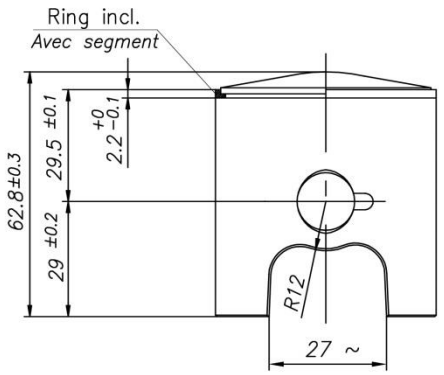
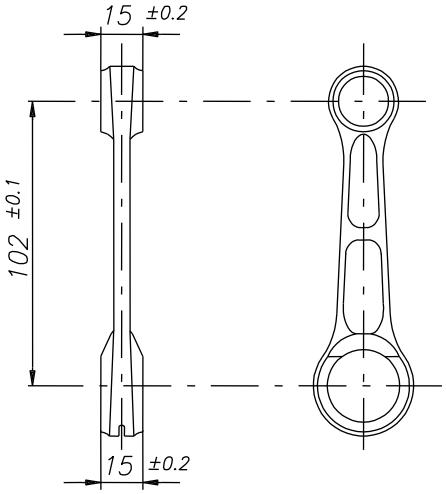
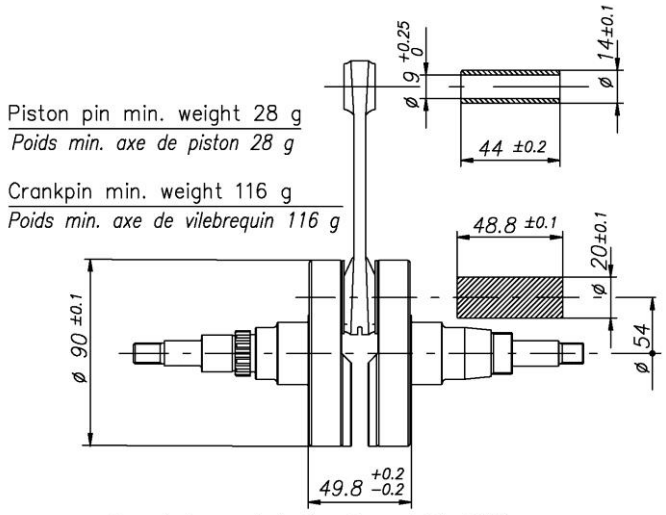
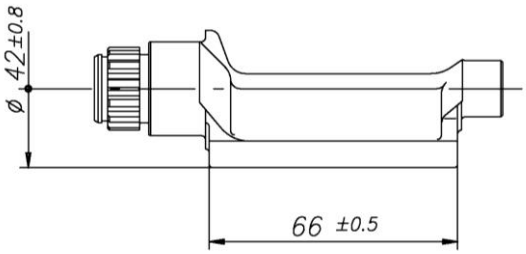
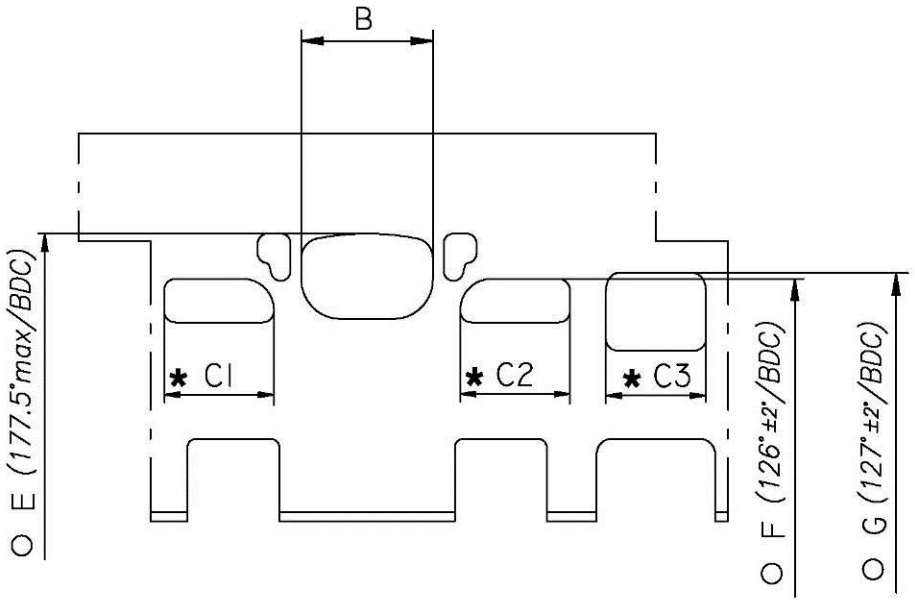
X30 BY IAME 125cc RL-C TaG

FEATURES - *CARACTERISTIQUES*	
Cylinder volume *Volume du cylindre*	123.67 cm³
Bore *Alésage*	54 mm
Max. theoretical bore *Alésage théorique max.*	54.28 mm
Stroke *Course*	54 mm
Cooling system *Système de refroidissement*	Water *À Eau*
Inlet system *Système d' admission*	Reed valve *À clapets*
Cylinder / crankcase transfers n° *N° de canaux cylindre / carter*	3 / 3

Carburetor Tillotson *Carburateur* Tillotson	HW-27A (Ø27 Venturi)	Inlet / exhaust ports number *N° lumières admiss. / échapp.*	3 / 3
Number of piston rings *Nombre de segments*	1	Combustion chamber shape *Forme chambre de combustion*	Spherical *Sphèrique*
Big end conr. ball-bearing diam. *Diamètre palier tête de bielle*	20x26x15	Selettra *or PVL ignition* *Allumage Selettra ou PVL*	Digital
Crankshaft ball-bearing diam. *Diamètre palier du vilebrequin*	30x62x16	Distance between conrod centers *Longueur (entre axe) de la bielle*	102 mm
Small end conr. ball-bearing diam. *Diamètre palier pied de bielle*	14x18x17.5	RPM limiter *Limiteur de régime*	Yes *Oui*
Balancing shaft *Arbre d' equilibrage de vilebr.*	*Yes* *Oui*	Electric starter *Démarreur électrique*	*Yes* *Oui*

DESCRIPTION OF THE MATERIAL *DESCRIPTION DES MATERIAUX*		PISTON
Conrod material *Matériel de la bielle*	Steel *Acier*	 Piston min. weight (ring incl.) 128 g *Poids min. piston (avec segment) 128g*
Crankshaft material *Matériel du vilebrequin*	Steel *Acier*	
Balancing shaft material *Matériel de l' arbre d' équilibrage*	Steel *Acier*	
Gears material *Matériel des engrenages*	Steel *Acier*	
Starter ring material *Matériel de la couronne démarr.*	Steel *Acier*	
Head material *Matériel de la culasse*	Aluminium	DISTANCE BETWEEN CONROD CENTERS *ENTRE AXE DE LA BIELLE*
Cylinder material *Matériel du cylindre*	Aluminium	 Min. weight 110 g *Poids min. 110 g*
Liner material *Matériel de la chemise*	Iron *Fonte*	
Crankcase material *Matériel du carter*	Aluminium	
Piston material *Matériel du piston*	Aluminium	
Piston rings material *Matériel des segments*	Iron *Fonte*	
Exhaust muffler material *Matériel du pot d' échappement*	Sheet-steel *Tôle acier*	
Ball-bearings *Roulements*	6206 type	
CRANKSHAFT - *VILEBREQUIN*		BALANCING SHAFT *ARBRE D' EQUILIBRAGE*
 Complete crankshaft min. weight 2150 g *Poids min. du vilebrequin complet 2150 g*		 Min. weight 315 g *Poids Min. 315 g*

CYLINDER DEVELOPMENT - *DEVELOPPEMENT DU CYLINDRE*

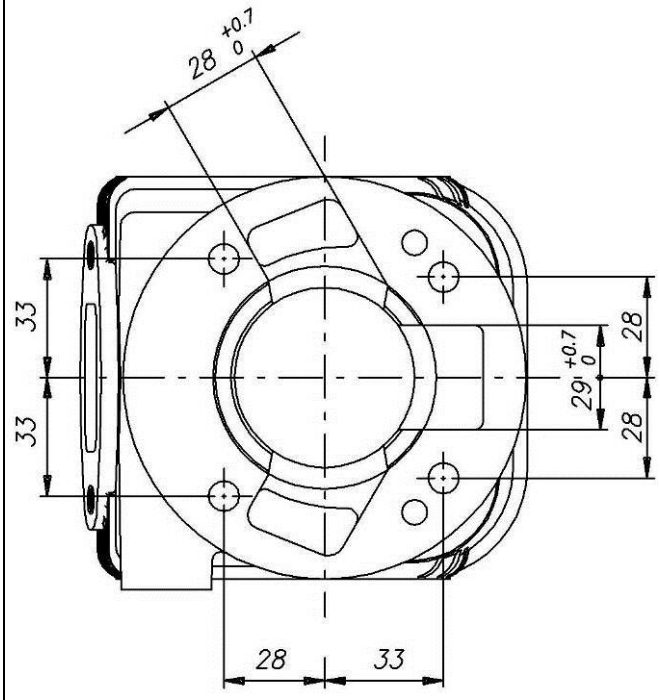


B	≤ 36.5 mm
C1 = C2	≤ 30 mm
C3	≤ 28.5 mm
E	177.5° max
F	126° ± 2°
G	127° ± 2°

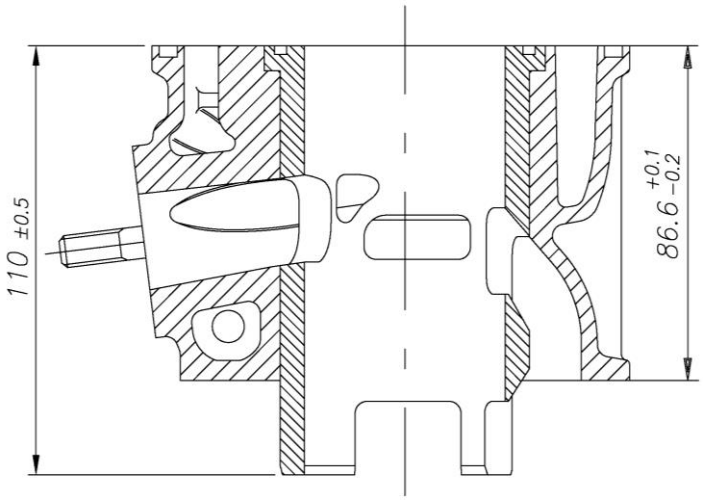
* *CHORDAL READING*
LECTURE CORDALE

O *ANGULAR READING BY INSERTING A 0.2x5 mm GAUGE*
LECTURE ANGULARE PAR INSERTION D'UNE CALE DE 0.2x5 mm

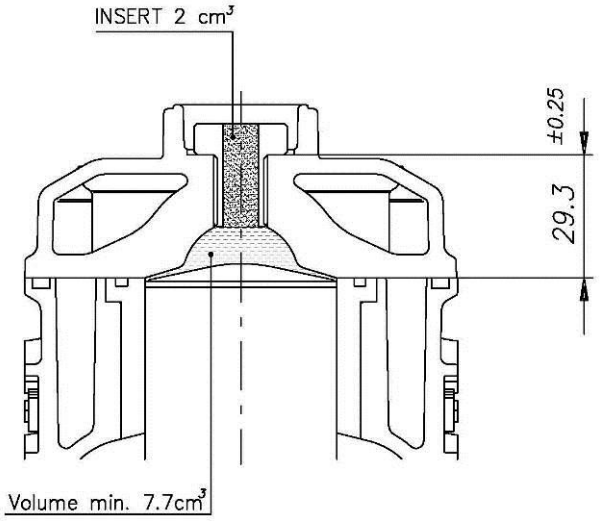
CYLINDER BASE VIEW
VUE DE LA BASE DU CYLINDRE



