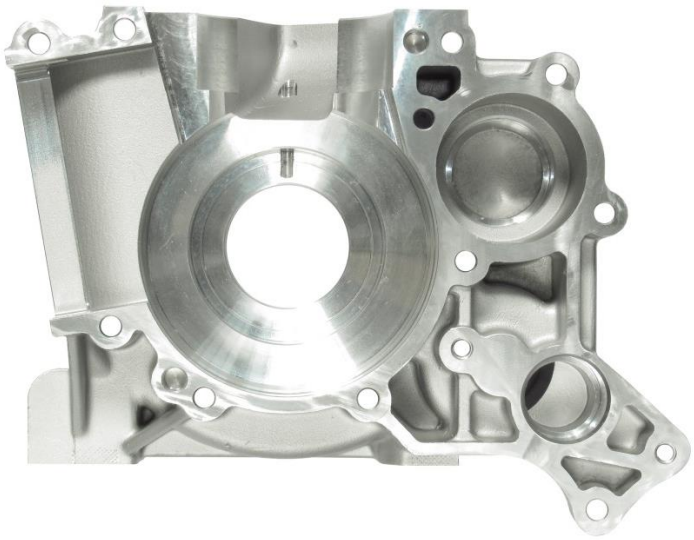
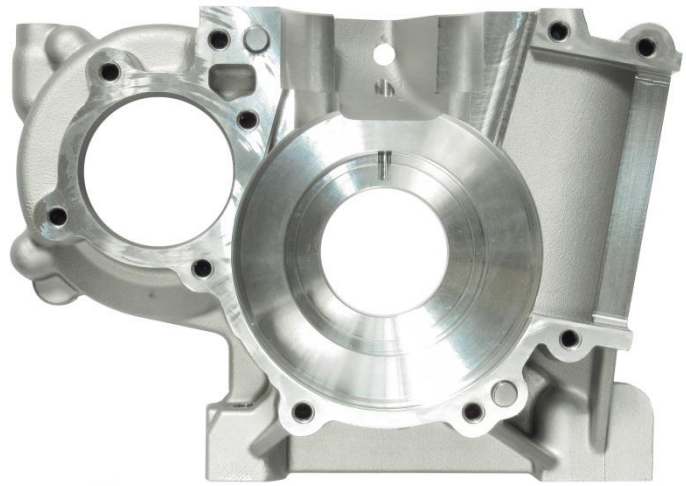
TYPE 2

PHOTO IDENTIFICATION OF SILVER CONROD WASHER – TYPES ALTERNATIVE

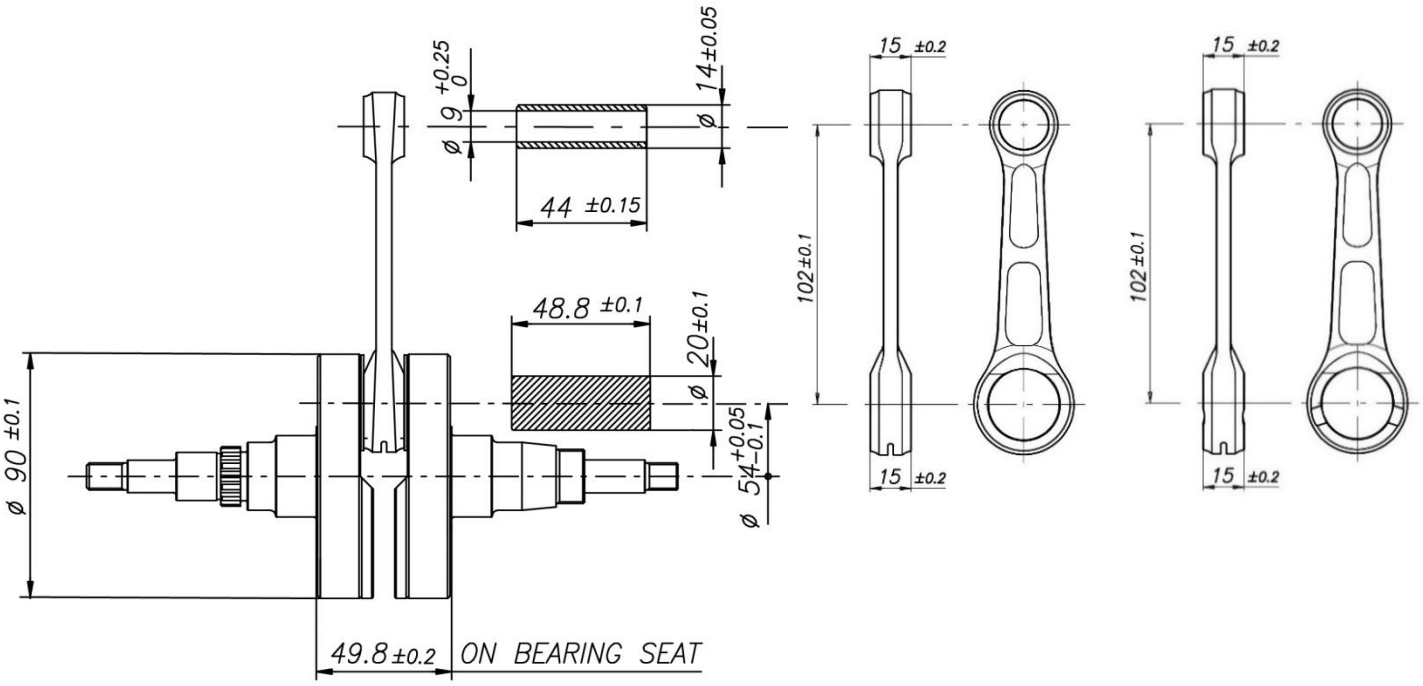
TYPE 1

TYPE 2

...Section D.2

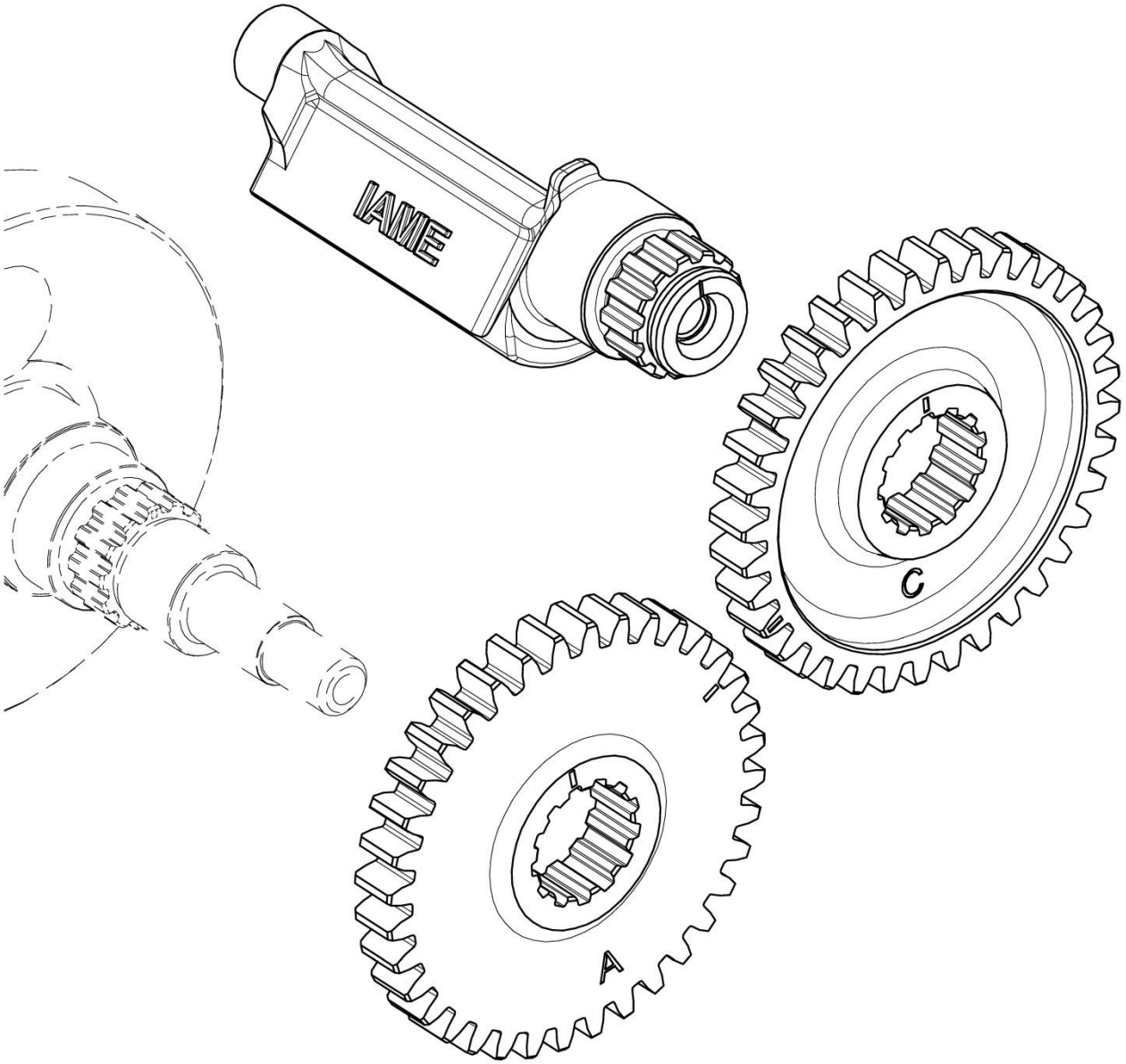
PHOTO OF THE INSIDE OF THE RH CRANKCASE	*PHOTO OF THE INSIDE OF THE LH CRANKCASE*
	

DRAWING OF THE CRANKSHAFT - CON ROD UNIT (DIMENSIONS incl. tolerances, big & small ends thickness, crank mass thickness & diameter)



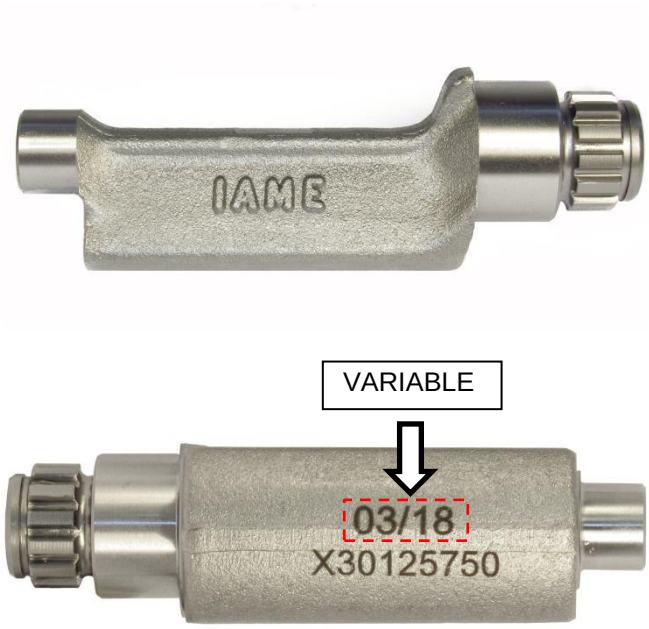
D.3 *BALANCE SHAFT*

EXPLODED DRAWING OF THE BALANCE SHAFT

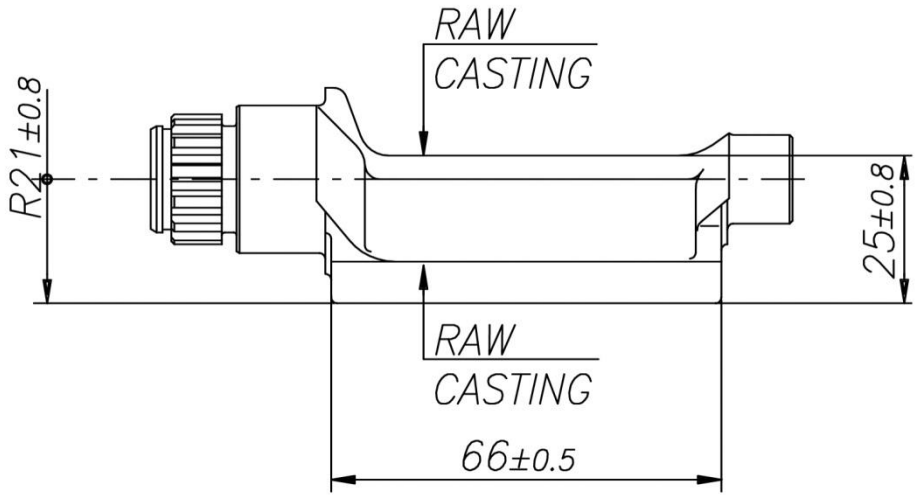


Without screws or gaskets.	***The aim of the exploded drawings is to identify the principles, the functioning and the whole mechanical unit***

...Section D.3

PHOTO OF THE BALANCE SHAFT	*PHOTO IDENTIFICATION OF ALTERNATIVE ROLLER BEARING*
	Alternative bearing to 6206 type Part No: BC1-3342 B 

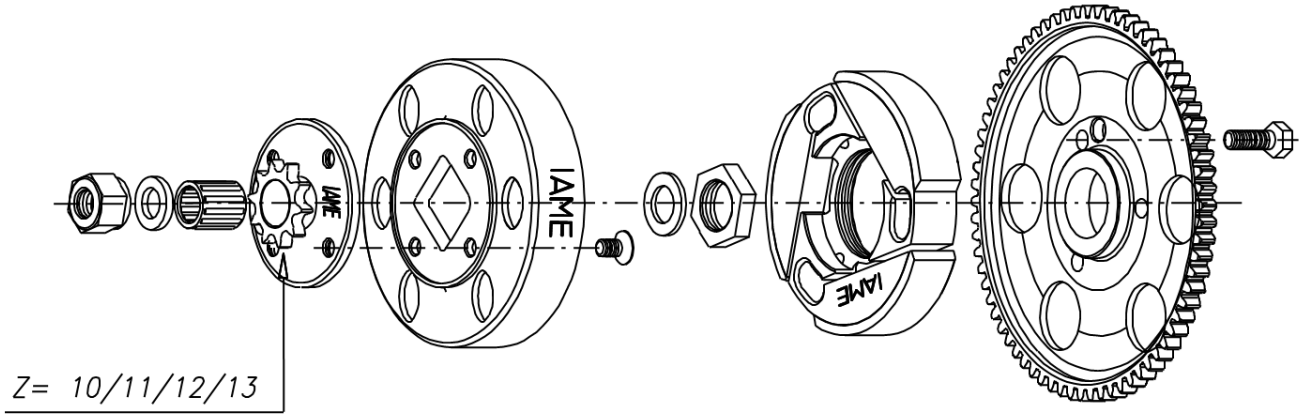
DRAWING OF THE BALANCE SHAFT
(DIMENSIONS incl. tolerances)



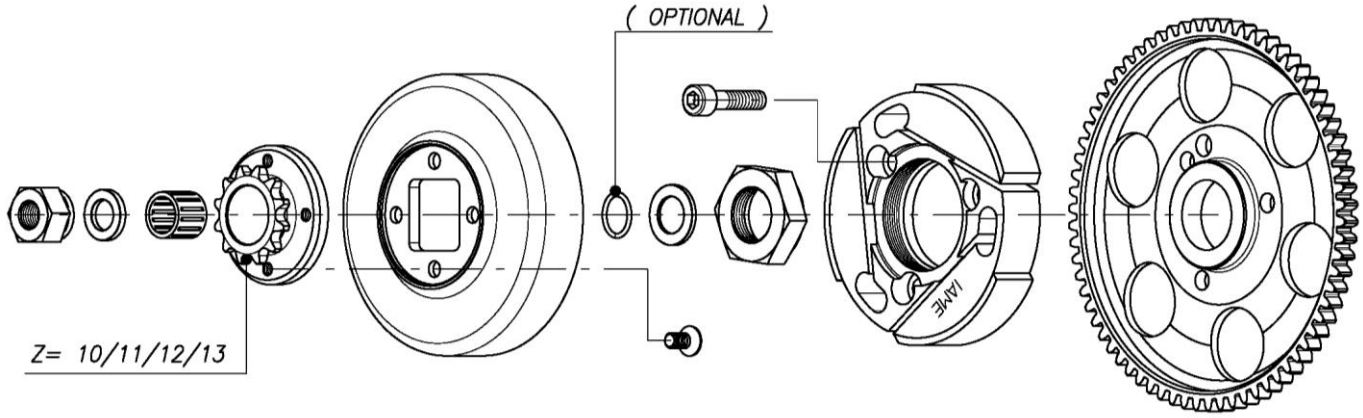
Tot. Min. weight 315 g

D.4 *REED VALVE & CLUTCH*

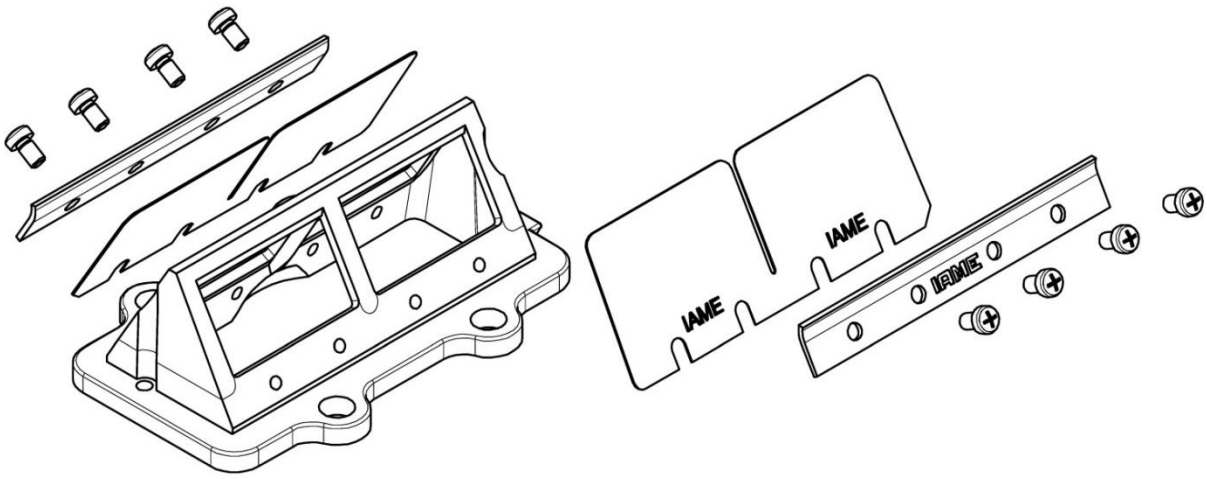
TECHNICAL DRAWING (exploded view) OF THE CLUTCH ASSEMBLY



TECHNICAL DRAWING (exploded view) OF THE CLUTCH ASSEMBLY – ALTERNATIVE



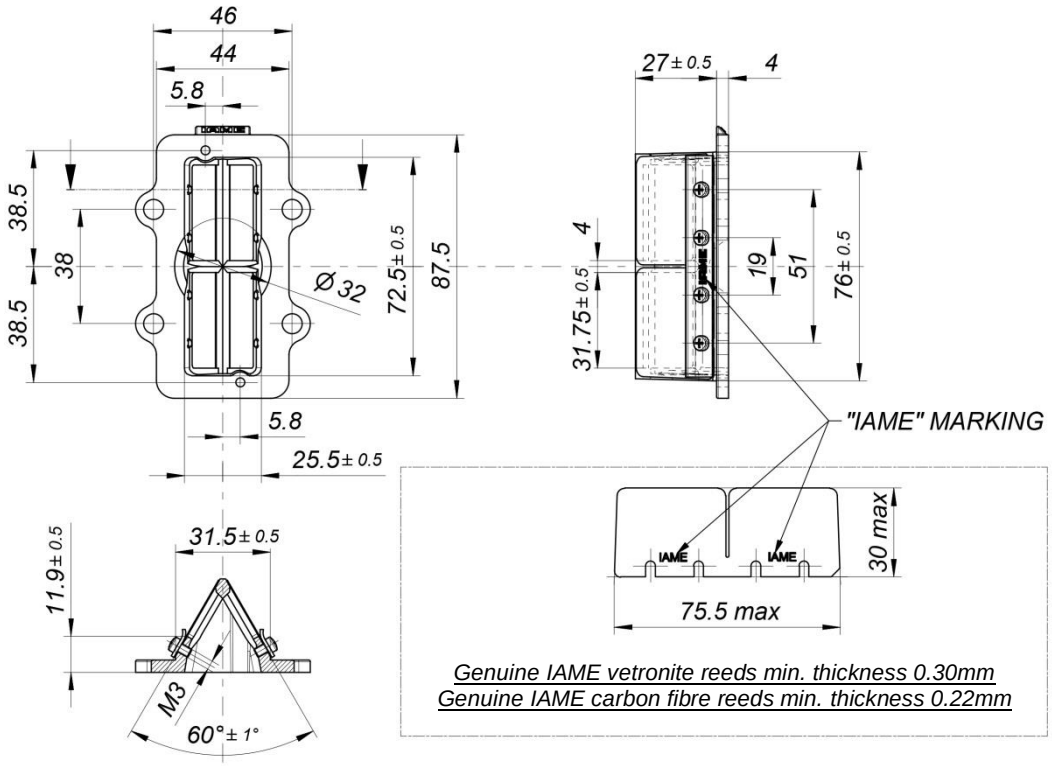
TECHNICAL DRAWING (exploded view) OF THE REED VALVE



The aim of the exploded drawings is to identify the principles, the functioning and the whole mechanical unit

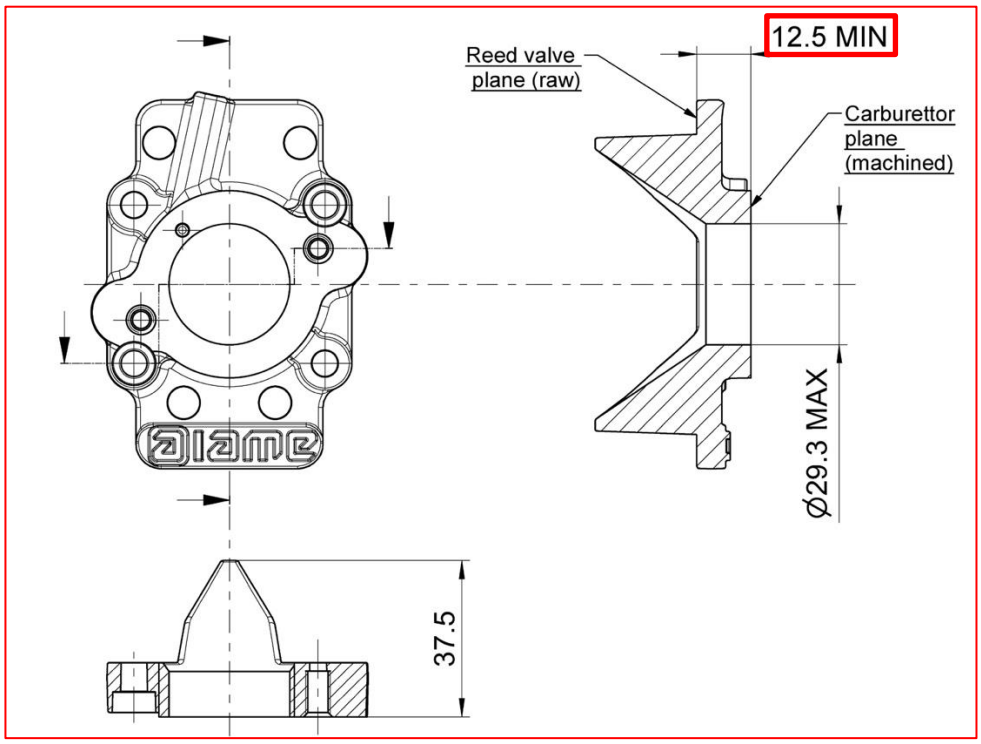
... Section D.4

DRAWING OF THE REED VALVE
*(DIMENSIONS incl. **tolerances**)*



Genuine IAME vetronite reeds min. thickness 0.30mm
Genuine IAME carbon fibre reeds min. thickness 0.22mm

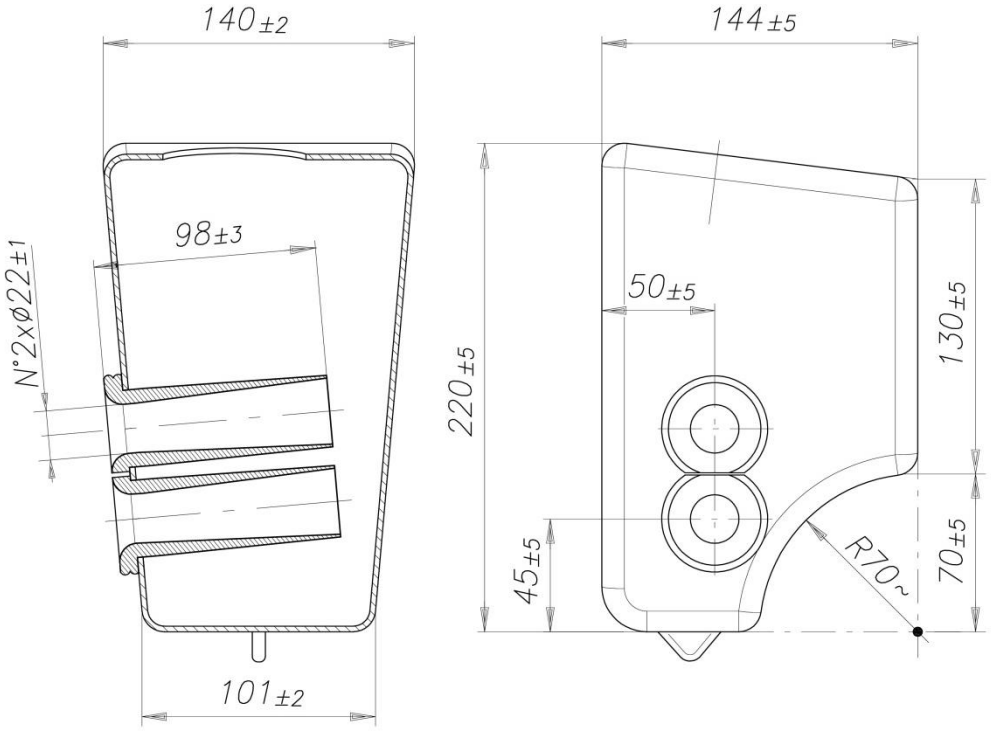
DRAWING OF THE INLET CONVEYOR



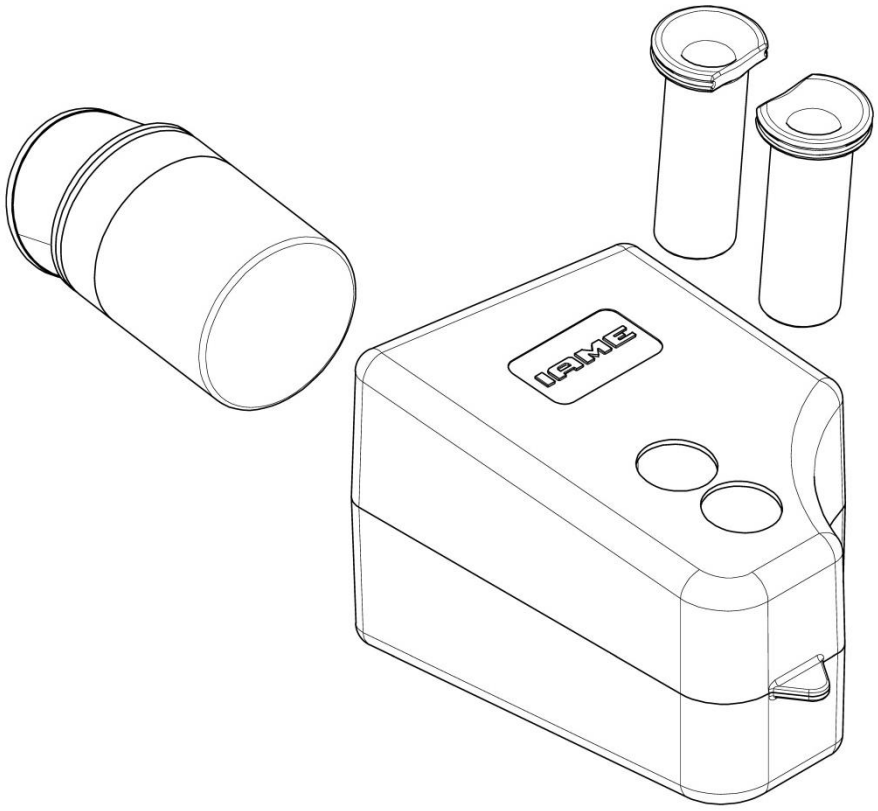
GENERAL TOLERANCES	
Dimensions	**Machined parts**
< 25 mm	±0.5
25÷60	±0.8
> 60 mm	±1.5

... Section D.4

DRAWING OF AIR BOX



EXPLODED VIEW OF AIR BOX



INLET SILENCER TUBES NEW TYPE

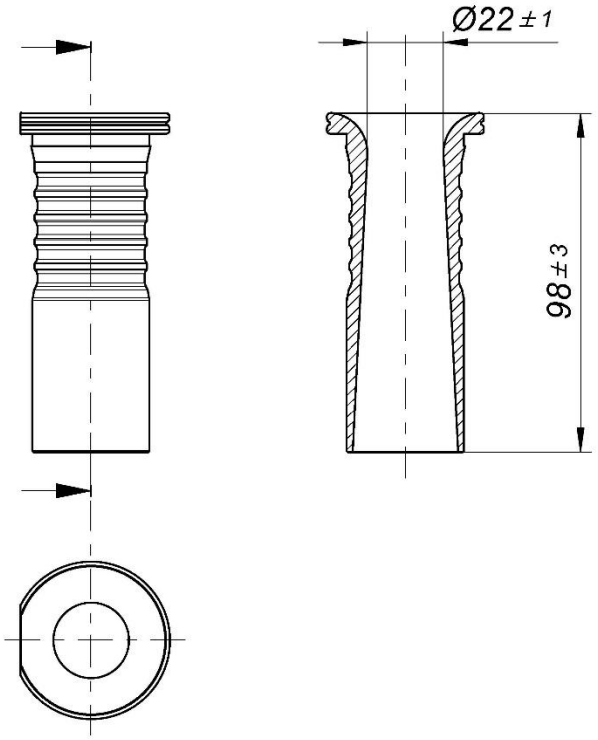


PHOTO IDENTIFICATION OF PERMISSIBLE INLET SILENCER TUBES

OLD TYPE

NEW TYPE

RAIN COVER INLET SILENCER – DRAWING

Use of the IAME Rain Cover is optional.

