
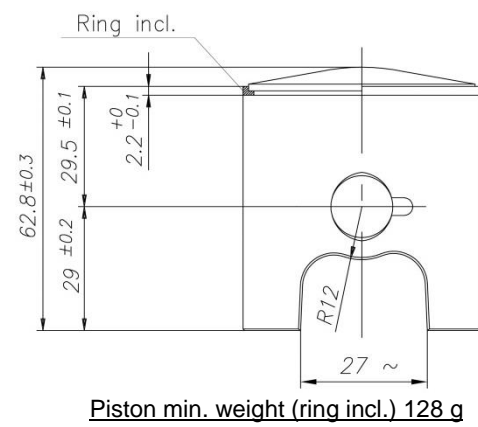
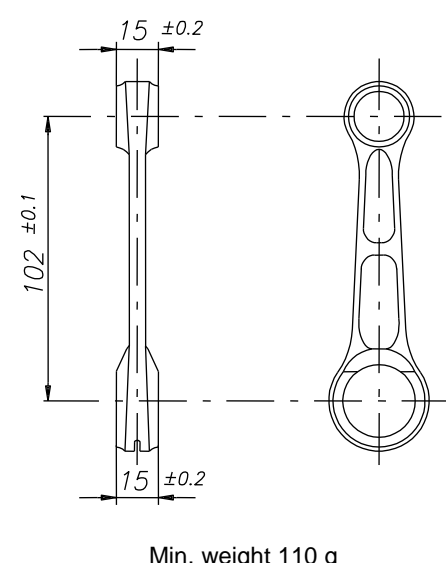
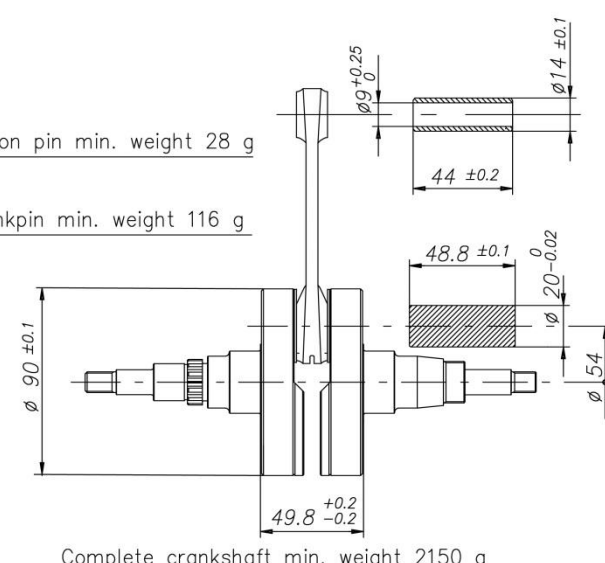
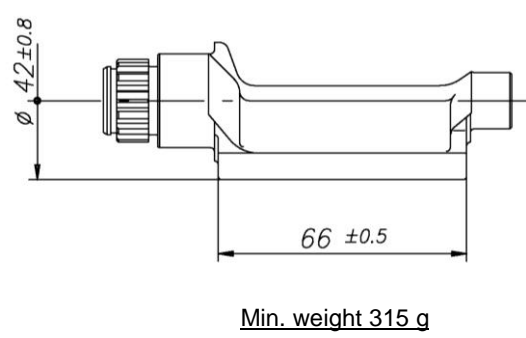
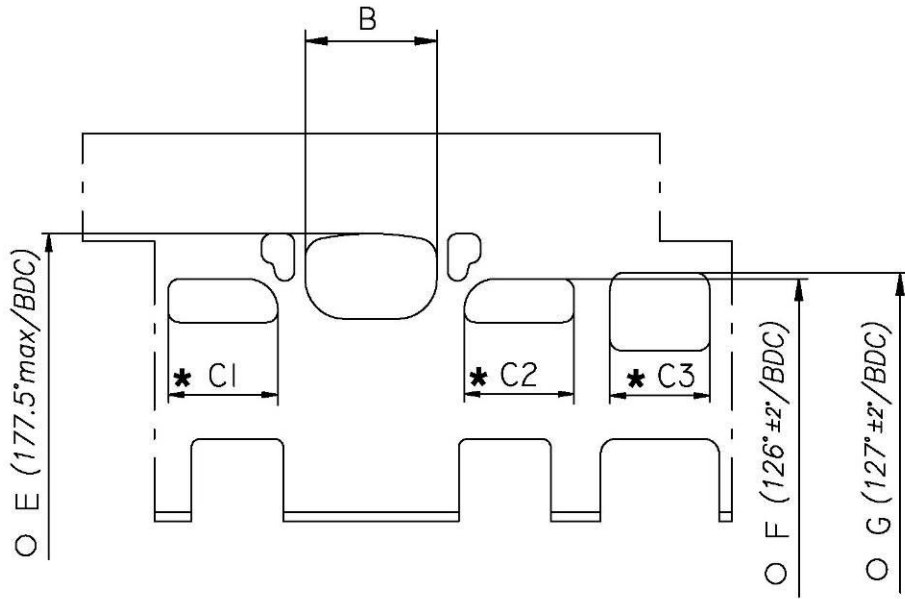


X30 125cc RL USA TAG

		FEATURES	
		Cylinder volume	123.67 cm ³
		Bore	54 mm
		Max. theoretical bore	54.35 mm
		Stroke	54 mm max.
		Cooling system	Water
		Inlet system	Reed valve
Carburettor	Tillotson HW-27A Ø27 mm	Cylinder / crankcase transfers n°	3
Number of piston rings	1	Inlet / exhaust ports number	3
Big end conr. ball-bearing diam.	20x26x15	Combustion chamber shape	Spherical
Crankshaft ball-bearing diam.	30x62x16	Selettra ignition	Digital
Small end conr. ball-bearing diam.	14x18x17.5	RPM limiter	Yes
Distance between conrod centers	102 mm	Centrifugal Dry Clutch	Yes
Balancing shaft	Yes	Electric starter	Yes

DESCRIPTION OF THE MATERIAL		PISTON
Conrod material	Steel	 <p>Piston min. weight (ring incl.) 128 g</p>
Crankshaft material	Steel	
Balancing shaft material	Steel	
Gears material	Steel	
Starter ring material	Steel	
Head material	Aluminium	DISTANCE BETWEEN CONROD CENTERS
Cylinder material	Aluminium	 <p>Min. weight 110 g</p>
Liner material	Cast iron	
Crankcase material	Aluminium	
Piston material	Aluminium	
Piston rings material	Cast iron	
Exhaust muffler material	Sheet-steel	
Ball-bearings	6206 type	
CRANKSHAFT		BALANCING SHAFT
 <p>Piston pin min. weight 28 g</p> <p>Crankpin min. weight 116 g</p> <p>Complete crankshaft min. weight 2150 g</p>		 <p>Min. weight 315 g</p>

CYLINDER DEVELOPMENT



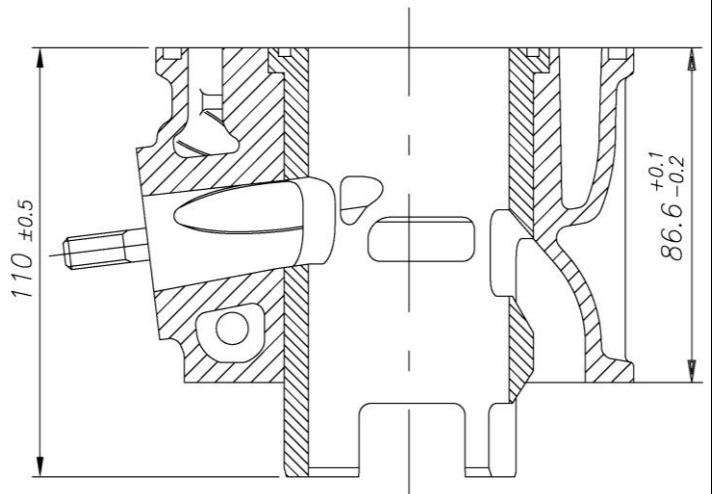
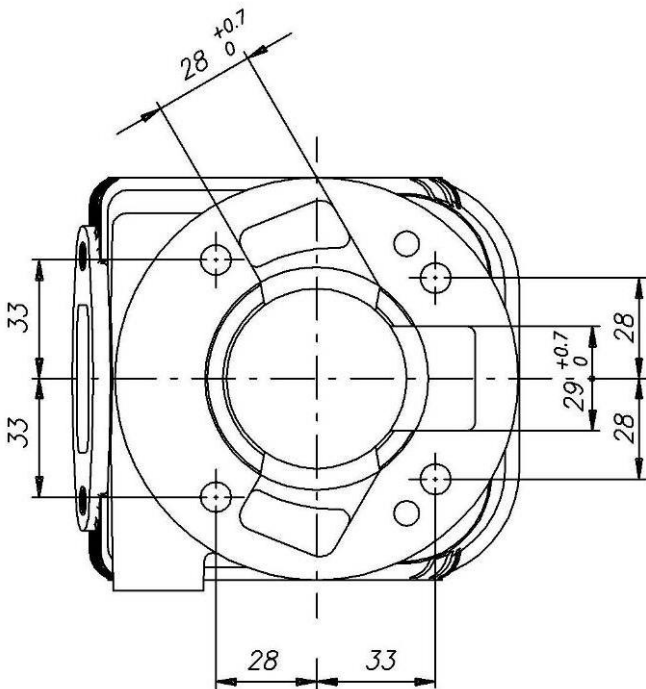
B	$\leq 36.5 \text{ mm}$
CI = C2	$\leq 30 \text{ mm}$
C3	$\leq 28.5 \text{ mm}$
E	$177.5^{\circ} \max$
F	$126^{\circ} \pm 2^{\circ}$
G	$127^{\circ} \pm 2^{\circ}$

* CHORDAL READING

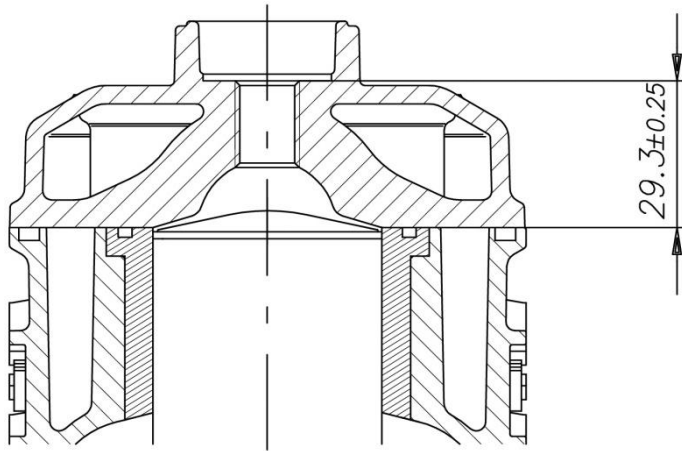
\circ ANGULAR READING BY INSERTING A 0.2x5 mm GAUGE

CYLINDER BASE VIEW

CYLINDER CROSS SECTION VIEW

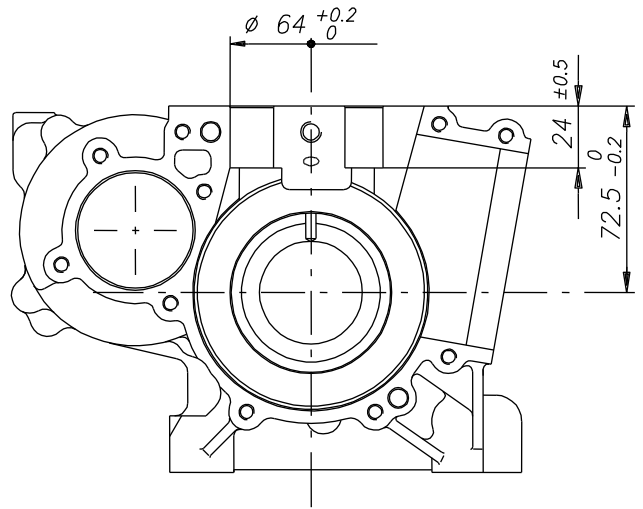


COMBUSTION CHAMBER VIEW

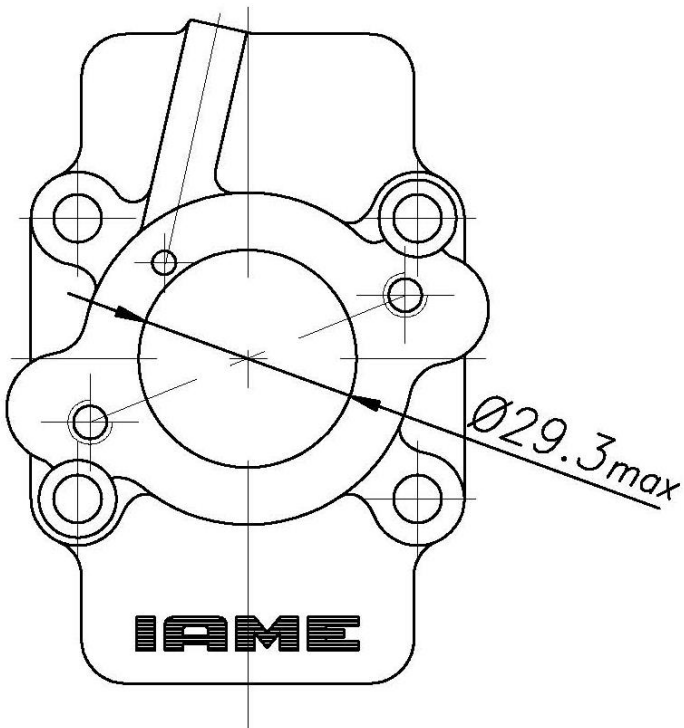


SQUISH MIN.= 0.0354" (0.9 mm)
 (measured with 0.0625" (1/16") / Ø1.6mm solder)

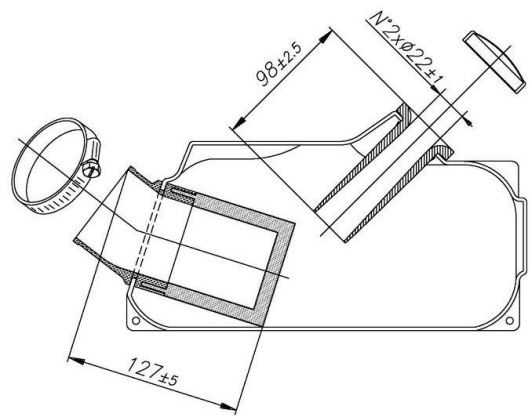
CRANKCASE INSIDE VIEW



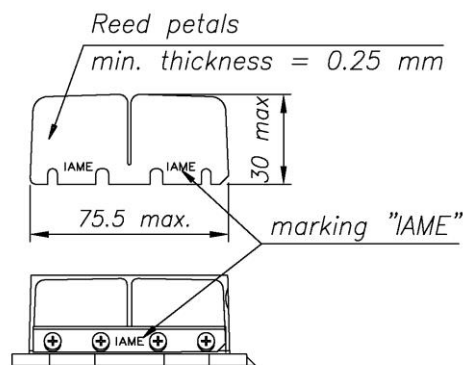
INLET CONVEYOR DIMENSIONS



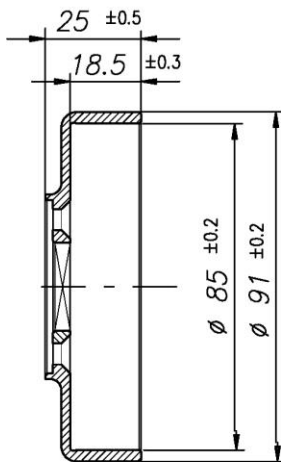
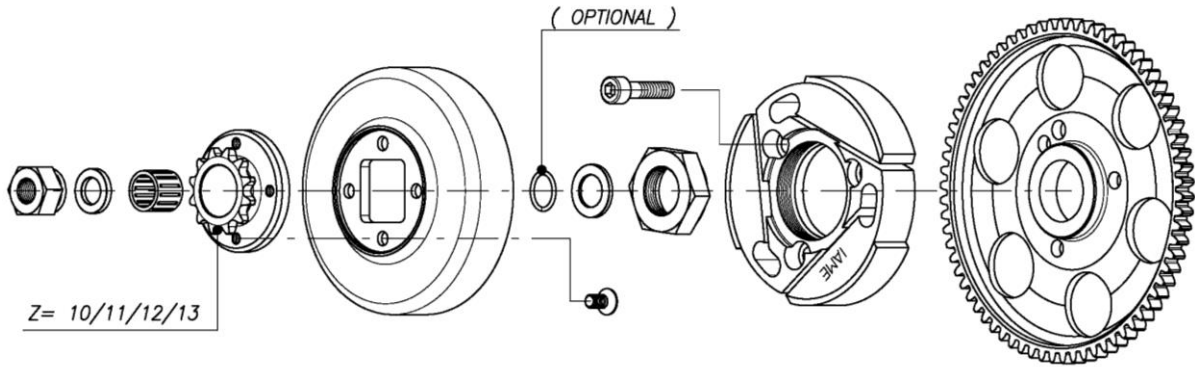
INLET SILENCER