CYLINDER CROSS SECTION VIEW
VUE EN SECTION DU CYLINDRE



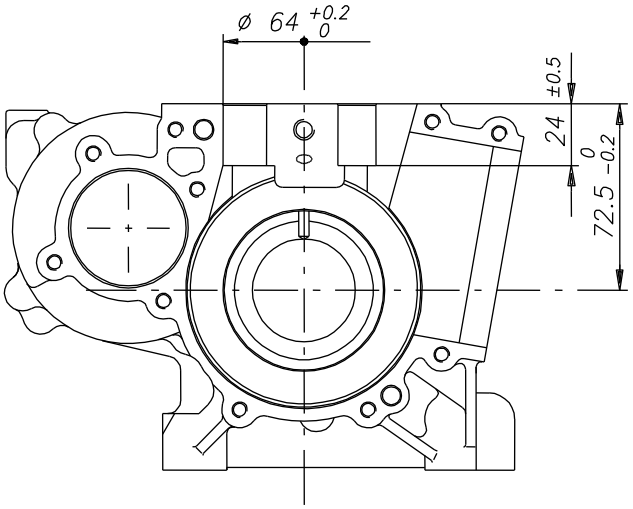
COMBUSTION CHAMBER VIEW
VUE DE LA CHAMBRE DE COMPRESSION



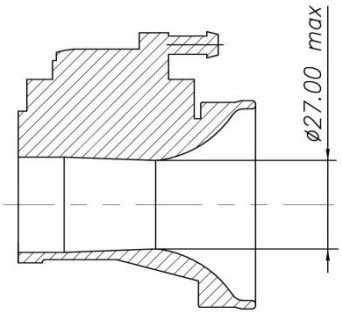
COMBUSTION CHAMBER VOLUME TOT. = 9.7 cm³ min.
VOLUME CHAMBRE COMBUSTION TOT. = 9.7 cm³ min.

ATT.: SQUISH MIN. = 0.90 mm
(measured with Ø1.5mm TIN - *mesurée avec de l'étain Ø1.5mm)*

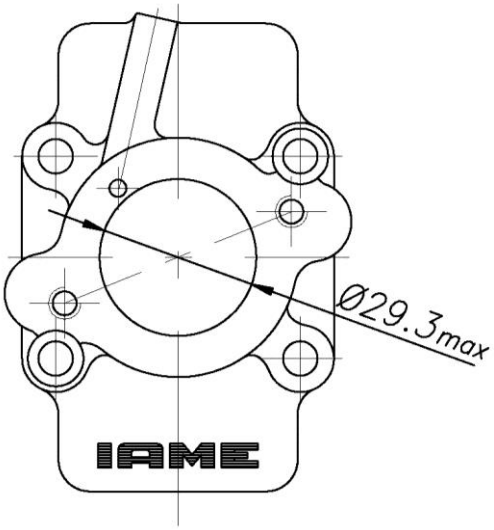
CRANKCASE INSIDE VIEW
VUE A' L' INTERIEUR DU CARTER



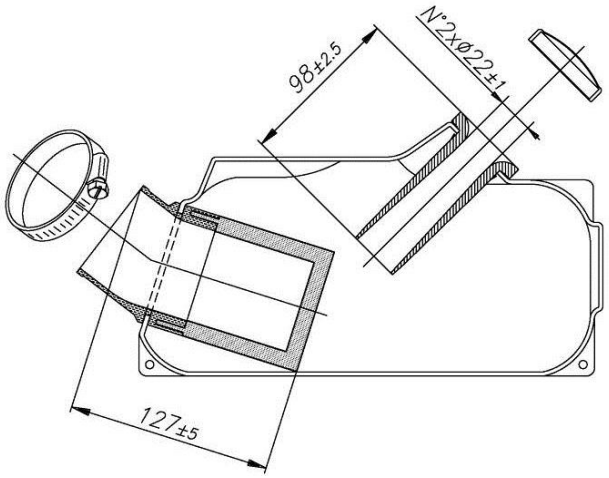
VENTURI CARB. DIMENSIONS
DIMENSIONS DU VENTURI DU CARBURATEUR



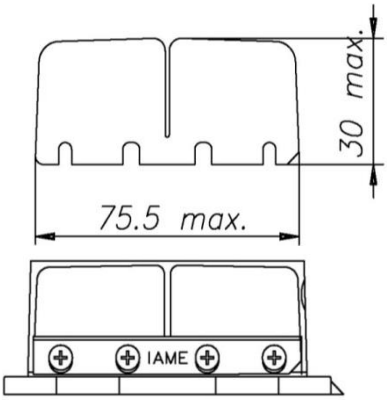
INLET CONVERYOR DIMENSIONS
CONVOYEUR D'ADMISSION



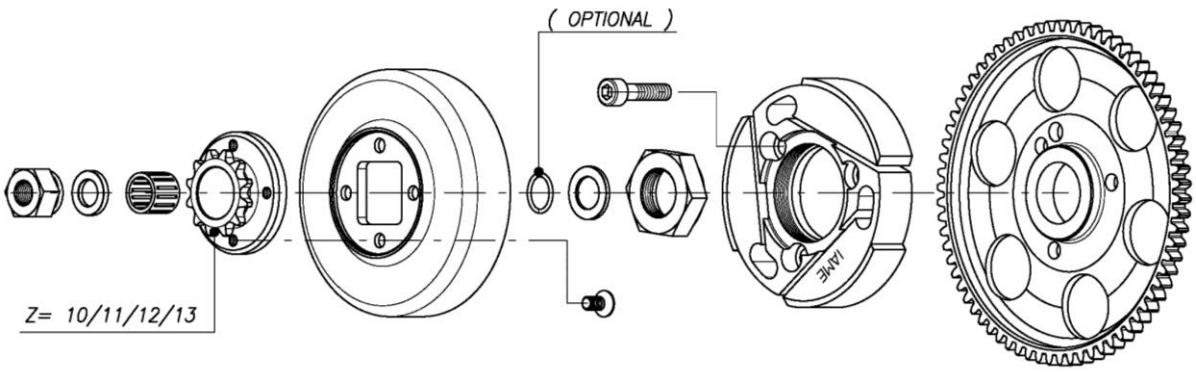
INLET SILENCER
SILENCIEUX D' ASPIRATION

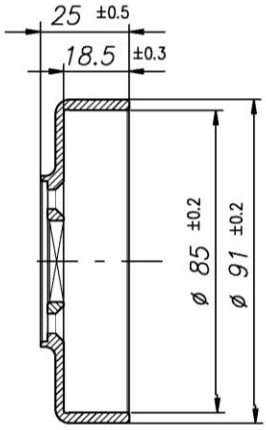


REEDS DIMENSIONS / *CLAPETS*

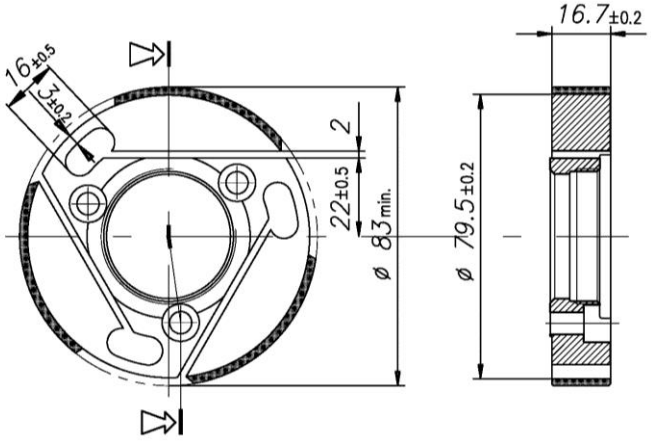


DESCRIPTION OF THE CLUTCH - *DESCRIPTION DE L' EMBRAYAGE*





Min. weight 225 g
Poids min. 225g

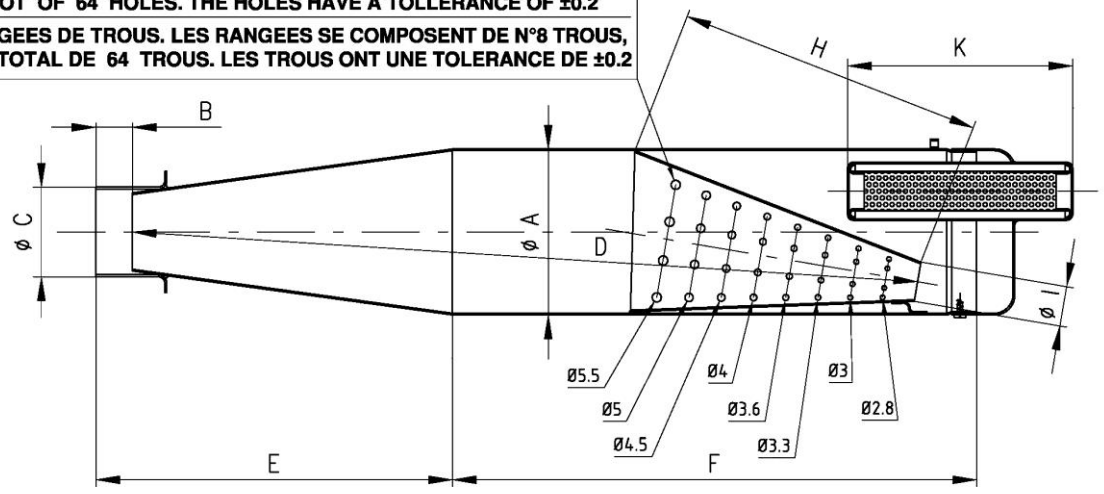


Min. weight 375 g
Poids min. 375g

EXHAUST MUFFLER VIEW AND DIMENSIONS
VUE ET DIMENSIONS DU SILENCIEUX D' ECHAPPEMENT

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

N° 8 RANGEES DE TROUS. LES RANGEES SE COMPOSENT DE N°8 TROUS, POUR UN TOTAL DE 64 TROUS. LES TROUS ONT UNE TOLERANCE DE ±0.2