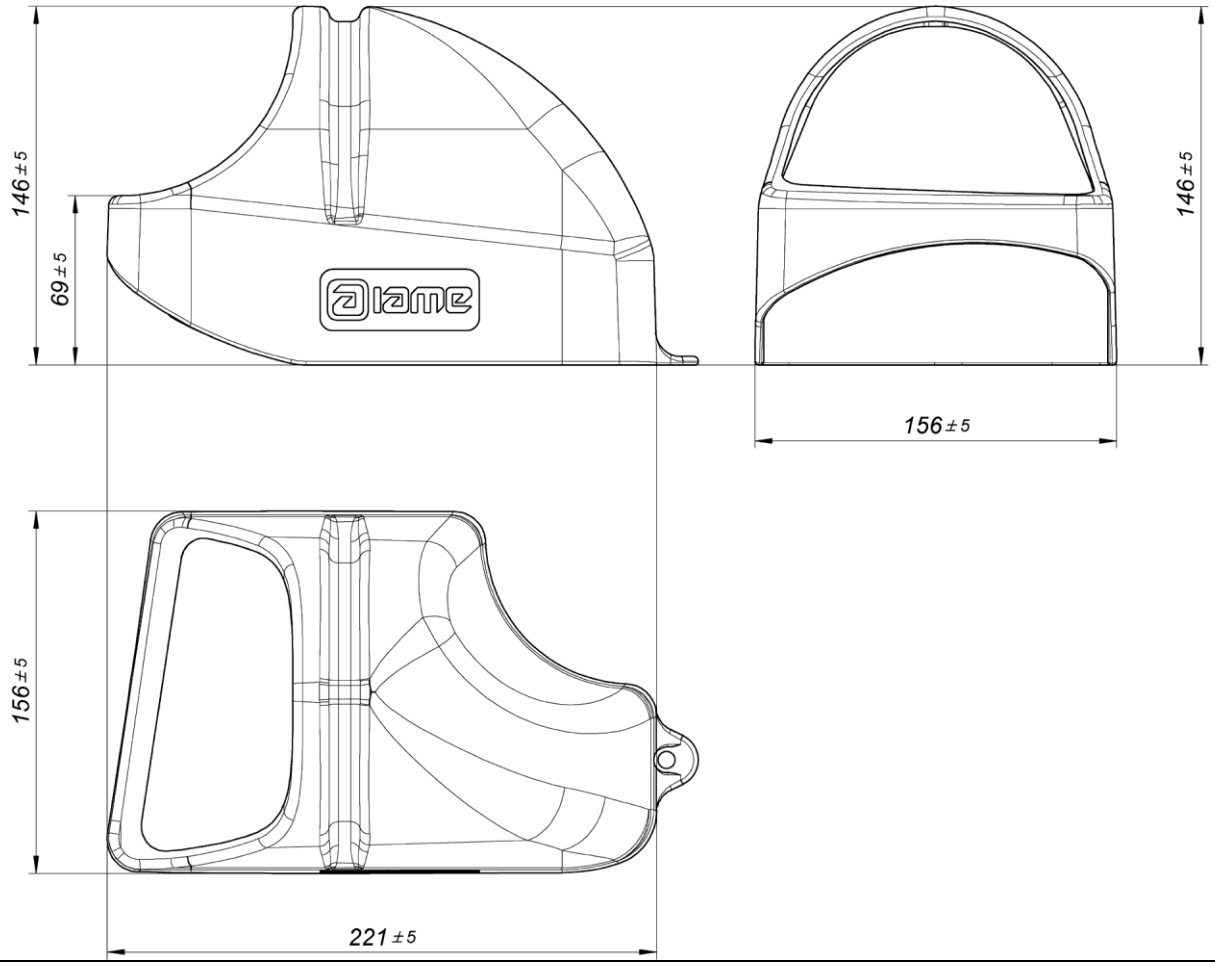
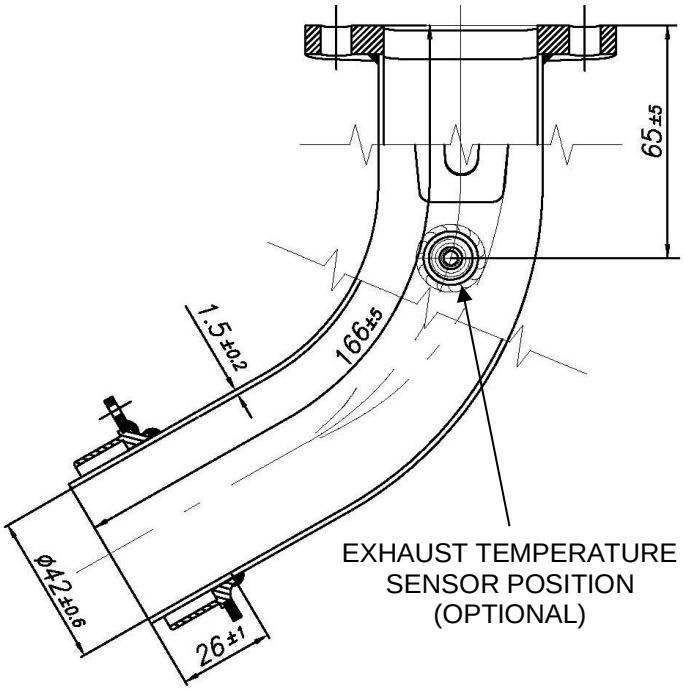


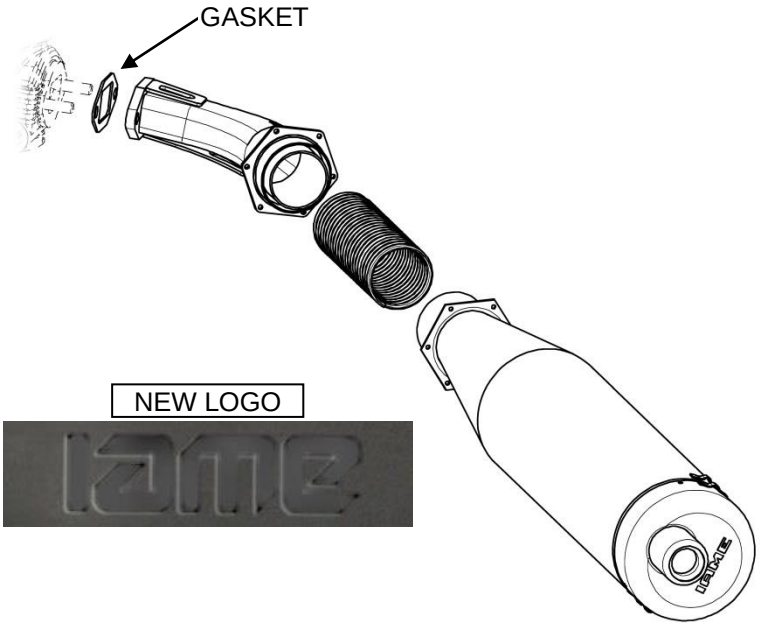
PHOTO IDENTIFICATION OF RAIN COVER INLET SILENCER

D.5 *EXHAUST SYSTEM*

TYPE 1 - EXHAUST HEADER DRAWING

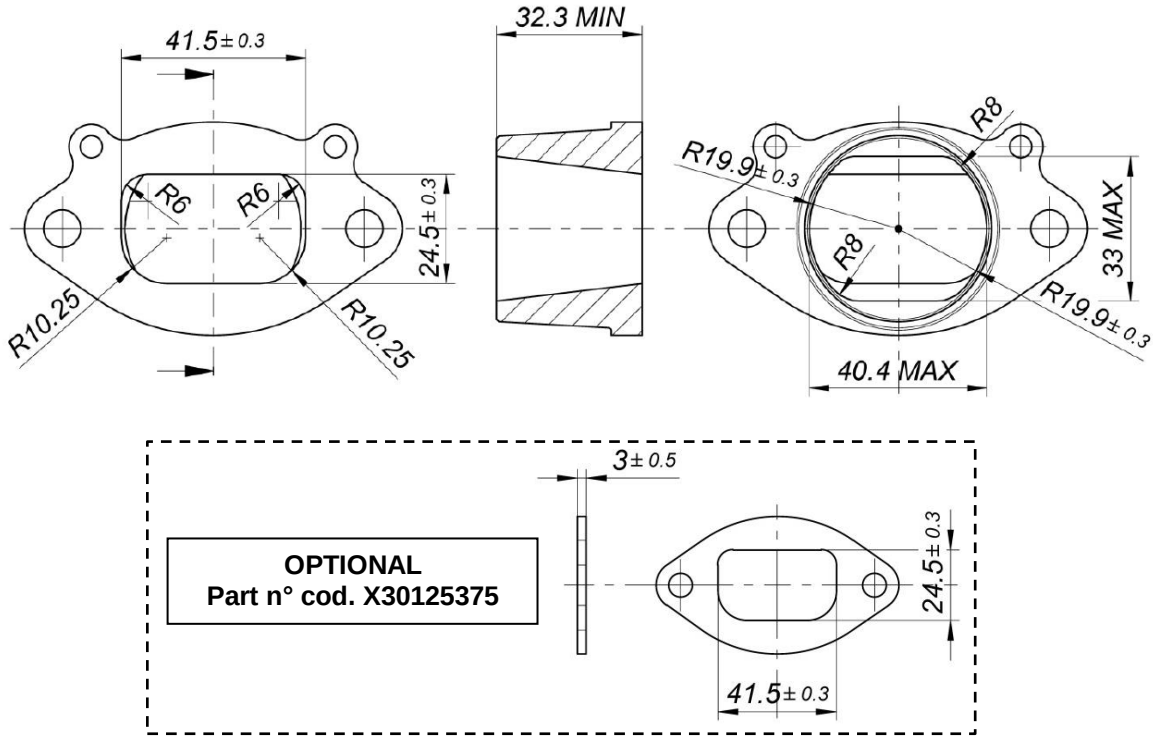


TYPE 1 - EXHAUST HEADER ASSEMBLY AND MARKING

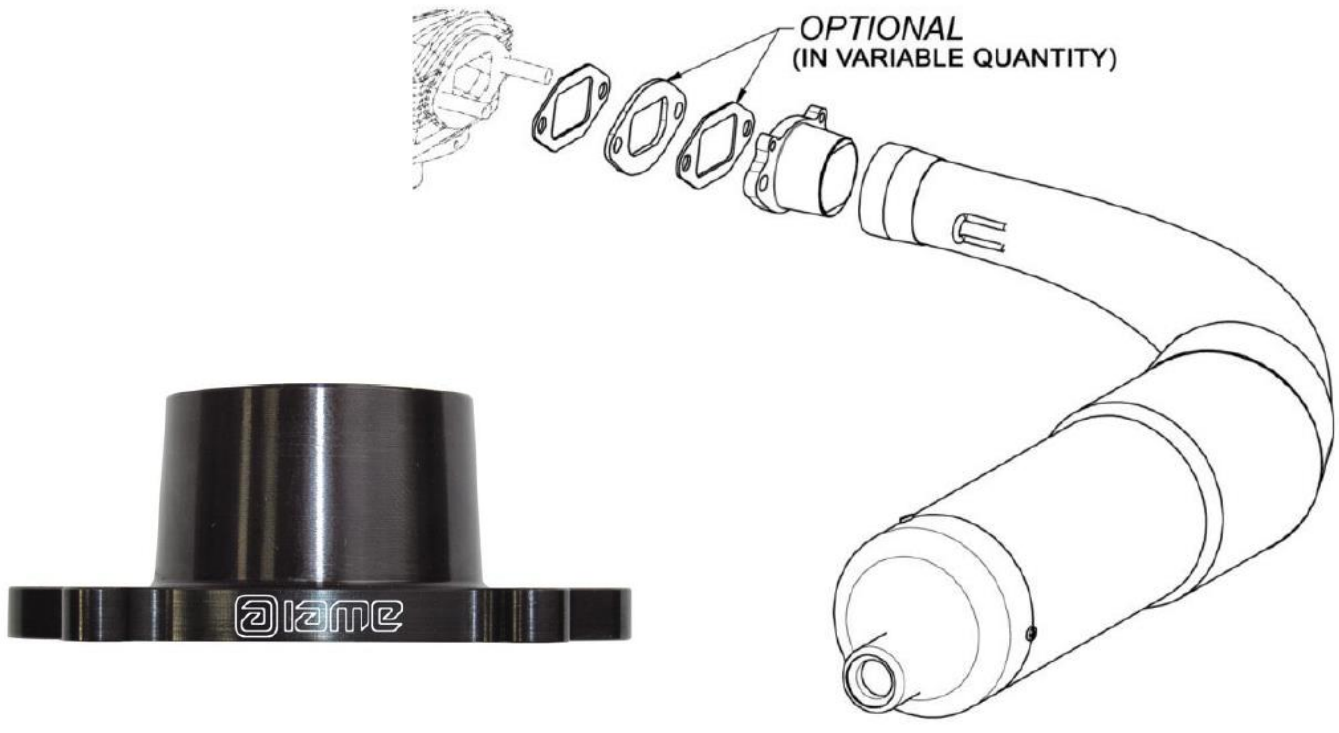


D.5 *EXHAUST SYSTEM*

TYPE 2 - EXHAUST MANIFOLD DRAWING



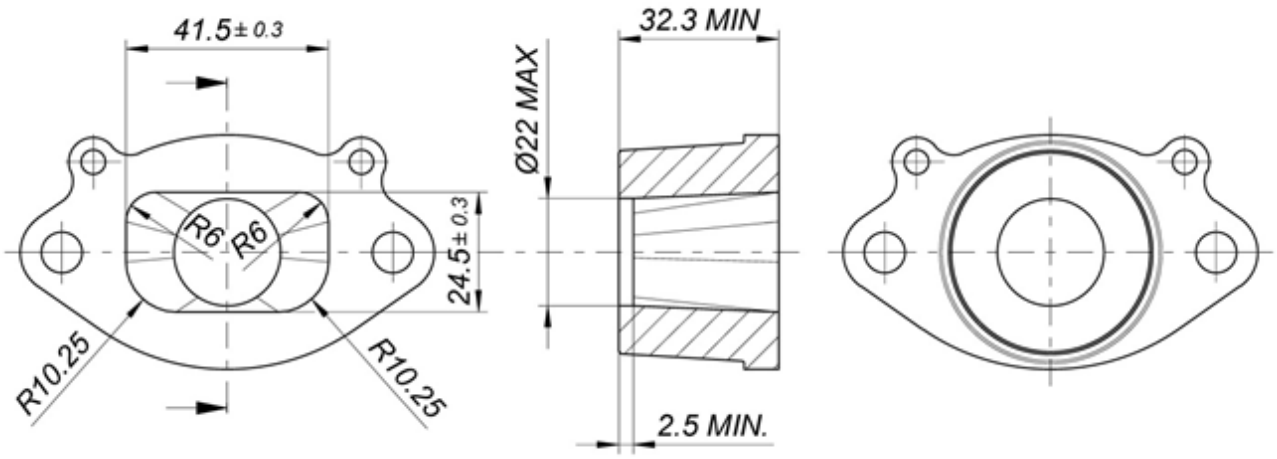
TYPE 2 - EXHAUST MANIFOLD ASSEMBLY AND MARKING