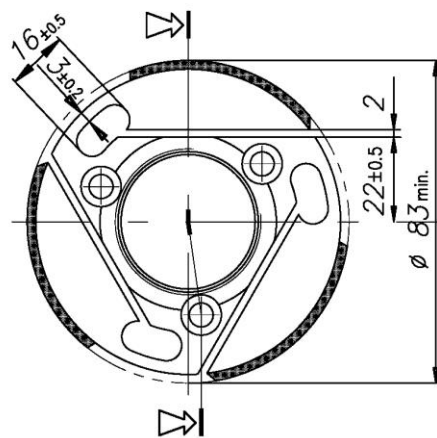
REEDS DIMENSIONS



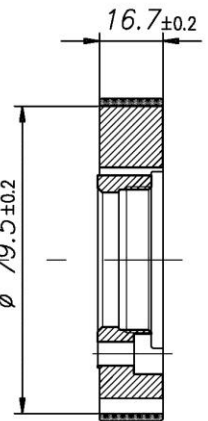
DESCRIPTION OF THE CLUTCH



Min. weight 225 g

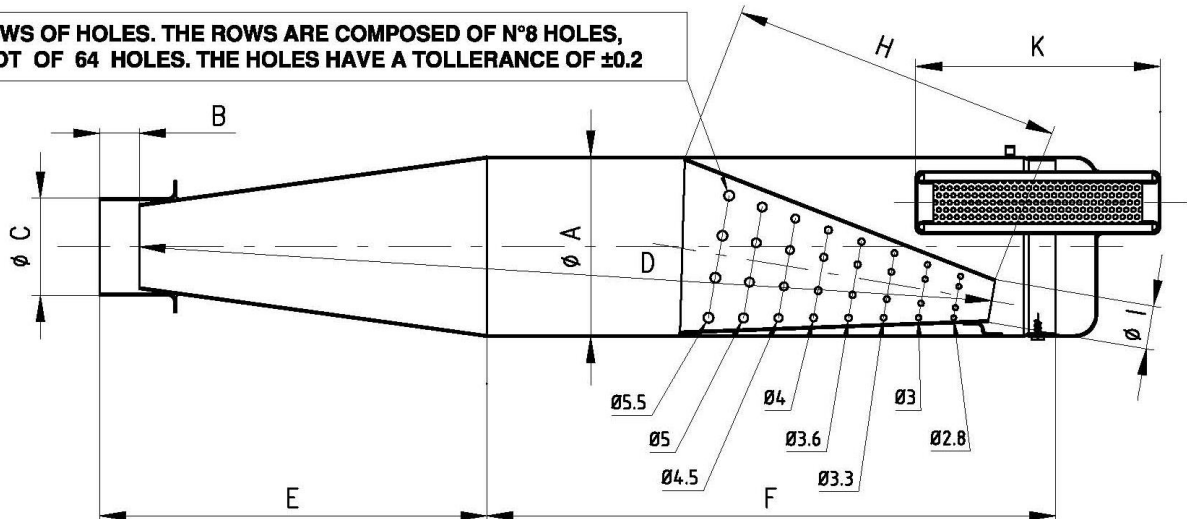


Min. weight 375 g



EXHAUST MUFFLER VIEW AND DIMENSIONS

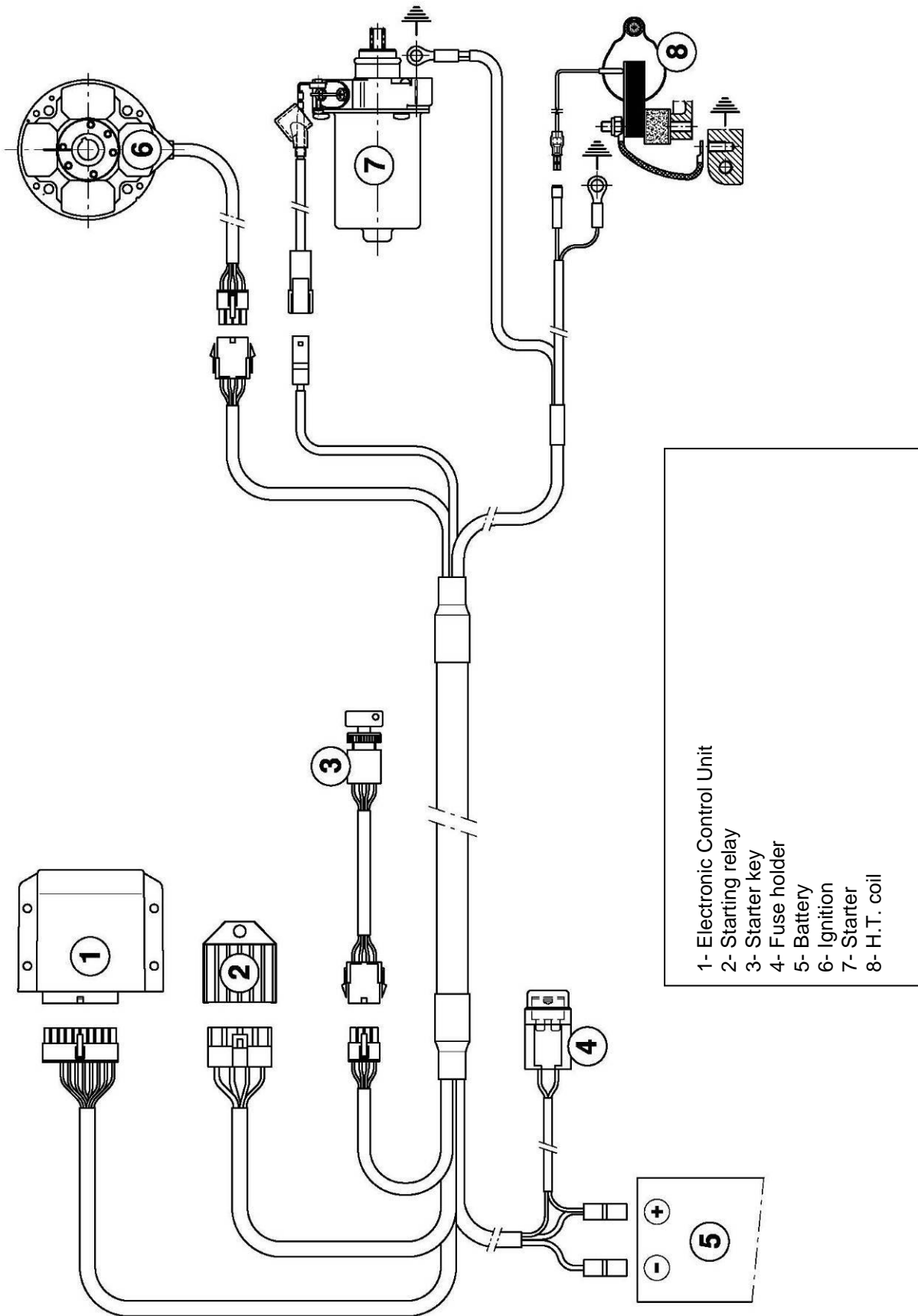
N° 8 ROWS OF HOLES. THE ROWS ARE COMPOSED OF N°8 HOLES, FOR A TOT OF 64 HOLES. THE HOLES HAVE A TOLLERANCE OF ±0.2



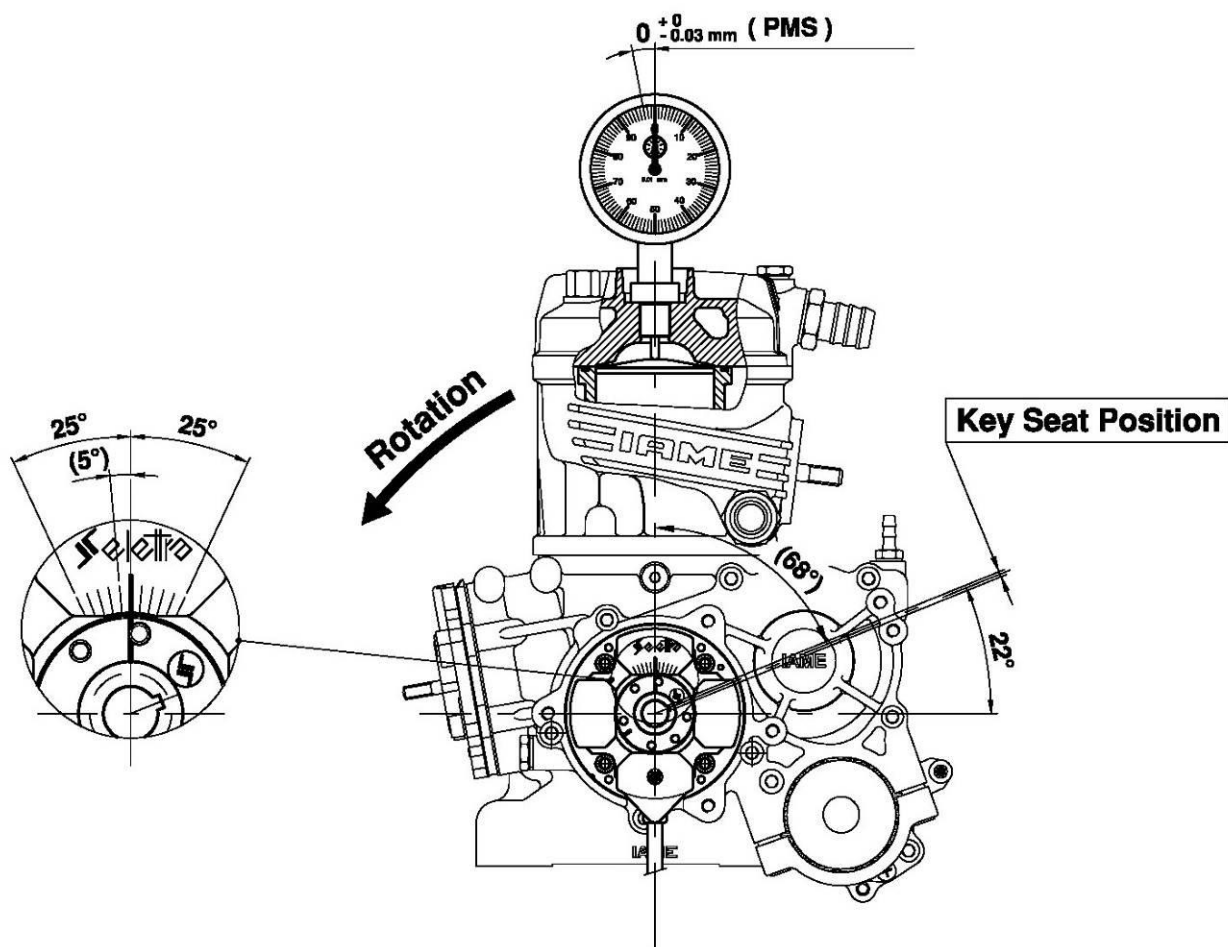
A: <u>100 ±1</u> Øext.	D: <u>485 ±5</u>	H: <u>180 ±5</u>
B: <u>22 ±1</u>	E: <u>218 ±5</u>	I: <u>24 ±2</u> Øext.
C: <u>54 ±1</u> Øext.	F: <u>315 ±3</u>	K: <u>130 ±3</u>

Min. weight 1.39 Kg

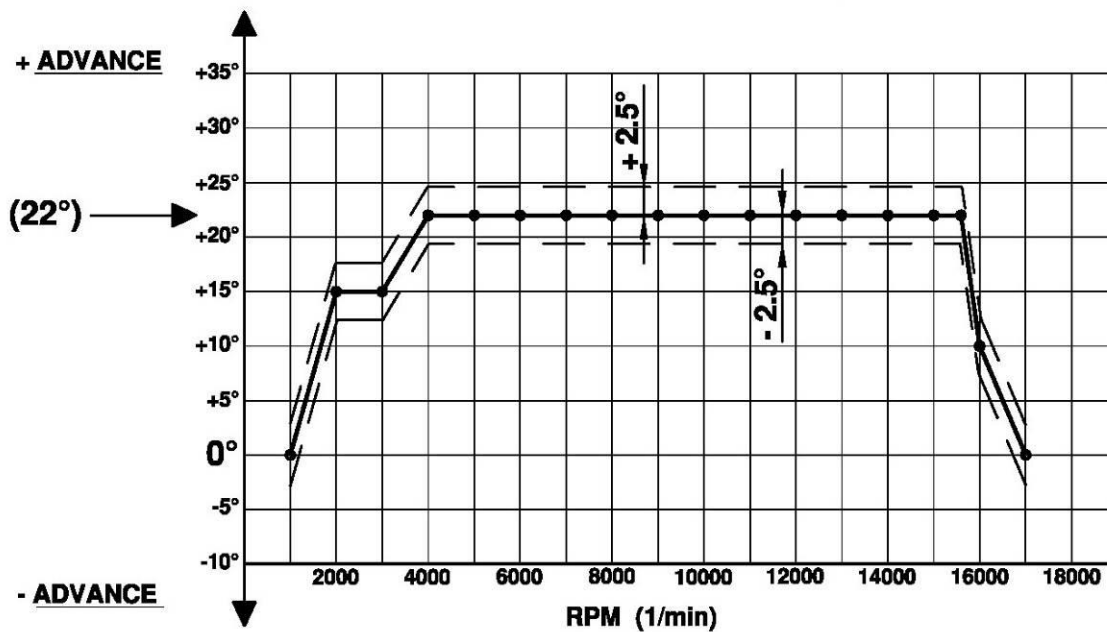
WIRING DIAGRAM (SELETTA DIGITAL "K" IGNITION)