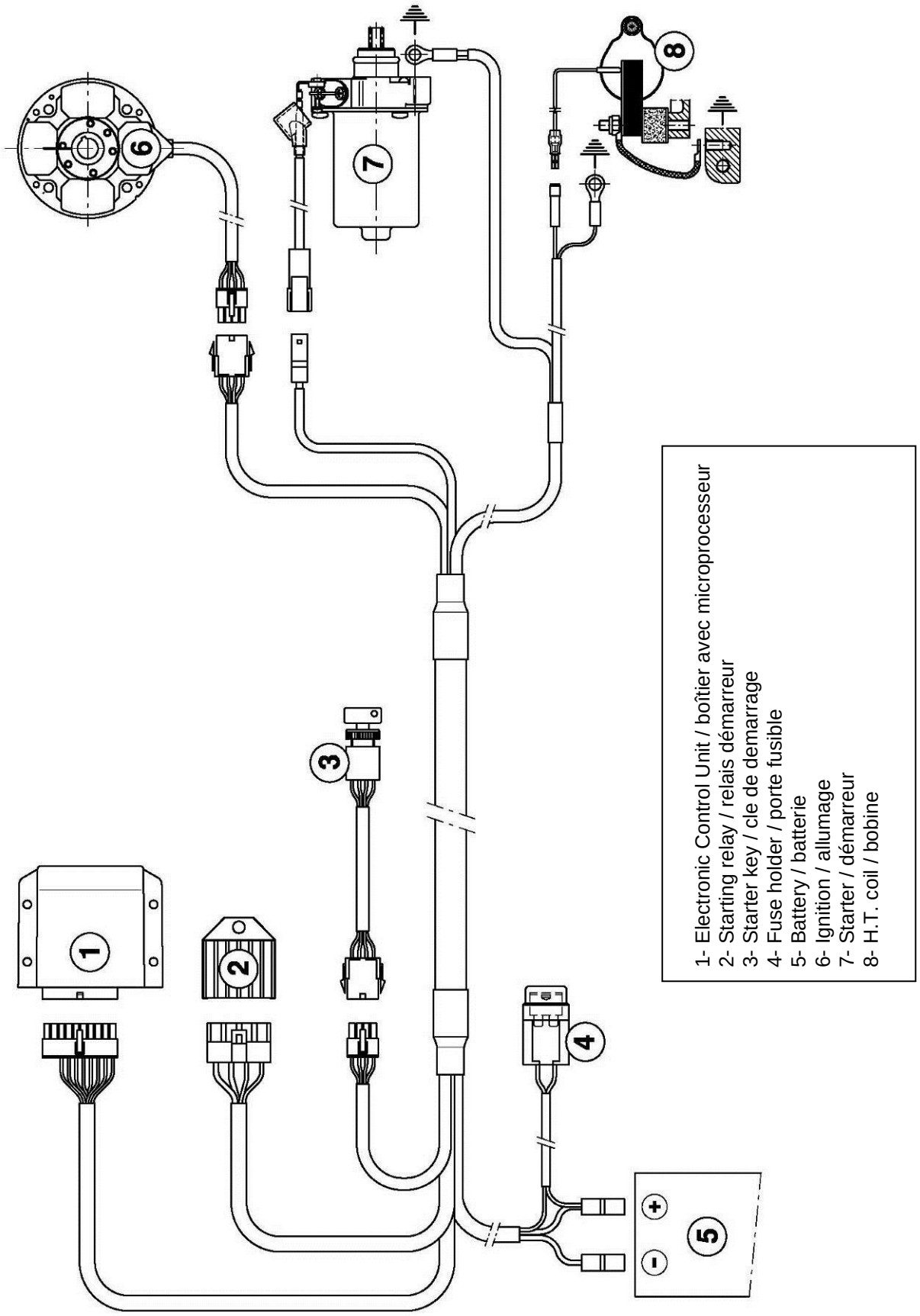


A: 100 ±1 øext. D: 485 ±5 H: 180 ±5
B: 22 ±1 E: 218 ±5 I: 24 ±2 øext.
C: 54 ±1 øext. F: 315 ±3 K: 130 ±3

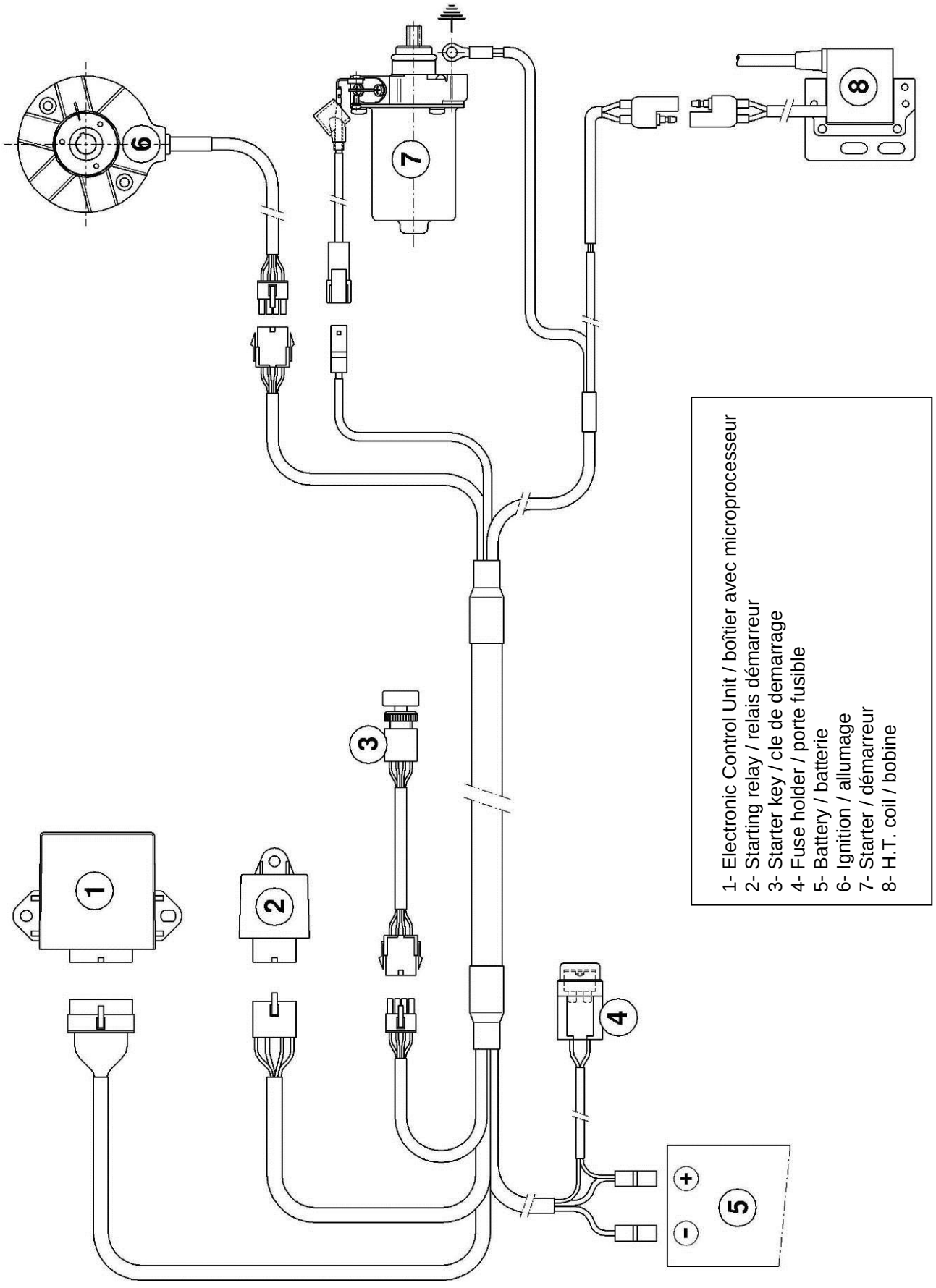
Min. weight 1.39 Kg
Poids min. 1.39 Kg

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

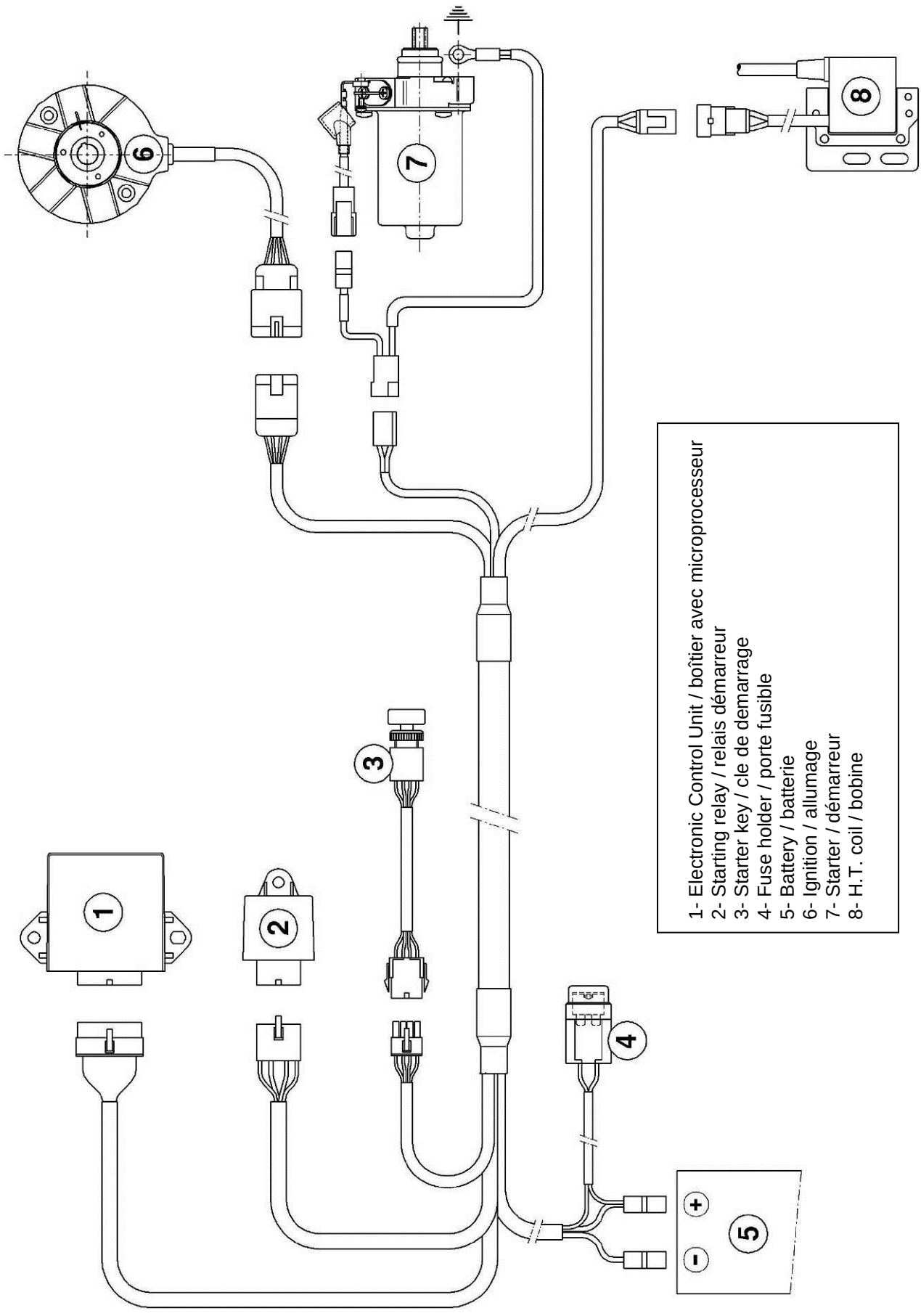
SCHEMA CIRCUIT ELECTRIQUE (ALLUMAGE SELETTRA DIGITAL ”K”)