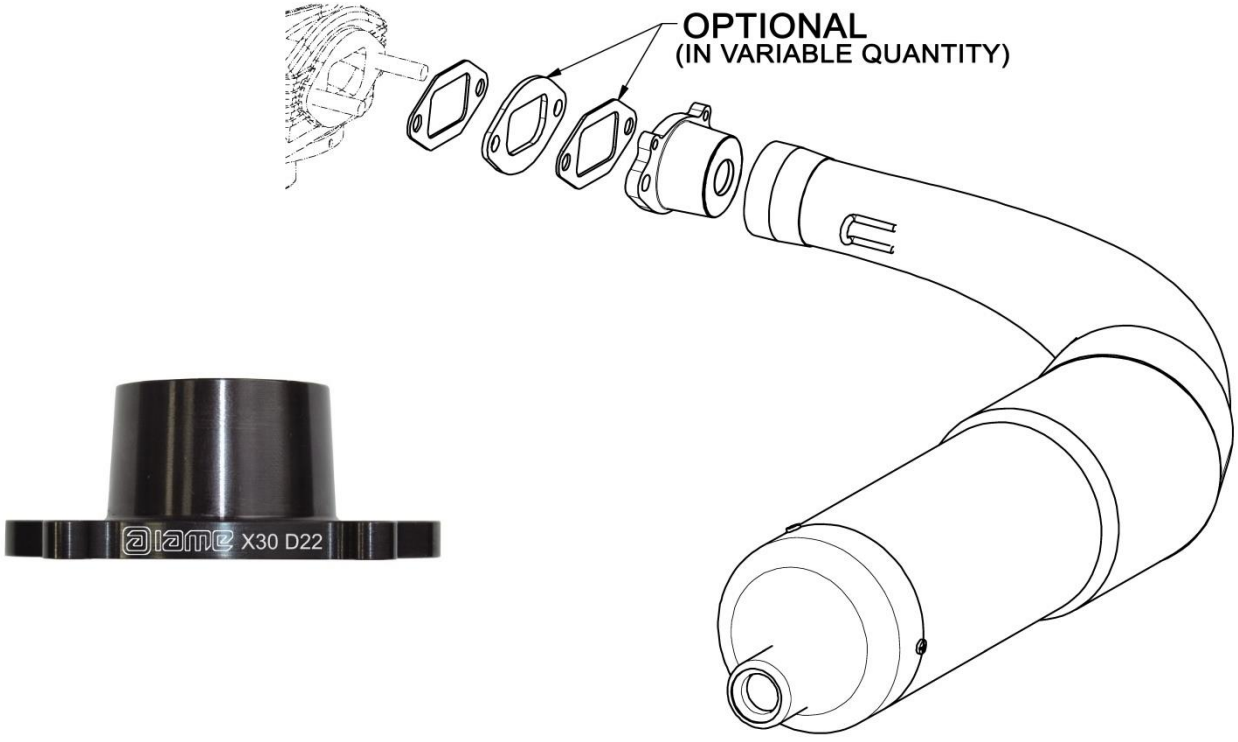
D.5 *EXHAUST SYSTEM*

TYPE 2 - EXHAUST MANIFOLD WITH RESTRICTOR - D22

For use in:
- Restricted 125
- Junior Performance



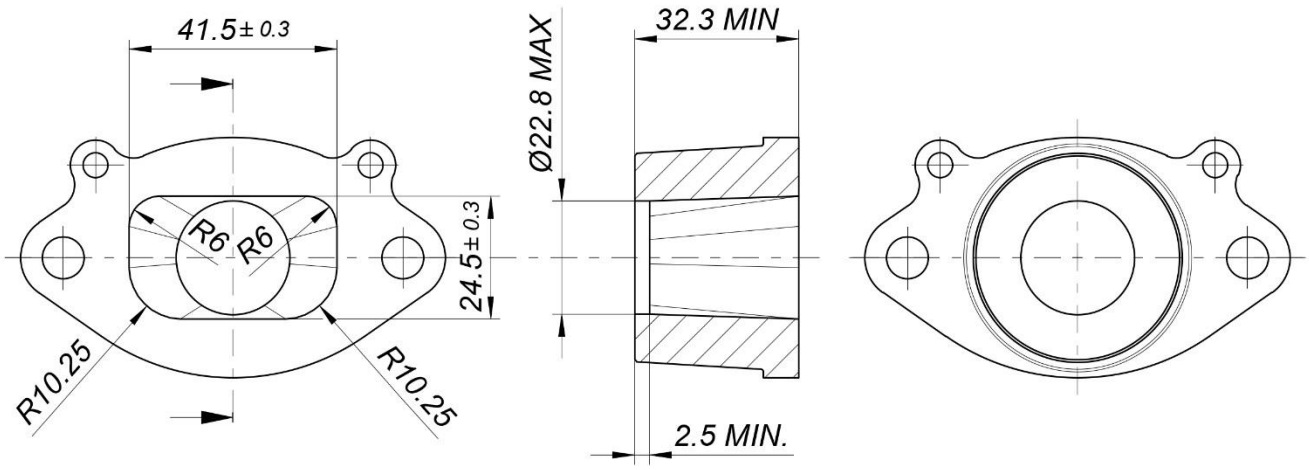
TYPE 2 - EXHAUST MANIFOLD WITH RESTRICTOR D22 - ASSEMBLY & MARKING



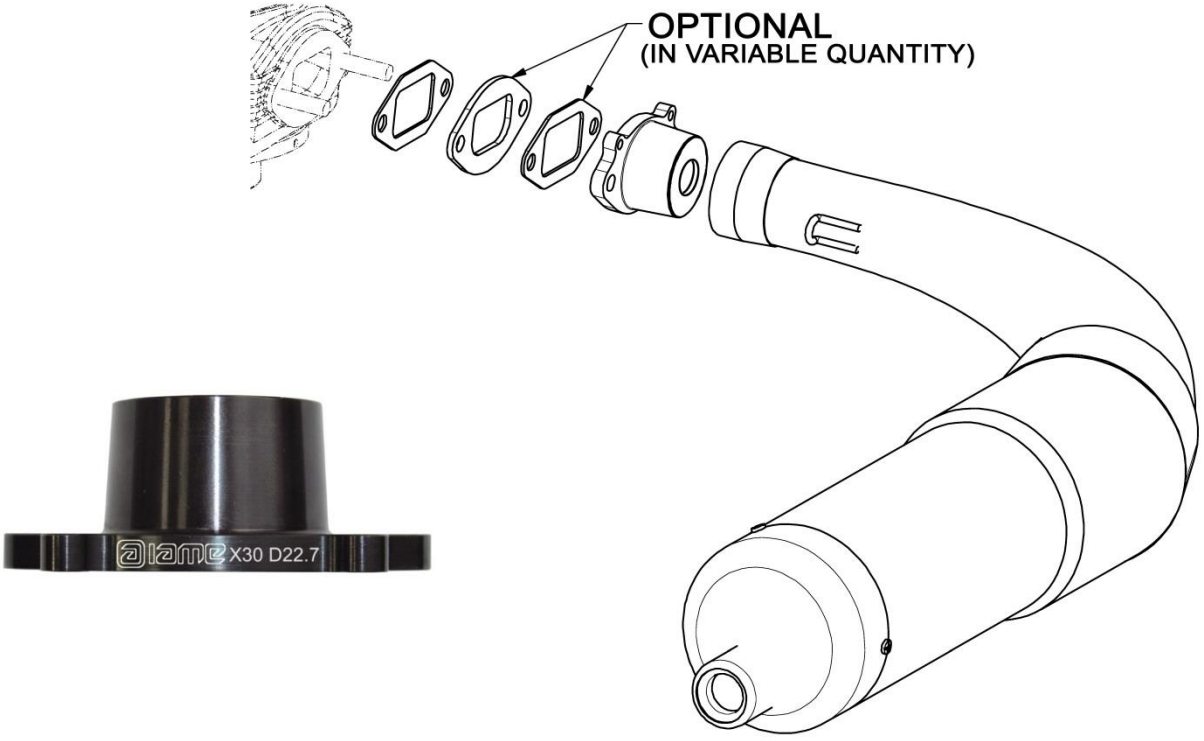
D.5 *EXHAUST SYSTEM*

ALTERNATIVE - TYPE 2 - EXHAUST MANIFOLD WITH RESTRICTOR – D22.7

For use in:
- Restricted 125
- Junior Performance



ALTERNATIVE TYPE 2 - EXHAUST MANIFOLD WITH RESTRICTOR D22.7 ASSY AND MARKING



D.5 *EXHAUST SYSTEM*

PHOTO OF THE EXHAUST – TYPE 1

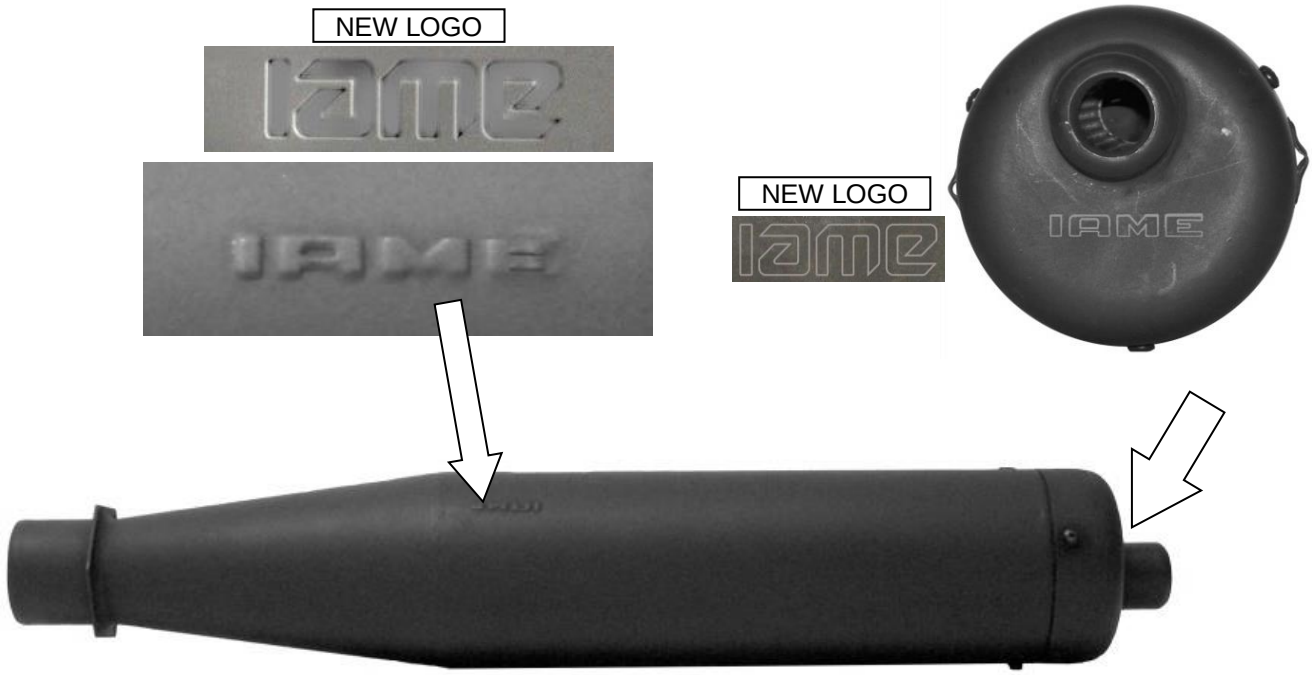


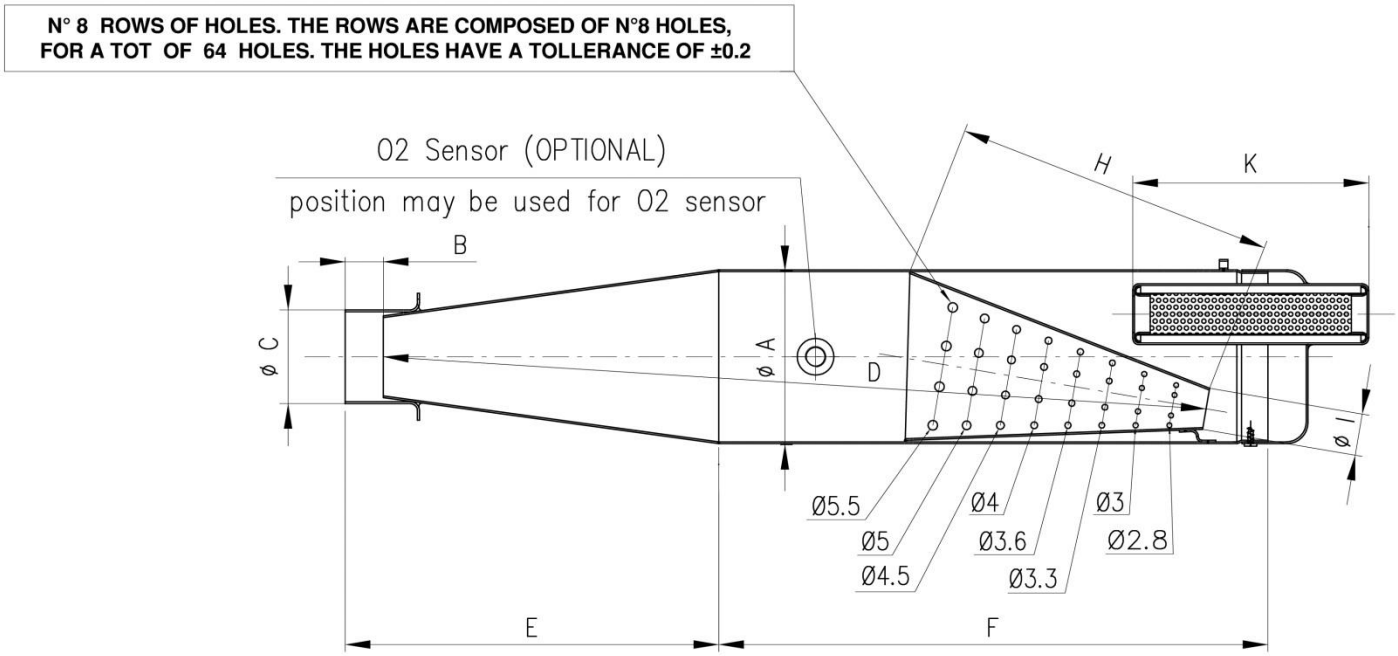
PHOTO OF THE EXHAUST – TYPE 2

... Section D.5

TECHNICAL DESCRIPTIONS OF THE EXHAUST (Art. 8.9.3 of HR) – TYPE 1		
Weight in g	**1390**	*Minimum*
Volume in cc	**3330**	*+/-5 %*

TECHNICAL DRAWING – TYPE 1

It must include all the information necessary to build this exhaust



A: 100 ±1 øext. D: 485 ±5 H: 180 ±5

B: 22 ±1 E: 218 ±5 I: 24 ±2 øext.

C: 54 ±1 øext. F: 315 ±3 K: 130 ±3

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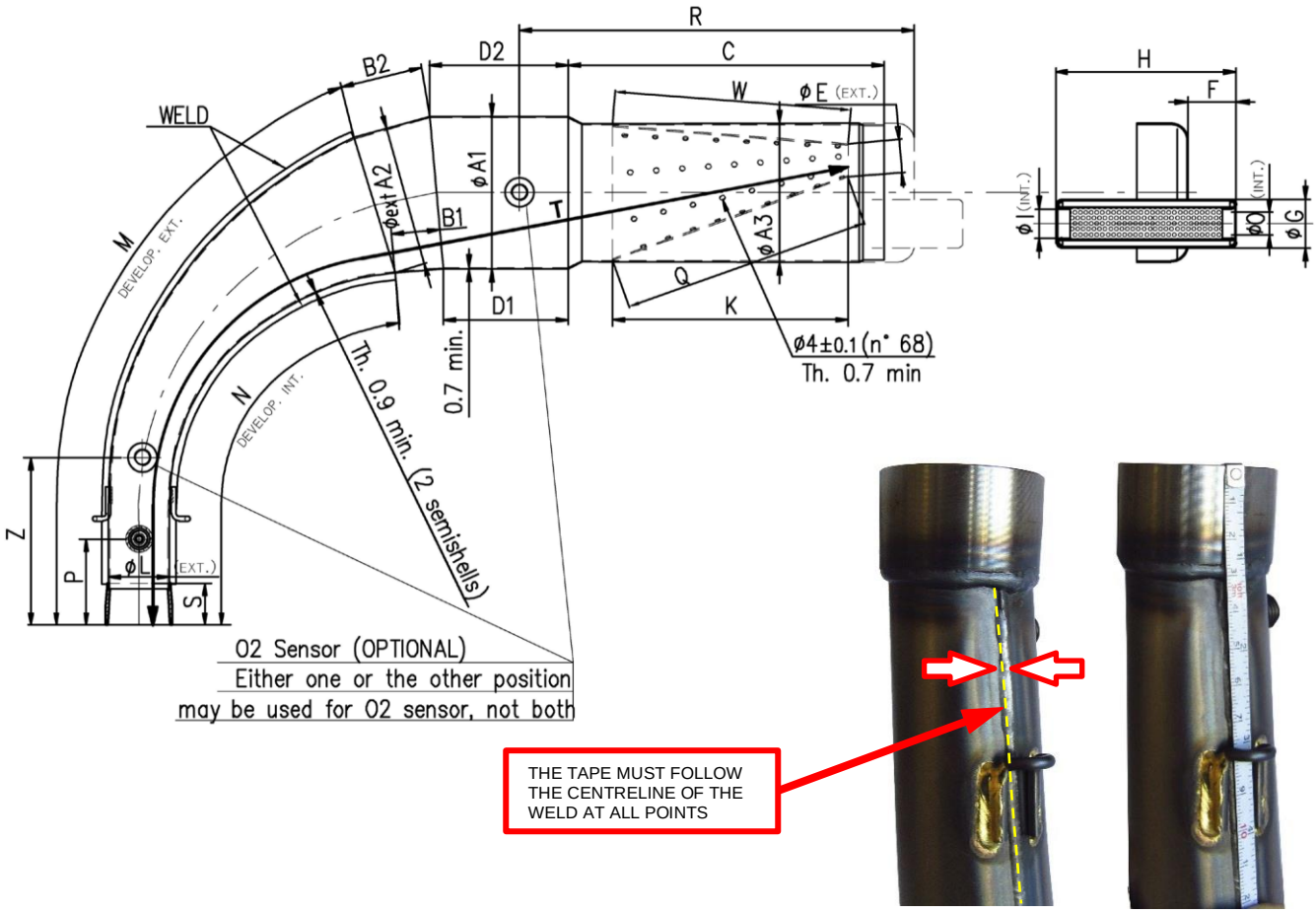
... Section D.5

TECHNICAL DESCRIPTIONS OF THE EXHAUST (Art. 8.9.3 of HR) – TYPE 2		
Weight in g	**1780**	*Minimum*
Volume in cc	**4250**	*+/-5 %*

TECHNICAL DRAWING – TYPE 2

It must include all the information necessary to build this exhaust



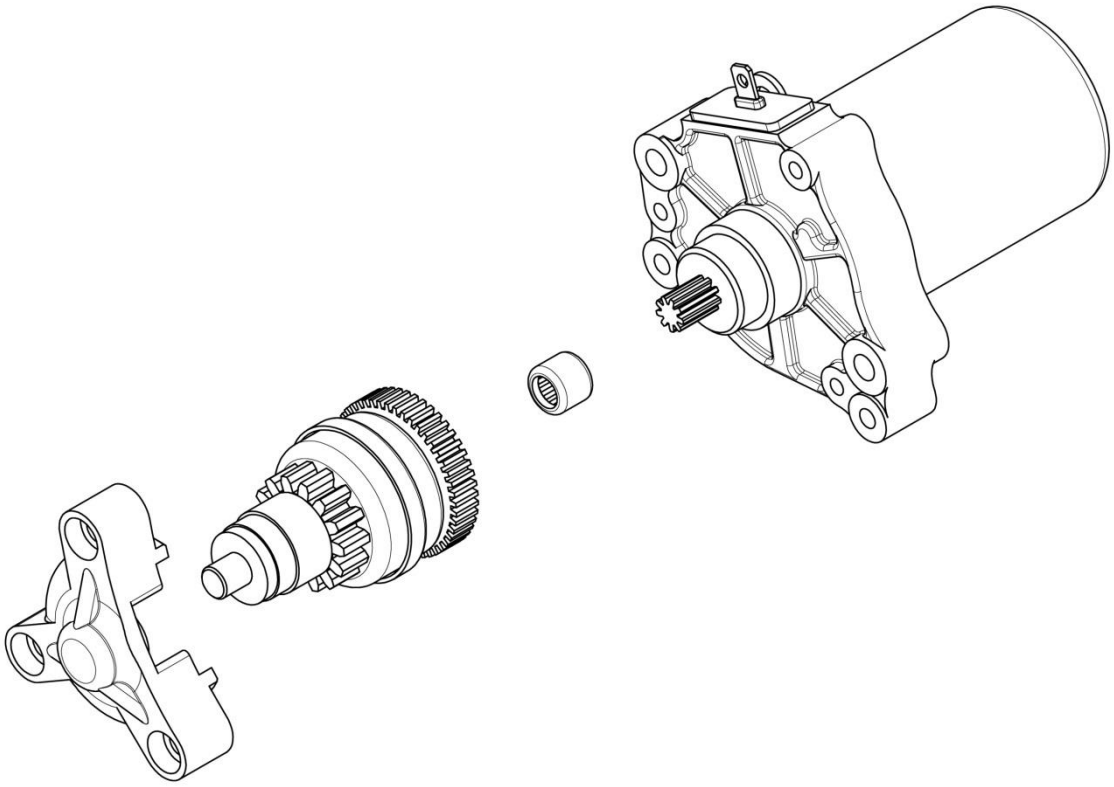
THE TAPE MUST FOLLOW THE CENTRELINE OF THE WELD AT ALL POINTS

ØA1: 110 ±1.5 Øext	**C:** 219 ±3	**ØG:** 35 ±1 Øext.	**M:** 439 ±3	**T:** 690 ±3
ØA2: 102 ±1.5 Øext.	**D1:** 90 ±3	**H:** 132 ±3	**N:** 341 ±3	**W:** 170 ±3
ØA3: 100 ±1.5 Øext.	**D2:** 109 ±3	**ØI:** 21 ±1 Øint.	**ØO:** 21 ±1 Øint.	**Q:** 182 ±3
B1: 60 ±3	**ØE:** 23.5 ±2 Øext.	**K:** 170 ±3	**P:** 50 ±10	**Z:** 120 ±10
B2: 60 ±3	**F:** 36 ±2	**ØL:** 42.5 ±1.5 Øext.	**S:** 29 ±1.5	**R:** 270 ±10

The dimensions "**M**", "**N**" and "**T**" must be taken by steel tape measure 6mm wide.
The dimensions "**M**" and "**N**" must be taken on the weld centerline.
The dimensions "**Q**" and "**W**" must be taken by steel tape measure 12mm wide.

D.6 *STARTER*

EXPLODED DRAWING OF THE STARTING UNIT AND OF ITS HOUSING

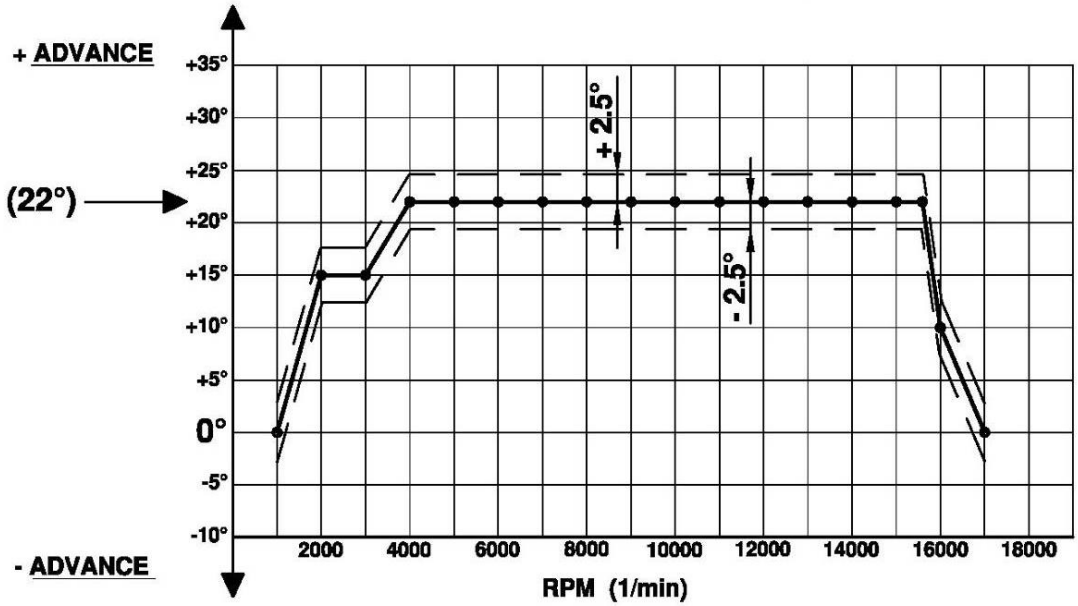


Without screws or gaskets.	***The aim of the exploded drawings is to identify the principles, the functioning and the whole mechanical unit***

D.8 *ELECTRICAL SYSTEM*

IGNITION SYSTEM – TYPE 1

ADVANCE CURVE GRAPHS – SELETTRA DIGITAL « K »



Ignition homologation No.	-	
Ignition homologation No.	-	
Ignition homologation No.	-	
Ignition homologation No.	-	
Code	SELETTRA (Rotor+Stator) : X30125950	*Black*
Code	SELETTRA (H.T. Coil) : X30125955	*Black*
Code	SELETTRA (ECU – AKA 20L) : X30125932	*Green*

Tr / min	*1000*	*2000*	*3000*	*4000*	*5000*	*6000*	*7000*	*8000*	*9000*	*10000*	*11000*	*12000*	*13000*	*14000*	*15500*	*16000*	*17000*
°adv	*0°*	*15°*	*15°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*10°*	*0°*

ELECTRONIC BOX MARKING “AKA 20L”

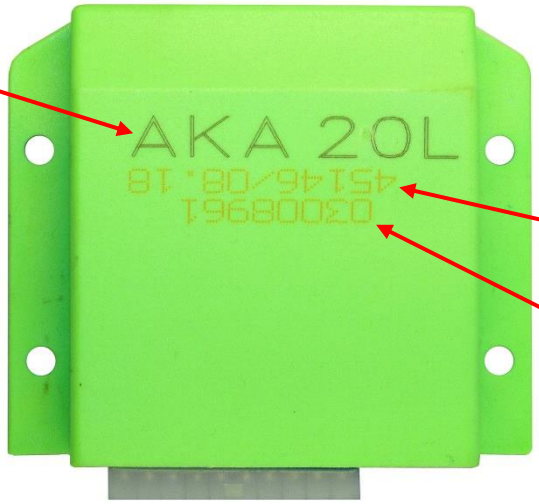


PHOTO OF SELETTRA DIGITAL “K” IGNITION WITH “IAME” MARKING

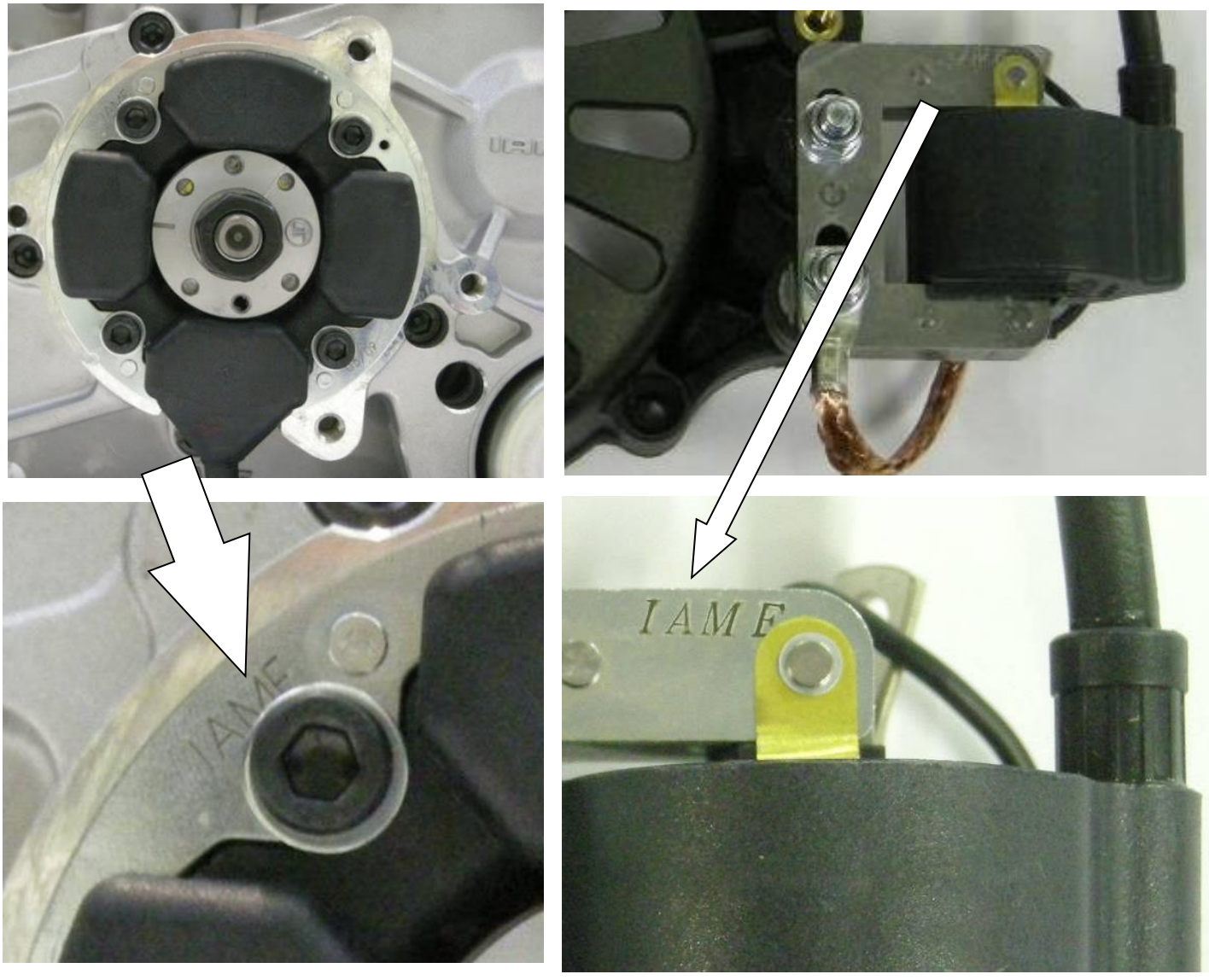
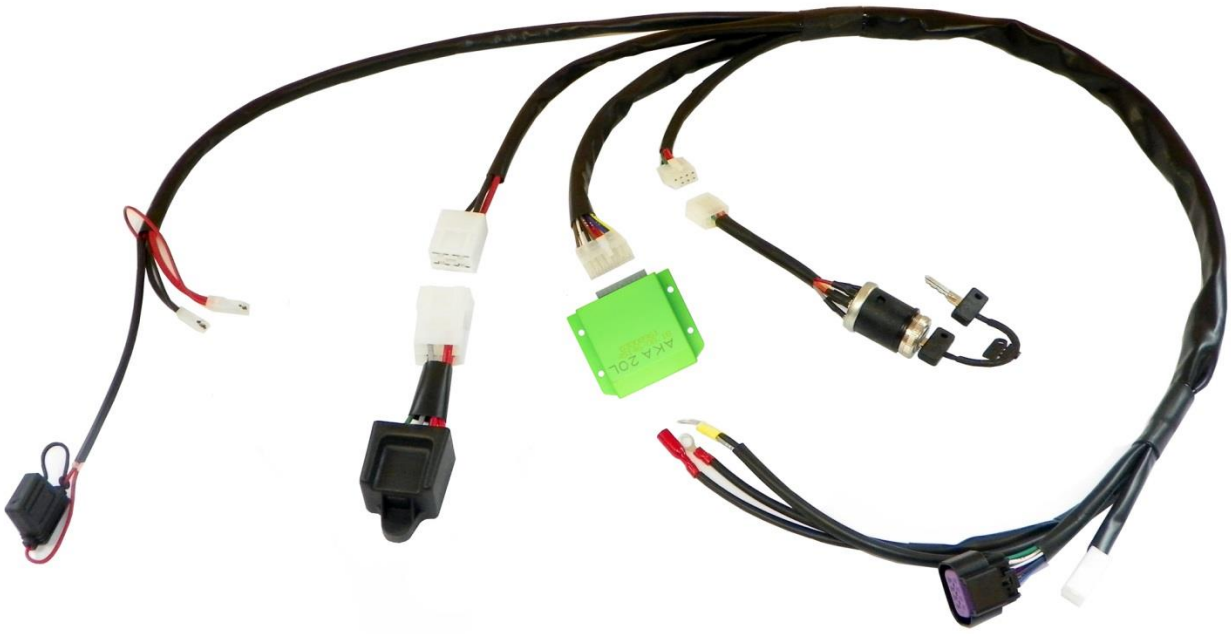


PHOTO COMPLETE WIRING LOOM



ALTERNATIVE STARTER KEY

It is permitted to use either the "Original Starter Switch (Key) or the "Alternative Starter Switch" detailed herein.