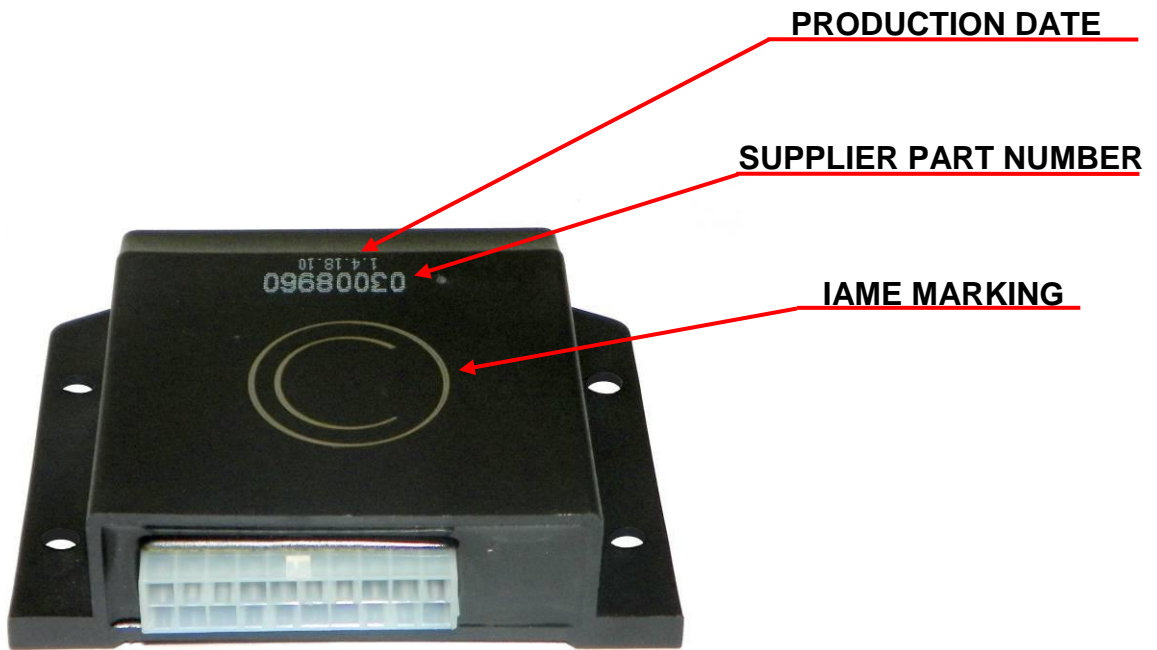
SCHEME FOR ADVANCE CONTROL



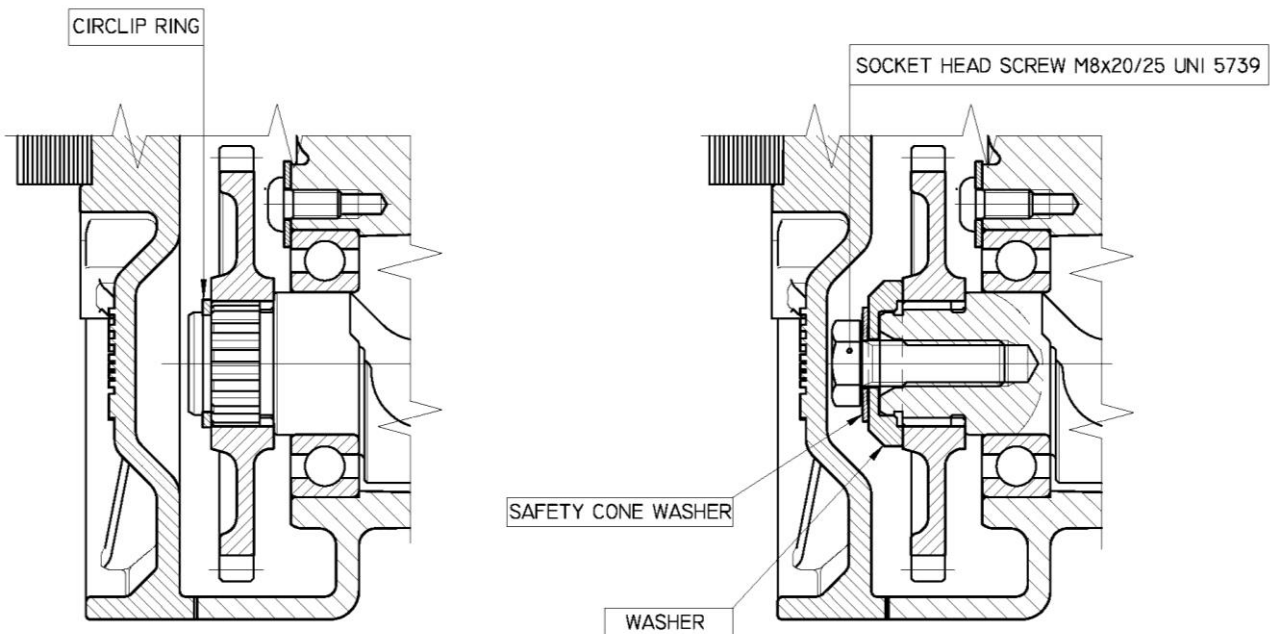
ADVANCE CURVE GRAPHS



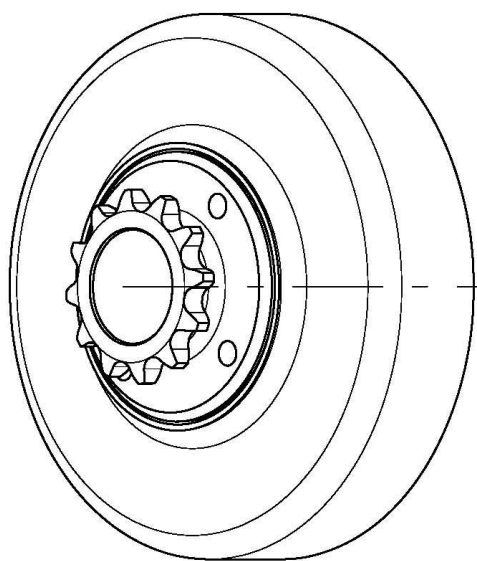
ELECTRONIC BOX MARKING



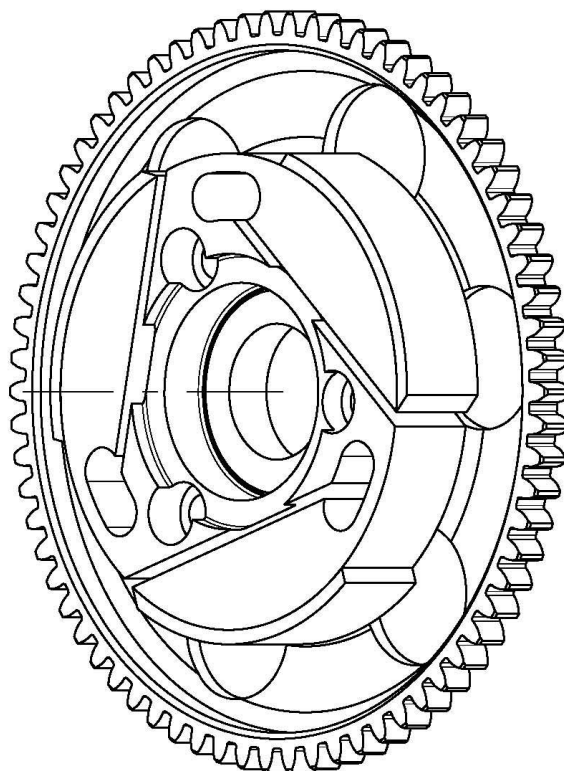
GEAR ALTERNATIVE FIXING



DESCRIPTION OF THE CLUTCH

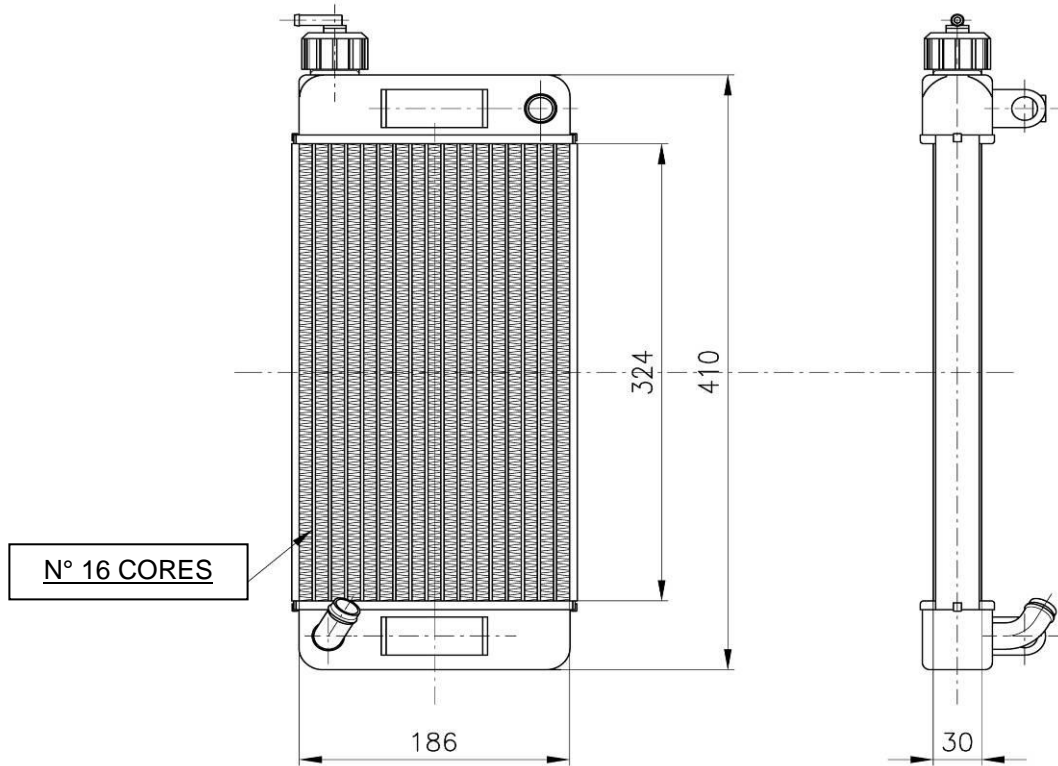


Min. weight 300 g
Poids min. 300 g



Min. weight 680 g
Poids min. 680 g

RADIATOR DESCRIPTION AND SKETCH OF PARTS



PAINTED AND NOT PAINTED

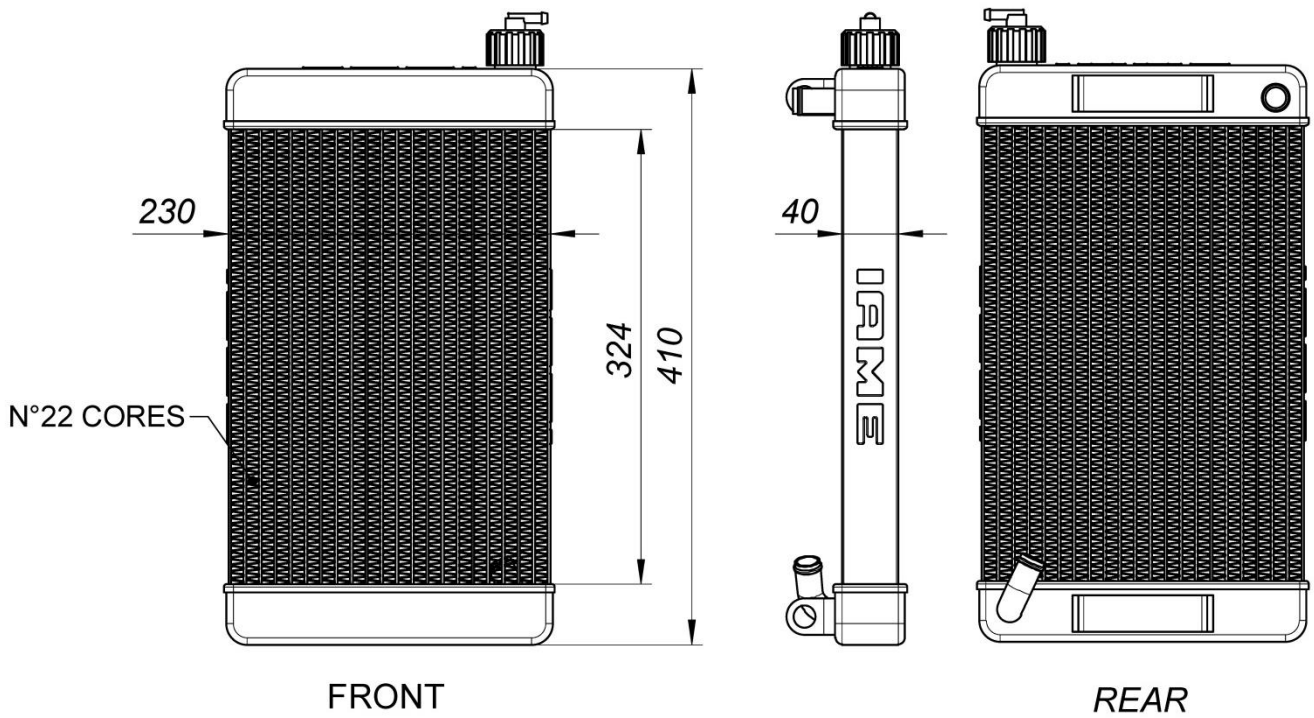


FRONT

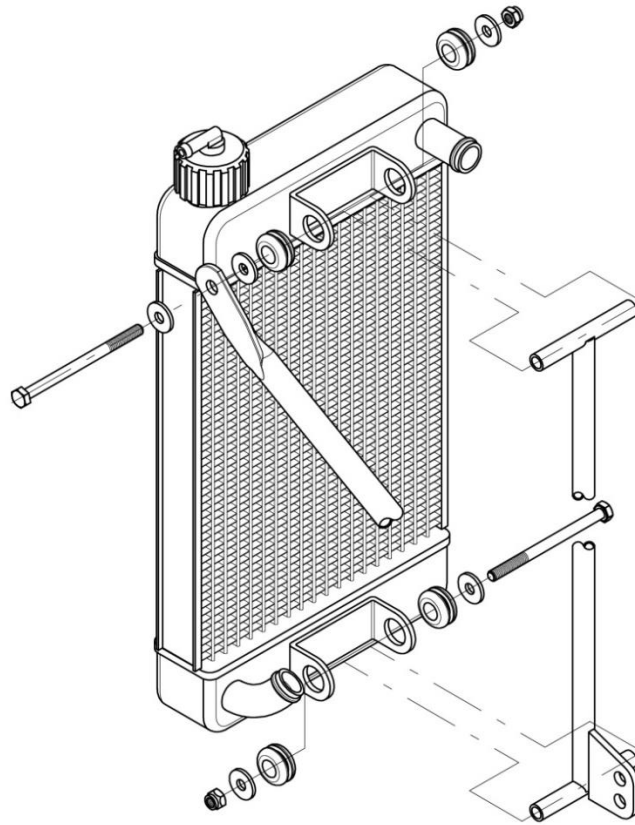
REAR



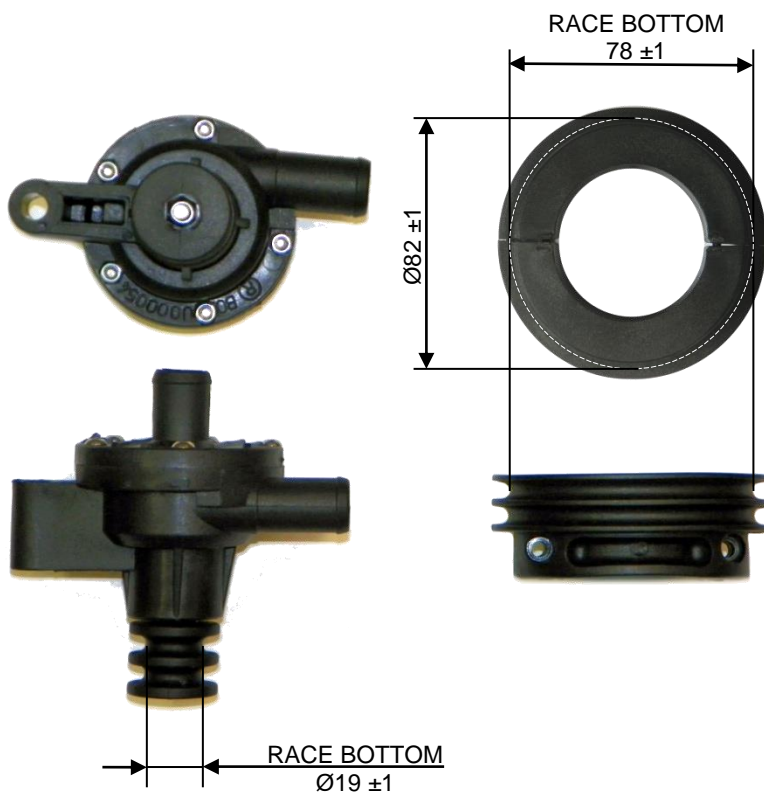
RADIATOR ALTERNATIVE SKETCH AND PHOTOS IDENTIFICATION COMPONENTS



RADIATOR AND ITS SUPPORTS



WATER PUMP GROUP



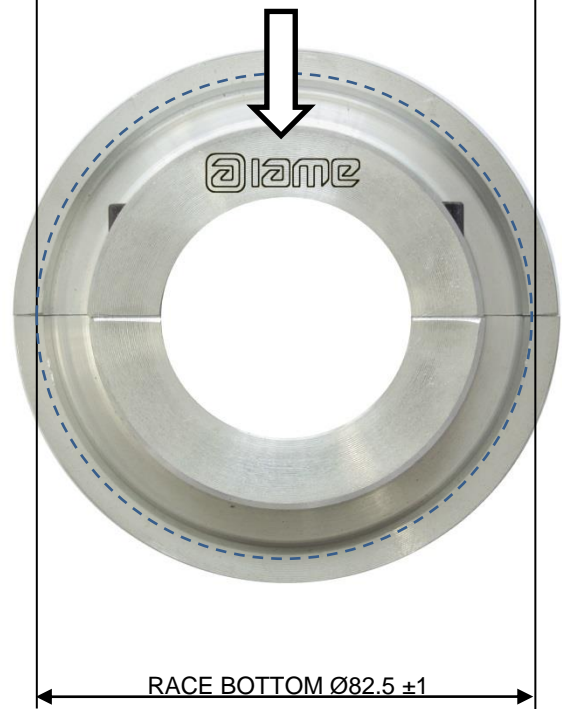
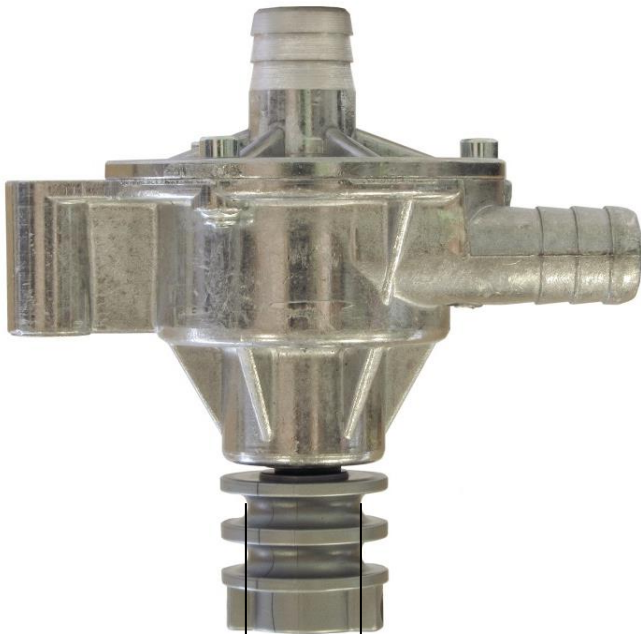
THERMOSTAT



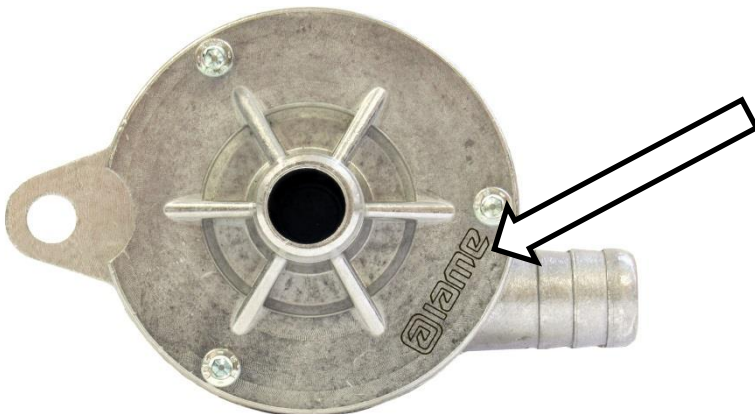
ALTERNATIVE



ALTERNATIVE WATER PUMP & PULLEY



RACE BOTTOM Ø20±1



PISTON IDENTIFICATION MARKING

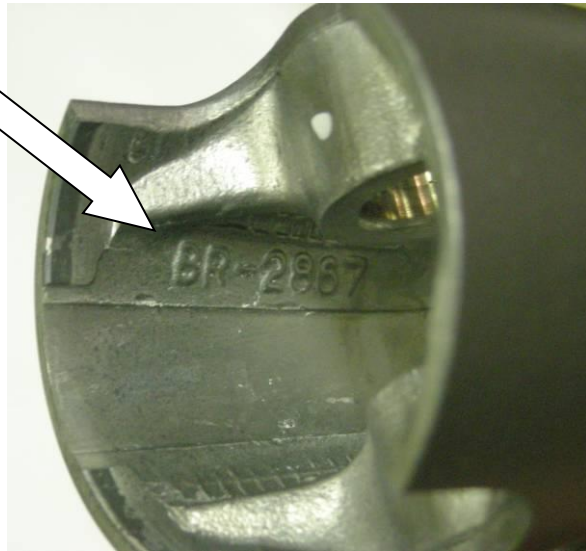
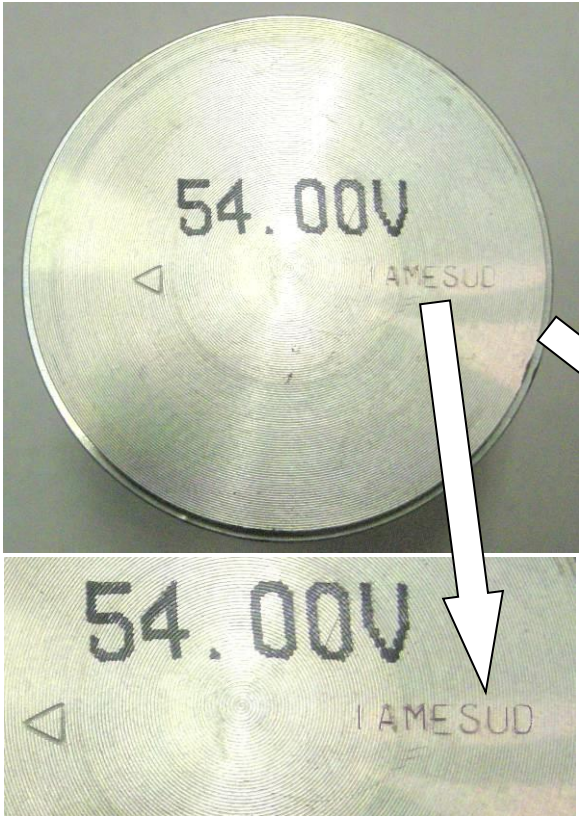
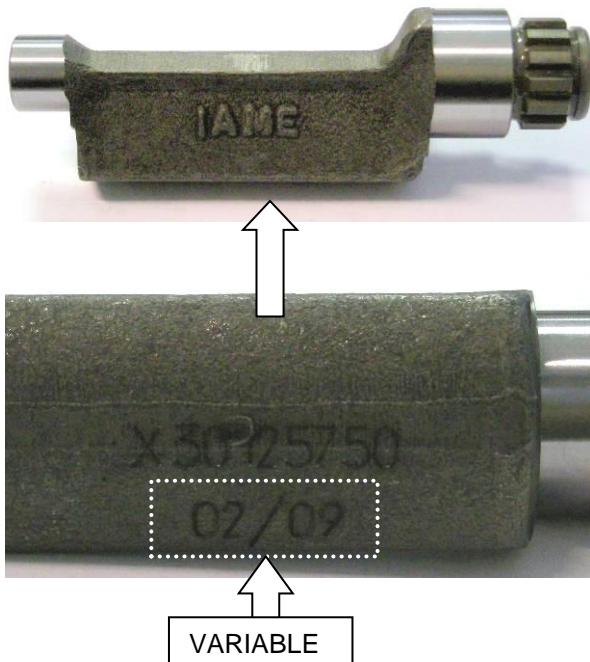
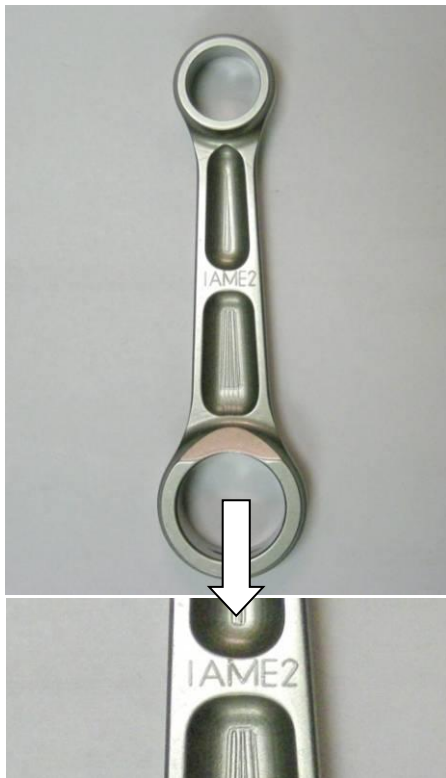