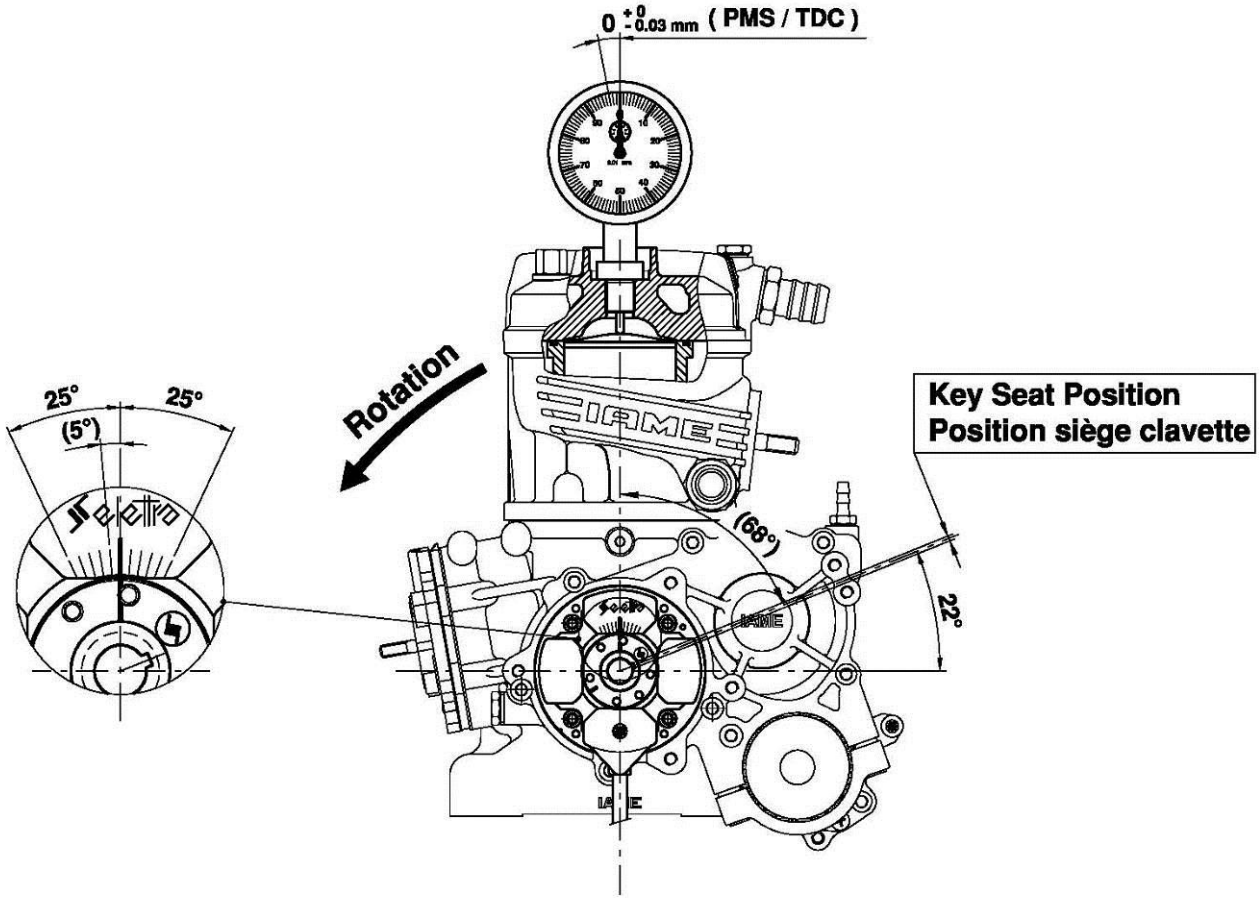
WIRING DIAGRAM (PVL IGNITION, 1st TYPE)
SCHEMA CIRCUIT ELECTRIQUE (ALLUMAGE PVL, 1er TYPE)



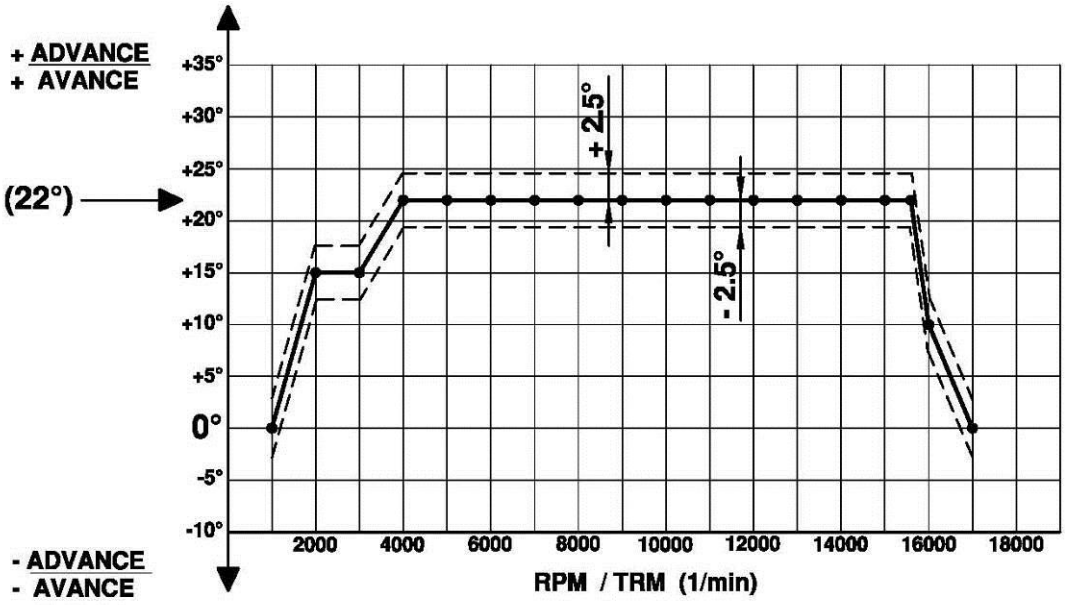
WIRING DIAGRAM (PVL IGNITION, 2nd TYPE)
SCHEMA CIRCUIT ELECTRIQUE (ALLUMAGE PVL, 2ème TYPE)



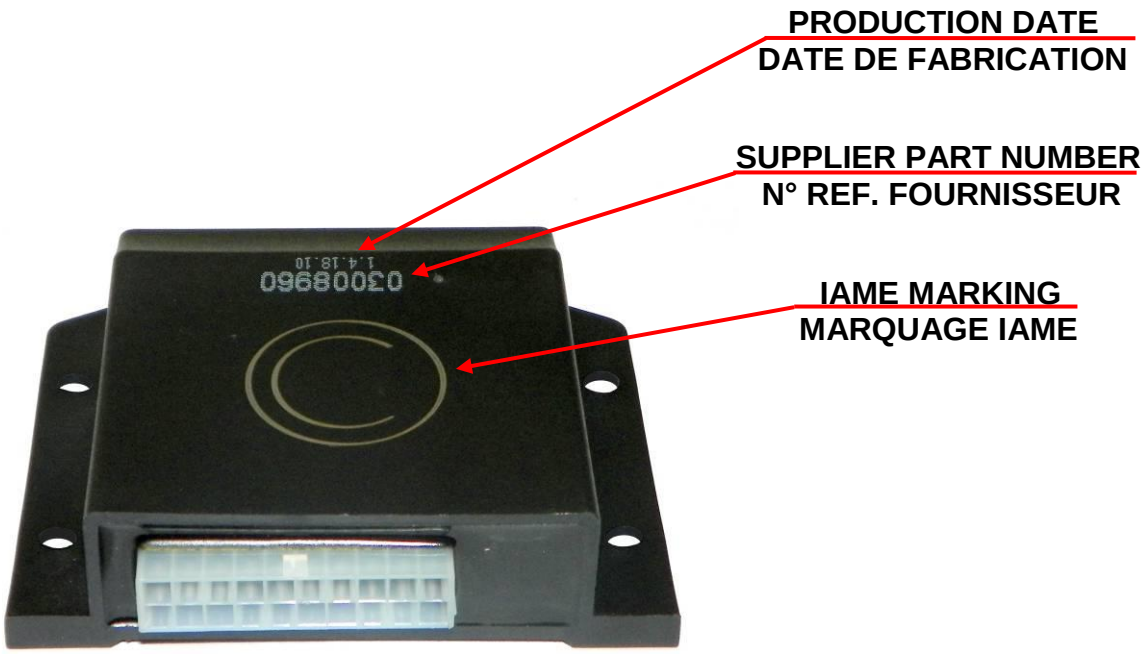
SCHEME FOR ADVANCE CONTROL
SCHEMA DE CONTROLE POUR L'AVANCE



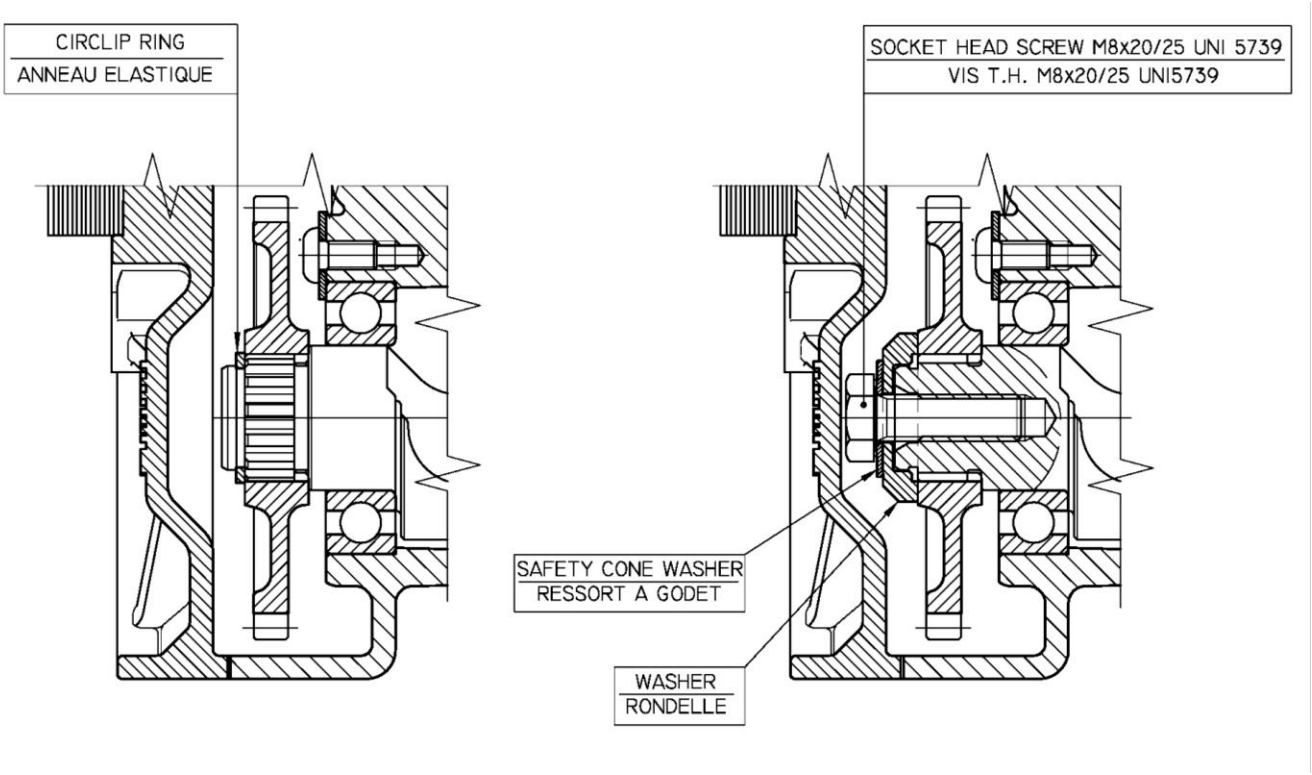
ADVANCE CURVE GRAPHS / GRAPHIQUES DE LA COURBE D'AVANCE