ORIGINAL STARTER KEY

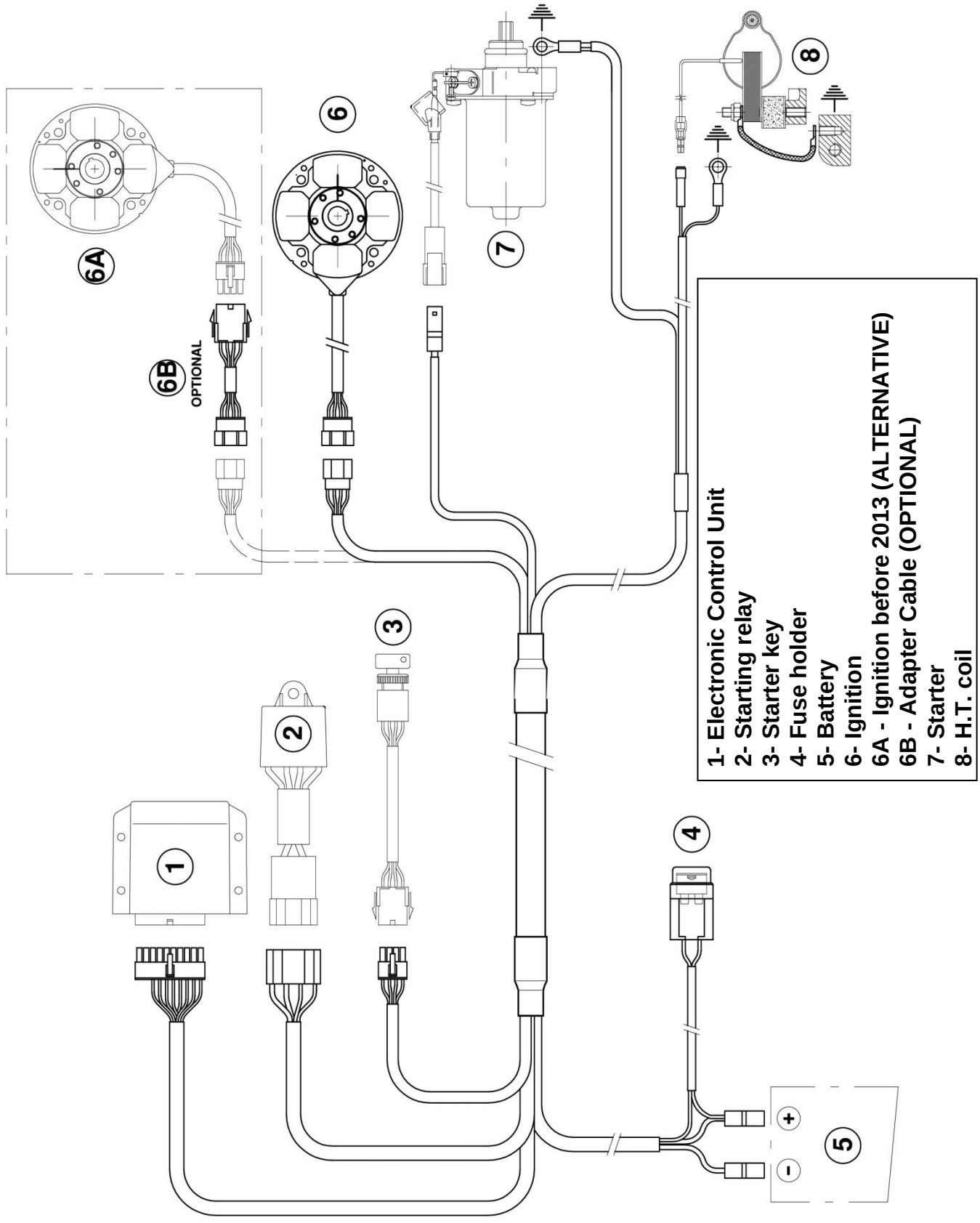
ALTERNATIVE STARTER KEY

RE-HOMOLOGATED 1-8-2018

Homologation Nº

78H / RH

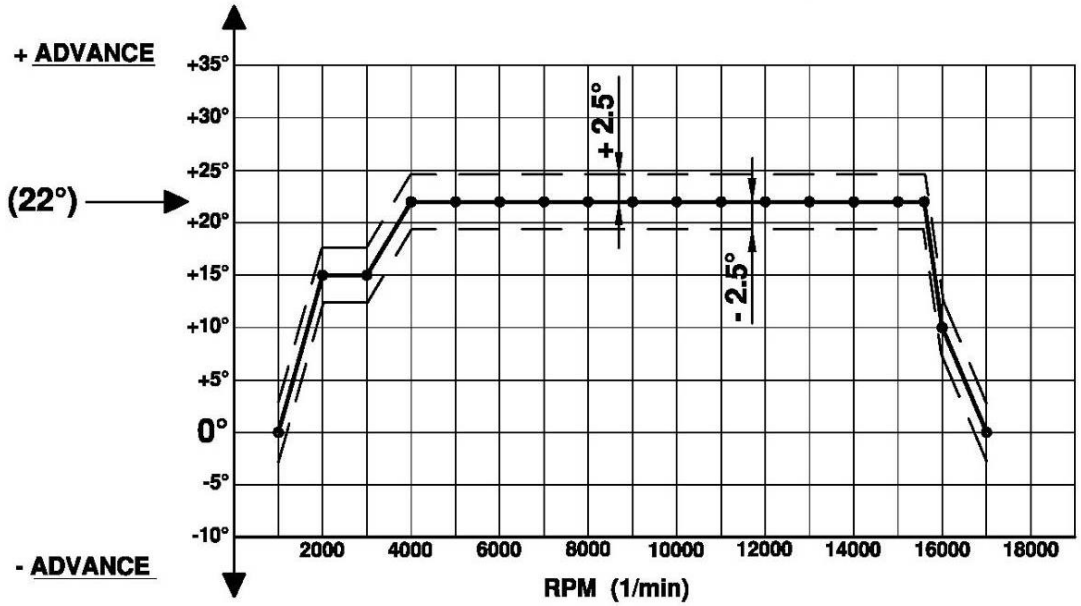
WIRING DIAGRAM - SELETTRA DIGITAL "K" IGNITION



ELECTRICAL SYSTEM

ALTERNATIVE IGNITION SYSTEM – TYPE 2

ADVANCE CURVE GRAPHS – PVL DIGITAL « 690 »



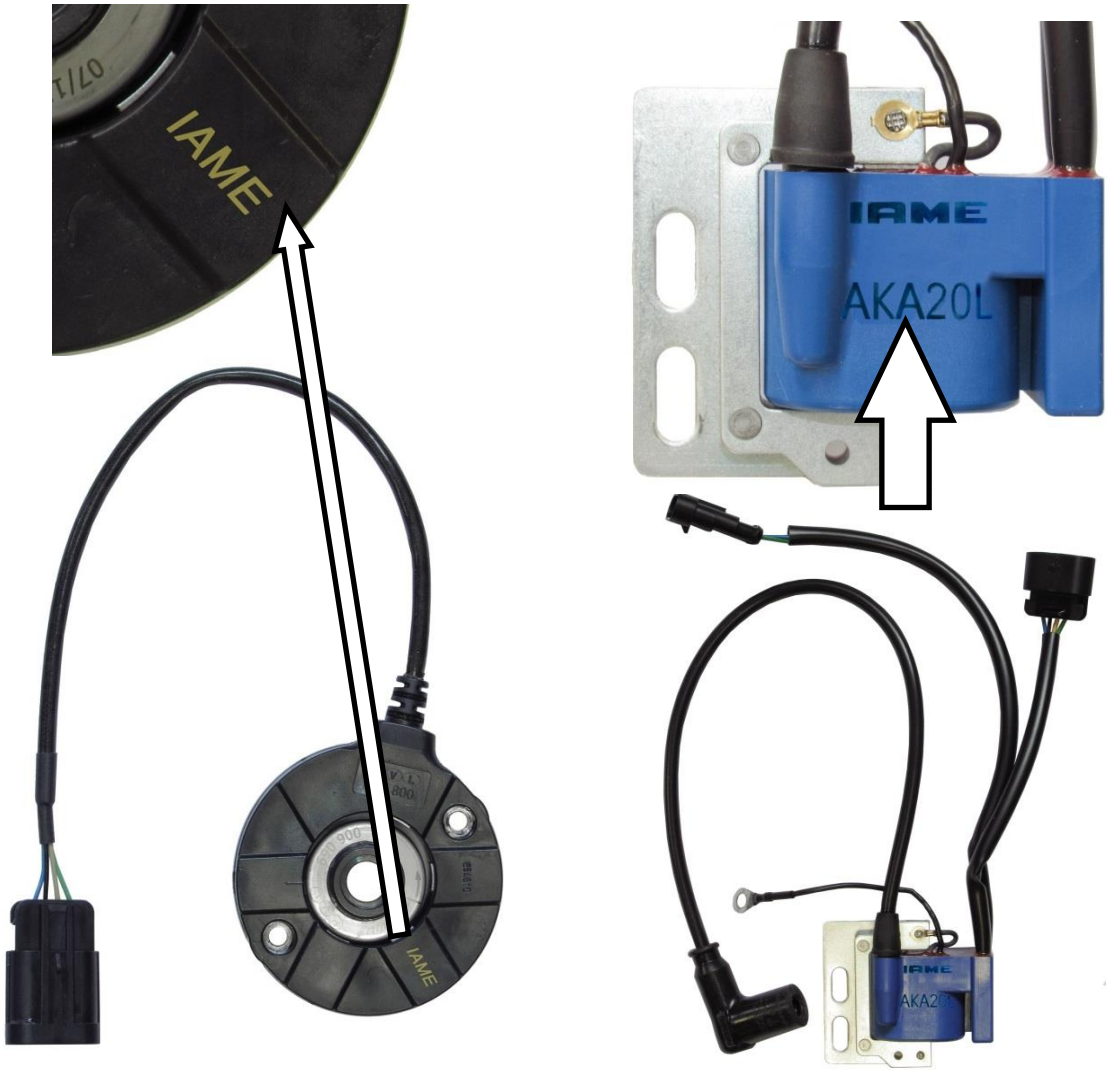
Ignition homologation No.	-
Ignition homologation No.	-
Ignition homologation No.	-
Ignition homologation No.	-

Code	PVL (Stator+Rotor) : 690 600 (684 810 + 690 900)	*Black*
Code	PVL (H.T. Coil with ECU) : 690 100 – AKA 20L	*Blue*

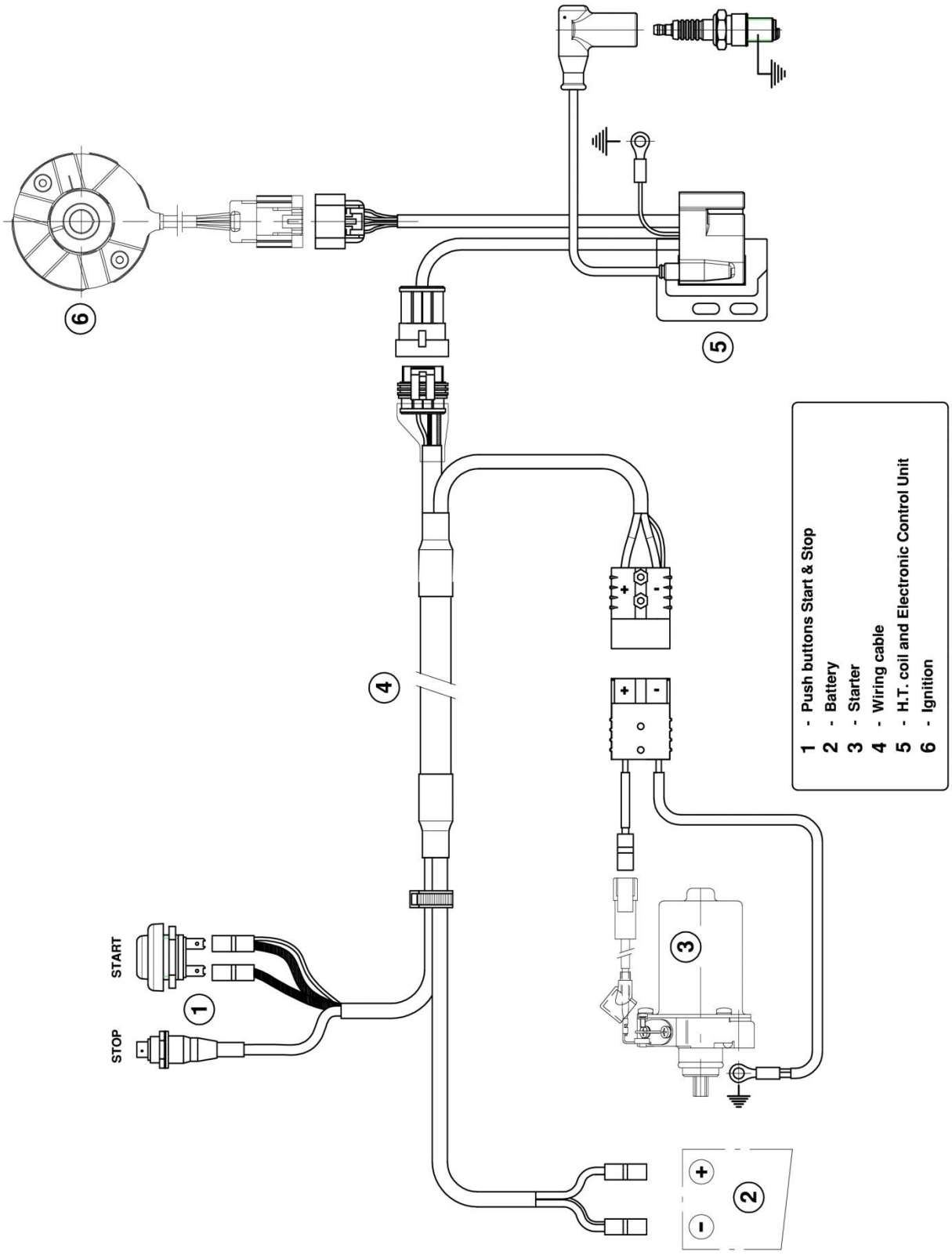
Tr / min	*1000*	*2000*	*3000*	*4000*	*5000*	*6000*	*7000*	*8000*	*9000*	*10000*	*11000*	*12000*	*13000*	*14000*	*15500*	*16000*	*17000*
°adv	*0°*	*15°*	*15°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*10°*	*0°*

PHOTO COMPLETE ALTERNATIVE WIRING LOOM

PHOTO OF ALTERNATIVE DIGITAL IGNITION PVL 690, WITH IAME MARKING



ALTERNATIVE WIRING DIAGRAM – PVL 690 DIGITAL IGNITION



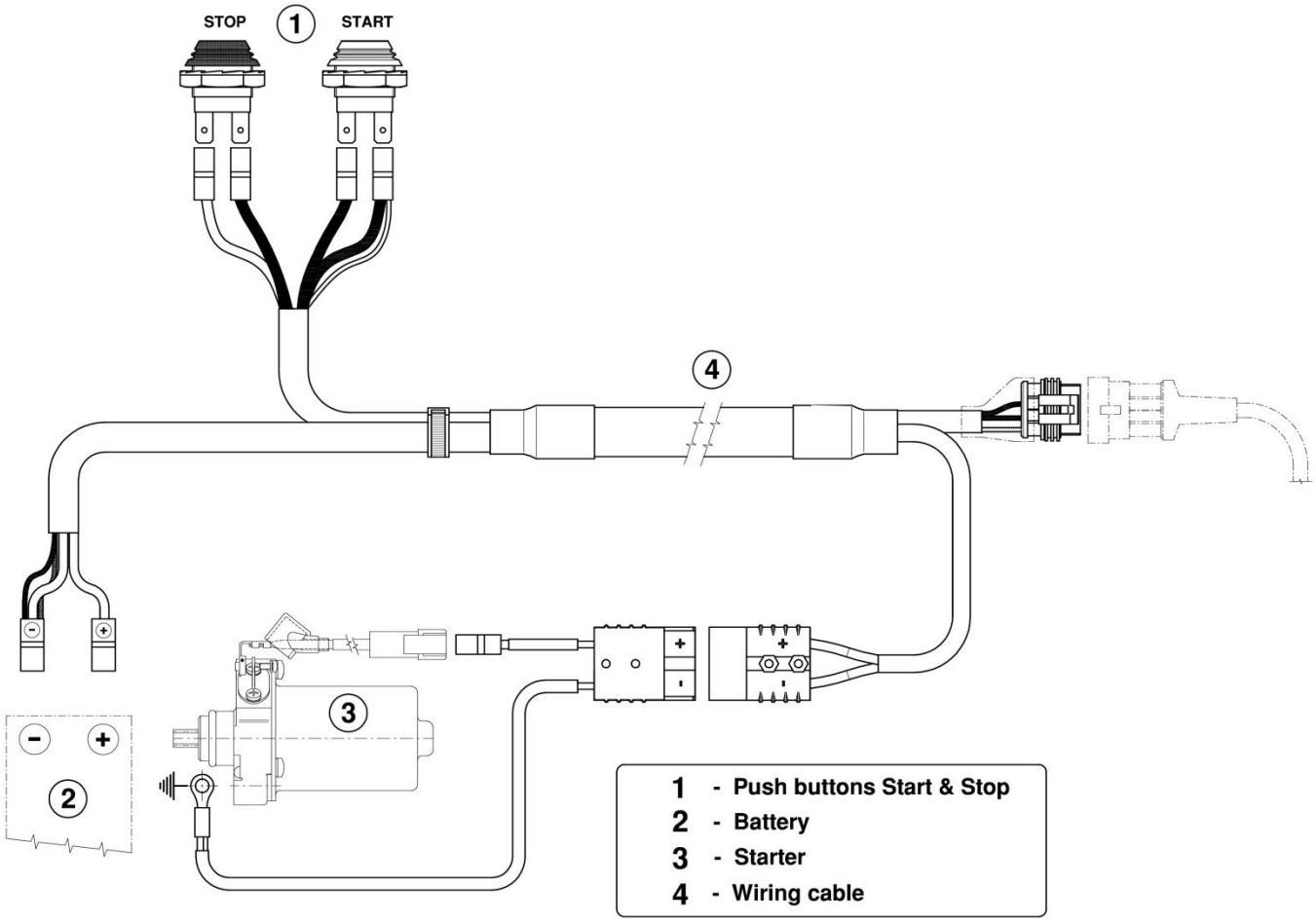
RE-HOMOLOGATED 1-8-2018

Homologation Nº

78H / RH

ALTERNATIVE WIRING LOOM

ALTERNATIVE WIRING LOOM DIAGRAM



RE-HOMOLOGATED 1-8-2018

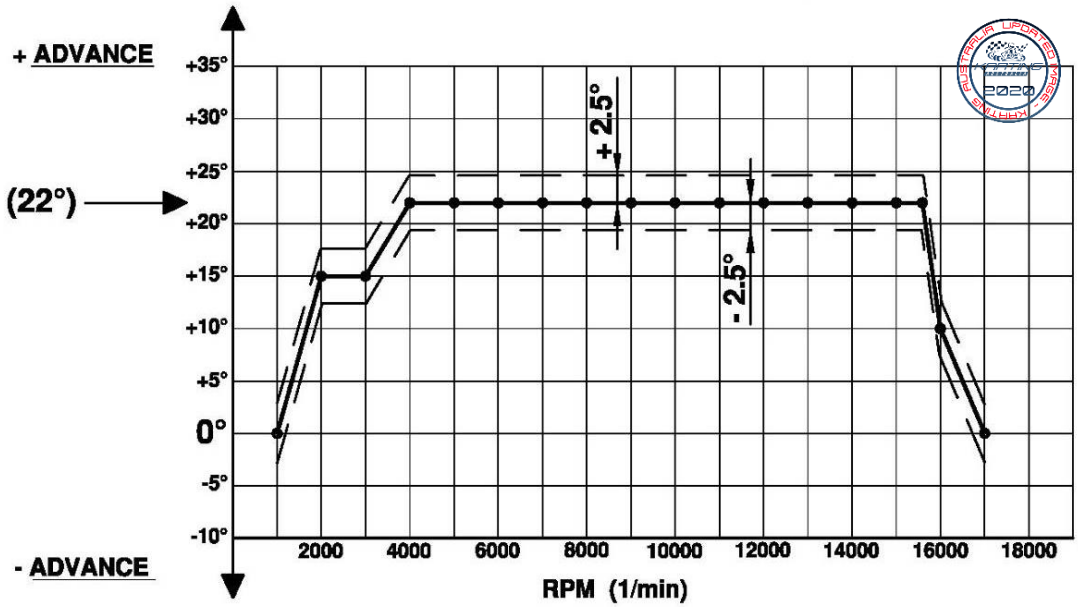
Homologation Nº

78H / RH

ELECTRICAL SYSTEM

IGNITION SYSTEM – TYPE 3

ADVANCE CURVE GRAPHS – SELETTRA DIGITAL « S »

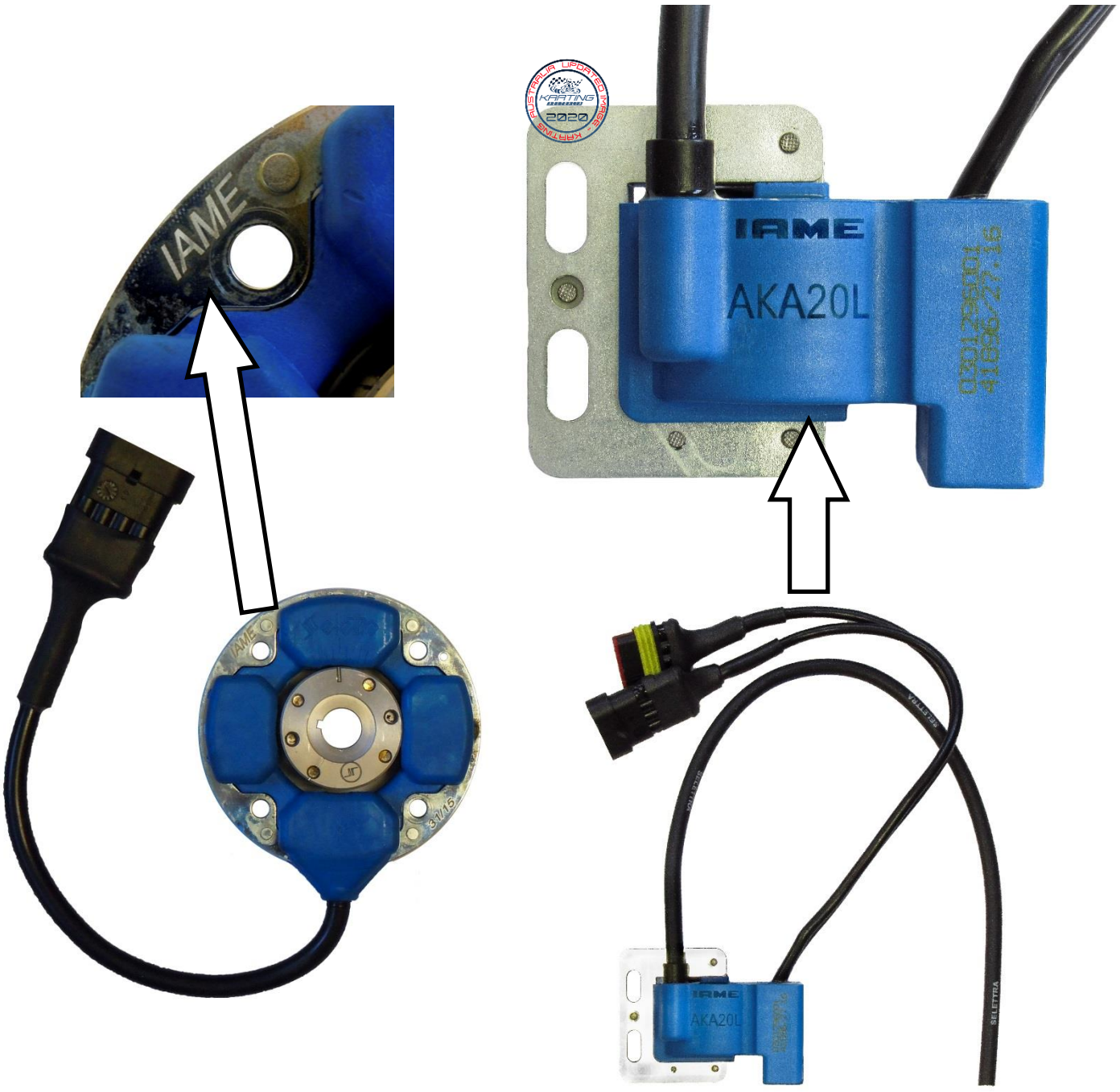


Ignition homologation No.	-
Ignition homologation No.	-
Ignition homologation No.	-
Ignition homologation No.	-

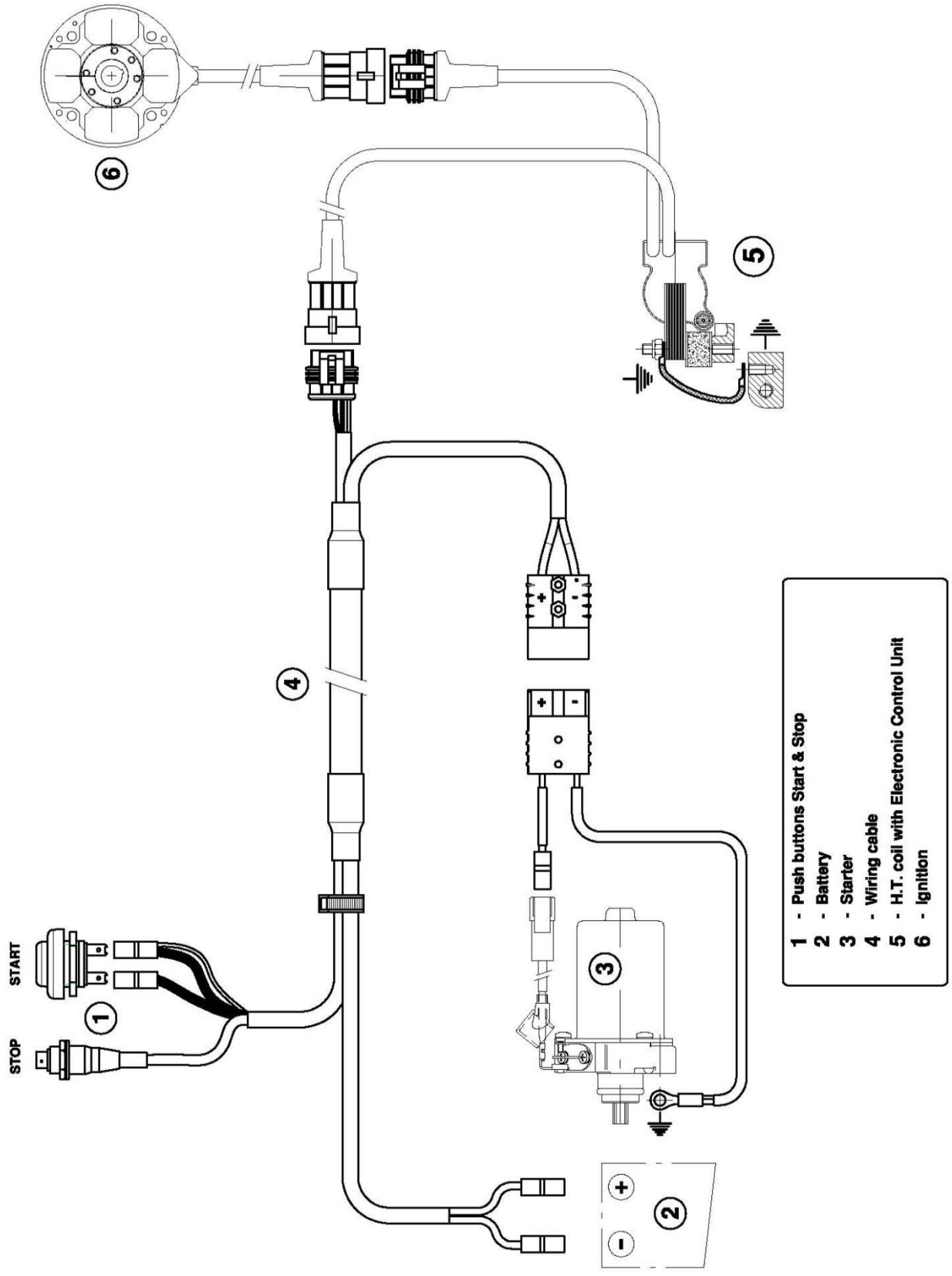
Code	SELETTRA (Rotor+Stator) : X30125953	*Blue*
Code	SELETTRA (H.T. Coil with ECU) : X30125933AKA	*Blue*

Tr / min	*1000*	*2000*	*3000*	*4000*	*5000*	*6000*	*7000*	*8000*	*9000*	*10000*	*11000*	*12000*	*13000*	*14000*	*15500*	*16000*	*17000*
°adv	*0°*	*15°*	*15°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*22°*	*10°*	*0°*

PHOTO OF SELETTRA ALTERNATIVE DIGITAL “S” IGNITION, WITH IAME MARKING



WIRING DIAGRAM (SELETTRA DIGITAL ‘’S’’ IGNITION)