PHOTO IDENTIFICATION CONROD

IDENTIFICATION BALANCING SHAFT MARKING

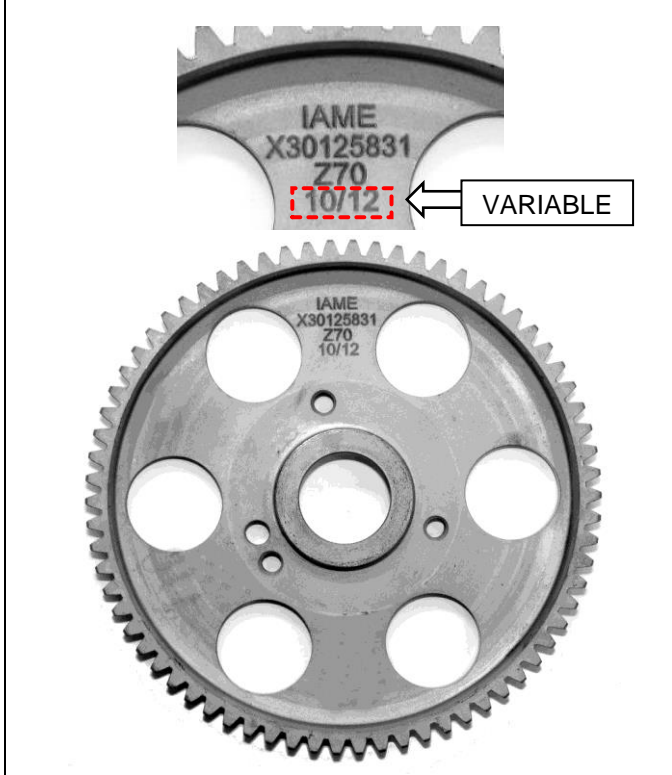
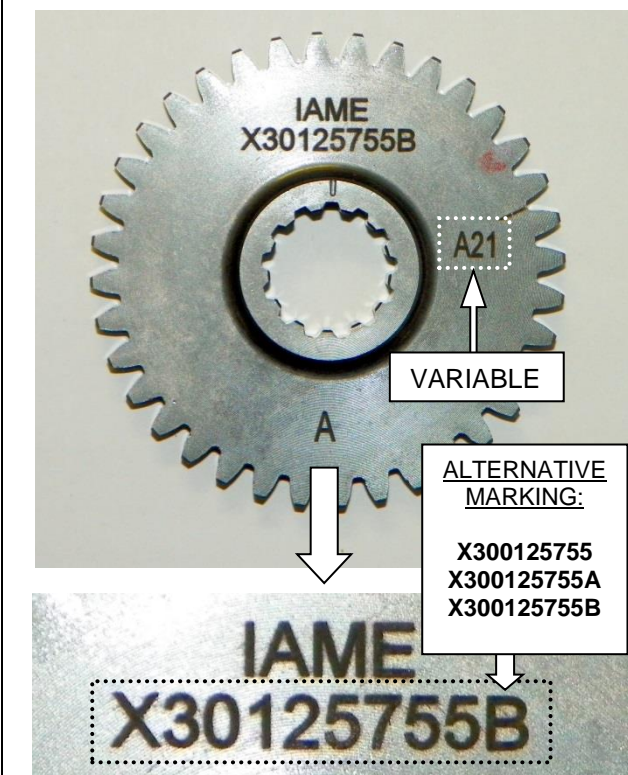


CRANKSHAFT IDENTIFICATION MARKING

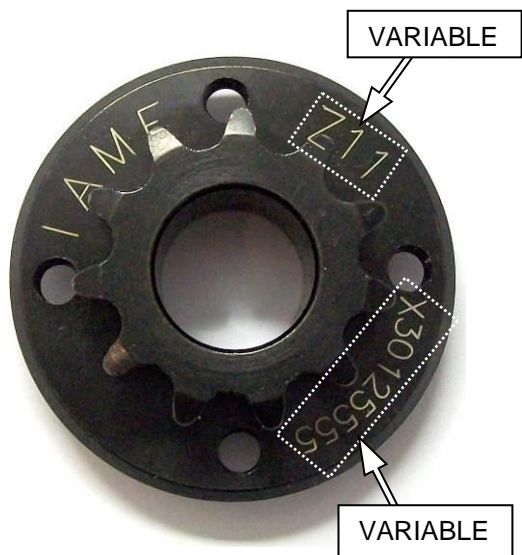


GEAR COMMAND BALANCING SHAFT IDENTIFICATION MARKING

STARTER RING IDENTIFICATION MARKING



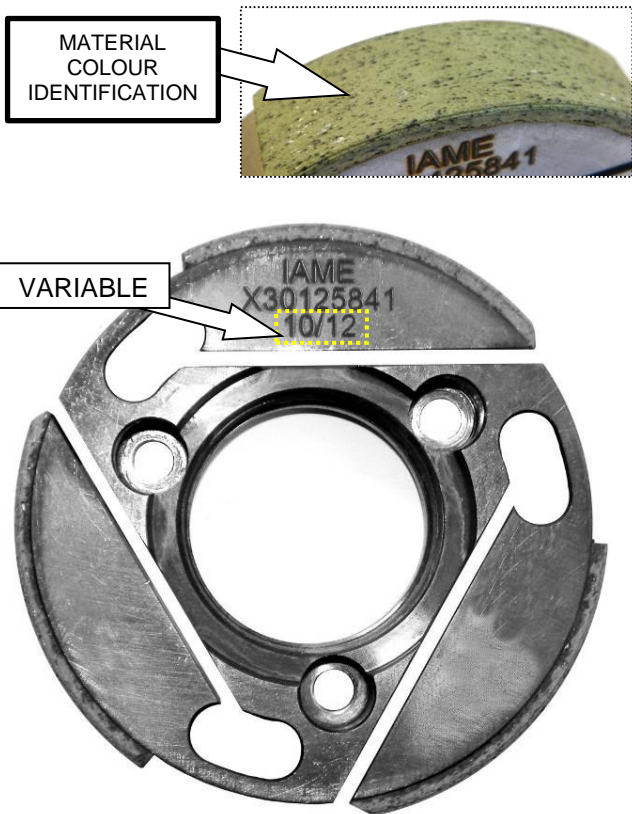
SPROCKET IDENTIFICATION MARKING



CLUTCH DRUM IDENTIFICATION MARKING



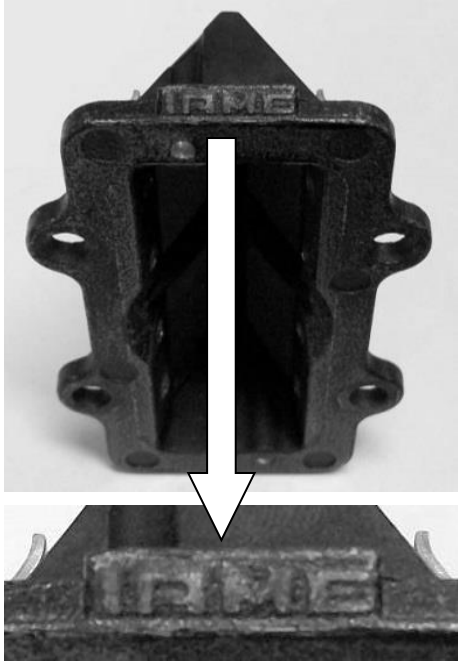
CLUTCH BODY IDENTIFICATION MARKING



STARTER IDENTIFICATION MARKING



REED GROUP & PETALS IDENTIFICATION MARKING



FIBER GLASS

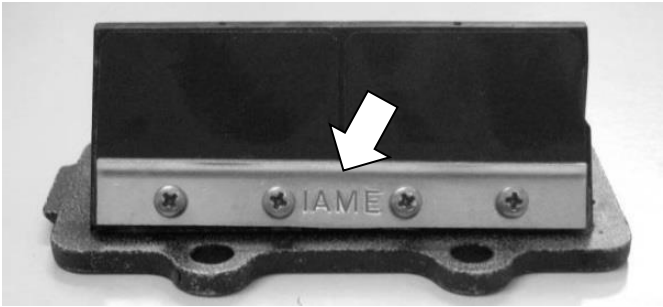
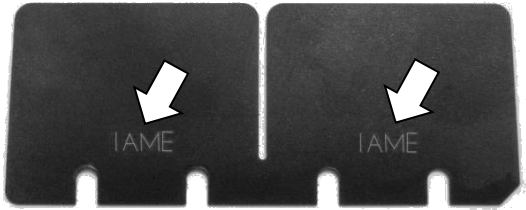
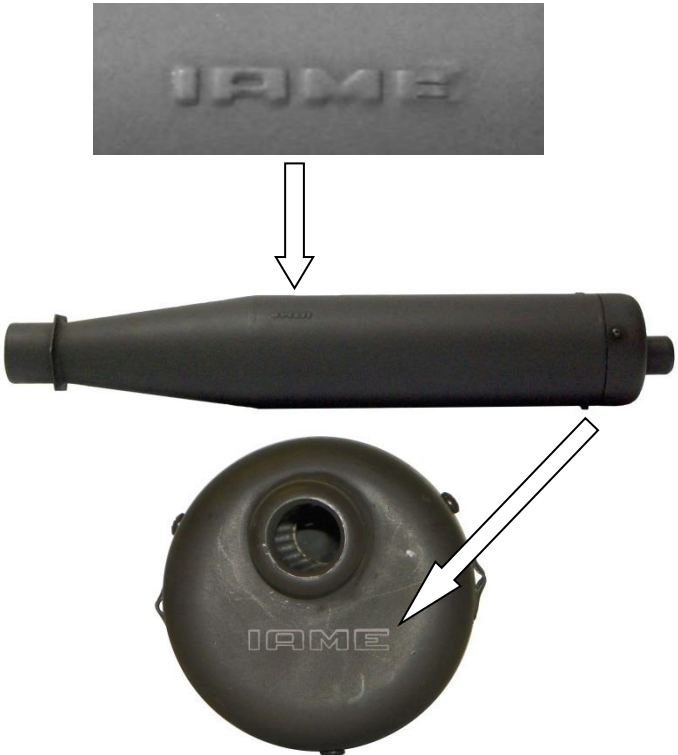


PHOTO IDENTIFICATION
CARBURETOR INLET CONVEYOR

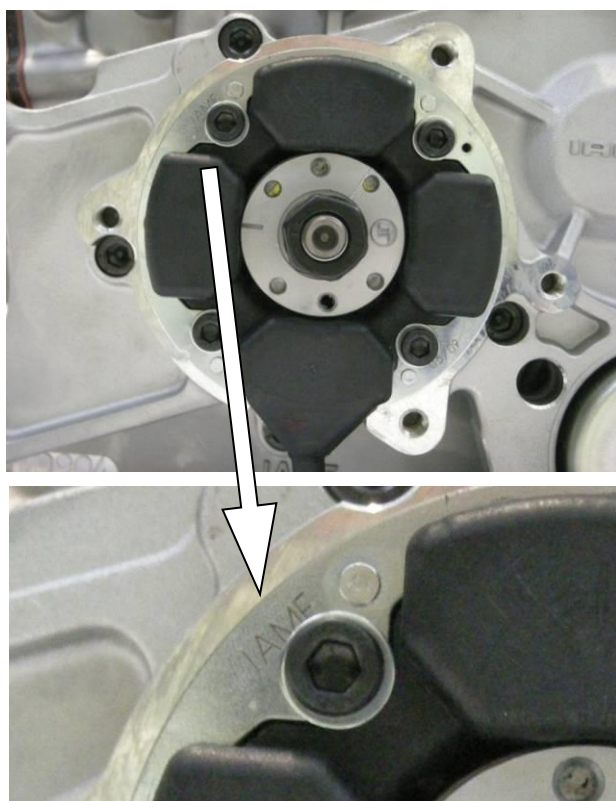
EXHAUST SILENCER IDENTIFICATION
MARKING



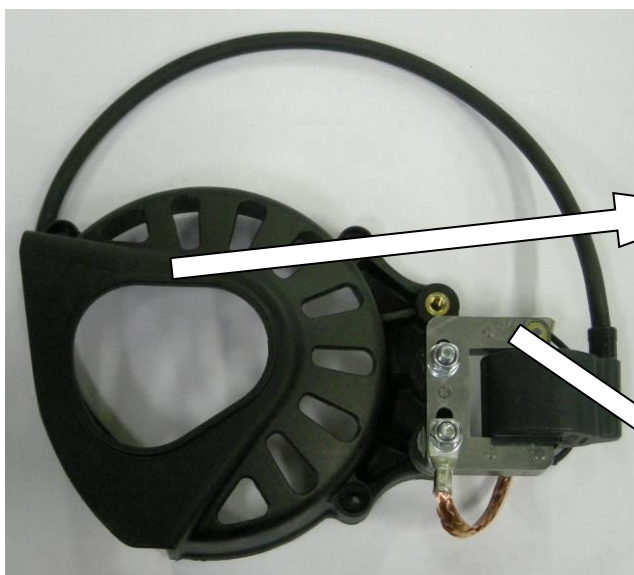
HEADER EXHAUST IDENTIFICATION MARKING



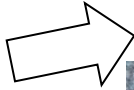
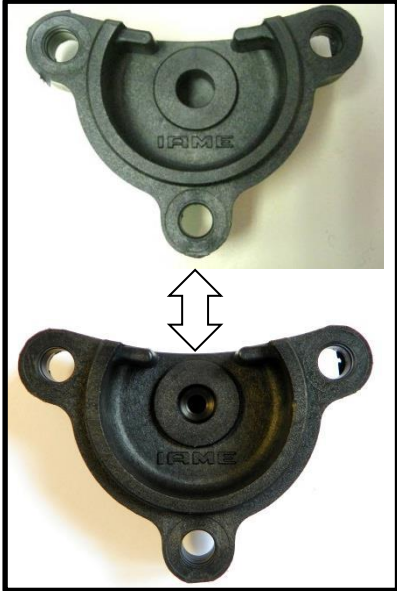
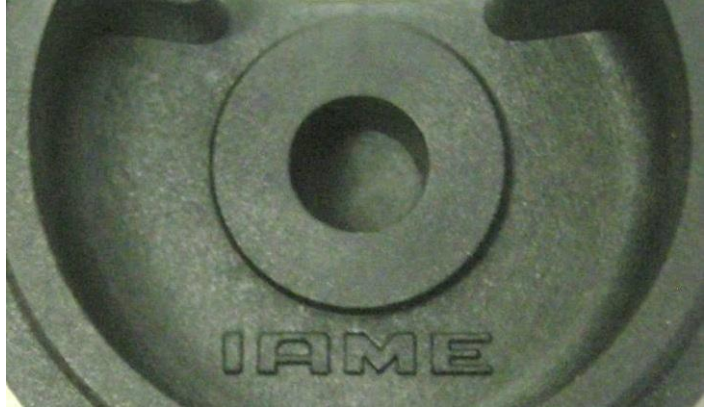
STATOR IDENTIFICATION MARKING