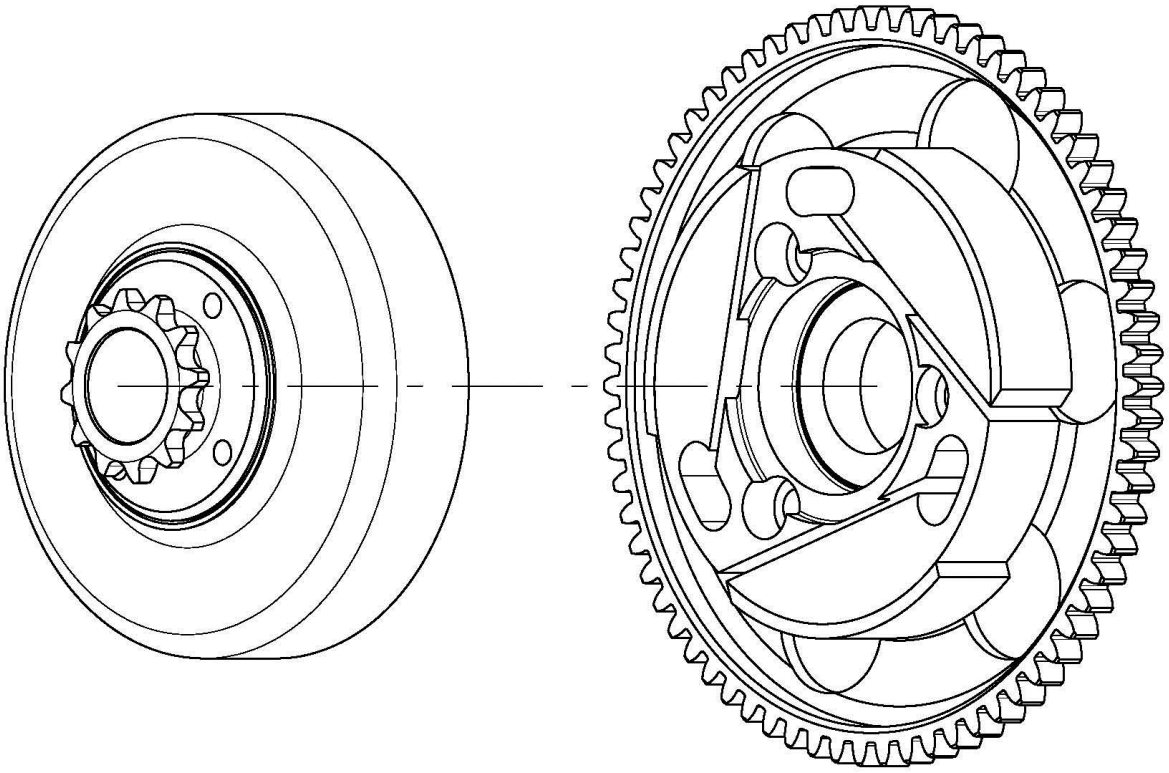


ELECTRONIC BOX MARKING
MARQUAGE DU BOITIER ELECTRONIQUE



GEAR ALTERNATIVE FIXING
FIXATION ALTERNATIVE DE L' ENGRANAGE

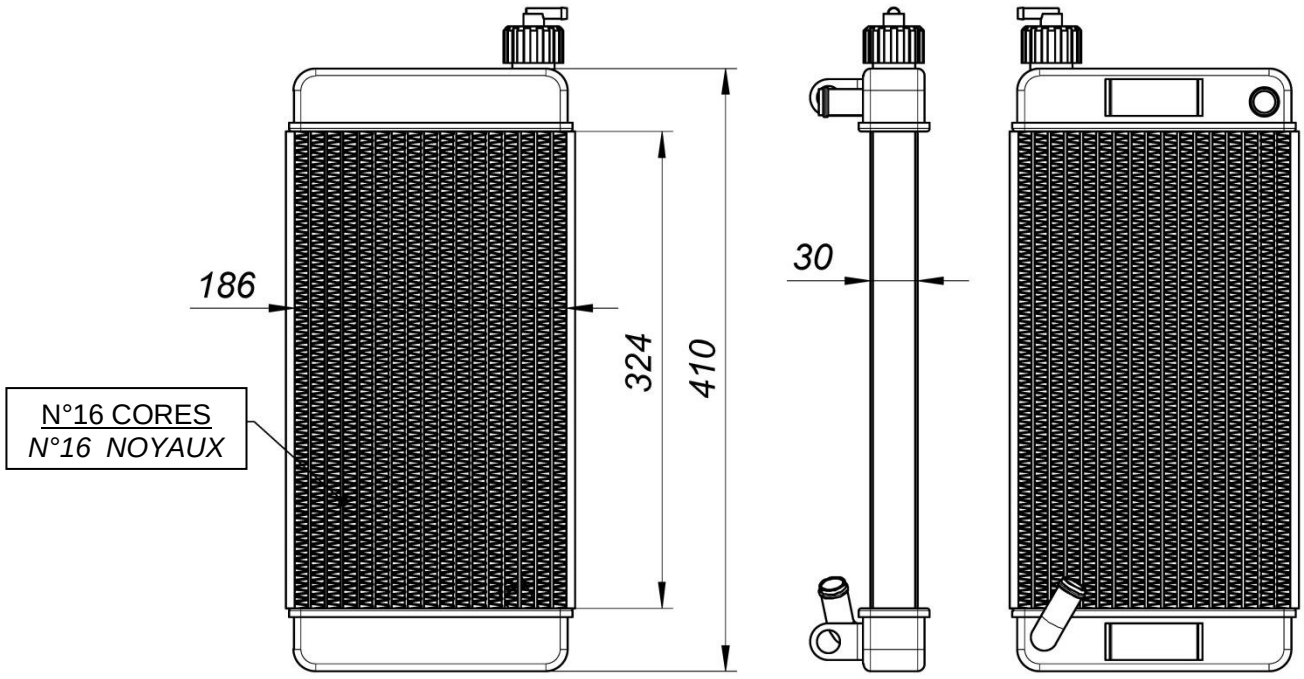




Min. weight 300 g
Poids min. 300 g

Min. weight 680 g
Poids min. 680 g

RADIATOR DESCRIPTION AND SKETCH OF PARTS
DESCRIPTION DU RADIATEUR ET SCHEMA ILLUSTRANT LES ELEMENTS

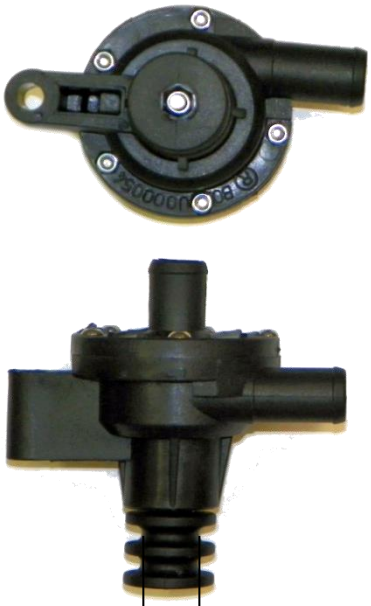


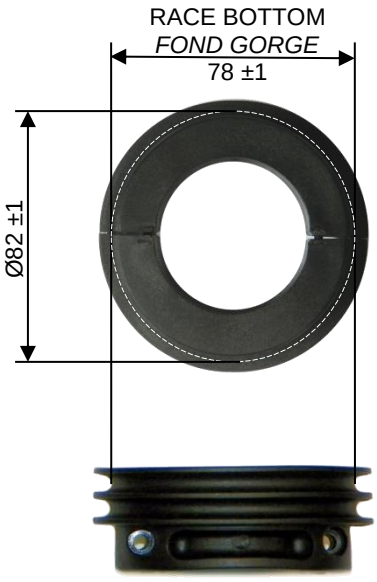
FRONT / *AVANT* **REAR / *ARRIERE***

PAINTED AND NOT PAINTED
PEINT ET PAS PEINT

FRONT / *AVANT* **REAR / *ARRIERE***

WATER PUMP GROUP
GROUPE POMPE A' EAU



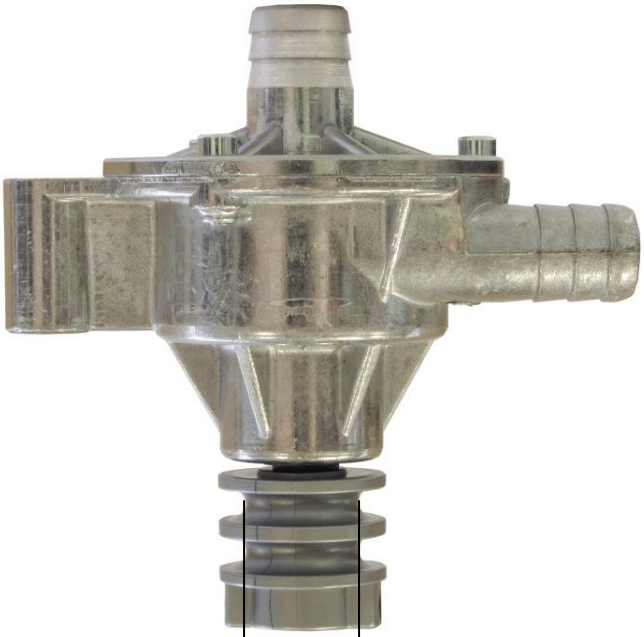


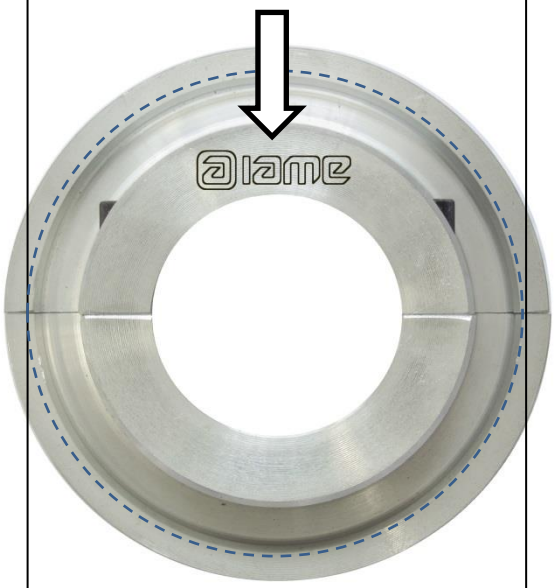
RACE BOTTOM