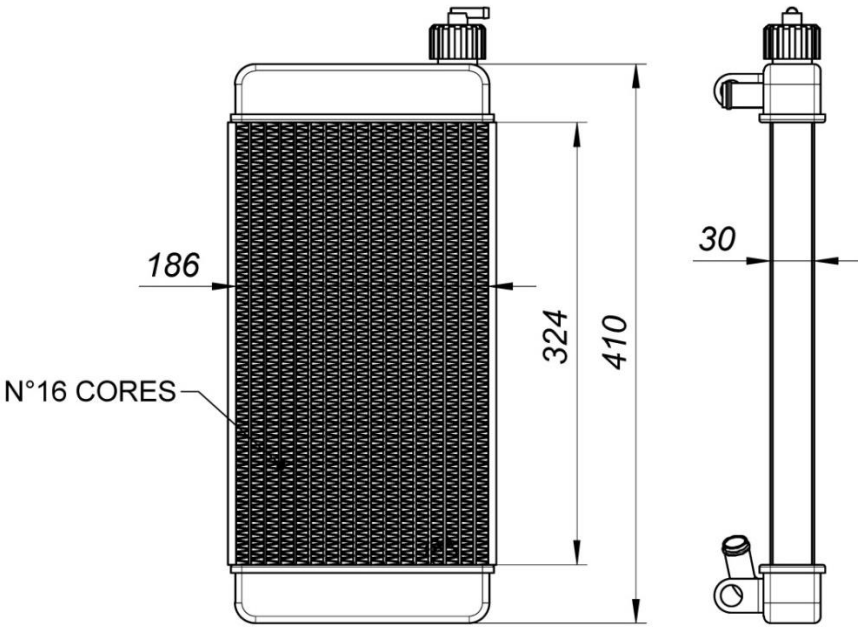


RE-HOMOLOGATED 1-8-2018

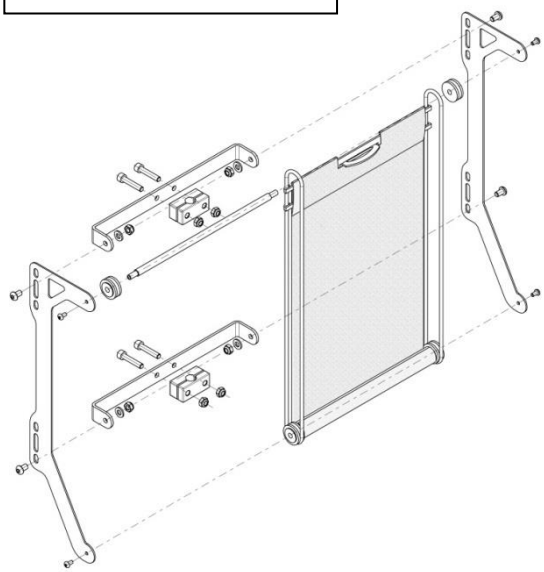
Homologation Nº

78H / RH

RADIATOR DRAWING AND DIMENSIONS – TYPE 1



OPTIONAL

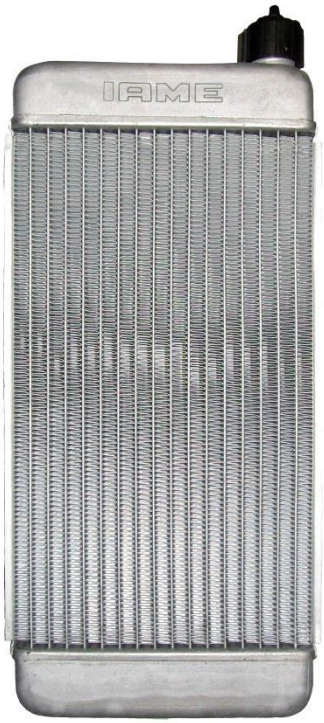


RADIATOR – TYPE 1

PUNCHED MARKING

NEW LOGO

FRONT



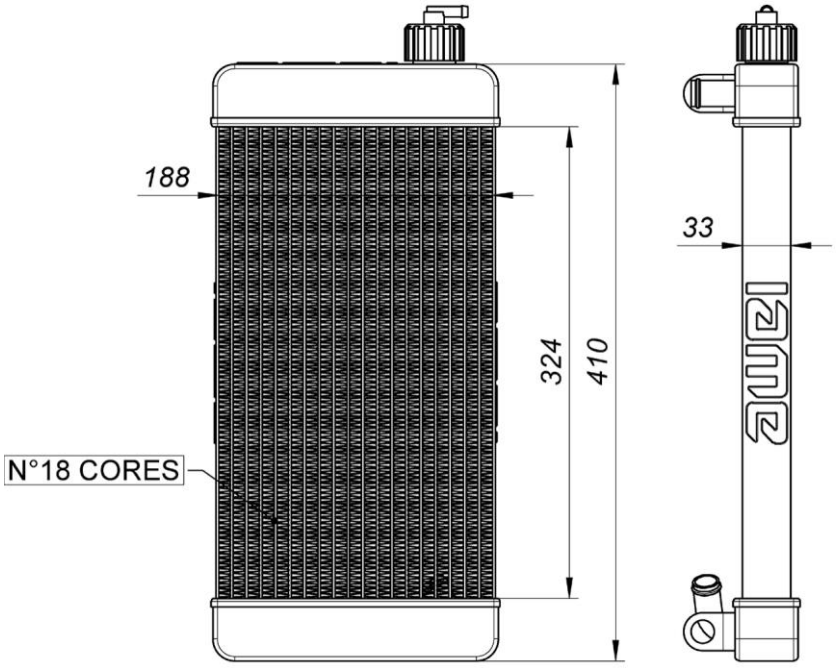
REAR

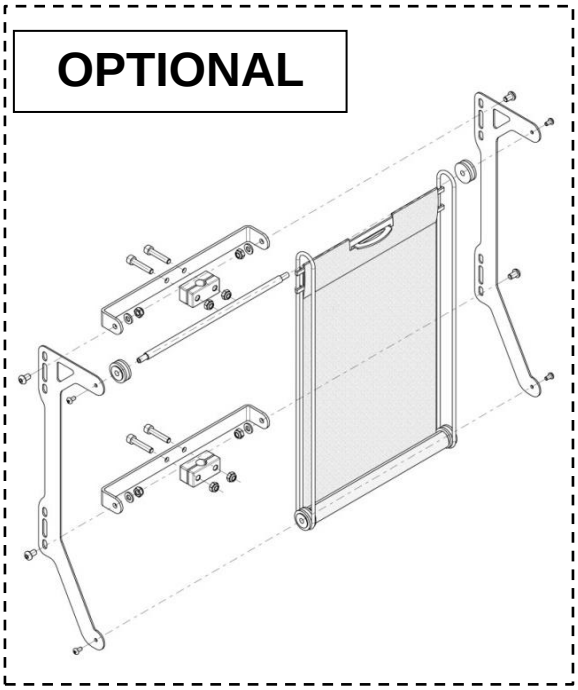
RE-HOMOLOGATED 1-8-2018

Homologation Nº

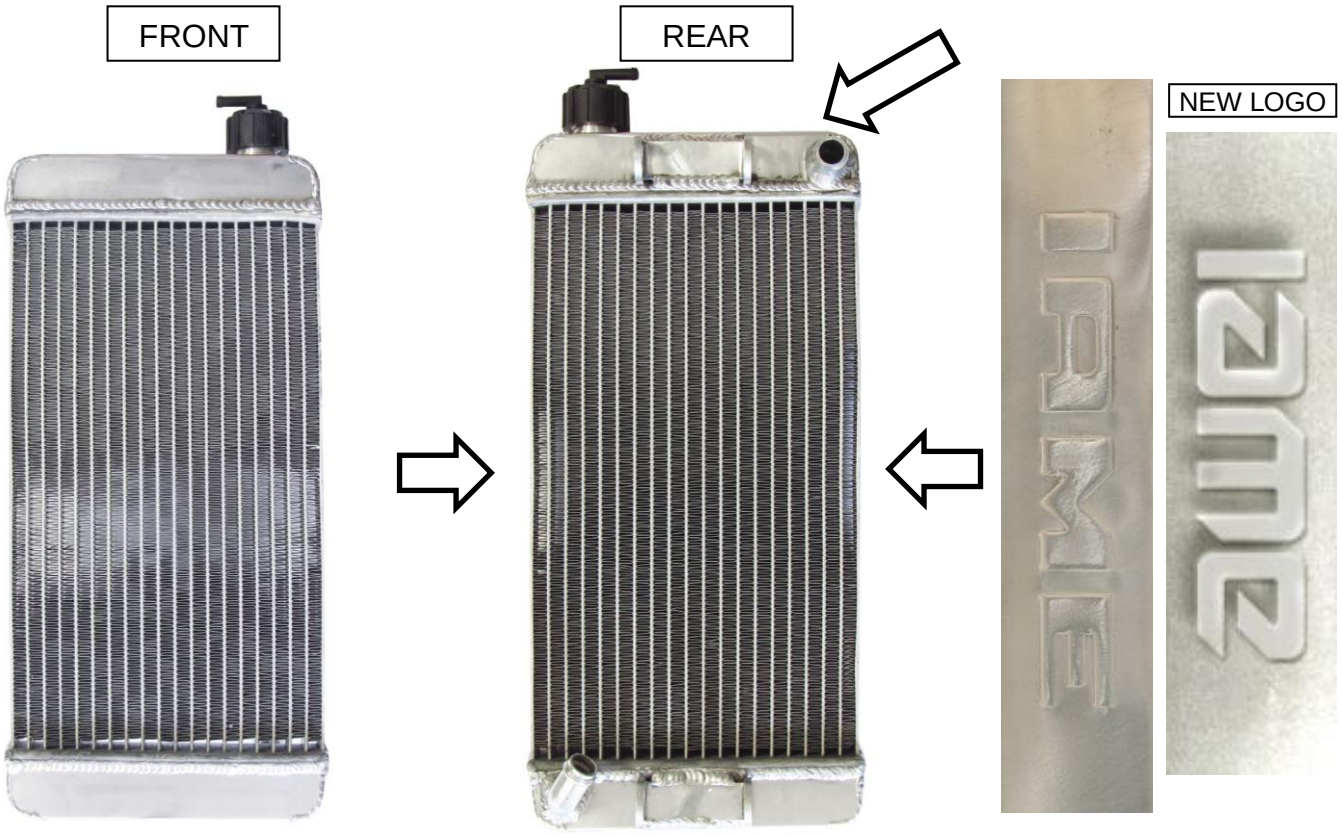
78H / RH

RADIATOR DRAWING AND DIMENSIONS – TYPE 2





RADIATOR – TYPE 2

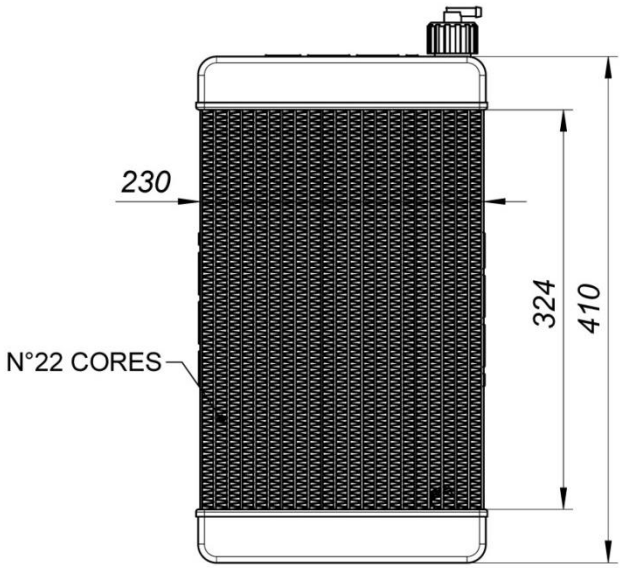


RE-HOMOLOGATED 1-8-2018

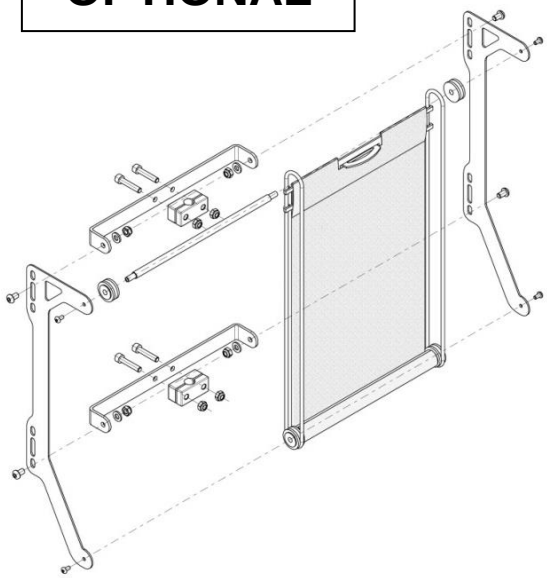
Homologation Nº

78H / RH

RADIATOR DRAWING AND DIMENSIONS – TYPE 3



OPTIONAL



RADIATOR – TYPE 3

FRONT

REAR

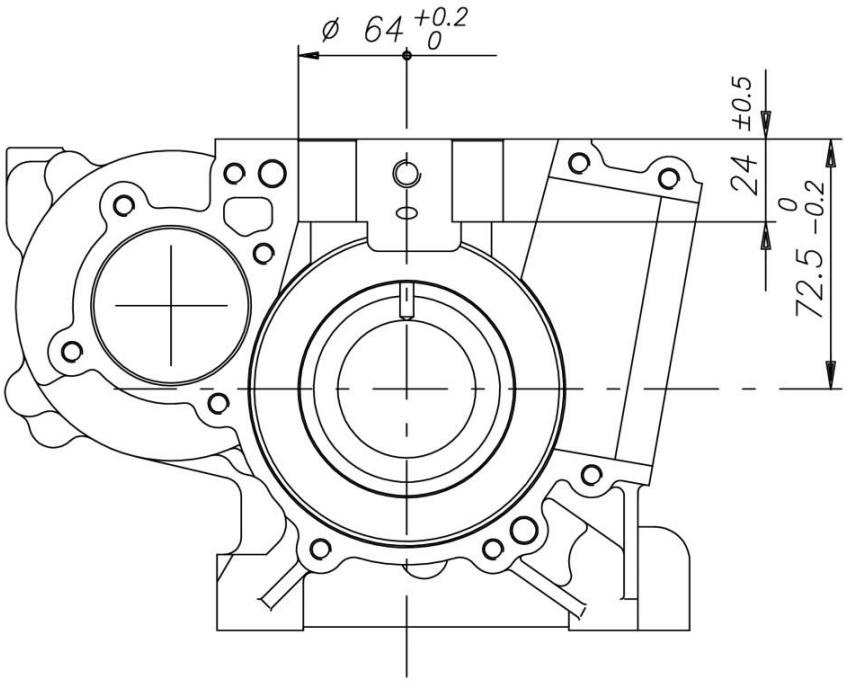
NEW LOGO

ADDITIONAL INFORMATION, DRAWING AND PHOTO IDENTIFICATION

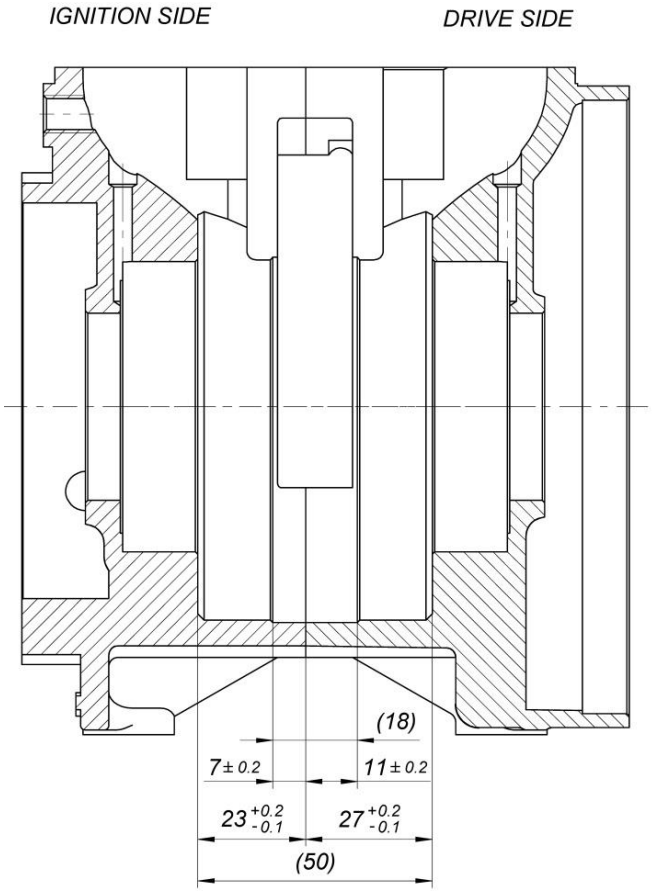
ADDITIONAL TECHNICAL INFORMATION

DESCRIPTION	QUANTITY	MATERIAL	NOTES / DIMENSIONS
Piston Rings	1	Iron	-
Balancing shaft	1	Steel	-
Exhaust muffler	1	Sheet-steel	-
Gears	-	Steel	-
Starter Ring	1	Steel	-
Big end conrod bearing diameters	1	-	20x26x15
Crankshaft bearing diameters	2	-	30x62x16
Small end conrod bearing diameters	1	-	14x18x17.5
Cooling System	-	-	Water
Inlet System	-	-	Reed Valve
Combustion chamber shape	-	-	Spherical
Centrifugal Clutch	-	-	Yes
Electric Starter	-	-	Yes

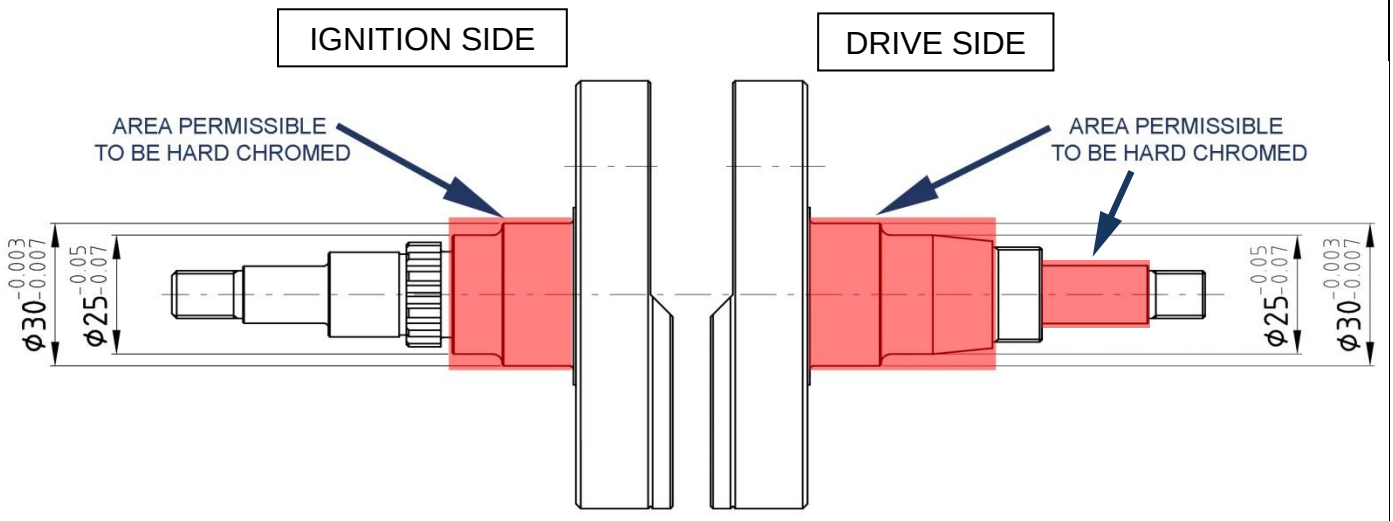
CRANKCASE INSIDE VIEW



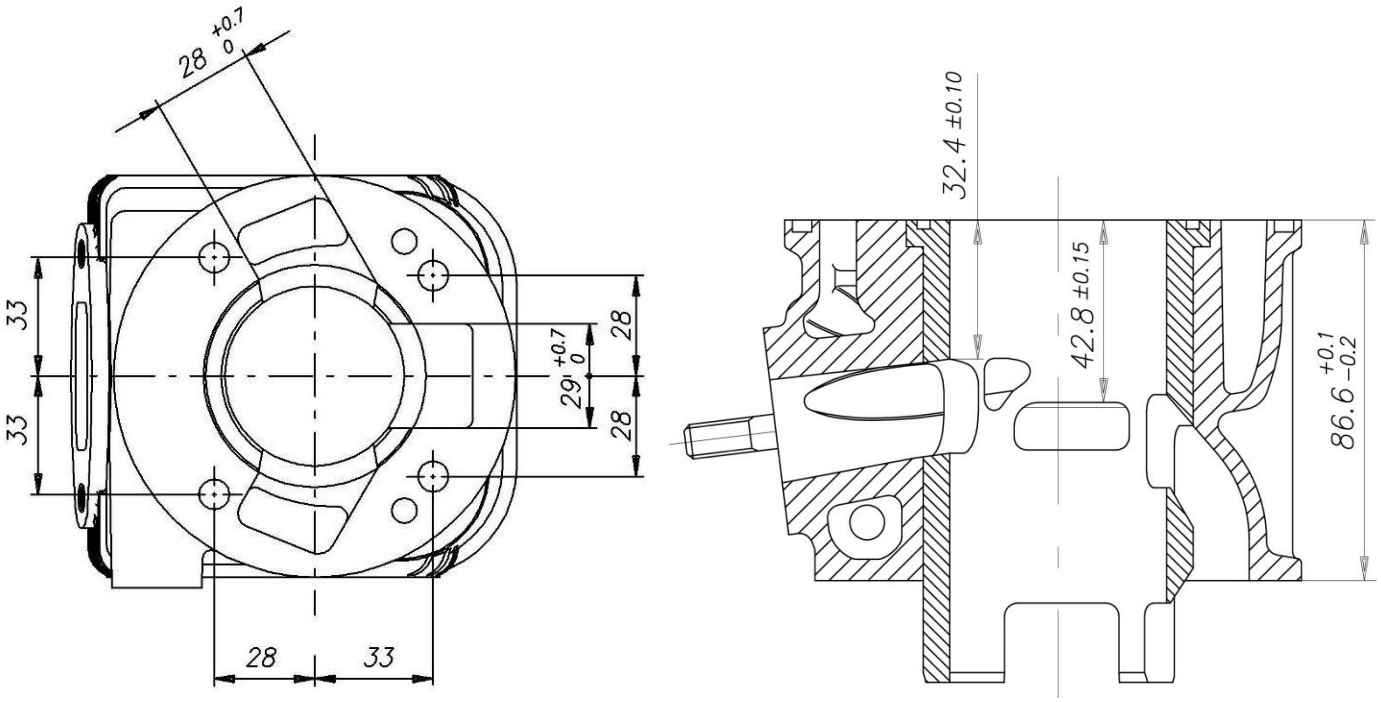
CRANKCASE ASSEMBLY DIMENSIONS



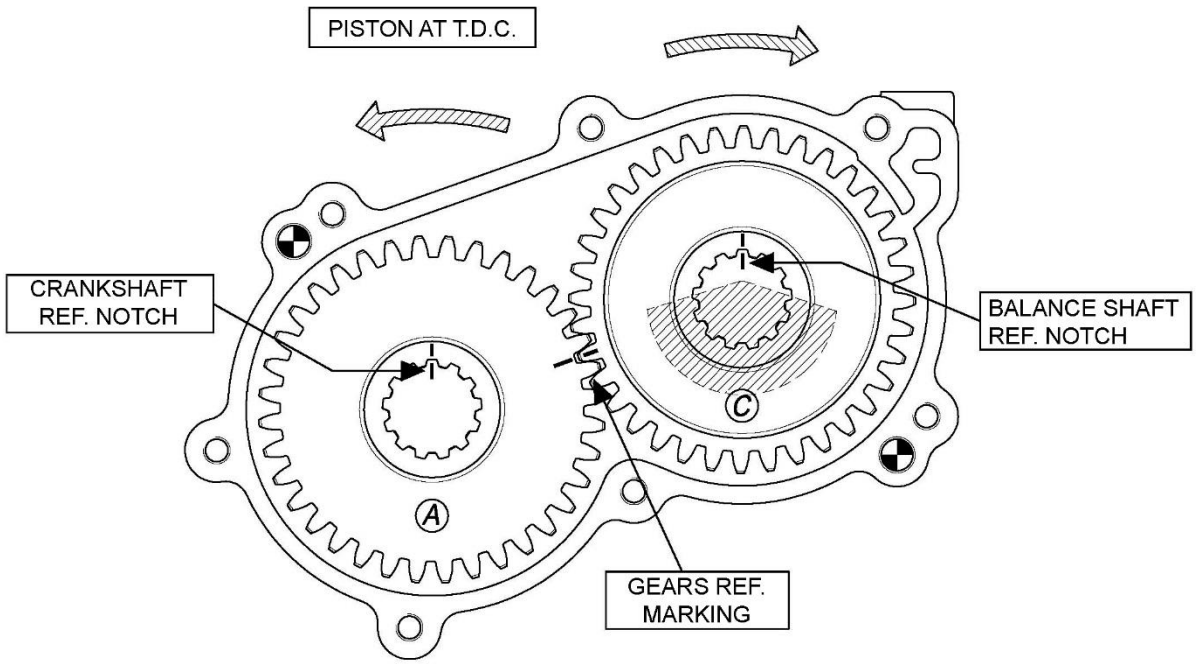
CRANKSHAFT REPAIR BY HARD CHROMED



CYLINDER BASE HOLES AND CROSS SECTION (with dimensions)

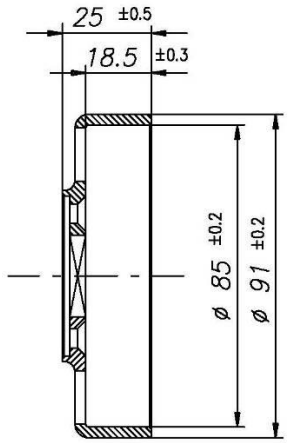


GEARS TIMING COMMAND BALANCING SHAFT



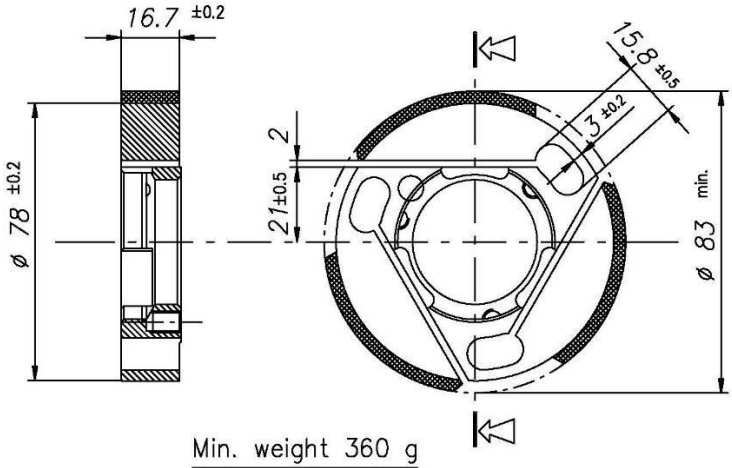
CLUTCH GROUP DRAWING AND ASSEMBLY – ALL TYPES