CLUTCH COVER AND H.T. COIL IDENTIFICATION MARKING



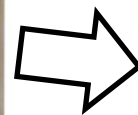
BENDIX COVER IDENTIFICATION MARKING



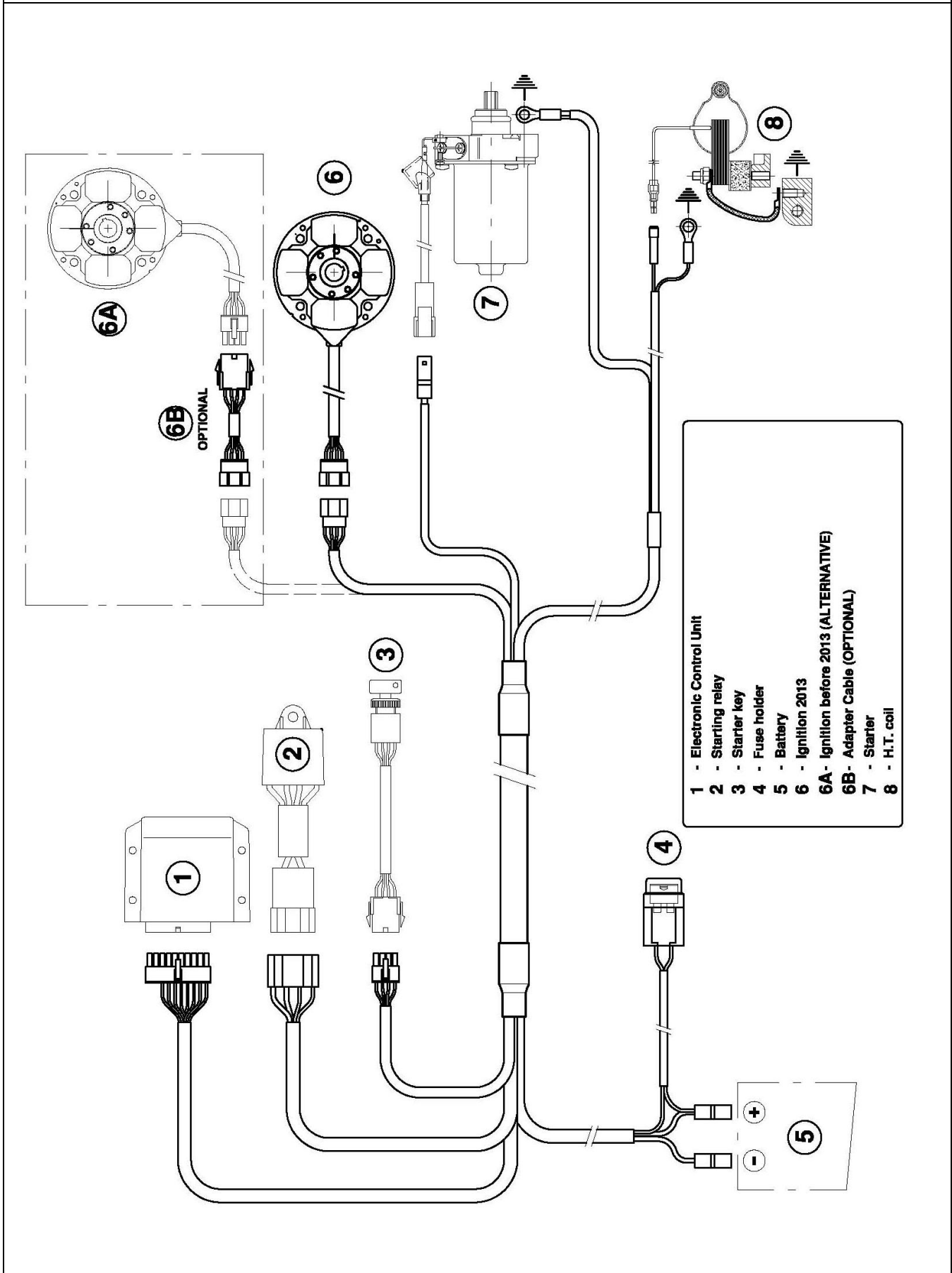
ALTERNATIVE



ALTERNATIVE RADIATOR IAME IDENTIFICATION MARKING



WIRING DIAGRAM (SELETTRA DIGITAL "K" IGNITION 2013)

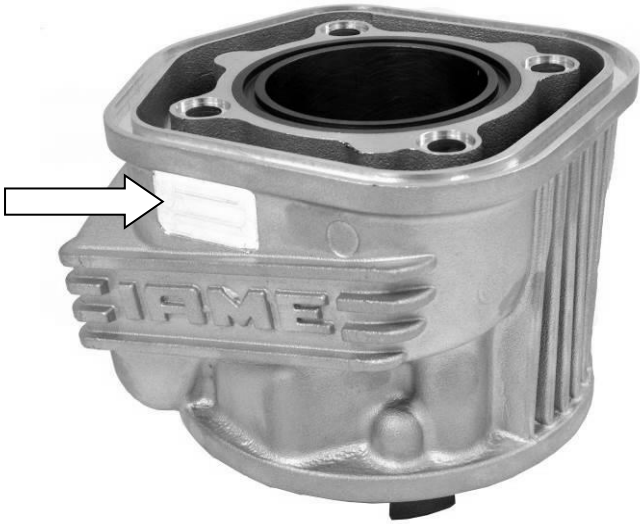


ALTERNATIVE PUSH BUTTONS – START & STOP

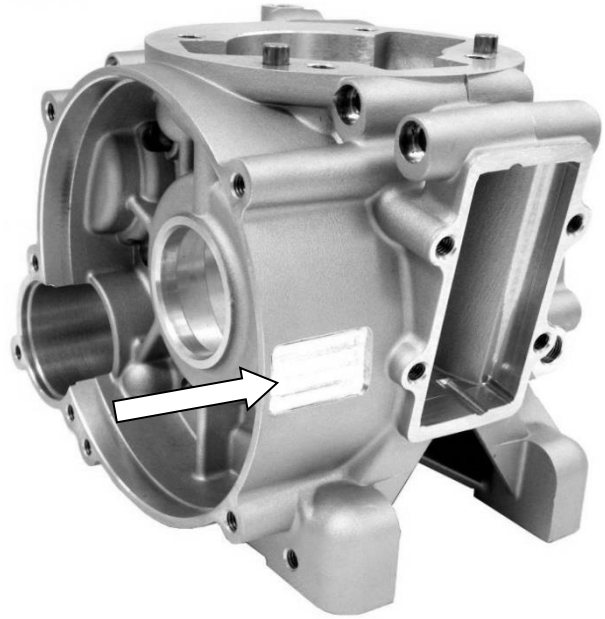


FROM 2014 ON

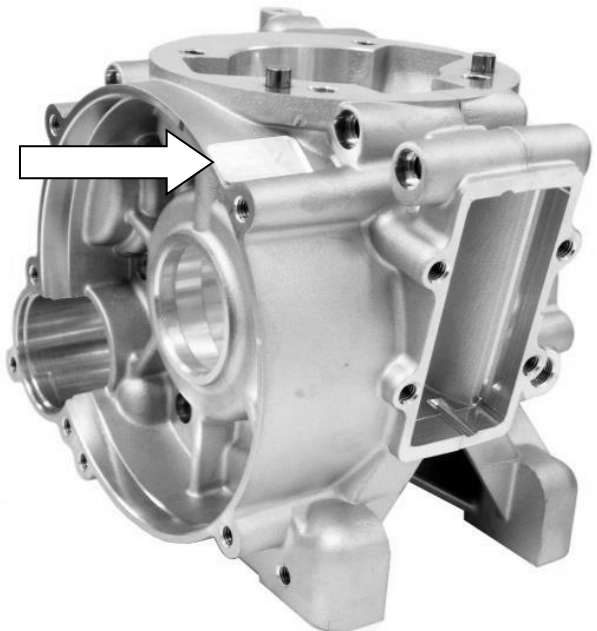
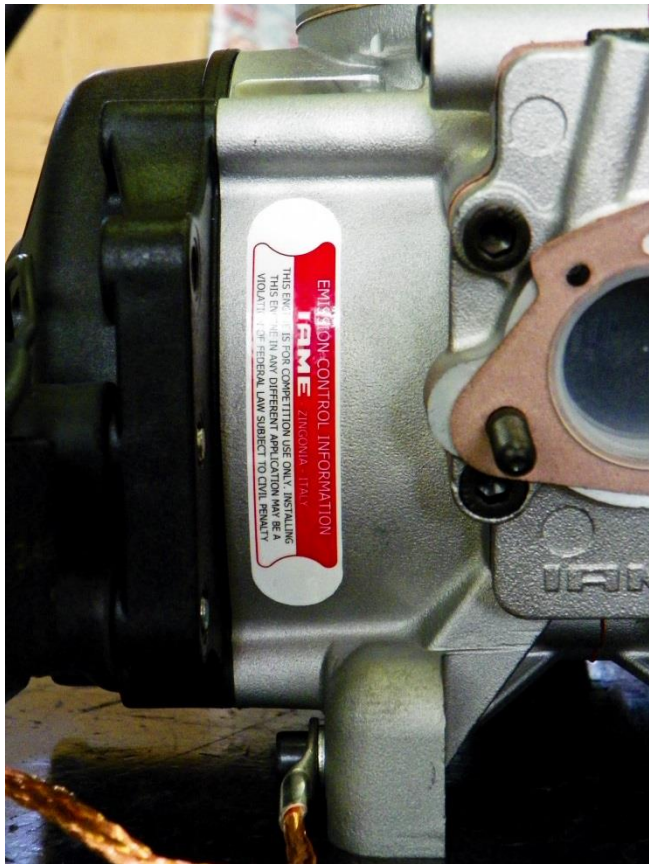
STICKER APPLICATION AREA



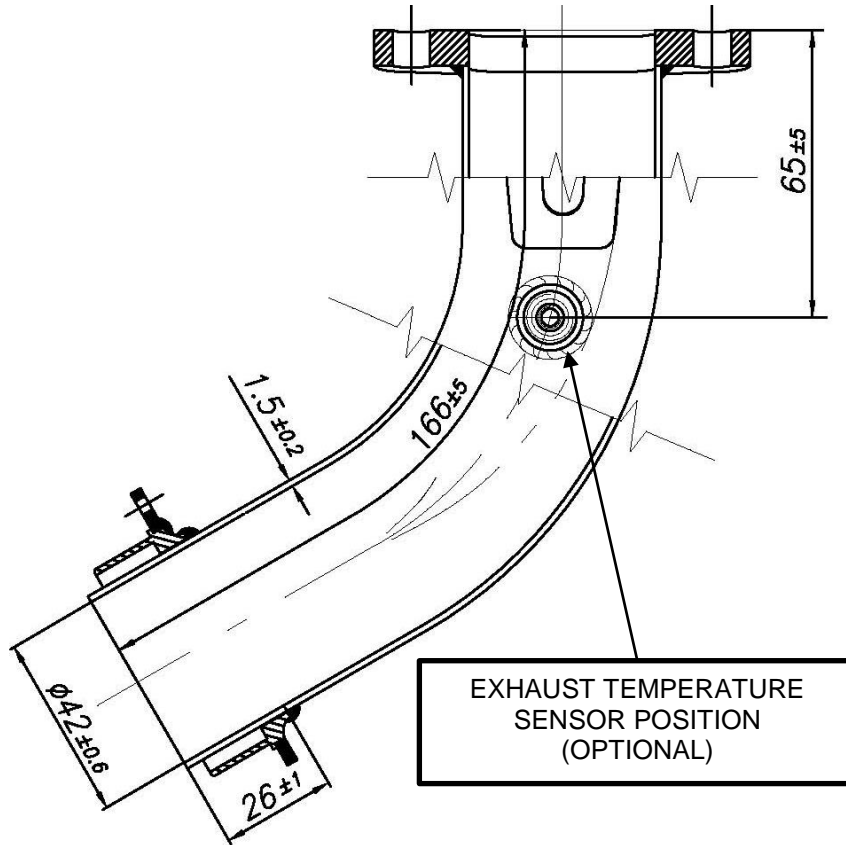
ENGINE STICKER "USA"