FOND GORGE
Ø19 ±1

THERMOSTAT

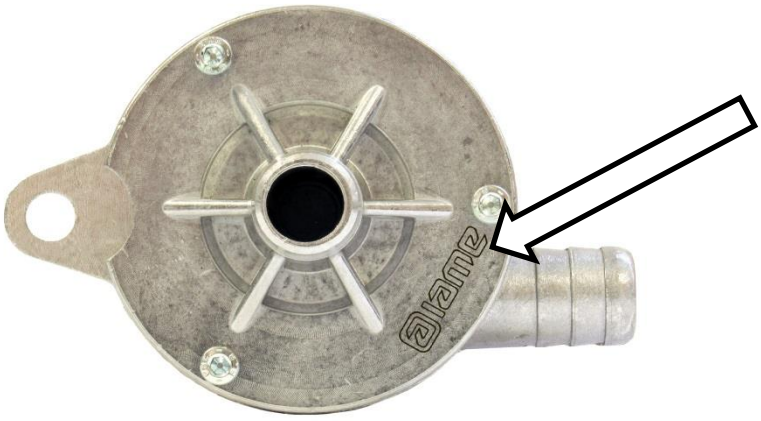
ALTERNATIVE

ALTERNATIVE WATER PUMP & PULLEY
ALTERNATIVE GROUPE POMPE A' EAU ET POULIE





RACE BOTTOM - *FOND GORGE*
Ø20 ±1



PISTON IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION PISTON

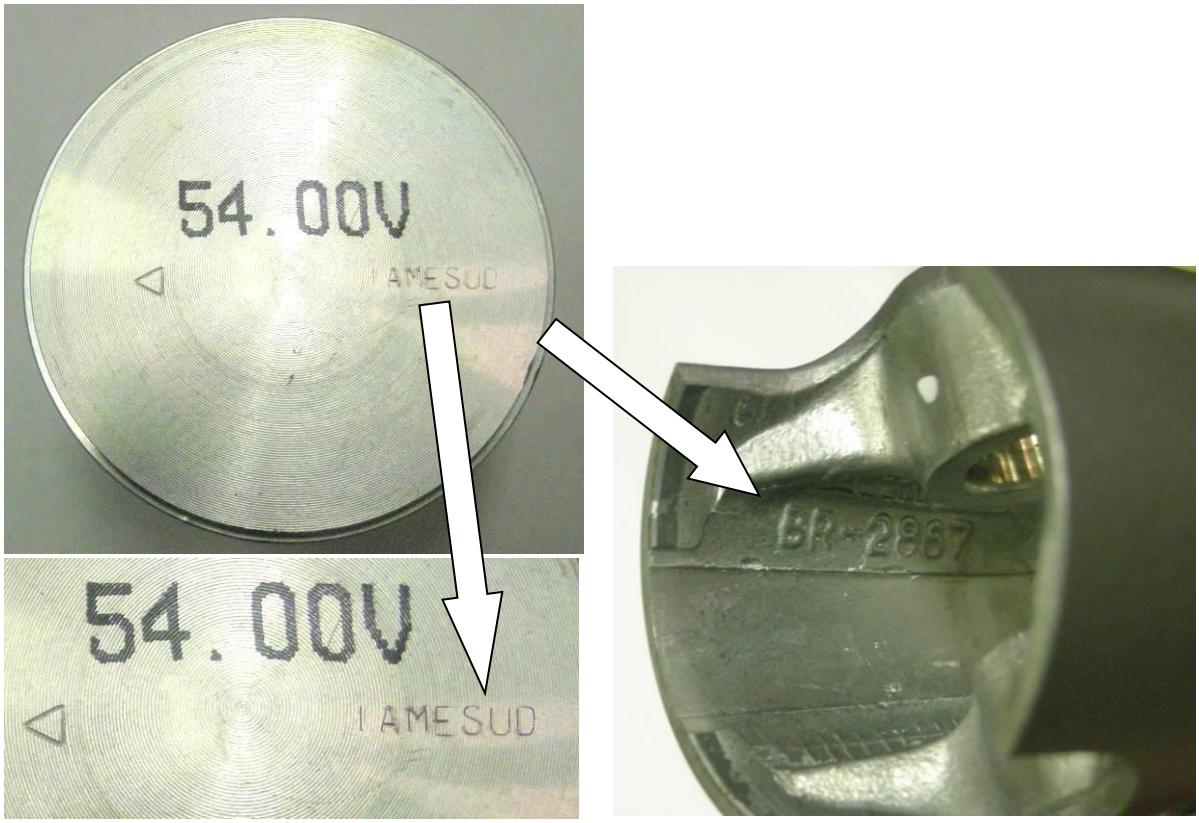
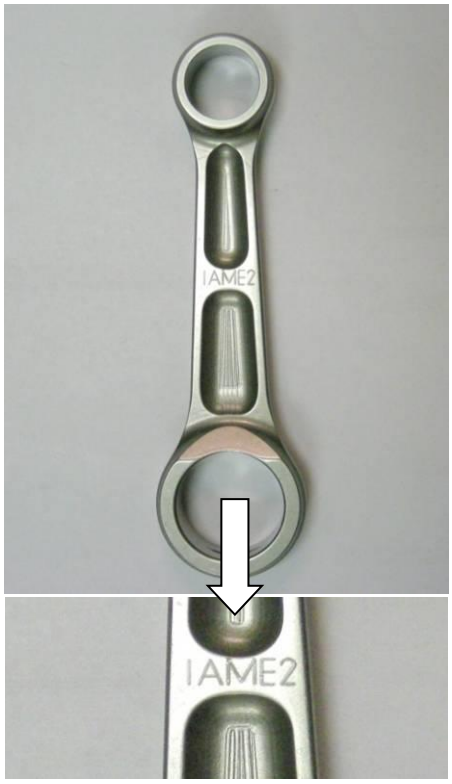
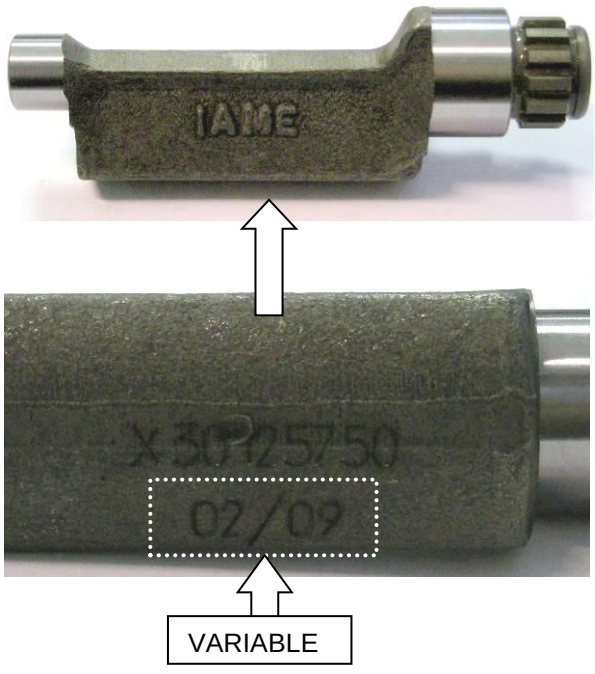


PHOTO IDENTIFICATION CONROD
MARQUAGE D'IDENTIFICATION BIELLE

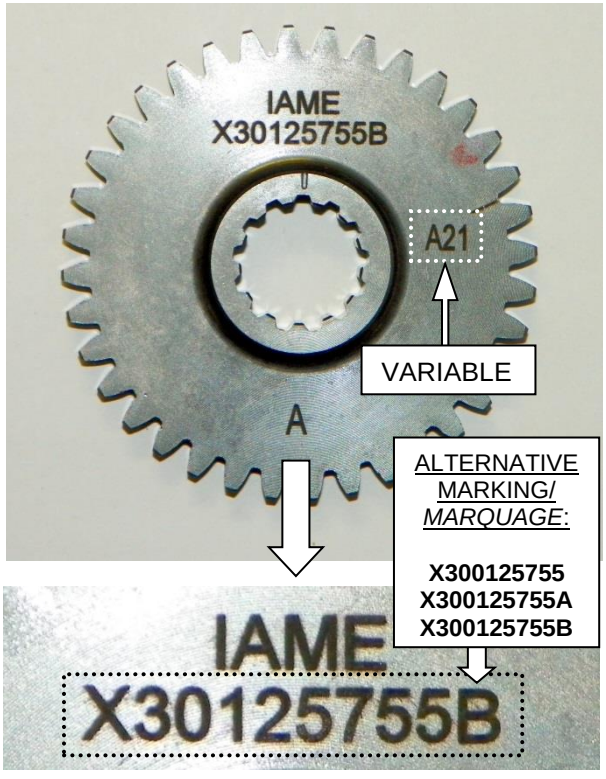


IDENTIFICATION BALANCING SHAFT MARKING
MARQUAGE D'IDENTIFICATION ARBRE D'EQUILIBRAGE

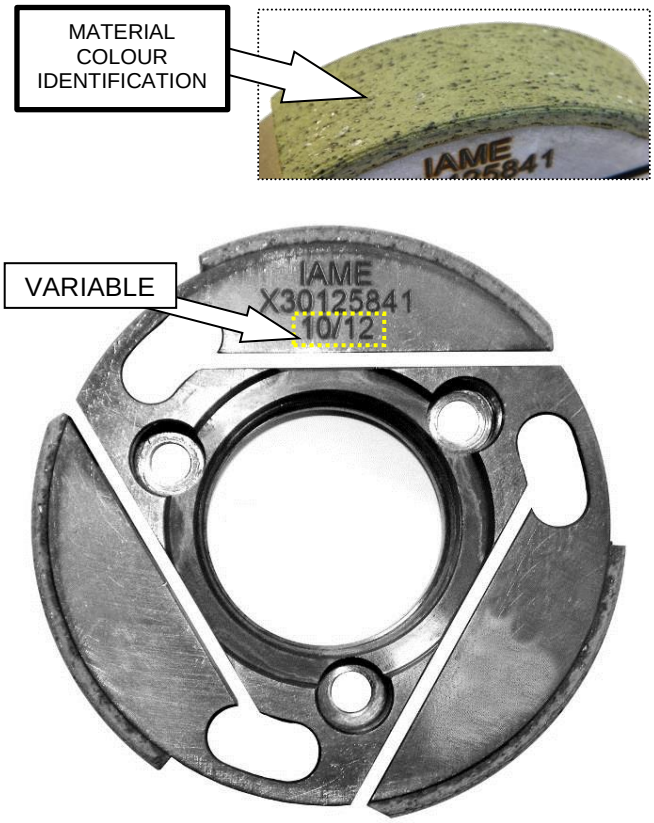
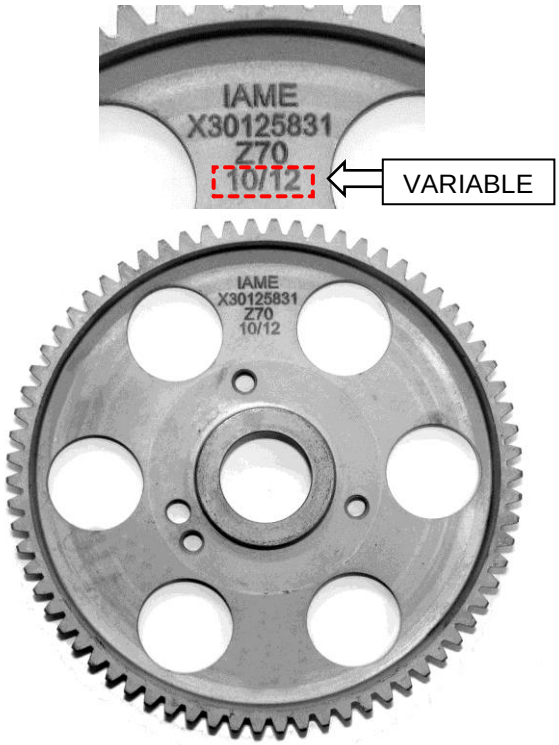
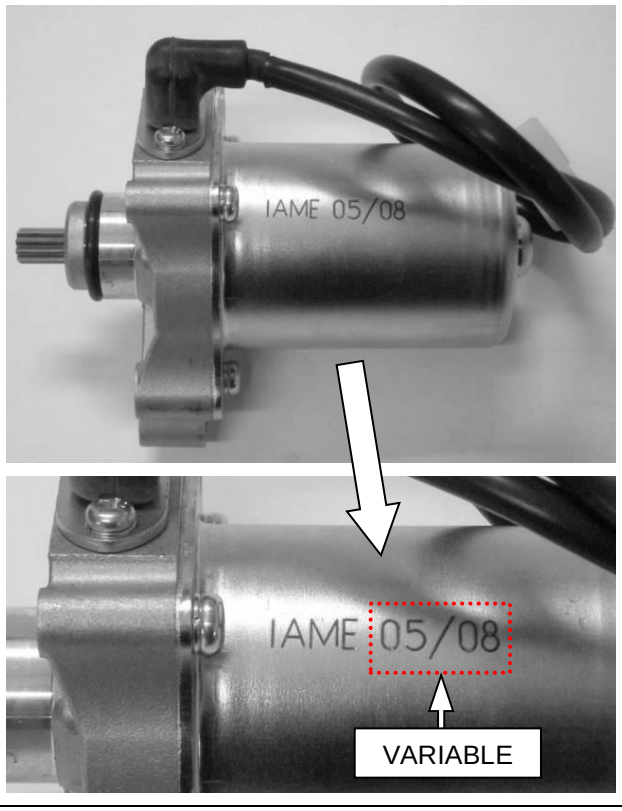