P.N. X30125550



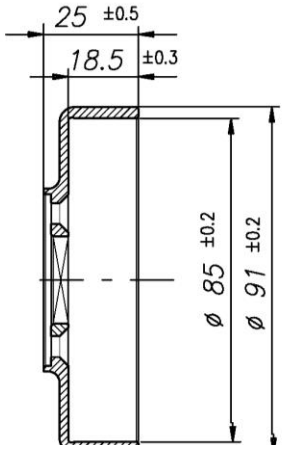
Min. weight 225 g

P.N. X30125840



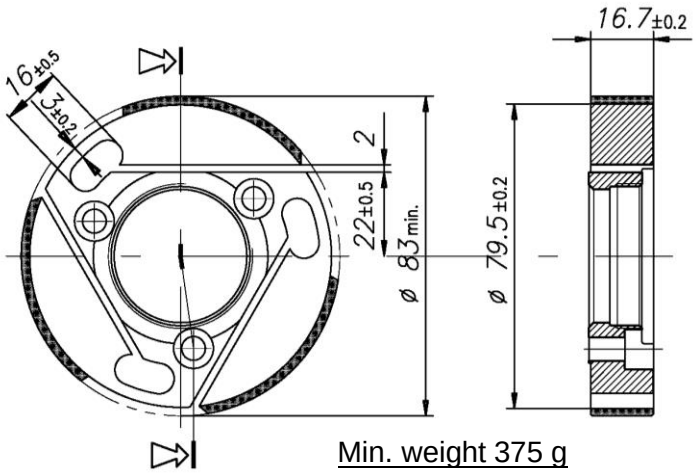
Min. weight 360 g

P.N. X30125550A



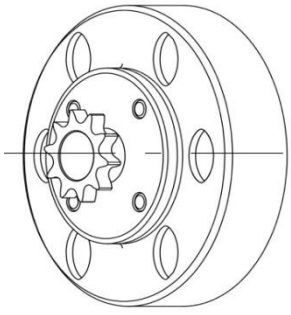
Min. weight 225 g

P.N. X30125841



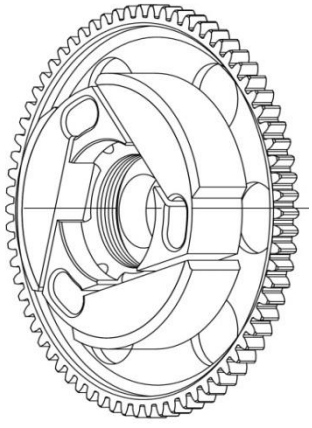
Min. weight 375 g

P.N. X30125550 & P.N. X30125554-C



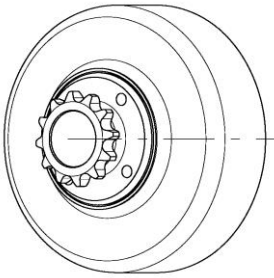
Min. weight 300 g

P.N. X30125840 & P.N. X30125830



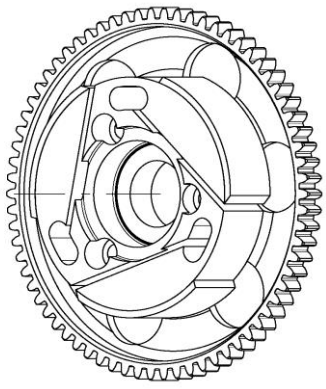
Min. weight 650 g

P.N. X30125550A & P.N. X30125554-C



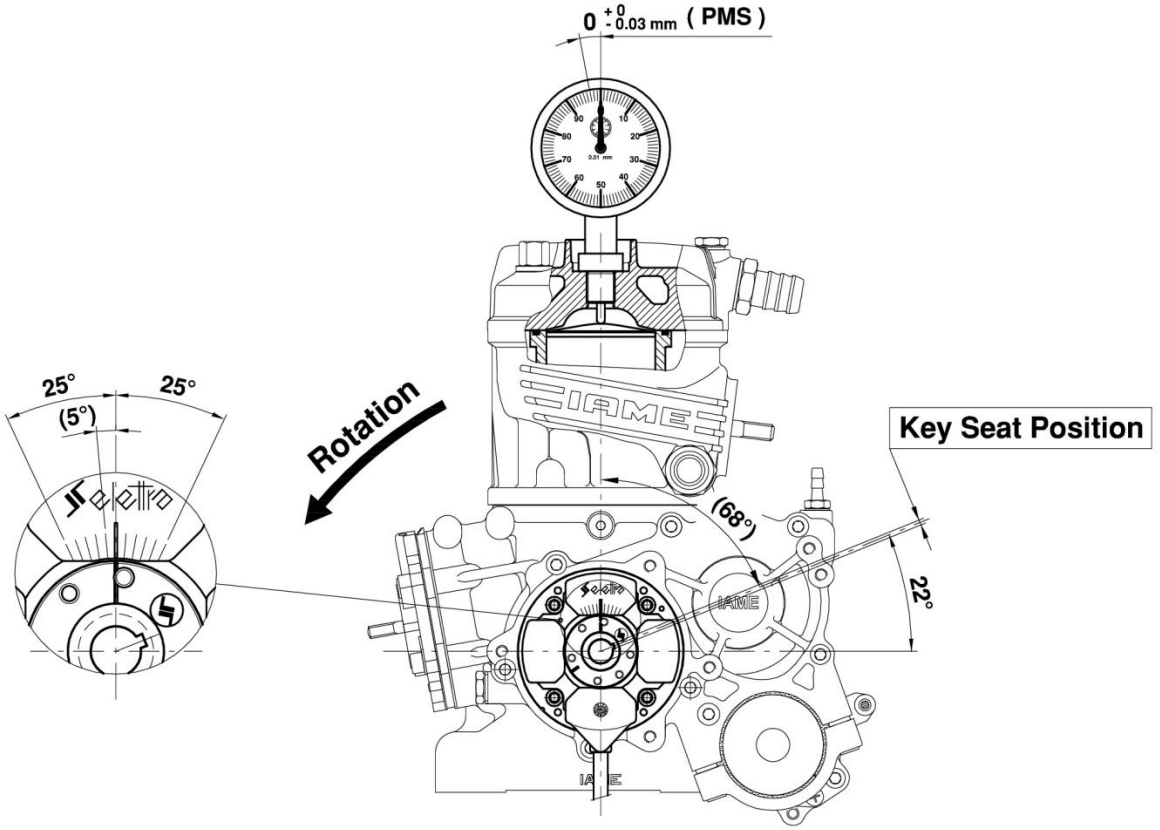
Min. weight 300 g

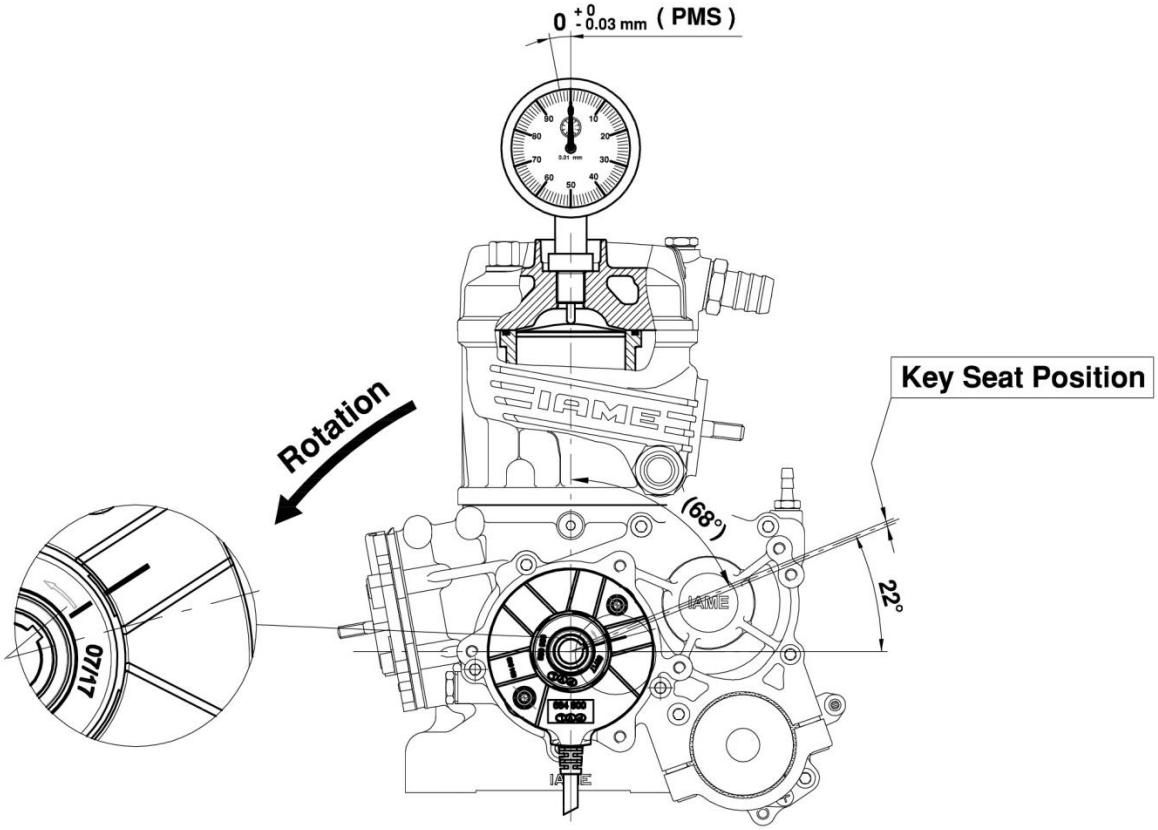
P.N. X30125841 & P.N. X30125831



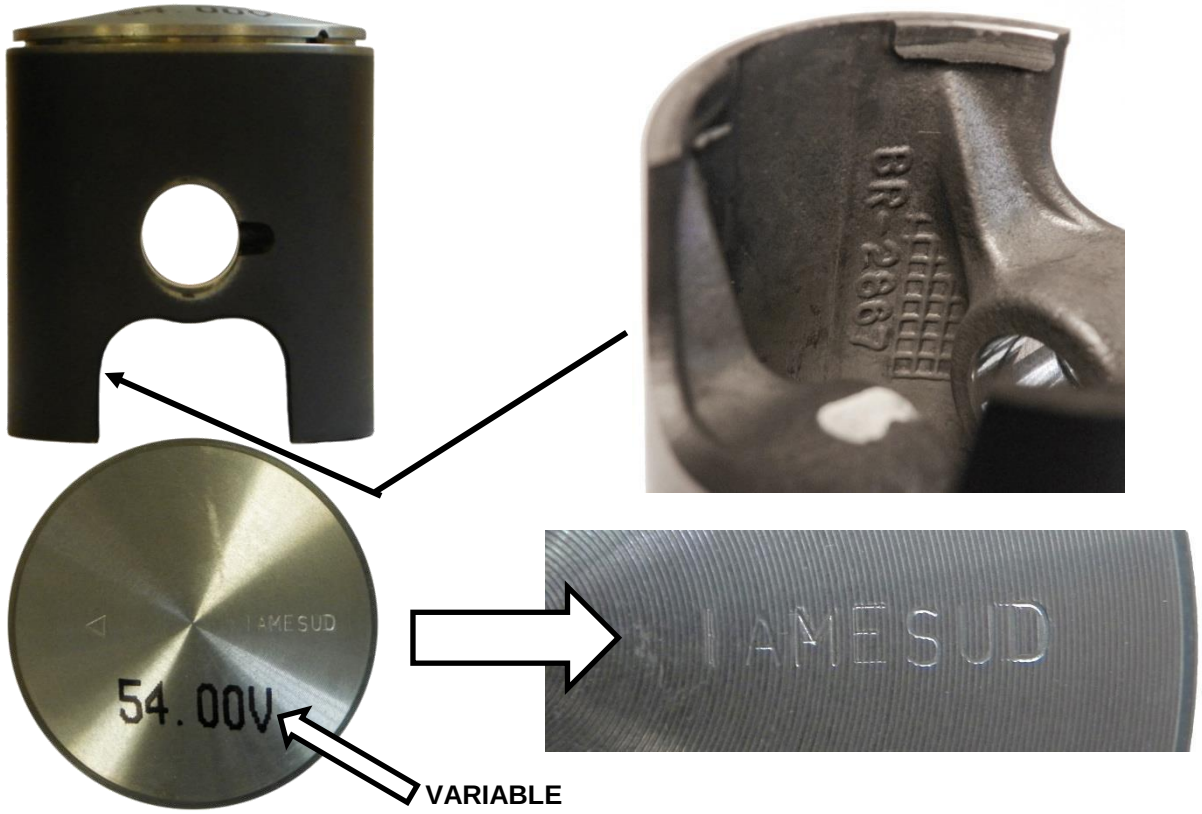
Min. weight 680 g

SCHEME FOR ADVANCE CONTROL

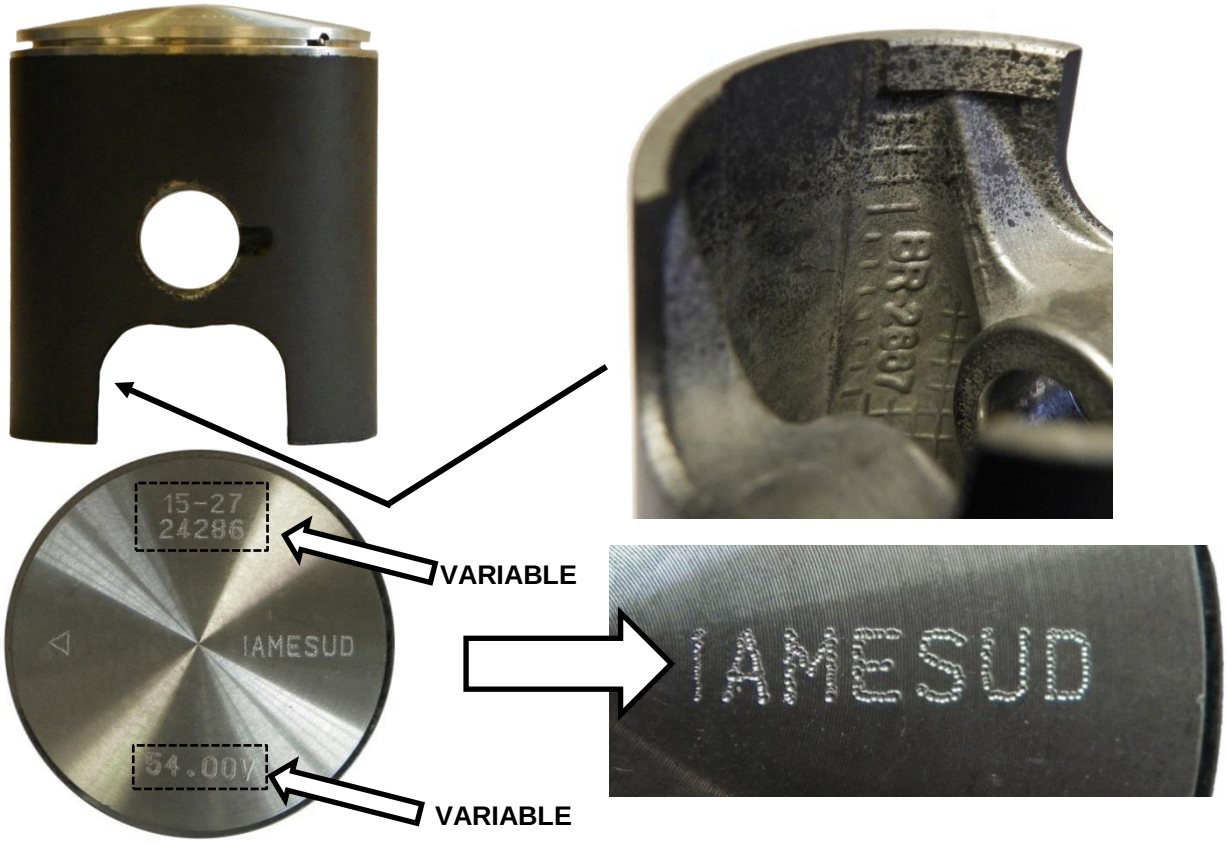




PISTON IDENTIFICATION MARKING

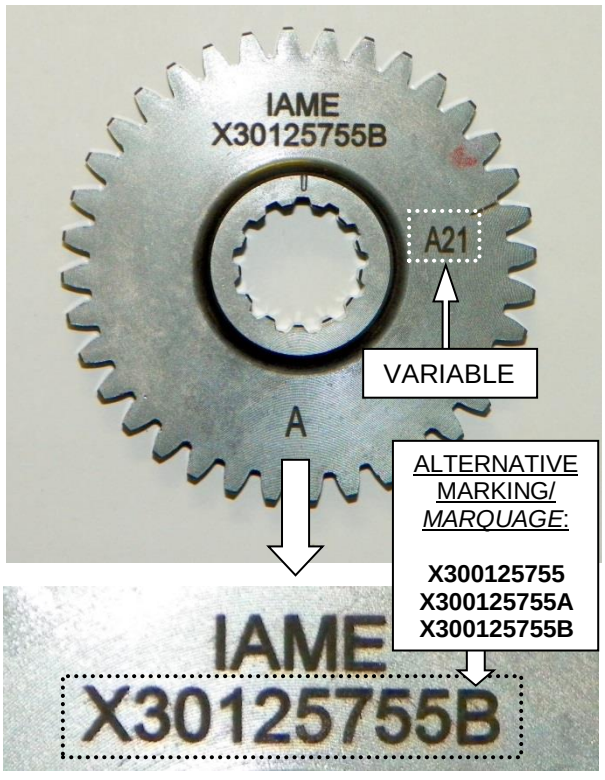


ALTERNATIVE



CRANKSHAFT IDENTIFICATION MARKING

DRIVE GEAR FOR BALANCE SHAFT IDENTIFICATION MARKING

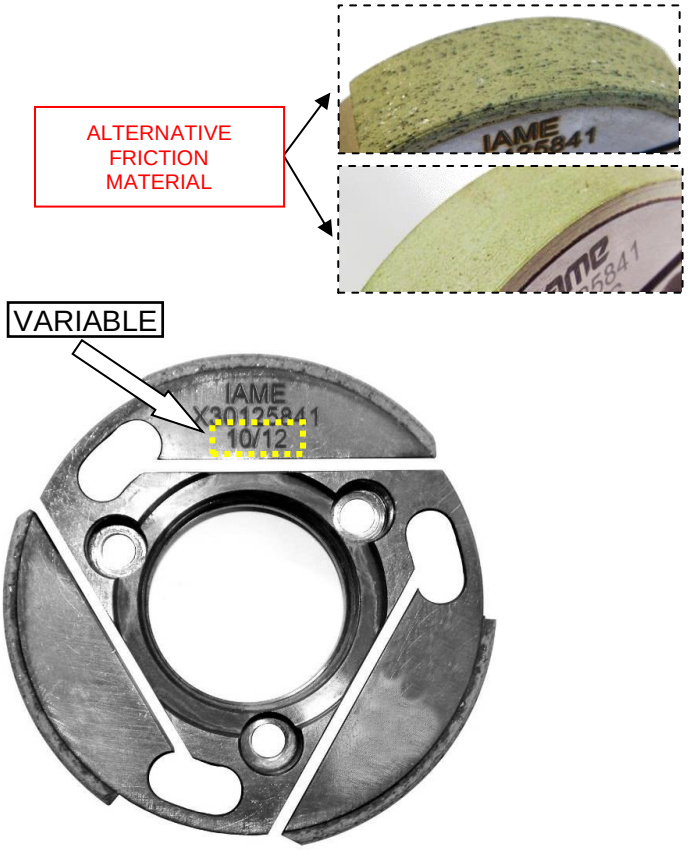


STARTER IDENTIFICATION MARKING

RE-HOMOLOGATED 1-8-2018

Homologation Nº

78H / RH

CLUTCH HUB IDENTIFICATION MARKING - TYPE 1 -	*CLUTCH HUB IDENTIFICATION MARKING* - TYPE 2 -
	
CLUTCH DRUM IDENTIFICATION MARKING	*CLUTCH DRUM IDENTIFICATION MARKING*
	

RE-HOMOLOGATED 1-8-2018

Homologation Nº

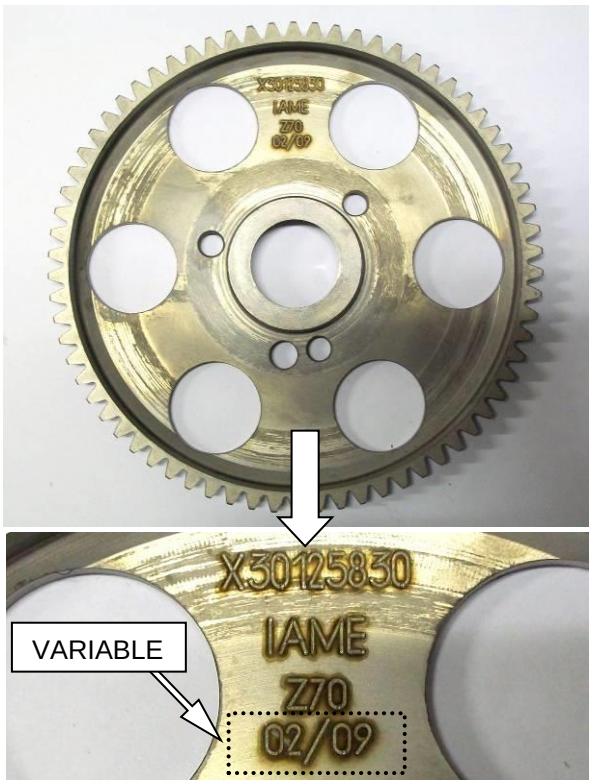
78H / RH

CLUTCH COVER IDENTIFICATION MARKING

VARIABLE IN COLOUR

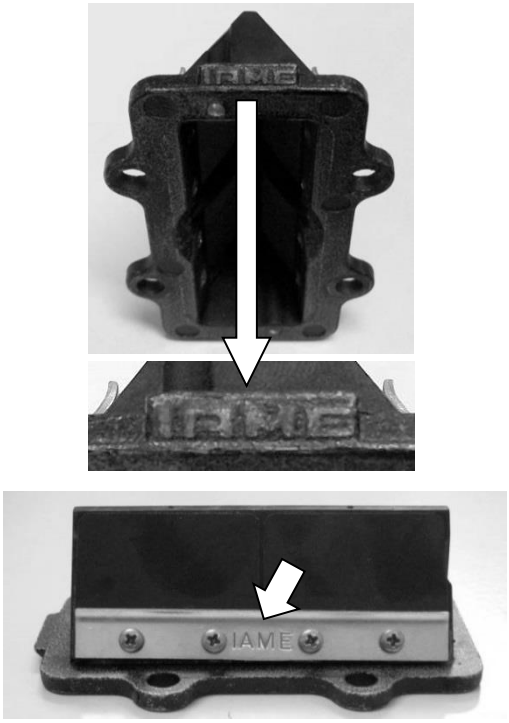
SPROCKET IDENTIFICATION MARKING

STARTER RING IDENTIFICATION MARKING
- TYPE 1 -

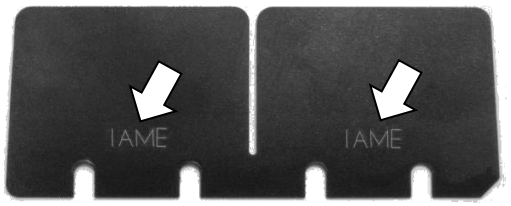


STARTER RING IDENTIFICATION MARKING
- TYPE 2 -

REED GROUP & PETALS IDENTIFICATION PHOTO

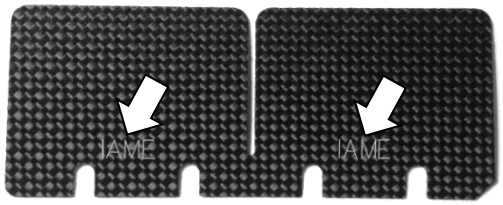


FIBREGLASS WITH "IAME" MARKING

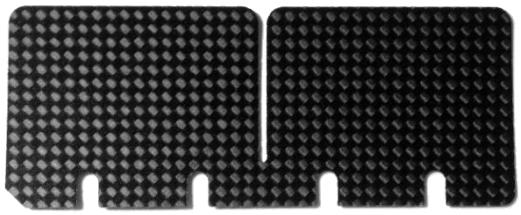


CARBON FIBRE WITH "IAME" MARKING

FRONT SIDE



REAR SIDE



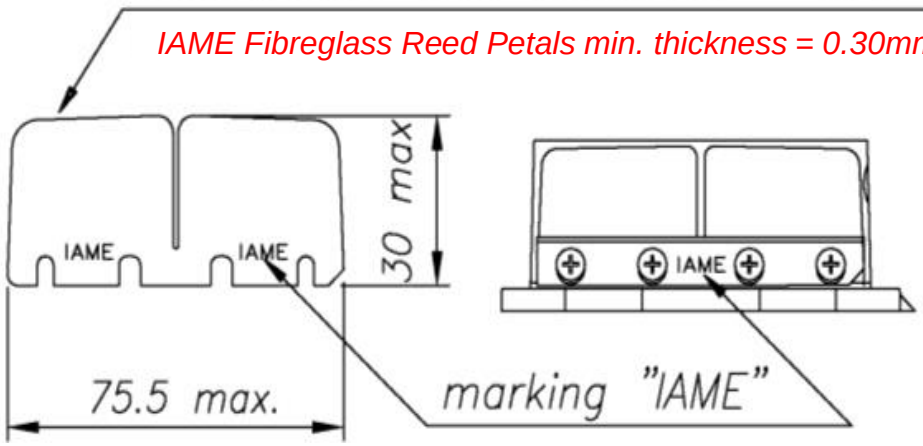
ALTERNATIVE REED PETALS MATERIAL

It is permitted to use either Carbon Fibre of Fibreglass Reed Petals

REED PETALS – DIMENSIONS

IAME Carbon fibre Reed Petals min. thickness = 0.22mm

IAME Fibreglass Reed Petals min. thickness = 0.30mm

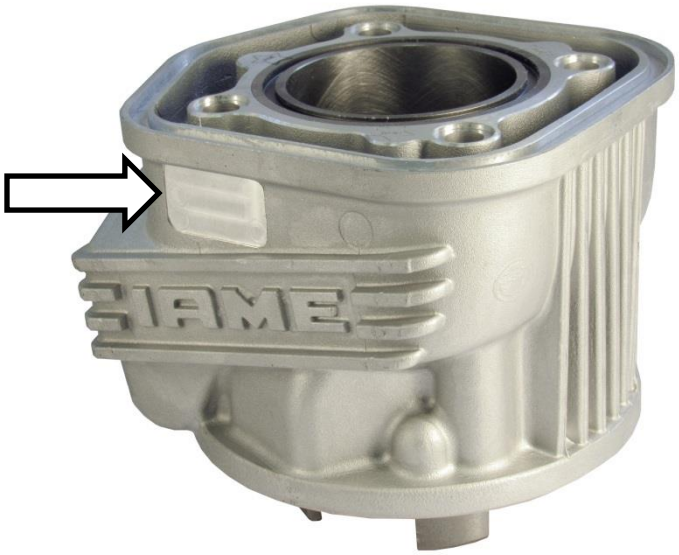


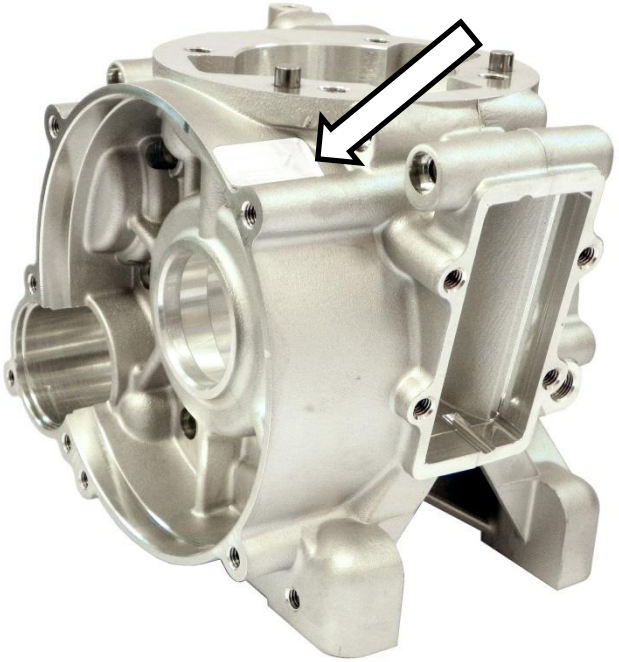
BENDIX COVER IDENTIFICATION MARKING

ALTERNATIVE

VARIABLE IN COLOUR

STICKER APPLICATION AREA





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INLET SILENCER - "IAME" IDENTIFICATION MARKING

VARIABLE IN COLOUR

ALTERNATIVE LOGO

NEW LOGO

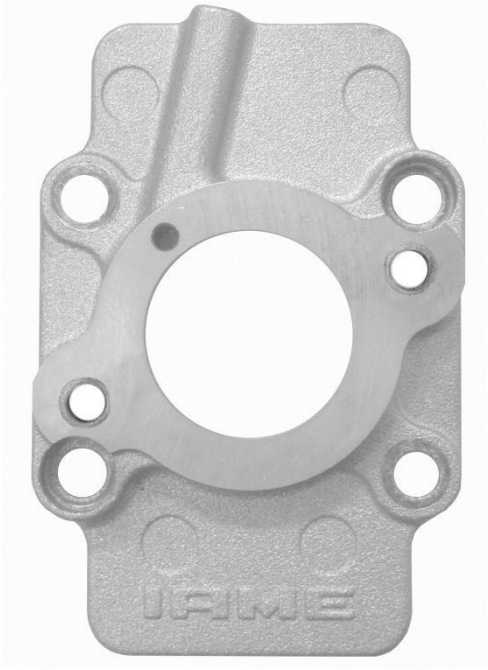
EITHER SPONGE FILTER IS PERMITTED FOR USE