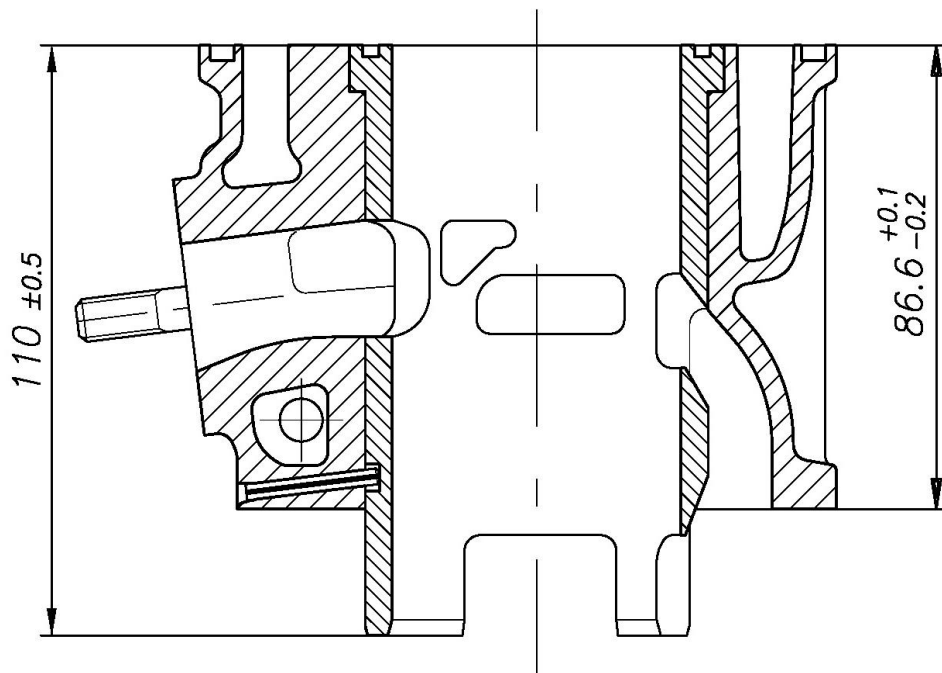
ALTERNATIVE AREA



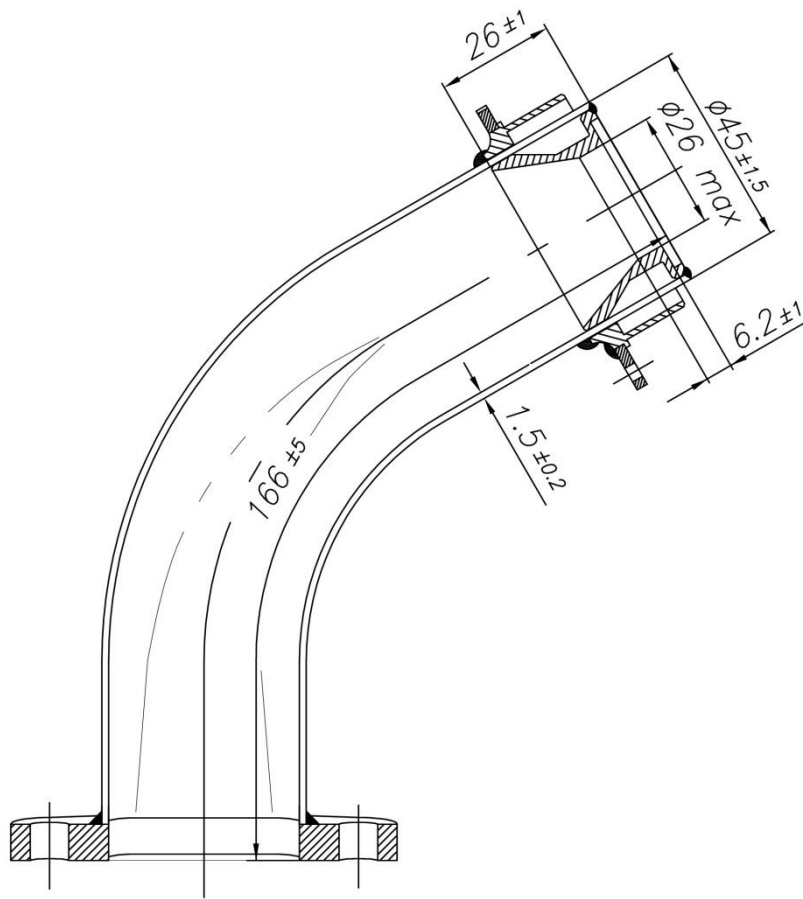
HEADER EXHAUST DIMENSIONS



CYLINDER CROSS SECTION VIEW



EXHAUST HEADER RESTRICTED



EXHAUST HEADER WITH RESTRICTOR ID MARKING



CYLINDER IDENTIFICATION MARKING

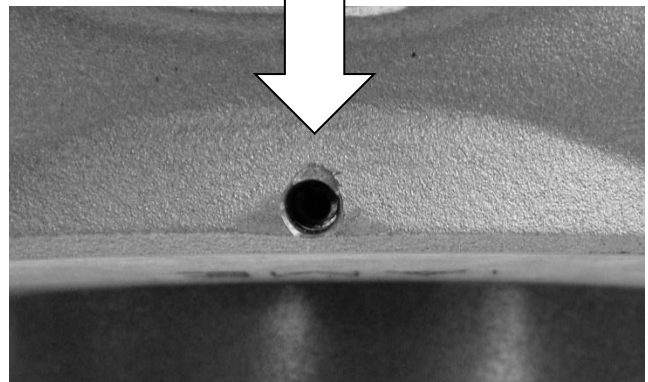
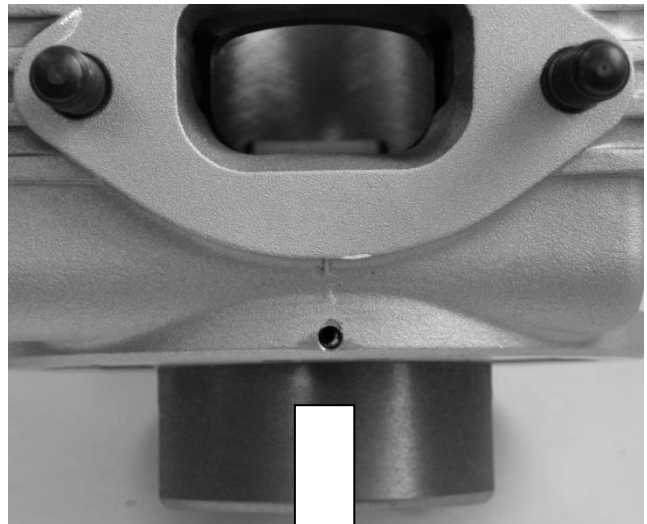
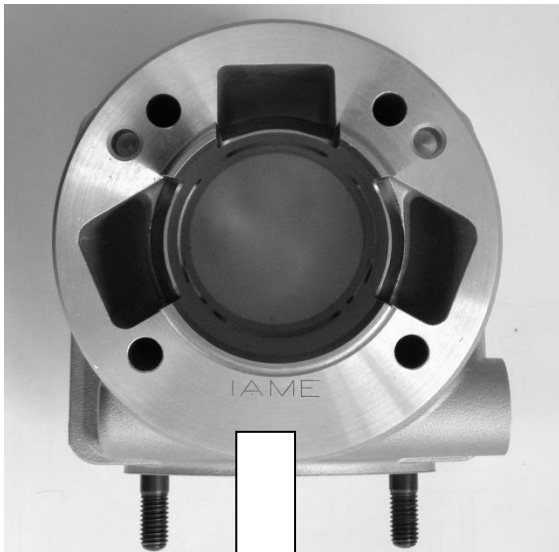
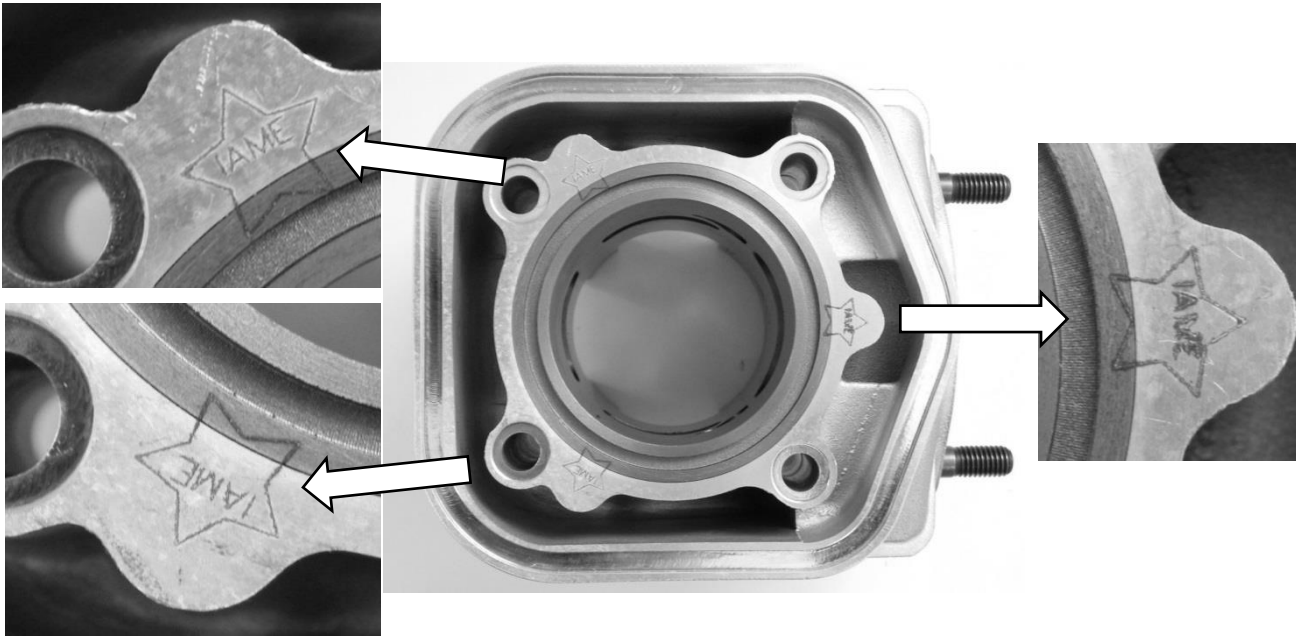
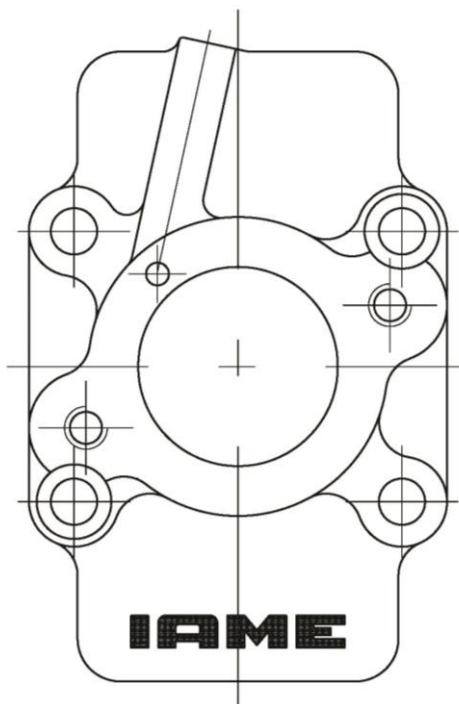
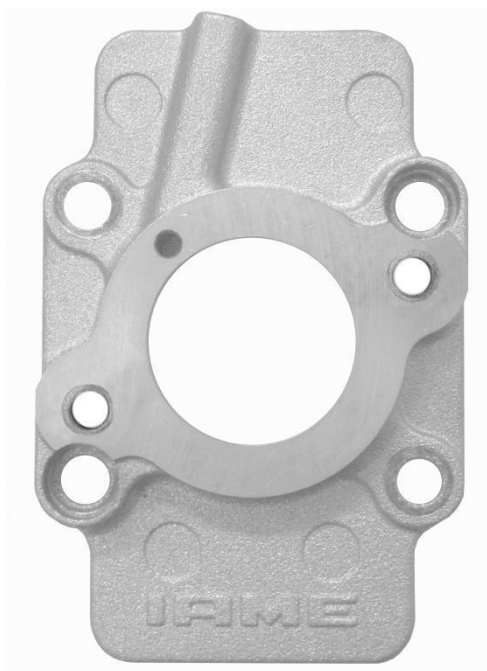


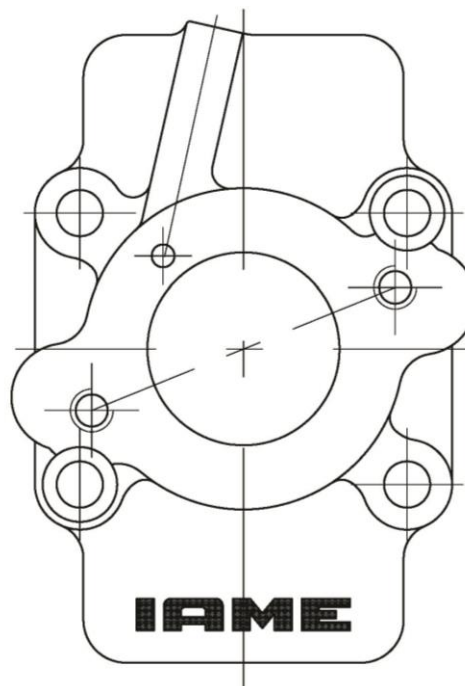
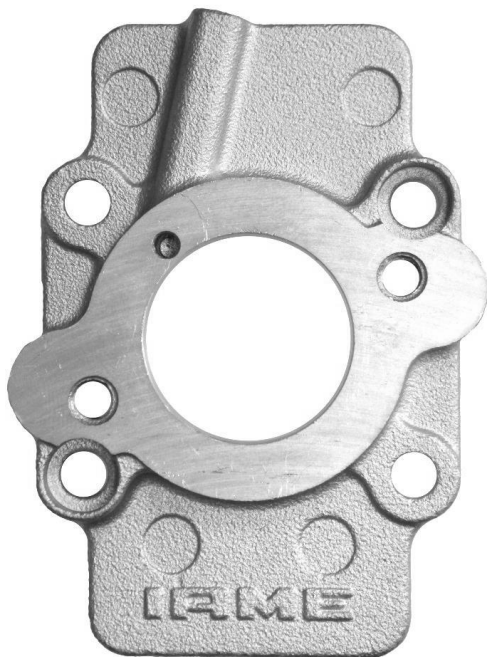
PHOTO IDENTIFICATION CARBURETTOR INLET CONVEYOR

Old version - while stocks last

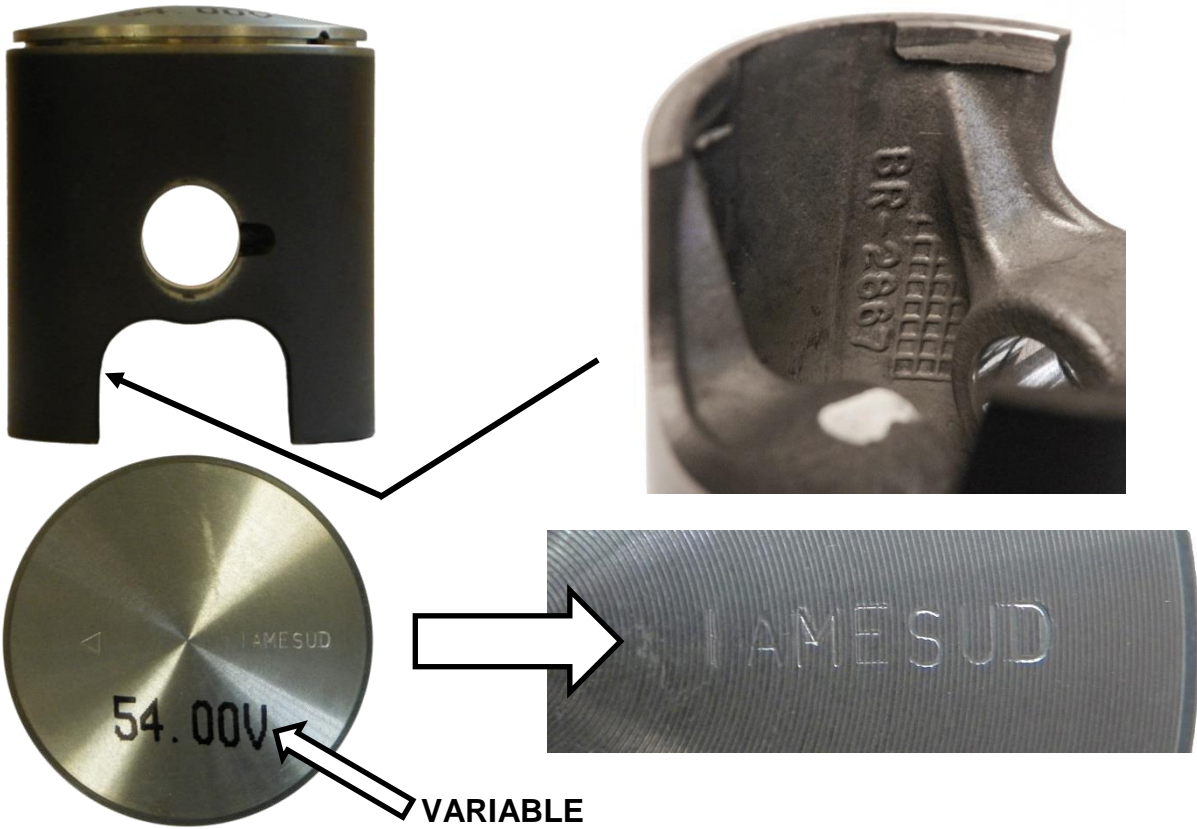


IN ALTERNATIVE

New version



ACTUAL PISTON



ALTERNATIVE PISTON

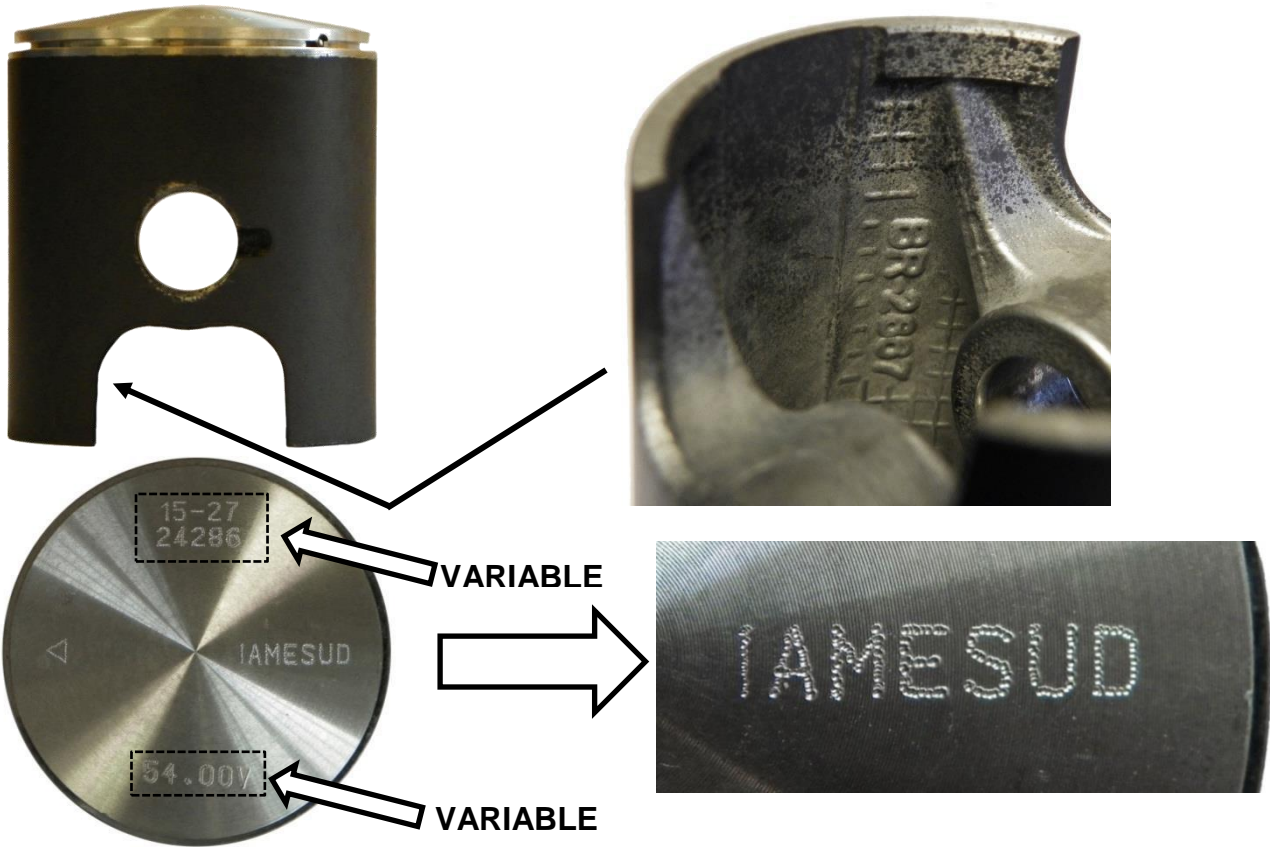
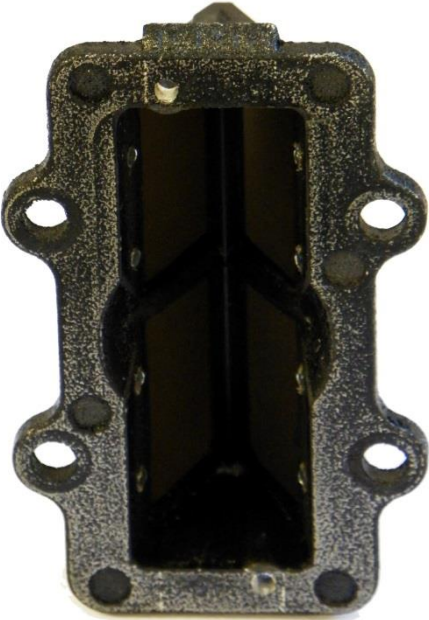
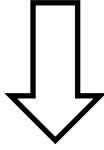
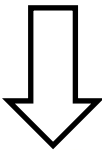


PHOTO IDENTIFICATION REED GROUP

CURRENT VERSION

ALTERNATIVE VERSION



IGNITION STATOR FASTENING COMPONENTS MAIN DIMENSIONS



ALTERNATIVE CONROD

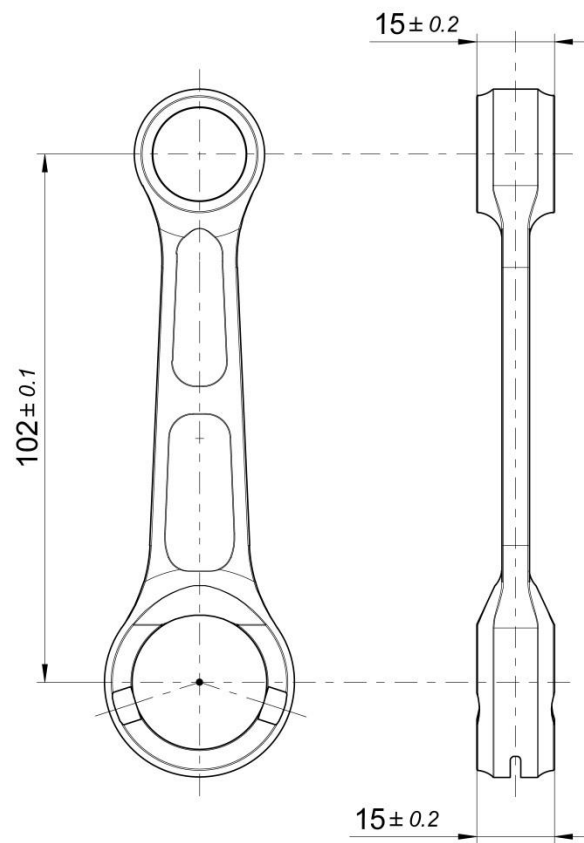


PHOTO OF THE CONROD BOTH SIDE – ALTERNATIVE

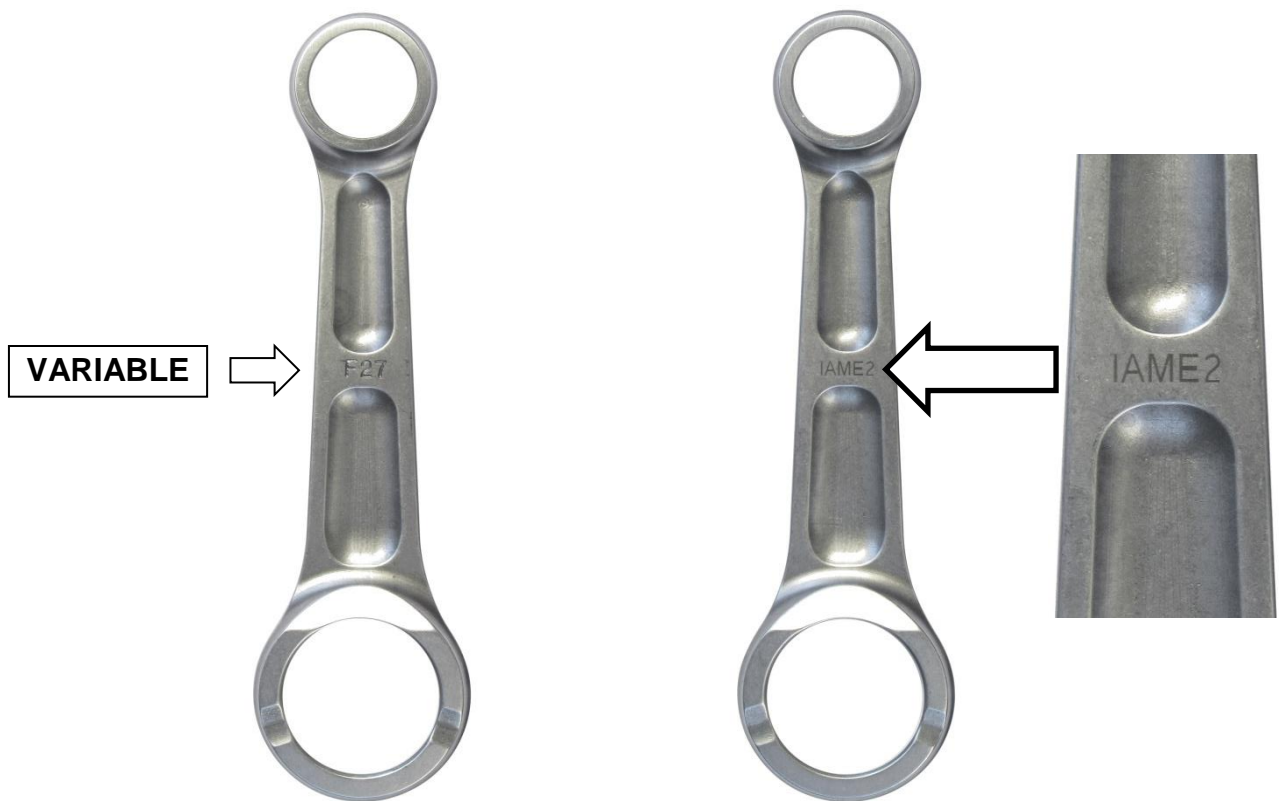


PHOTO IDENTIFICATION OF SMALL END CONROD BEARING – TYPES ALTERNATIVE

TYPE 1



TYPE 2



PHOTO IDENTIFICATION OF SILVER CONROD WASHER – TYPES ALTERNATIVE

TYPE 1



TYPE 2



PARTICULARS WITH ALTERNATIVE NEW LOGO "IAME"