CRANKSHAFT IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU VILEBREQUIN

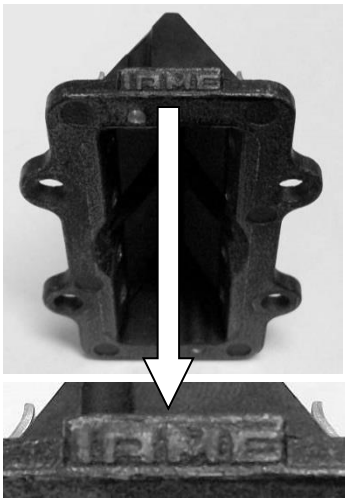
GEAR COMMAND BALANCING SHAFT IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION ENGRENAGE ARBRE D'EQUILIBRAGE

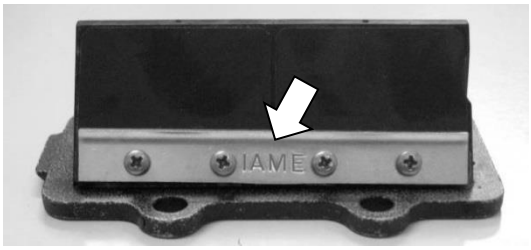


SPROCKET IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU PIGNON

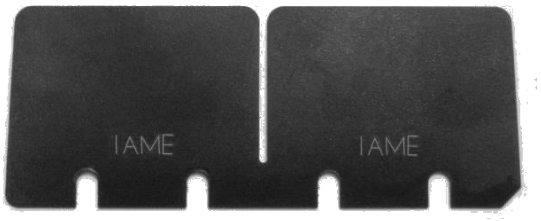
CLUTCH BODY IDENTIFICATION MARKING *MARQUAGE D'IDENTIFICATION CORPS DE EMBRAYAGE*	CLUTCH DRUM IDENTIFICATION MARKING *MARQUAGE D'IDENTIFICATION DE LA CALOTTE*
	
STARTER RING IDENTIFICATION MARKING *MARQUAGE D'IDENTIFICATION DE LA COURONNE DE DEMARRAGE*	STARTER IDENTIFICATION MARKING *MARQUAGE D'IDENTIFICATION DU MOTEUR DEMARREUR*
	

REED GROUP & PETALS IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DE LA PYRAMIDE DE CLAPETS & CLAPETS





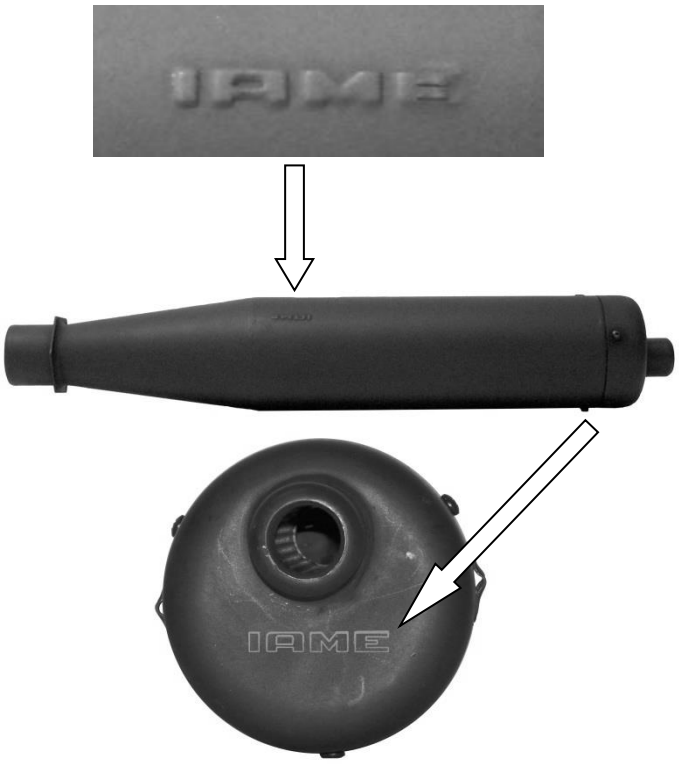
VETRONITE



CARBON FIBER REED
PETALS IS NOT ALLOWED

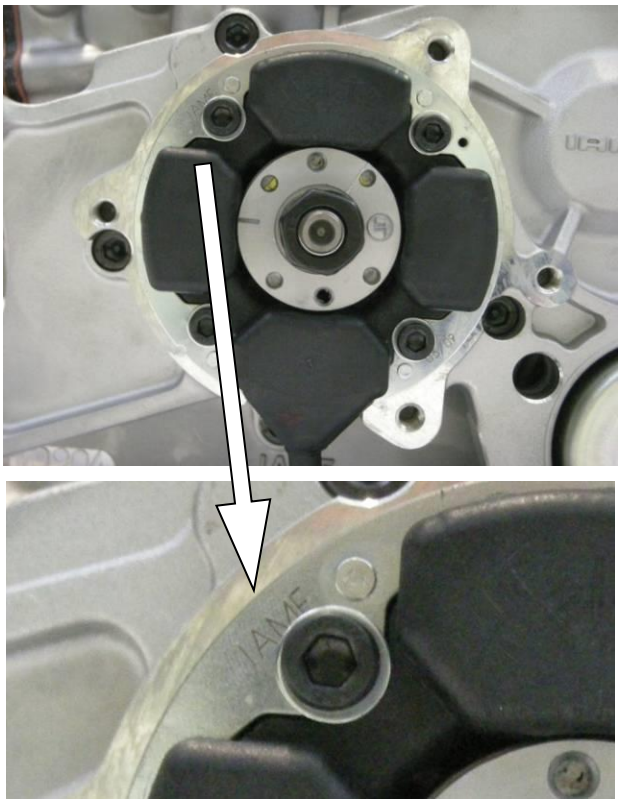
PHOTO IDENTIFICATION CARBURETOR INLET CONVEYOR
MARQUAGE D'IDENTIFICATION DU COLLECTEUR D'ASPIRATION

EXHAUST SILENCER IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION ECHAPPEMENT

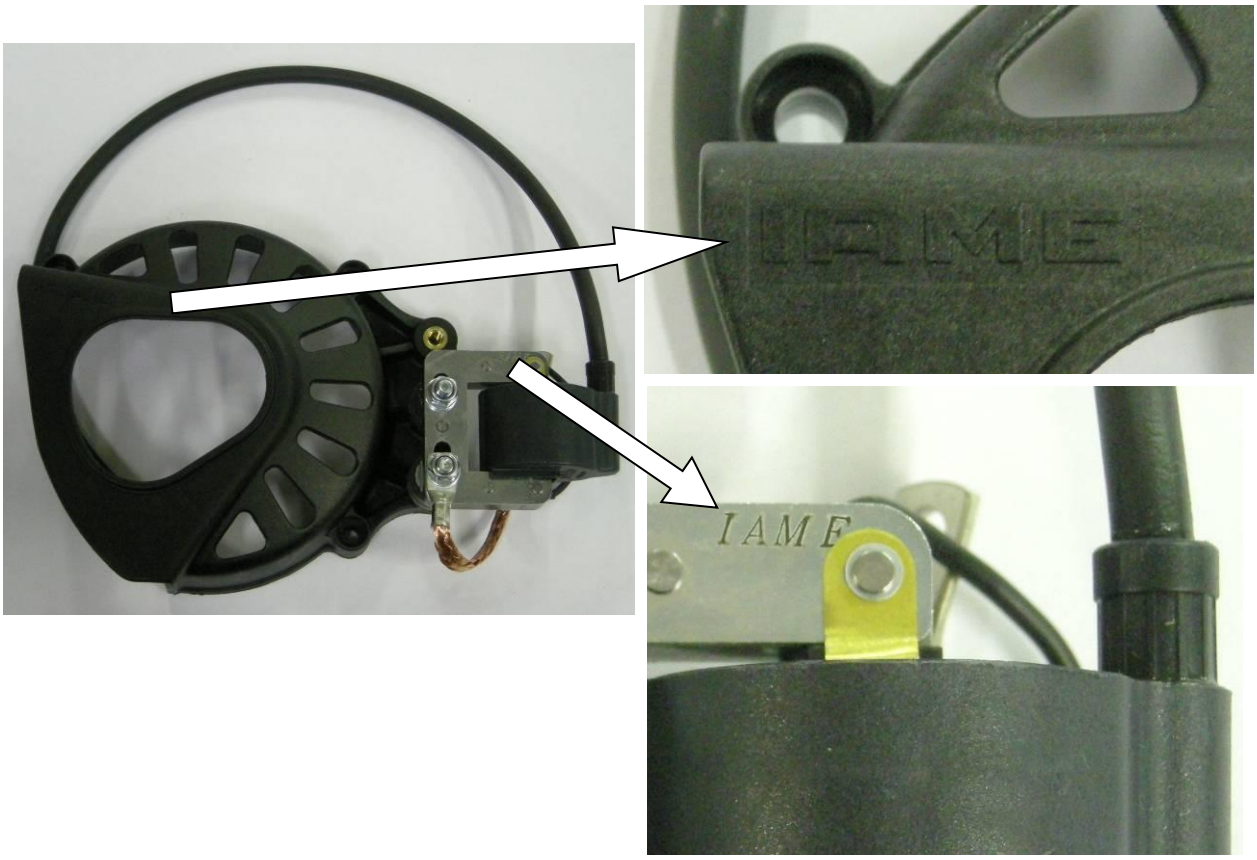


HEADER EXHAUSTIDENTIFICATION MARKING
MARQUAGE DU COUDE D'ECHAPPEMENT

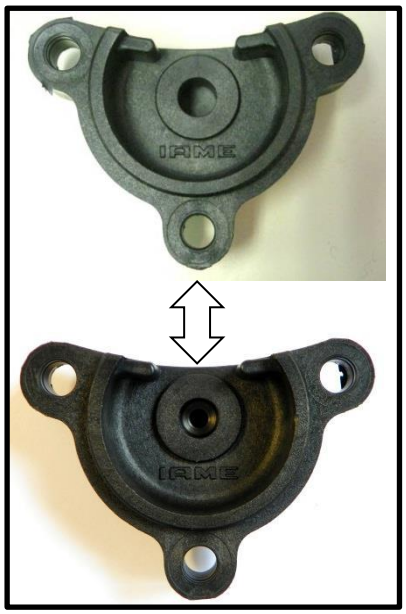
STATOR IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU STATOR