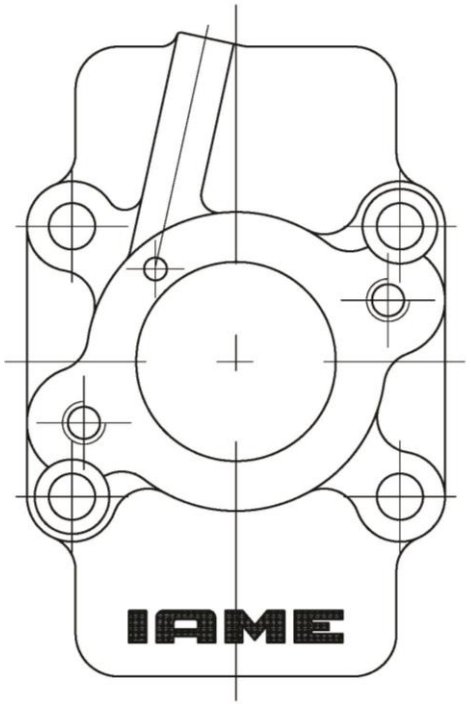
RED > CURRENT SPONGE FILTER

GREEN > ALTERNATIVE SPONGE FILTER

PHOTO IDENTIFICATION CARBURETTOR INLET CONVEYOR

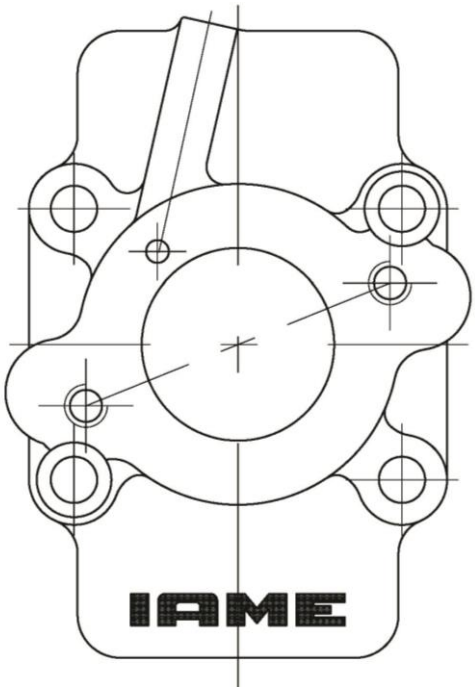
Old version





IN ALTERNATIVE

New version

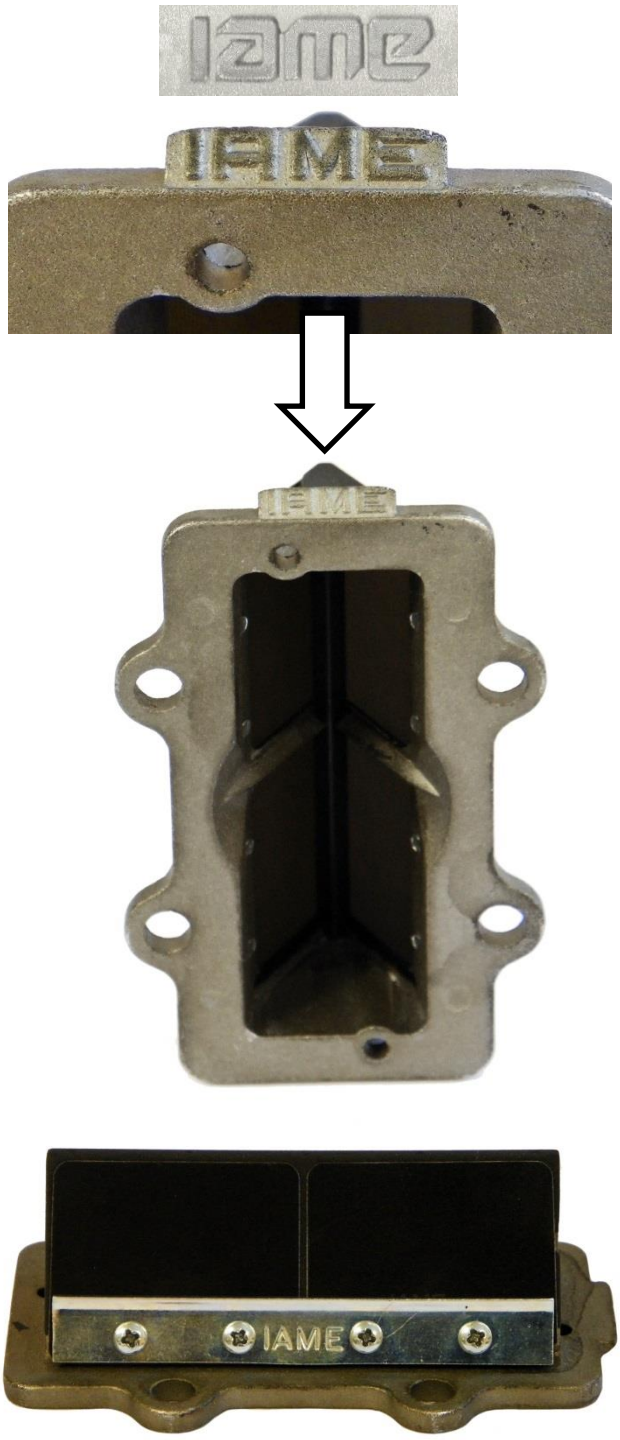


NEW LOGO

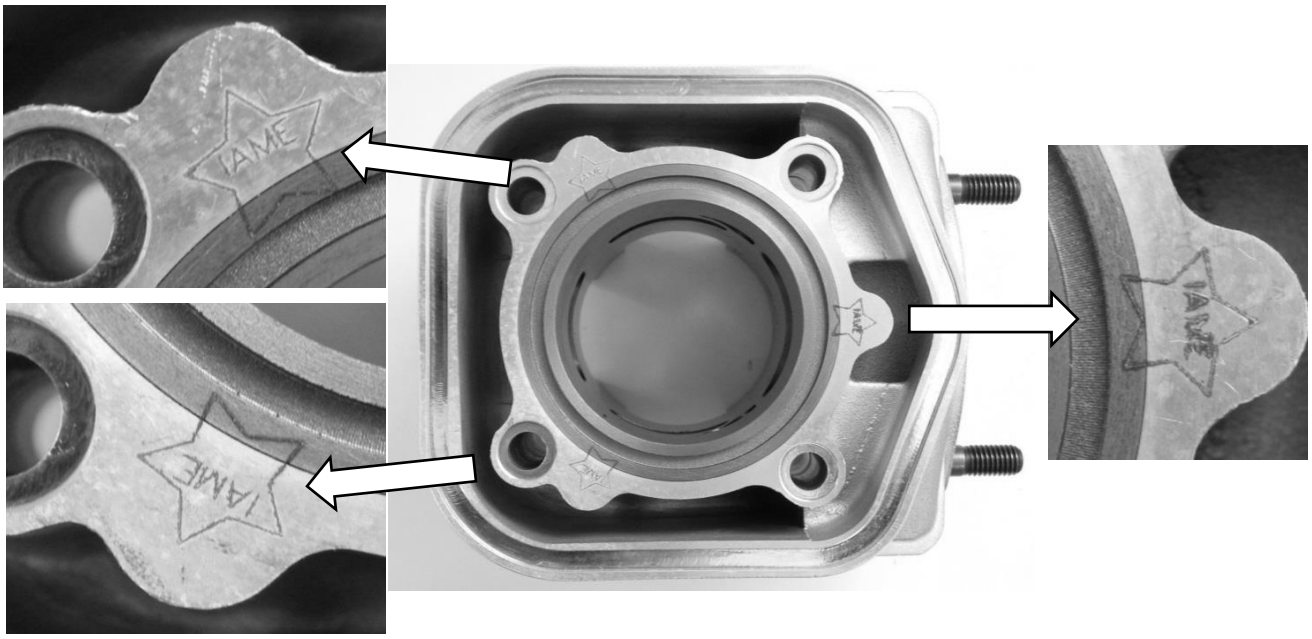
RE-HOMOLOGATED 1-8-2018

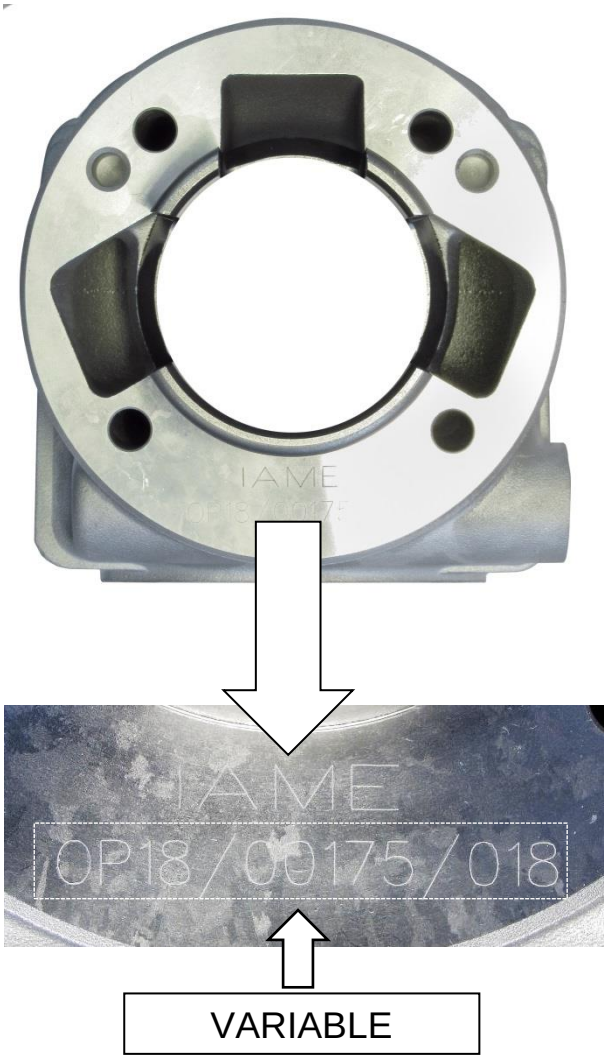
Homologation Nº

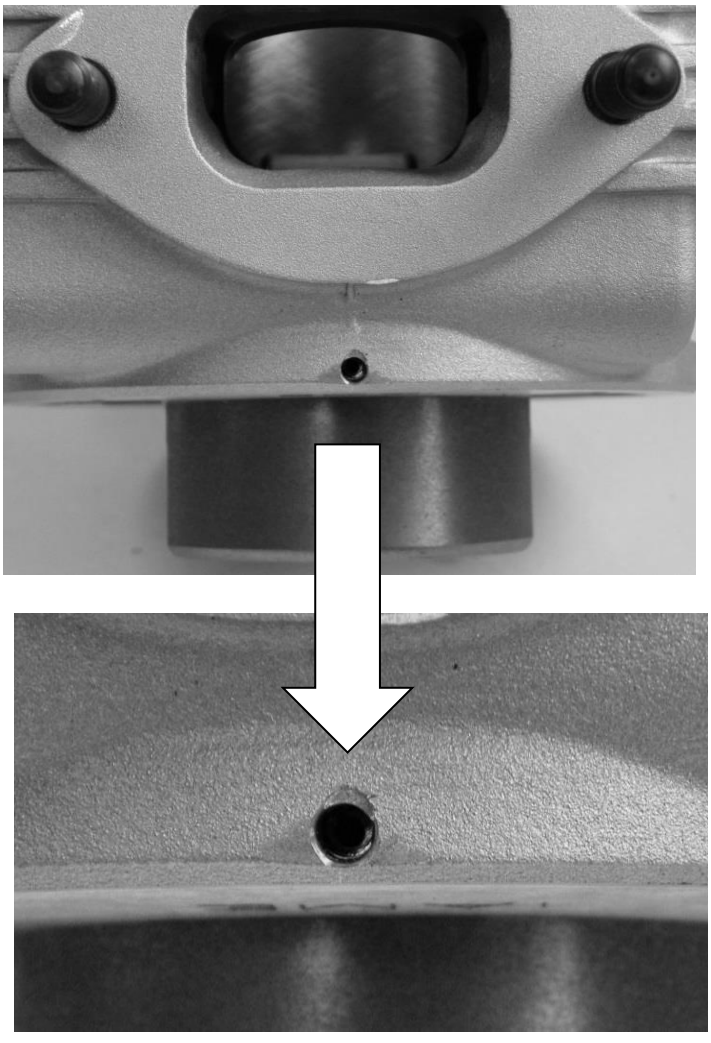
78H / RH

PHOTO IDENTIFICATION REED GROUP	
CURRENT VERSION	*ALTERNATIVE VERSION*
	NEW LOGO 

CYLINDER IDENTIFICATION MARKING (since 2014)







RE-HOMOLOGATED 1-8-2018

Homologation Nº

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CARBURETTOR - Tillotson HW-27A

	
PHOTO OF ADJUSTING SIDE	*PHOTO OF INLET SIDE*

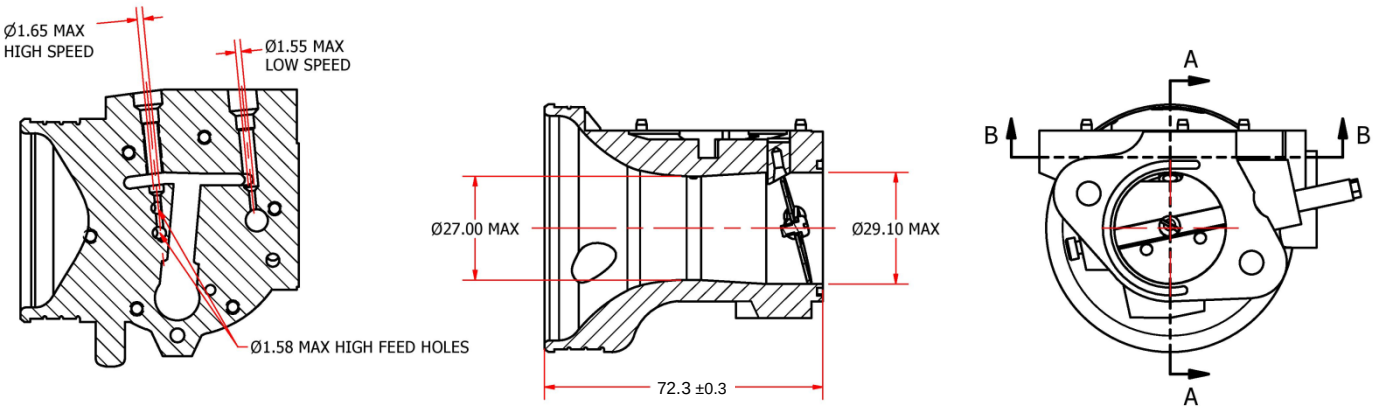
Manufacturer	**TILLOTSON LTD.**
Make	**TILLOTSON**
Model	**HW-27A**

RE-HOMOLOGATED 1-8-2018

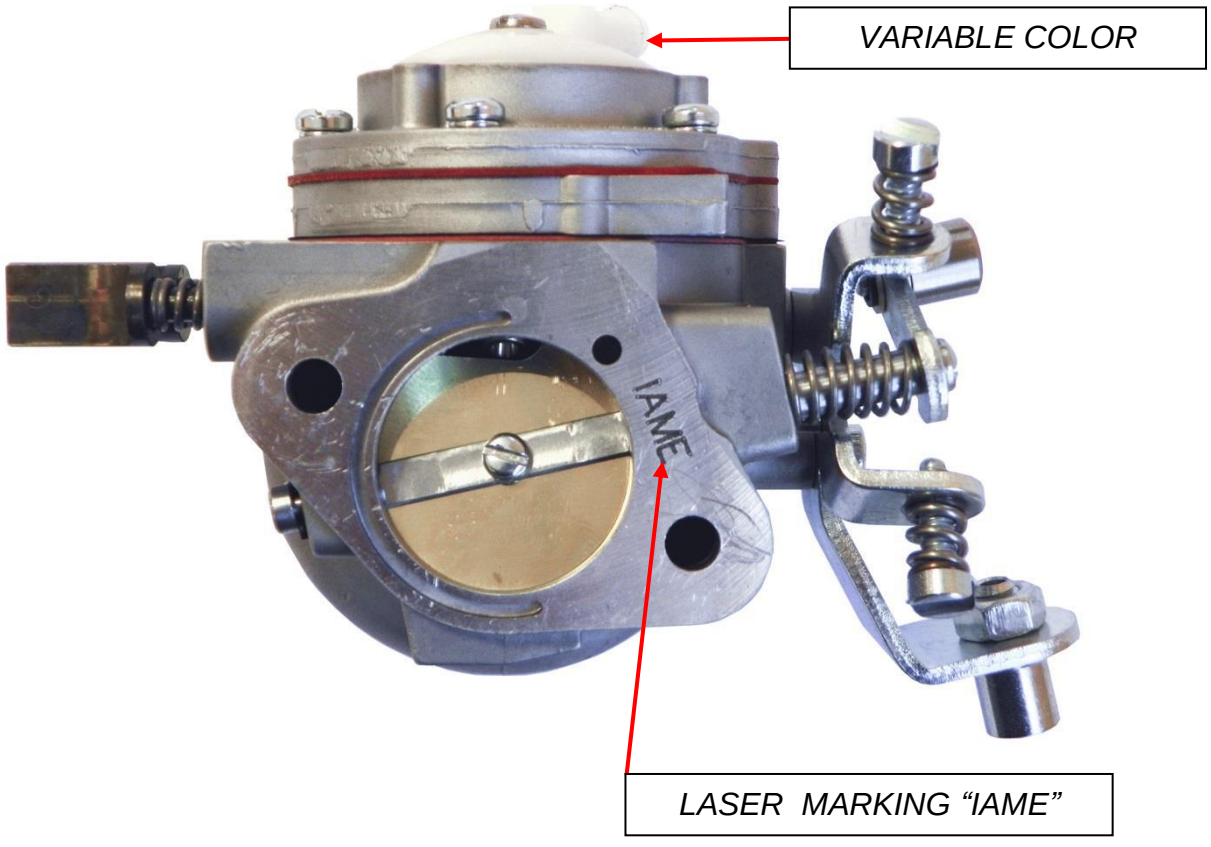
Homologation Nº

78H / RH

SECTION VIEW



MARKING



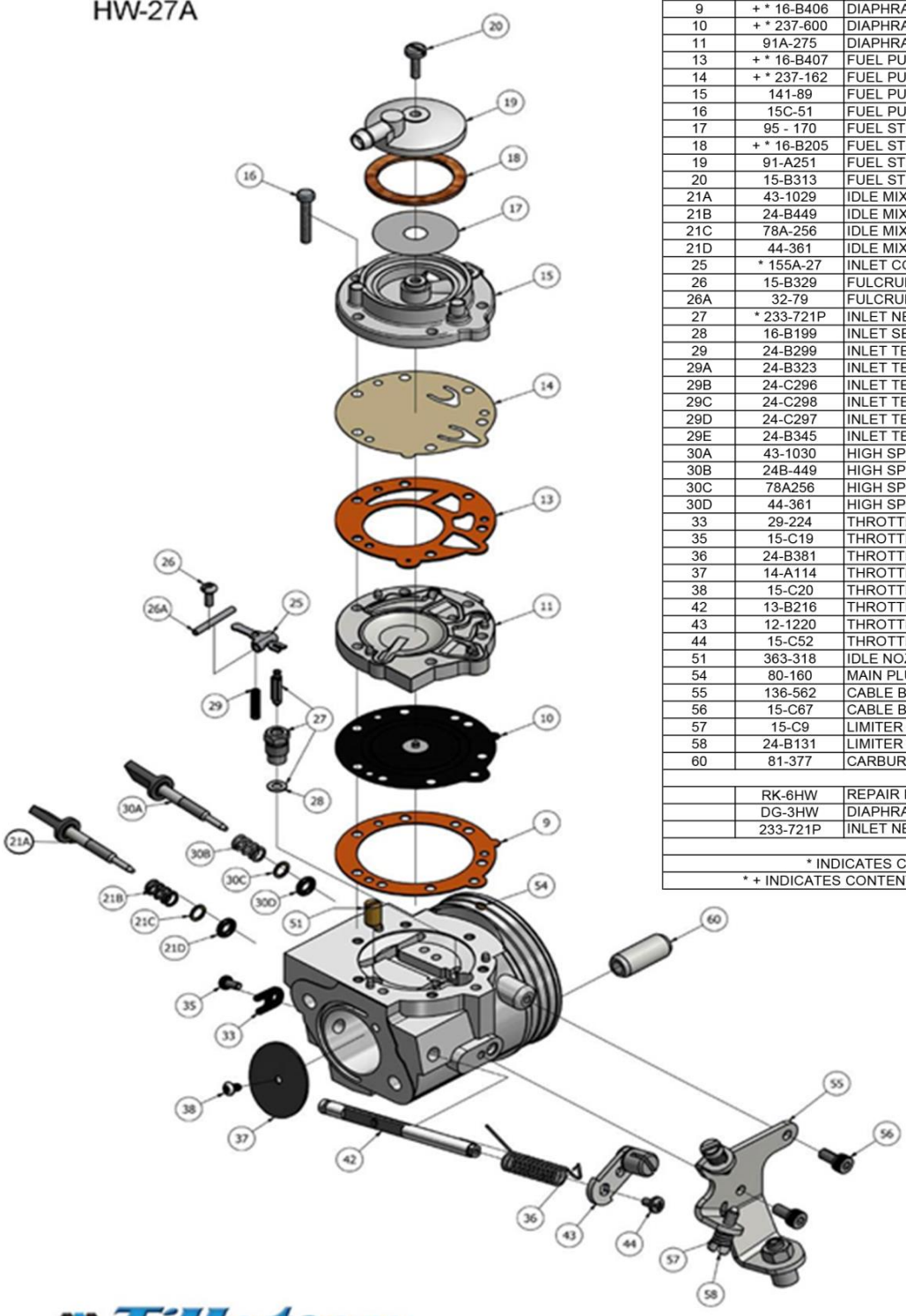
RE-HOMOLOGATED 1-8-2018

Homologation Nº

78H / RH

CARBURETTOR DESCRIPTION AND SKETCH OF PARTS

HW-27A



ITEM	PART NO:	DESCRIPTION	QTY
9	+ * 16-B406	DIAPHRAGM GASKET (ORANGE)	1
10	+ * 237-600	DIAPHRAGM	1
11	91A-275	DIAPHRAGM COVER	1
13	+ * 16-B407	FUEL PUMP GASKET (ORANGE)	1
14	+ * 237-162	FUEL PUMP DIAPHRAGM	1
15	141-89	FUEL PUMP BODY	1
16	15C-51	FUEL PUMP BODY SCREW	6
17	95 - 170	FUEL STRAINER SCREEN	1
18	+ * 16-B205	FUEL STRAINER COVER GASKET	1
19	91-A251	FUEL STRAINER COVER	1
20	15-B313	FUEL STRAINER COVER RETAINING SCREW	1
21A	43-1029	IDLE MIXTURE SCREW	1
21B	24-B449	IDLE MIXTURE SCREW SPRING	1
21C	78A-256	IDLE MIXTURE SCREW WASHER	1
21D	44-361	IDLE MIXTURE SCREW PACKING	1
25	* 155A-27	INLET CONTROL LEVER	1
26	15-B329	FULCRUM LEVER SCREW	1
26A	32-79	FULCRUM LEVER PIN	1
27	* 233-721P	INLET NEEDLE & SEAT SET	1
28	16-B199	INLET SEAT GASKET	1
29	24-B299	INLET TENSION SPRING (STD 37 grams)	1
29A	24-B323	INLET TENSION SPRING (26 grams)	1
29B	24-C296	INLET TENSION SPRING (31 grams)	1
29C	24-C298	INLET TENSION SPRING (42 grams)	1
29D	24-C297	INLET TENSION SPRING (46 grams)	1
29E	24-B345	INLET TENSION SPRING (48 grams)	1
30A	43-1030	HIGH SPEED MIXTURE SCREW	1
30B	24B-449	HIGH SPEED MIXTURE SCREW SPRING	1
30C	78A256	HIGH SPEED MIXTURE SCREW WASHER	1
30D	44-361	HIGH SPEED MIXTURE SCREW PACKING	1
33	29-224	THROTTLE SHAFT CLIP	1
35	15-C19	THROTTLE SHAFT CLIP RETAINING SCREW	1
36	24-B381	THROTTLE RETURN SPRING	1
37	14-A114	THROTTLE SHUTTER	1
38	15-C20	THROTTLE SHUTTER SCREW	1
42	13-B216	THROTTLE SHAFT	1
43	12-1220	THROTTLE LEVER ASSEMBLY	1
44	15-C52	THROTTLE LEVER RETAINING SCREW	1
51	363-318	IDLE NOZZLE	1
54	80-160	MAIN PLUG	2
55	136-562	CABLE BRAKET	1
56	15-C67	CABLE BRACKET RETAINING SCREW	2
57	15-C9	LIMITER SCREW	2
58	24-B131	LIMITER SPRING	2
60	81-377	CARBURETTOR MOUNTING NUT	2
	RK-6HW	REPAIR KIT	
	DG-3HW	DIAPHRAGM & GASKET (STANDARD)	
	233-721P	INLET NEEDLE & SEAT SET	