CYLINDER HEAD



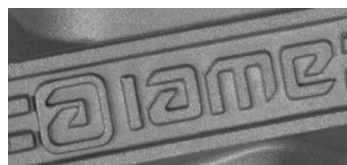
NEW LOGO



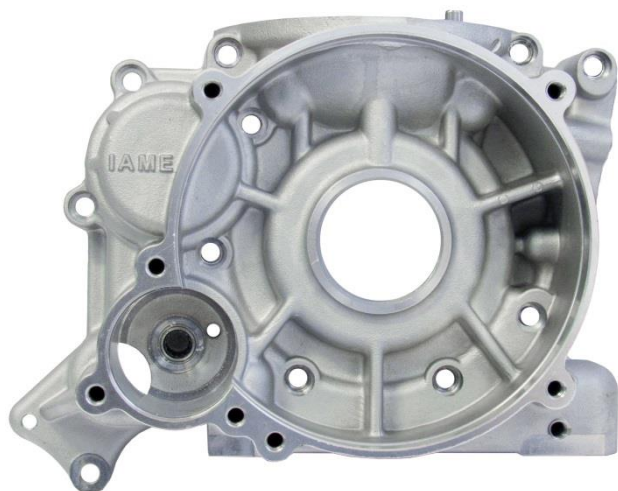
CYLINDER



NEW LOGO



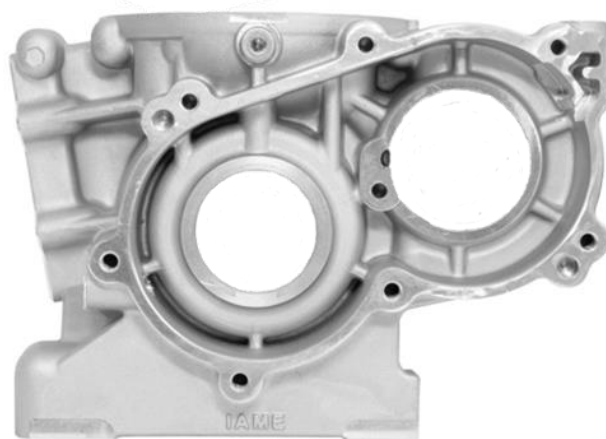
SEMICARTER TRASMISSION SIDE



NEW LOGO



SEMICARTER IGNITION SIDE



NEW LOGO

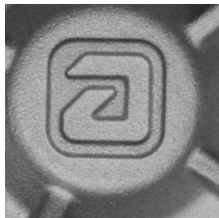


PARTICULARS WITH ALTERNATIVE NEW LOGO "IAME"

IGNITION COVER



NEW LOGO



CLUTCH COVER



NEW LOGO



REED GROUP



NEW LOGO



CARBURETTOR INLET CONVEYOR



NEW LOGO



PARTICULARS WITH ALTERNATIVE NEW LOGO "IAME"

EXHAUST SILENCER



NEW LOGO



NEW LOGO



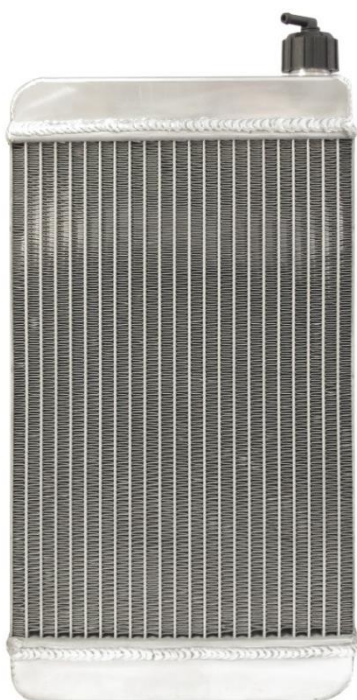
EXHAUST HEADER



NEW LOGO



RADIATOR



NEW LOGO



THE OTHERS COMPONENTS OF ENGINE THAT ARE MARKED (LASER OR PUNCHING) UNTIL TODAY WITH LOGO OR WRITTEN "IAME"

I A M E

or

IAME

NOW COULD BE MARKED WITH NEW LOGO "IAME"

I a m e

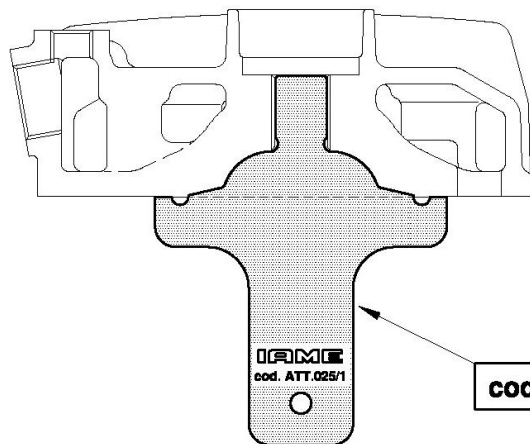
or

ⓐ I a m e

or

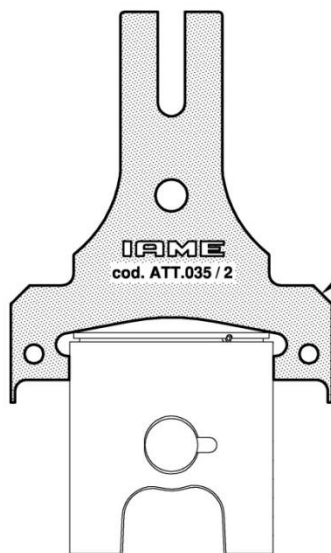
ⓐ

CHECKING THE SHAPE OF THE COMBUSTION CHAMBER



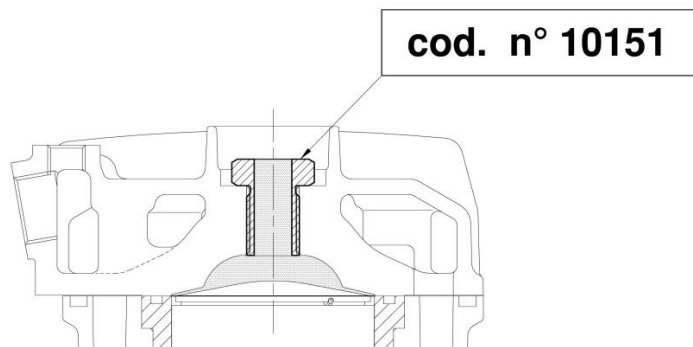
cod. n° ATT. 025 / 1

CONTROL OF THE PISTON DOME



cod. n° ATT. 035 / 2

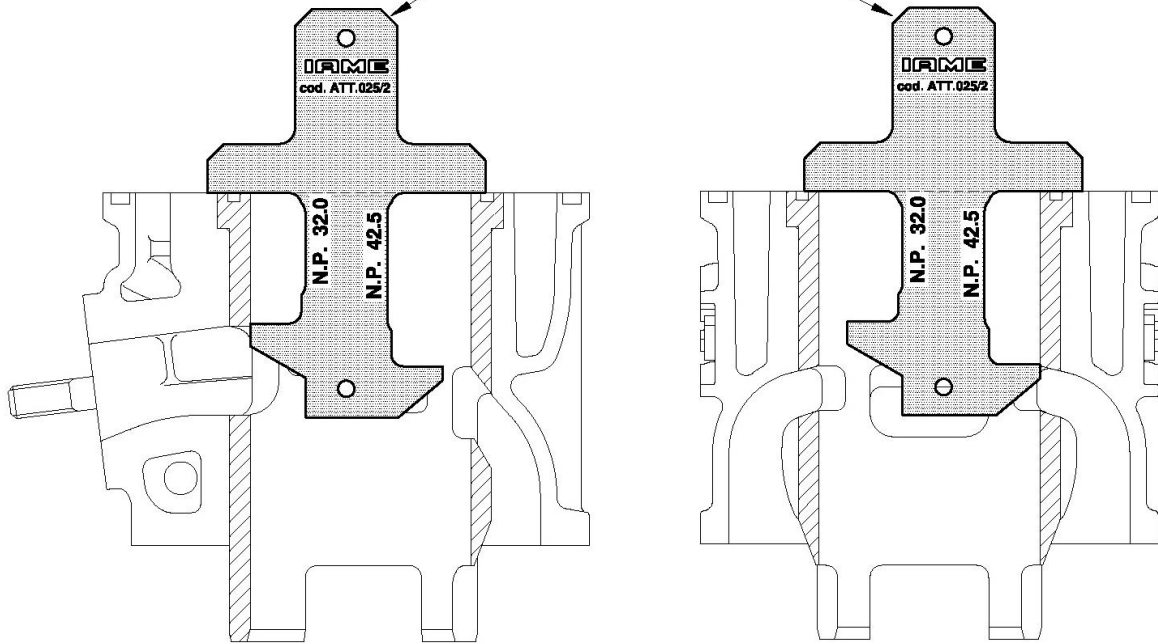
CONTROL OF THE VOLUME OF THE COMBUSTION CHAMBER



cod. n° 10151

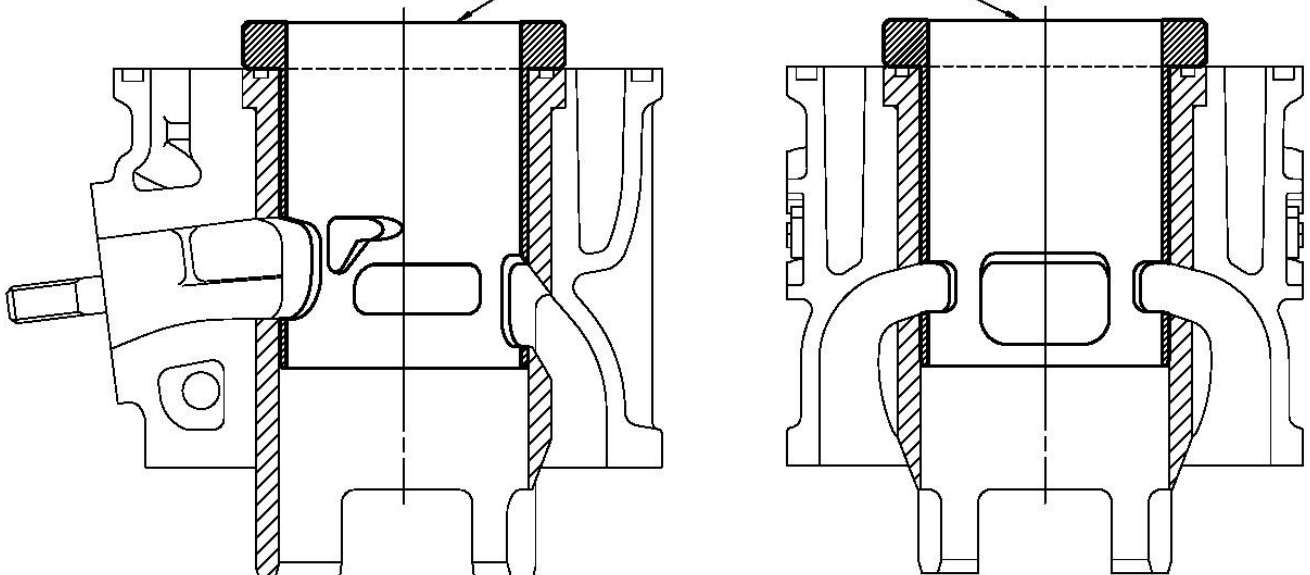
CYLINDER CHECK
CHECK OF EXHAUST DUCT AND LATERAL TRANSFERS

cod. n° ATT. 025 / 2

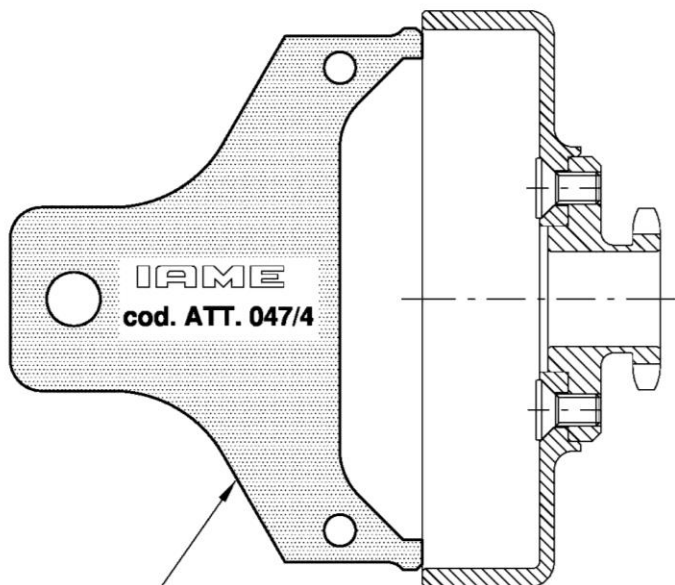


CYLINDER LINER DUCTS AND TRANSFERS CHECK TOOL

cod. n° ATT. 035 / 1



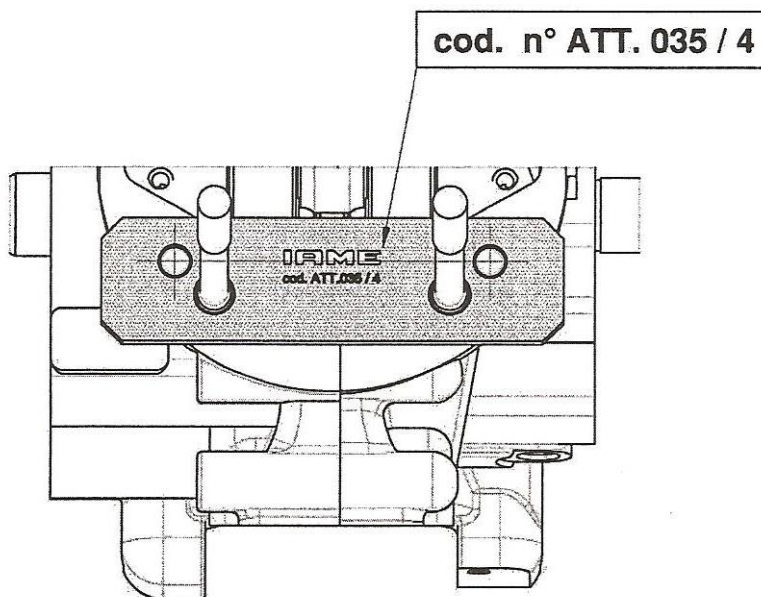
CLUTCH DRUM CHECK TOOL



cod. n° ATT. 047 / 4

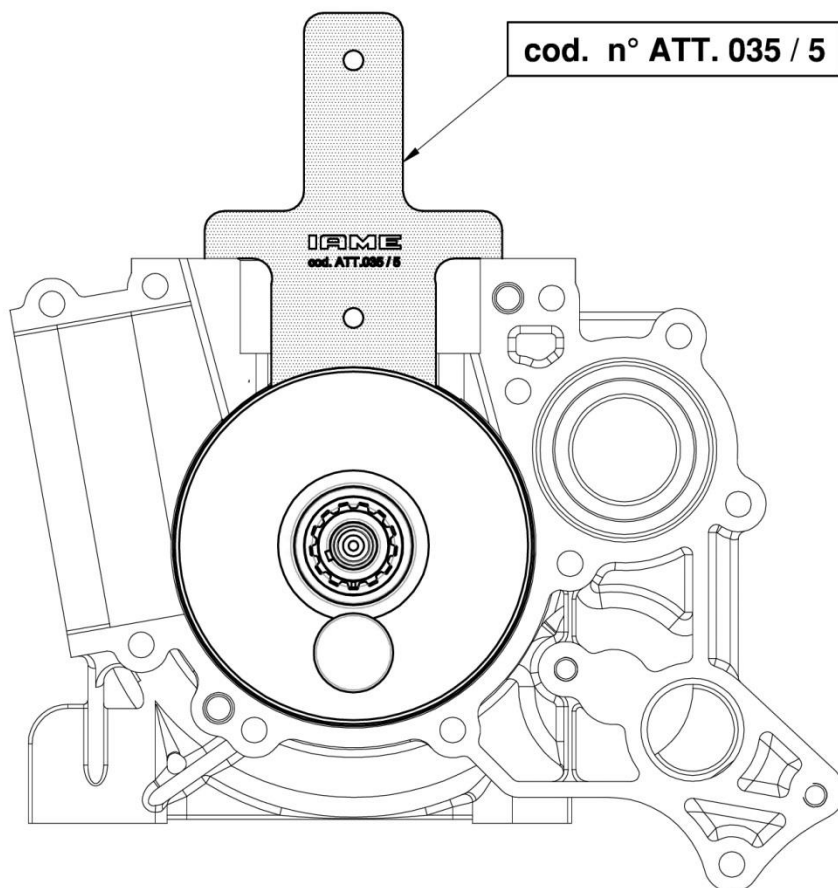
CRANKCASE CHECK TOOLS

CHECKING THE DISTANCE BETWEEN THE CILYNDER PINS

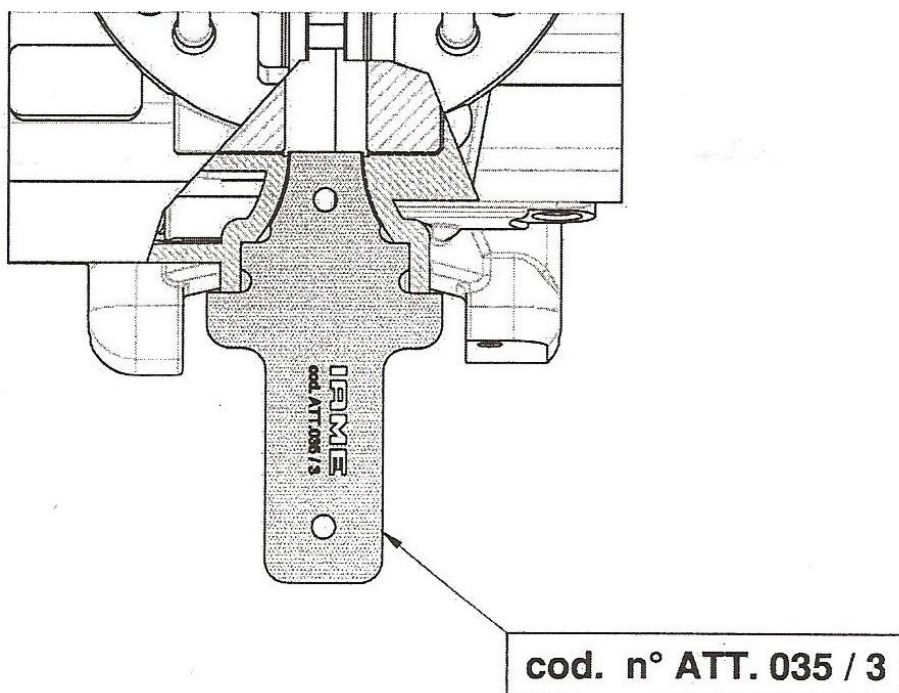


cod. n° ATT. 035 / 4

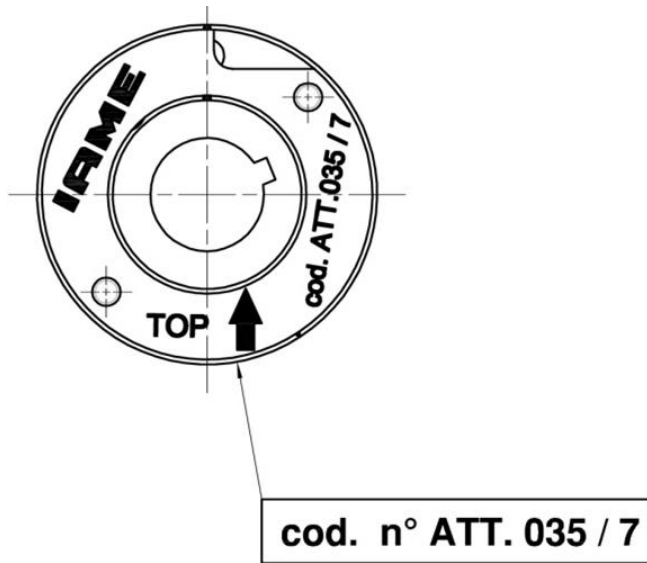
CONTROL OF THE HEIGHT OF THE JOINT PLANE



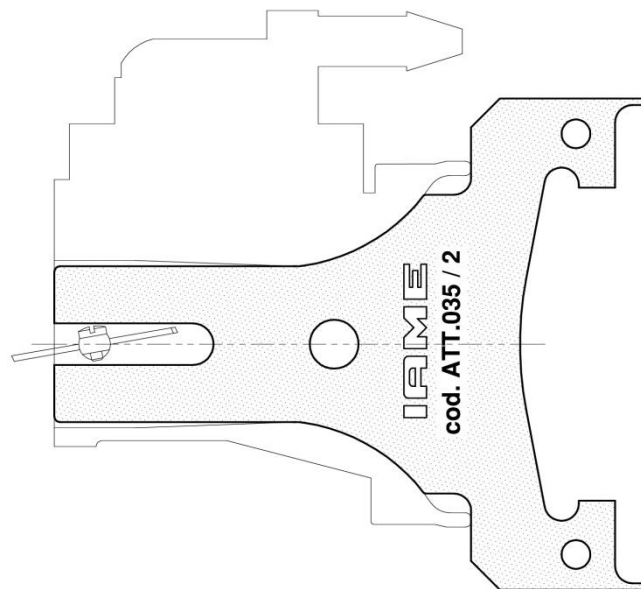
CHECKING OF THE REEDS VALVE SEAL PLANE



CONTROL OF THE POSITION OF SELETTA DIGITAL "S" PHASE MARKING



VENTURI SHAPE CONTROL OF TILLOTSON HW-27A CARBURETTOR





CARBURETTOR
Tillotson HW-27A



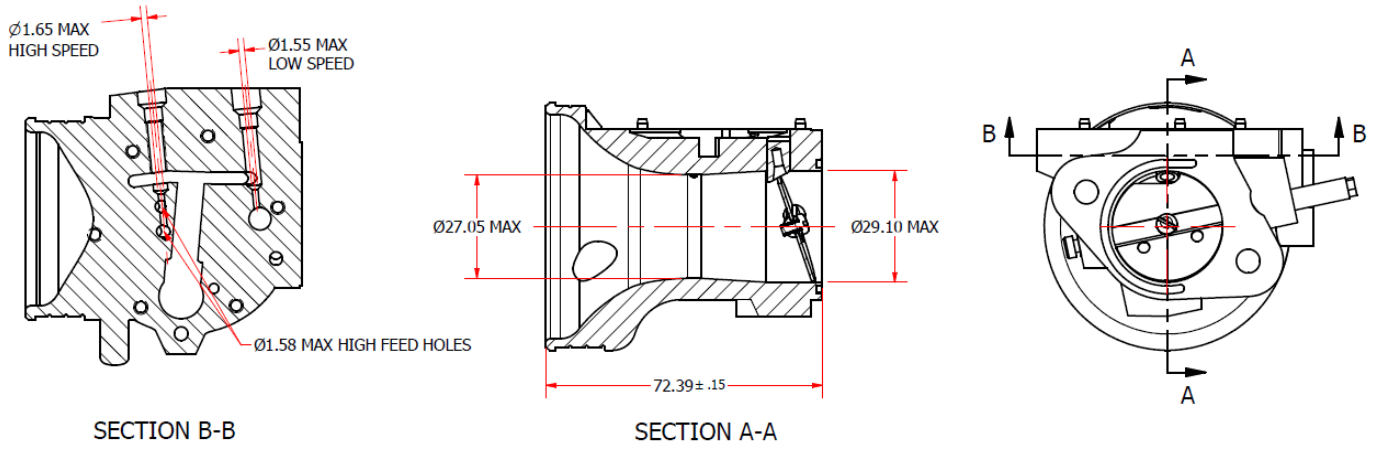
PHOTO OF ADJUSTING SIDE



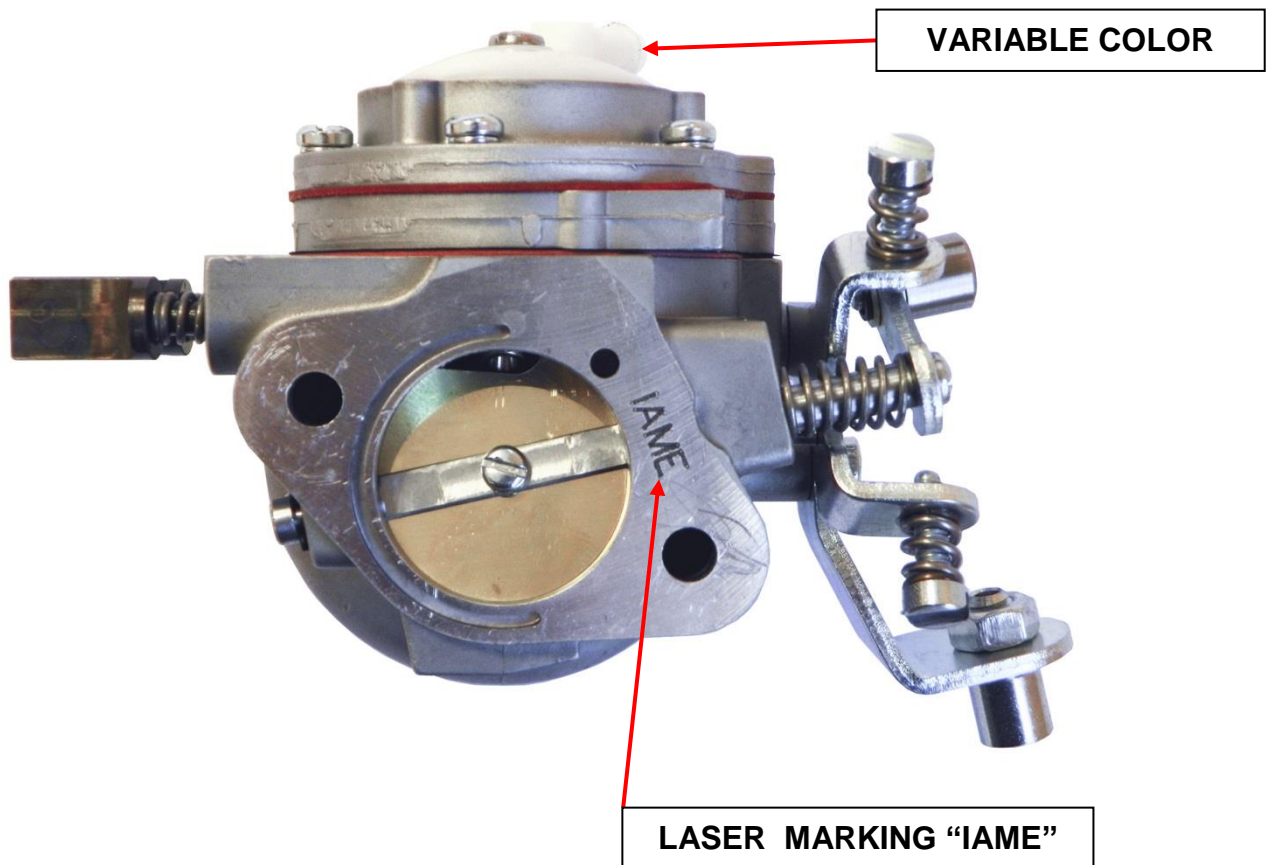
PHOTO OF INLET SIDE

Manufacturer	TILLOTSON LTD.
Make	TILLOTSON
Model	HW-27A

SECTION VIEW

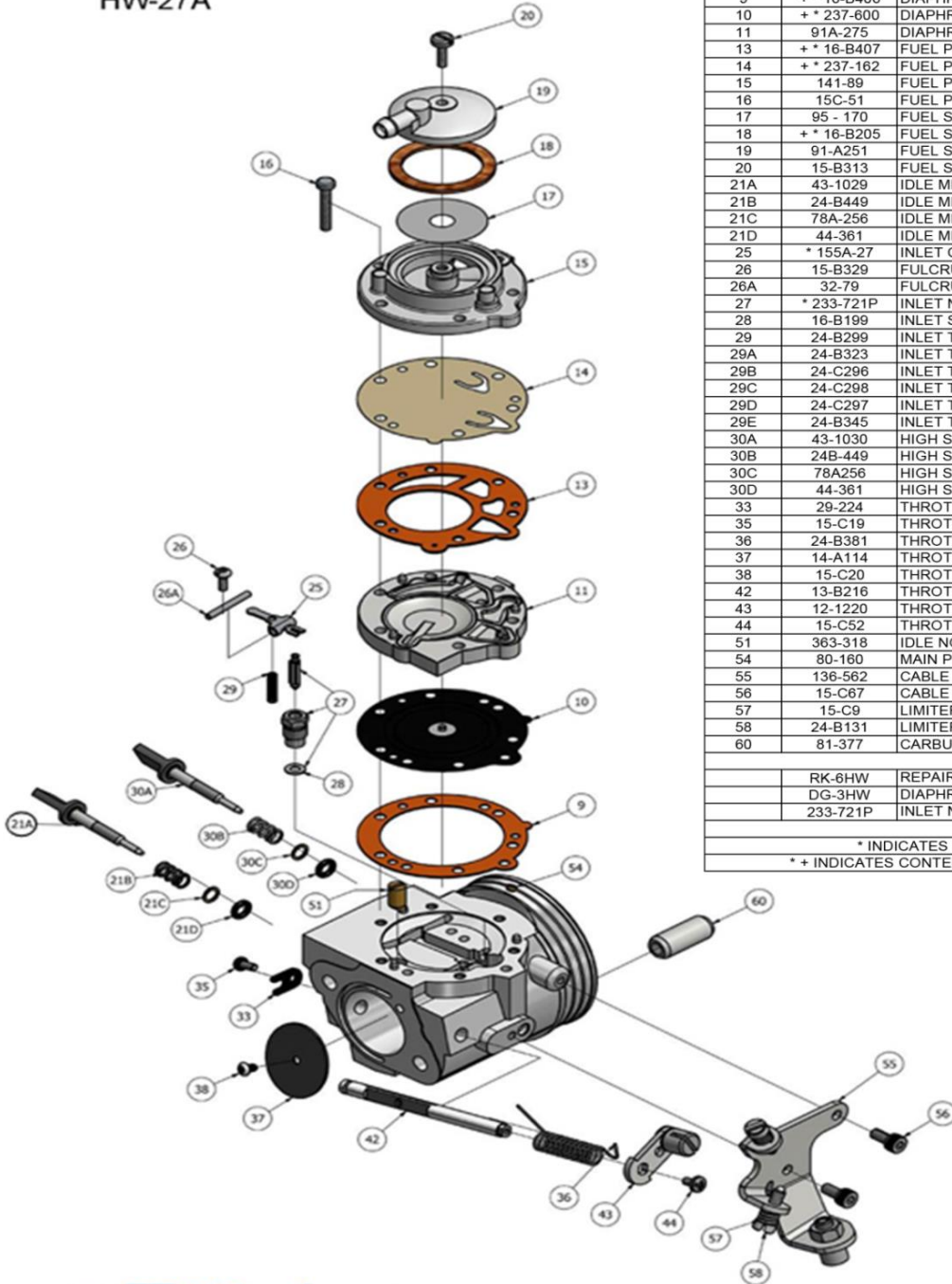


MARKING



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 BRACKET	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			



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

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



Thickness = 0.10 ± 0.063 mm

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



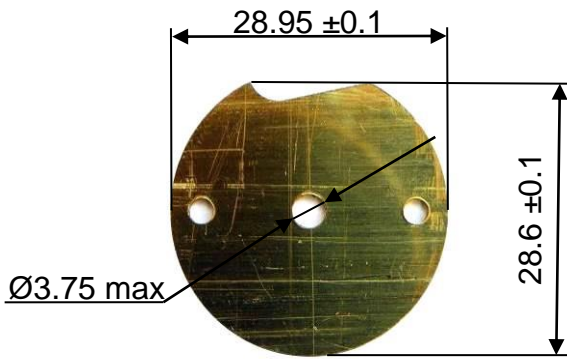
Thickness = 6.75 ± 0.15 mm

REF.15 - P. N° 141-89
PUMP COVER



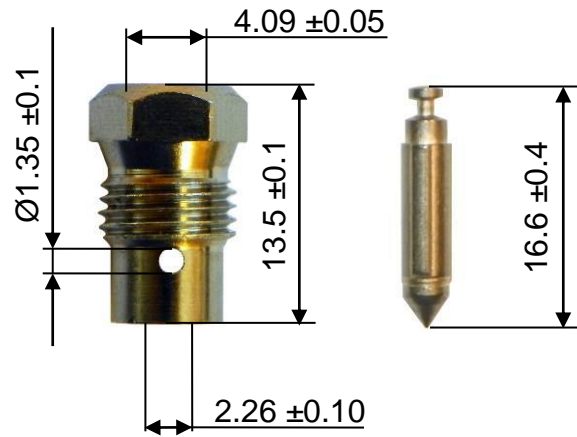
Thickness = 12.5 ± 0.15 mm

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



Thickness = 0.81 ±0.1 mm

REF.27 - P. N° 233-721P
SEAT + NEEDLE



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

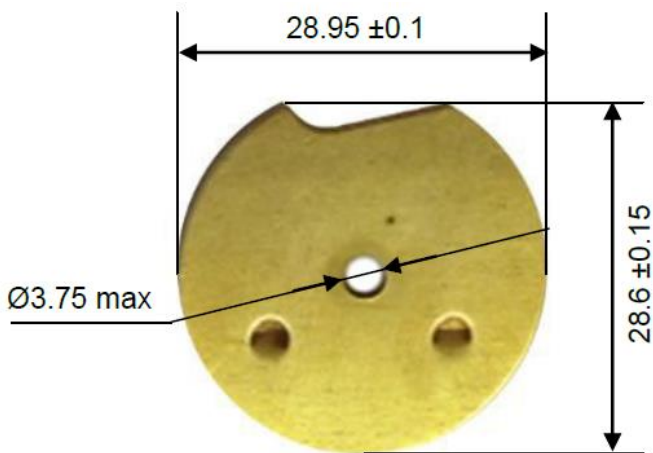


REF.30A - P. N° 43-1030
NEEDLE HIGH SPEED



ALTERNATIVE THROTTLE SHUTTER
REF. 37 - P. N° 14-A114
(made from production tooling)

ALTERNATIVE FUEL NEEDLE



Thickness = 0.81 ±0.1 mm

REF.27 - P. N° 233-721P