* INDICATES CONTENTS OF REPAIR KIT

* + INDICATES CONTENTS OF DIAPHRAGM & GASKET SET

Tillotson RACING
Clash Industrial Estate - Tralee - Ireland
www.tillotson-racing.com

iame

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PARTS OF CARBURETTOR

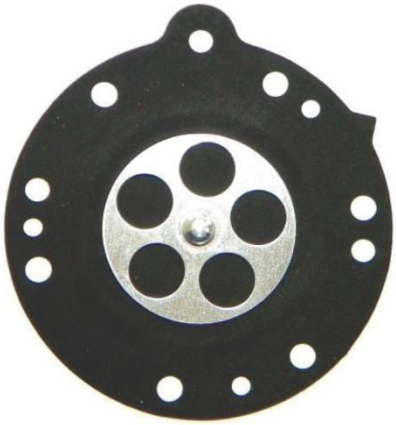
REF.9 - P. N°16-B406
DIAPHRAGM GASKET (ORANGE COLOR)

Thickness = 0.5 ±0.1 mm

REF.13 - P. N° 16-B407
PUMP DIAPHRAGM GASKET (ORANGE COLOR)

Thickness = 0.8 ±0.1 mm

REF.10 - P. N°237-600
DIAPHRAGM



Thickness = 0.13 ±0.07 mm

REF.14 - P. N°237-162
PUMP DIAPHRAGM

ALTERNATIVE

Thickness = 0.10 ±0.063 mm

REF.11 - P. N° 91-A275
DIAPHRAGM COVER

Thickness = 6.75 ±0.15 mm

REF.15 - P. N° 141-89
PUMP COVER

Thickness = 12.5 ±0.15 mm

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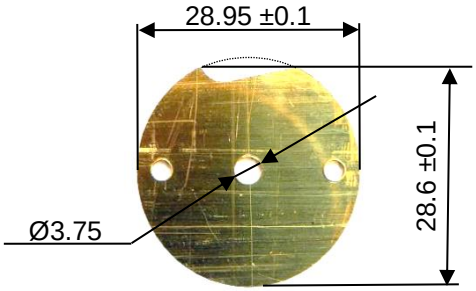
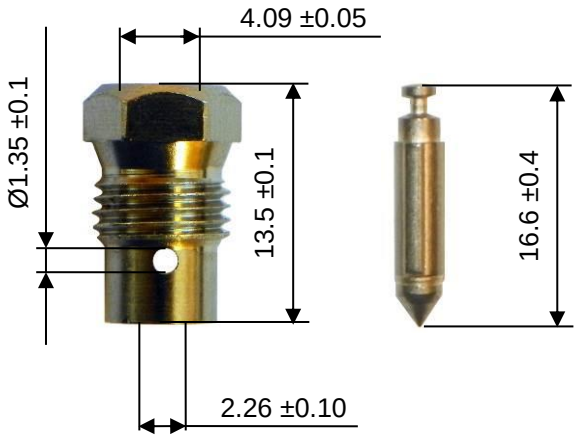
REF.37 - P. N° 14-A114
THROTTLE SHUTTER



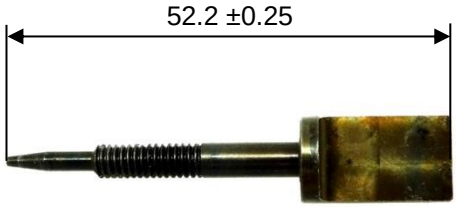
ALTERNATIVE SHAPE

Thickness = 0.81 ±0.1 mm

REF.27 - P. N° 233-721P
SEAT + NEEDLE



REF.21A - P. N° 43-1029
NEEDLE LOW SPEED

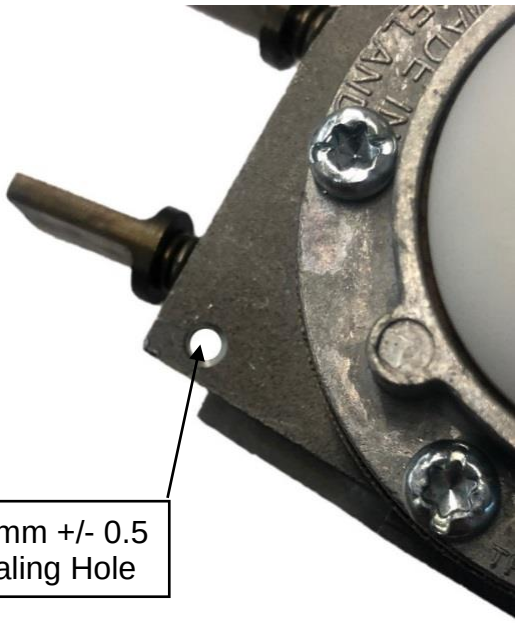


REF.30A - P. N° 43-1030
NEEDLE HIGH SPEED

ALTERNATIVE FUEL NEEDLE

OPTIONAL HOLE FOR SEALING TAG

REF.27 - P. N° 233-721P
NEEDLE



RE-HOMOLOGATED 1-8-2018

Homologation Nº

78H / RH

CARBURETTOR - TRYTON HB 27-C

PHOTO OF INLET SIDE

PHOTO OF ADJUSTING SIDE

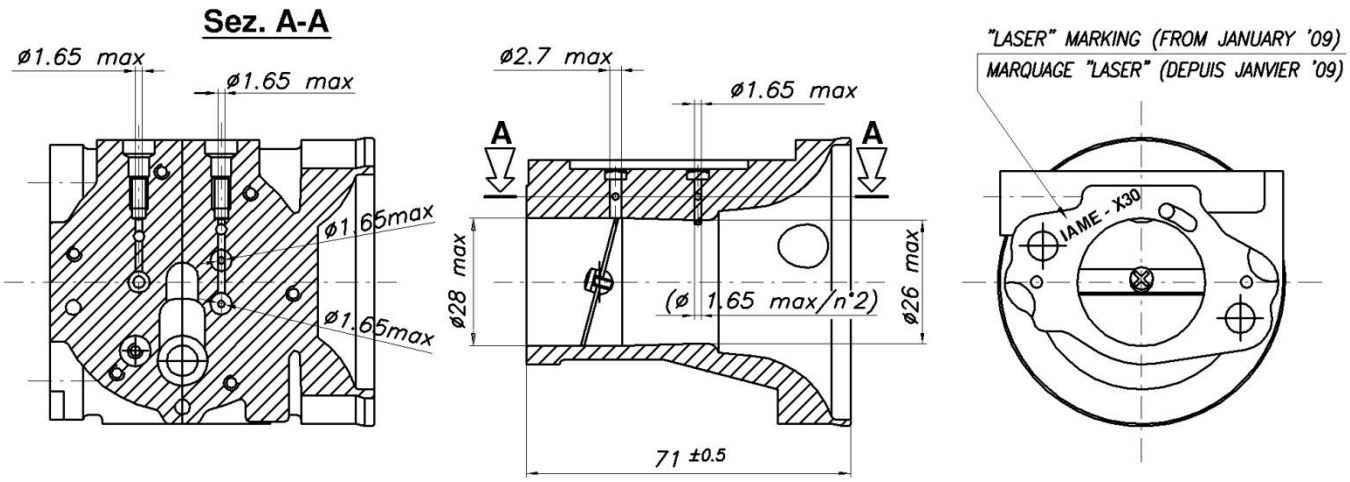
Manufacturer	**VAMEC SRL**
Make	**TRYTON**
Model	**HB 27-C**

RE-HOMOLOGATED 1-8-2018

Homologation Nº

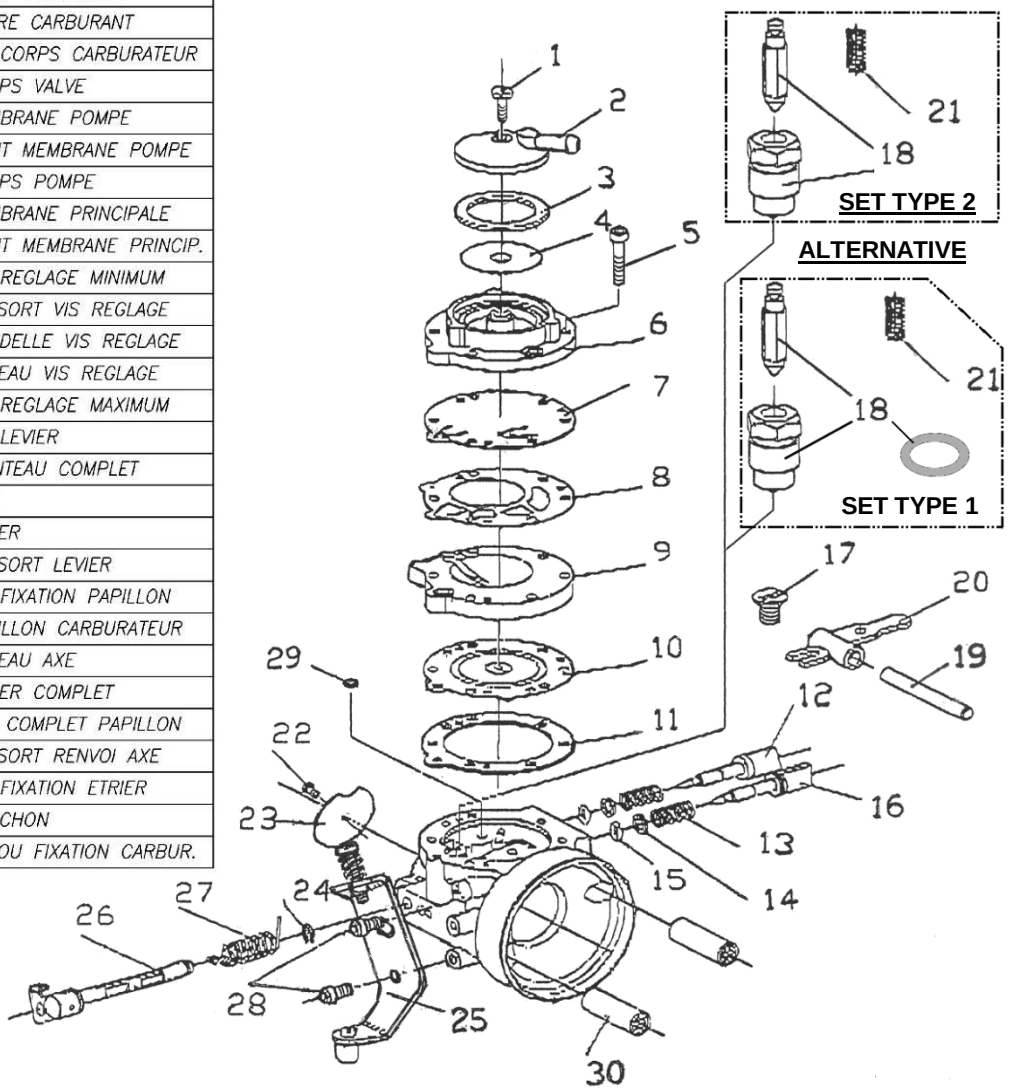
78H / RH

SECTION VIEW



CARBURETTOR DESCRIPTION AND SKETCH OF PARTS

Rif.	DESCRIPTION	
1	COVER SCREW	*VIS COUVERCLE*
2	FILTER COVER	*COUVERCLE FILTRE*
3	COVER GASKET	*JOINT COUVERCLE*
4	FUEL SCREEN FILTER	*FILTRE CARBURANT*
5	BODY SCREW	*VIS CORPS CARBURATEUR*
6	VALVE BODY	*CORPS VALVE*
7	PUMP DIAPHRAGM	*MEMBRANE POMPE*
8	PUMP DIAPHRAGM GASKET	*JOINT MEMBRANE POMPE*
9	PUMP BODY	*CORPS POMPE*
10	DIAPHRAGM	*MEMBRANE PRINCIPALE*
11	DIAPHRAGM GASKET	*JOINT MEMBRANE PRINCIP.*
12	NEEDLE LOW SPEED	*VIS REGLAGE MINIMUM*
13	NEEDLE SPRING	*RESSORT VIS REGLAGE*
14	NEEDLE WASHER	*RONDELLE VIS REGLAGE*
15	NEEDLE O-RING	*ANNEAU VIS REGLAGE*
16	NEEDLE HIGH SPEED	*VIS REGLAGE MAXIMUM*
17	SCREW LEVER	*VIS LEVIER*
18	NEEDLE VALVE	*POINTEAU COMPLET*
19	LEVER PIN	*AXE*
20	INLET LEVER	*LEVIER*
21	INLET LEVER SPRING	*RESSORT LEVIER*
22	THROTTLE SHUTTER SCREW	*VIS FIXATION PAPILLON*
23	THROTTLE SHUTTER	*PAPILLON CARBURATEUR*
24	SHAFT RETAINING RING	*ANNEAU AXE*
25	BRACKET	*ETRIER COMPLET*
26	SHAFT SHUTTER	*AXE COMPLET PAPILLON*
27	SHAFT SPRING	*RESSORT RENVOI AXE*
28	BRACKET SCREW	*VIS FIXATION ETRIER*
29	PLUG	*BOUCHON*
30	BOLT	*ECROU FIXATION CARBUR.*



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SET TYPE 1	SET TYPE 2
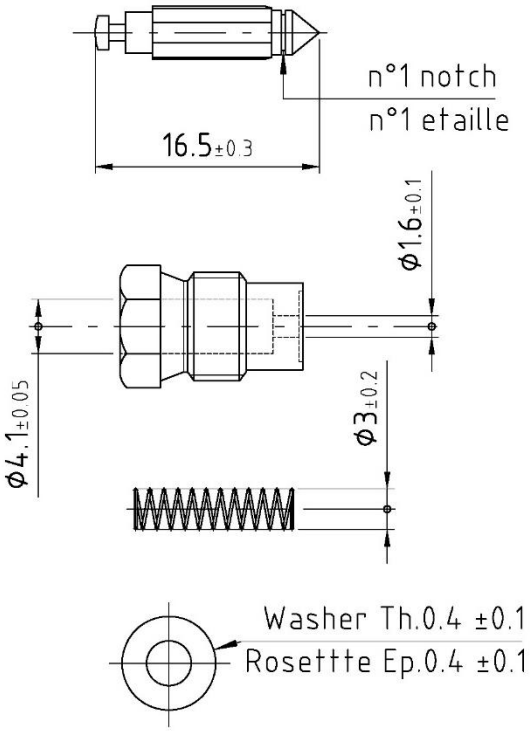	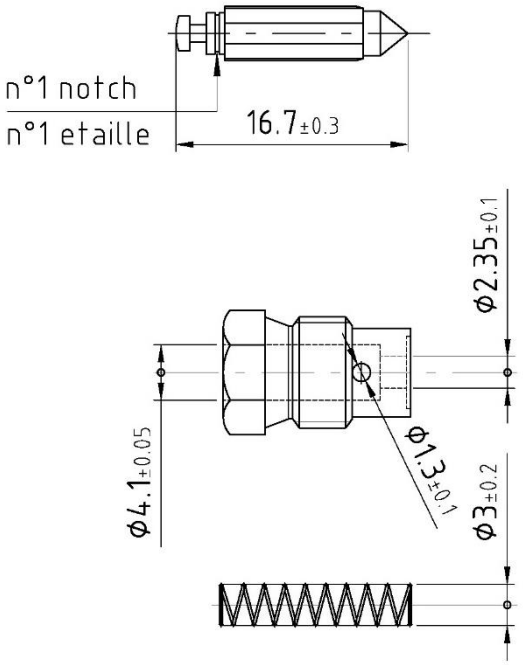
PHOTO IDENTIFICATION SET TYPE 1	PHOTO IDENTIFICATION SET TYPE 2
	

RE-HOMOLOGATED 1-8-2018

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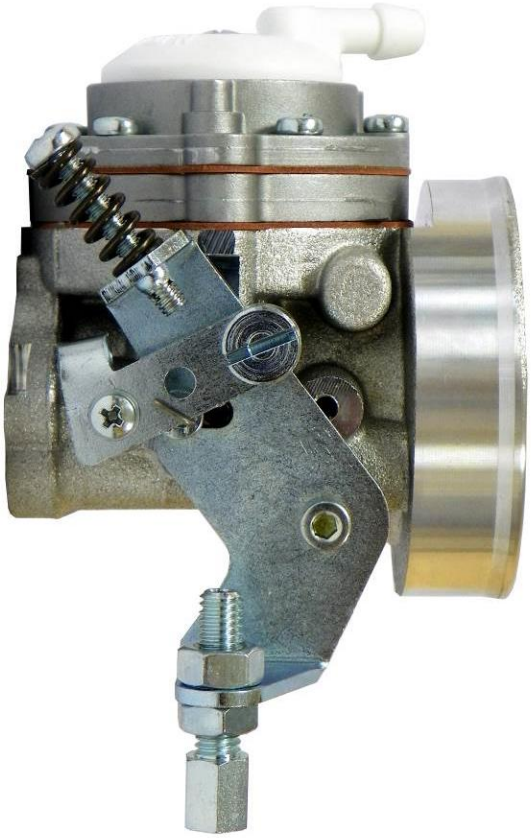
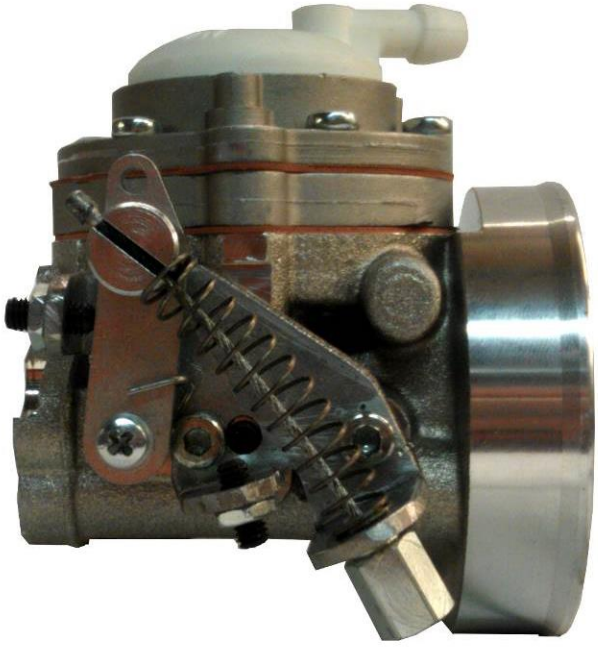
BRACKET CABLE & LIMITER



IN ALTERNATIVE



RE-HOMOLOGATED 1-8-2018

Homologation Nº

78H / RH

Appendix A to the IAME X30 125 Homologation

The following notes are additional to the details contained in these homologation documents for the IAME X30 125 engine (the "**Engine**") and are to be read in conjunction with the specifications and details contained therein; they form part of the Homologation Documents for the Engine.

The Engine must at all times be used and presented in strict conformity with the specifications detailed in the homologation documents. All engines must be imported into Australia by Remo Racing Pty Ltd; engine numbers will be recorded. **Unless otherwise expressly permitted by Karting Australia, the Engine must use only IAME OEM parts in accordance with this Homologation Document.**

Neither the Engine nor any of its ancillary components may be modified other than in accordance with the rules and these homologation documents.
Any removal, addition or polishing of material is strictly forbidden. Sandblasting, glass bead blasting, vapor blasting, wet blasting, liquid honing, peening, acid etching, spark eroding and/or any other method of metal removal or displacement is not allowed.

The use of thermal barrier coatings/ceramic coatings on or in the Engine/Engine components and on or in exhaust components is prohibited.
The use of anti friction coatings on or in the Engine/Engine components is prohibited. OEM pistons are exempt.

UNLESS IN THE KARTING AUSTRALIA RULES AND/OR THESE HOMOLOGATION DOCUMENTS IT SAYS THAT YOU CAN, THEN YOU CANNOT.

The Engine is approved for use in the following classes:

- X30
- TaG 125
- TaG 125 Restricted
- Junior Performance
- Open Performance

A. Cylinder

1. All ports must be of intended design as manufactured and conforming to the homologation drawings.
2. No modifications or grinding to the ports is allowed.
3. Water connections to the cylinder are free but must retain the homologated position and threaded sizes.

B. Base Gaskets

1. The type of material is a non-tech item.
2. The base gasket/gaskets must be a minimum of 0.30mm and a maximum of 0.45mm.
3. More than 1 base gasket can be used.

C. Cylinder Head

1. Cylinder Head must be of original Engine manufacturer and conform to homologation drawings.
2. No material to be added except for spark plug thread repair.
3. Distance from spark plug sealing face to combustion chamber ceiling face 29.3mm+/- 0.25mm.

4. The combustion chamber volume shall be a minimum of 10.3cc.
5. Water connections to the cylinder head are free but must retain the homologated position and threaded sizes.
6. Cylinder head profile must not vary from the original profile and will be checked with the IAME Cylinder Head Profile Gauge (part number ATT-025/1).

D. Squish Gap

1. The Cylinder Head Squish clearance shall be a minimum of 0.9mm as per homologation.
2. Squish shall be measured using digital verniers and 2mm solder wire (tin).
   a) When inserted in the cylinder the Engine shall be rotated only once until the solder is squeezed between the head and piston crown, forming a 'flat' section of solder.
   b) Measure the thickness of the flat section of solder closest to the step formed by the piston ring.
   c) This process must be conducted on both the right and left-hand side of the engine in parallel alignment with the gudgeon pin.
3. The average measurement obtained from both tests detailed in points 2 a) and b) above must be a minimum of 0.9mm.

E. Crankcase, Crankshaft and Con Rod

1. Must be of original Engine manufacturer and conform to homologation drawings.
2. It is permissible to hard chrome the crankshaft in the areas highlighted in the homologation documents to restore the surface to original factory specification.

F. Piston

1. Piston must be of original manufacturer, supplied by IAME with "IAME SUD" marking on dome and conform to homologation drawings. No modifications are permitted.

G. Piston Pin

1. No special alloys are allowed, must be of magnetic material and comply with the drawing as supplied by the manufacturer.

H. Clutch

1. Must be of original manufacturer and conform to the homologation drawings and display original IAME X30125840 or IAME X30125841 markings on the clutch hub. No modifications are permitted.
2. Both the X30125550 and X30125550A clutch drum may be used and are interchangeable with the clutch hubs listed above.

I. Reed Block, Reed Valves and Inlet Conveyor

1. The only reed petals to be used are the genuine IAME Fibreglass (Vetronite) or genuine IAME Carbon Fibre Reed Petals; both with IAME markings.
2. Fibreglass Reed Petals are to be a minimum thickness of 0.3mm; Carbon Fibre Reed Petals are to be a minimum thickness of 0.22mm.
3. Reed block must be original as supplied by IAME.
4. It is permissible to alter the inlet conveyor to conform to the maximum dimension of 29.3mm as detailed in the homologation.

J. Carburettor

1. No sleeving of the carburettor throttle bore is permitted.
2. Adjustment of carburettor jet needles must be done by manually turning the jet needle (or its extension) only. It is permissible to fit a second O-Ring on the jet needles to prevent rotation due to vibrations.
3. It is permissible to mount the carburettor upside-down to provide easier access to the jet needles for the driver.
4. Carburettor throttle cannot be actuated by electro mechanical means.
5. It is permissible to fit a mechanical stop to limit the range of carburettor jet needle movement; however, no modifications to the carburettor are permitted to mount such a stop.
6. The only permissible carburettor kits for use with the Tillotson HW27A are the DG-3HW Gasket & Diaphragm Kit and the RK-6HW Repair Kit; all spare parts must be genuine Tillotson.
7. The carburettor kit, inlet needle & seat for the Tryton HB27 are a non-tech item.
8. It is permissible to bend the carburettor inlet lever to alter the lever height.
9. The protrusion on the carburettor top plates may be removed to allow more secure fitment of the airbox rubber as pictured:

A. Top plate showing protrusion

B. Top plate with protrusion removed

K. Induction Silencer

1. The only permissible induction silencer is the square style Socorem as per homologation drawings and can be of any colour.
2. Minimum tube length 95mm.
3. It is permissible to drill a maximum 5mm water drain hole in the bottom of the induction silencer.
4. The only internal filter that may be used in the Induction Silencer/Air Box is the genuine IAME filter as detailed in the homologation; use of this filter is compulsory.

L. Ignition

1. The woodruff ignition rotor key must be retained and may not be modified.
2. The Spark plug cap must incorporate a minimum of a 5kΩ resistor.
3. The only Selettra ignition module to be used is the green module marked with AKA20L.
4. The only PVL ignition coil to be used is the blue module marked with AKA20L.
5. The blue Selettra ignition coil must be marked with AKA20L.
6. Spark plug “crush” washer may be removed.
7. In the event of required repairs the plastic fittings registered and homologated as parts of the electrical systems are permitted to be replaced with non-supplied fittings.

M. Exhausts

1. The only permissible exhaust systems are as supplied from IAME; they must carry the IAME identification markings and conform to the drawings in the homologation papers.
2. Mixing of Type 1 & Type 2 exhaust system components is prohibited.
3. One (1) exhaust sensor is allowed to be fitted to the muffler as per the diagram in the homologation document. Only one fitting may be used at any time. Any fitting without a sensor installed must be completely sealed with a blanking plug.

N. Header Pipe

1. The only permissible header pipe for use with the Type 1 exhaust system is as supplied by IAME and must carry the IAME identification.
2. It is permissible to fit a maximum of three separate flange support brackets to the original header, any such support flange must not exceed 60mm maximum in total length, and not exceed 40mm maximum in total width.
3. An O2 probe/fitting is allowed to be fitted to the header pipe in accordance with the KA Manual.

O. Cooling System

1. The only permissible thermostat is the original IAME component (part number T-8400-C) as supplied with the Engine.
2. The use of racing tape or similar as an air flow restriction device is permitted. Tape may be removed at any time but must remain with the kart and cannot be discarded on the circuit.
3. It is permissible to fit a sealed recovery tank with a minimum capacity of 25mL such as the one pictured below to make the water-cooling system a sealed unit.

A. Recovery Tank

B. Mounted Vertically

C. Mounted Horizontally

P. Non-Tech Items

1. Unless otherwise specified, non-tech items are to be of the same type and style as the original. No alteration from the original manufacturer specifications are permitted to fit a non-tech item.
2. Stickers that may be removed when requested by the technical inspector are allowed on the Engine, induction silencer and radiator.
3. Engraving, stamping or marking an Engine for identification purposes is permitted. Any such engraving, stamping or marking must not obscure any homologation or identification markings on the Engine or its ancillary components.
4. Non-tech items for the IAME X30 Engine include:
   Gaskets, Seals, Big & Little End Roller Cages, Fasteners, Washers, Spark Plug, Spark Plug Lead, Spark Plug Resistor Cap, 6206 Ball Type Main Bearings, Water Hoses, Hose Clamps, Water Pump, Axle O-Ring, Axle Pulley, Exhaust Flex, Tryton carburettor gasket/diaphragm repair kit including needle and seat, start/stop buttons, plastic fittings and terminals of the wiring looms and connected components.

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