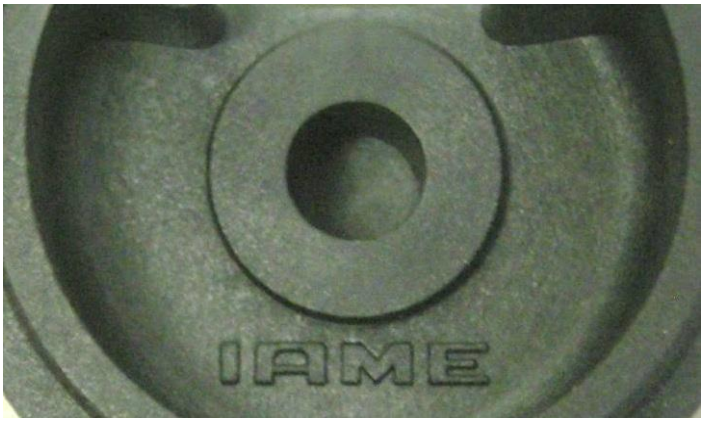


CLUTCH COVER AND H.T. COIL IDENTIFICATION MARKING
MARQUAGE DU COUVERCLE D'EMBRAYAGE ET DE LA BOBINE



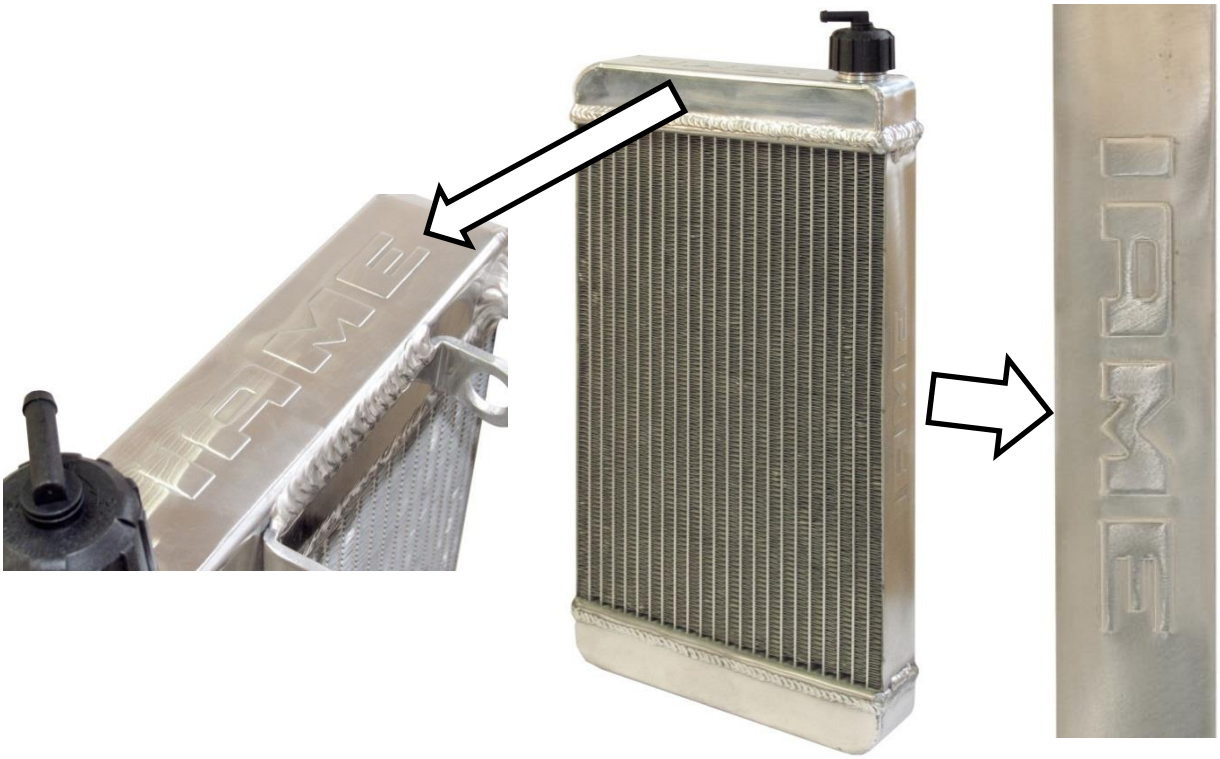
BENDIX COVER IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU COUVERCLE DU CONTRE-ARBRE DE DEMARRAGE





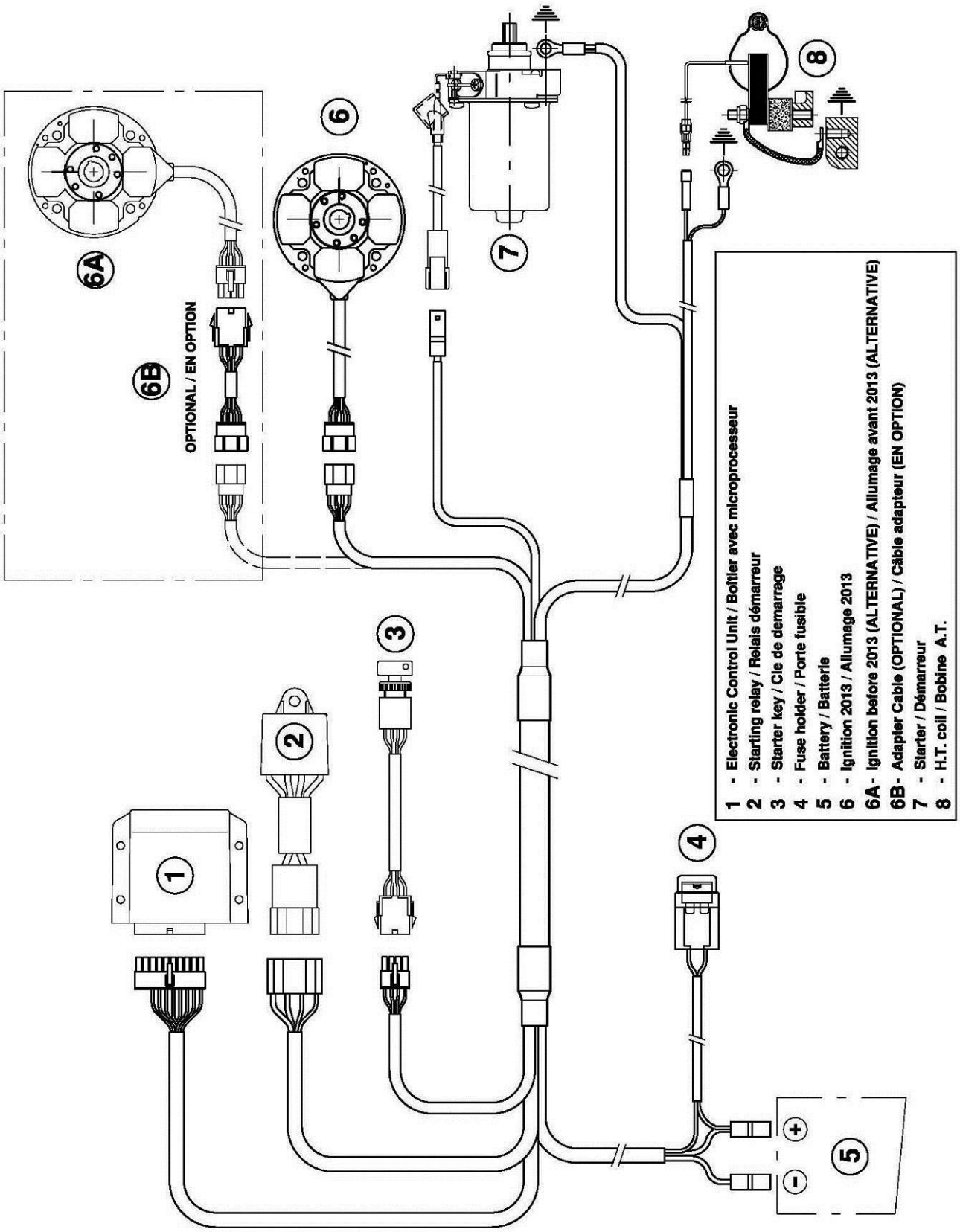
ALTERNATIVE

ALTERNATIVE RADIATOR IAME IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU RADIATOR ALTERNATIVE



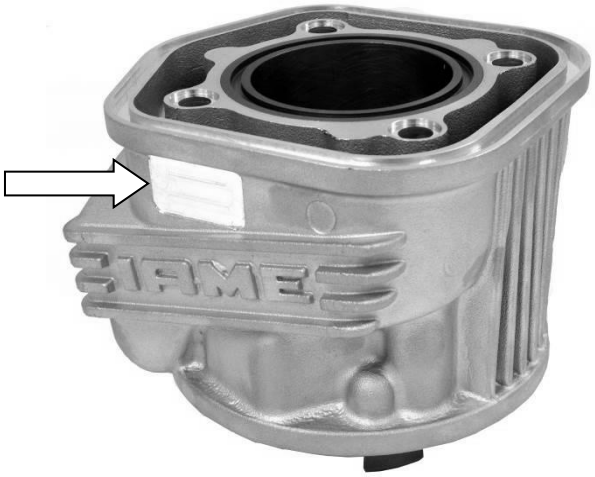
WIRING DIAGRAM (SELETTRA DIGITAL ‘’K’’ IGNITION 2013)

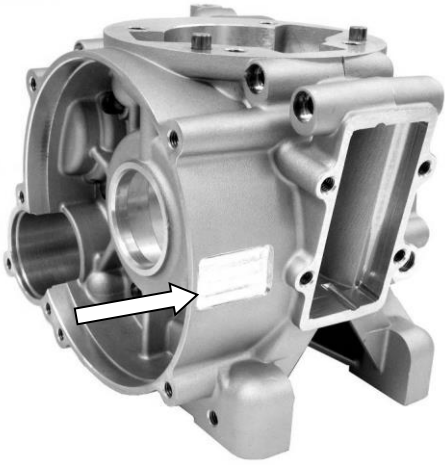
SCHEMA CIRCUIT ELECTRIQUE (ALLUMAGE SELETTRA DIGITAL ’’K’’ 2013)



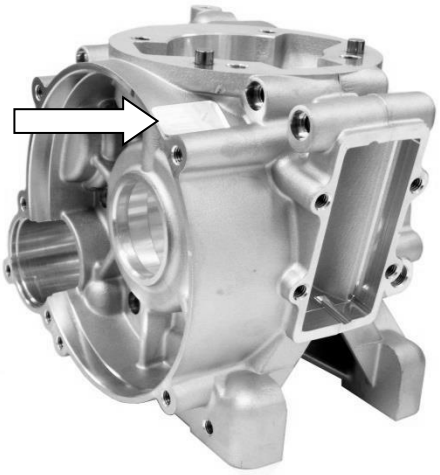
FROM 2014 ON - A PARTIR DE 2014

STICKER APPLICATION AREA - *ESPACE POUR L'APPLICATION DE ADHÉSIFS*

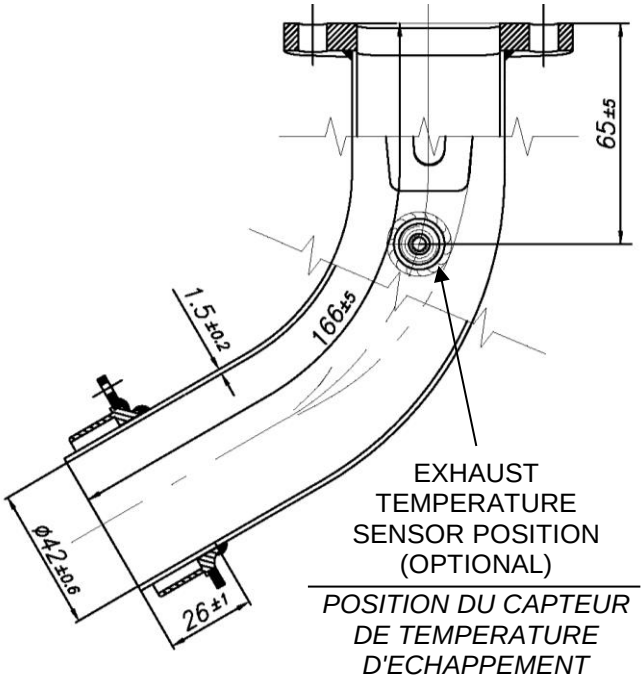




ALTERNATIVE AREA



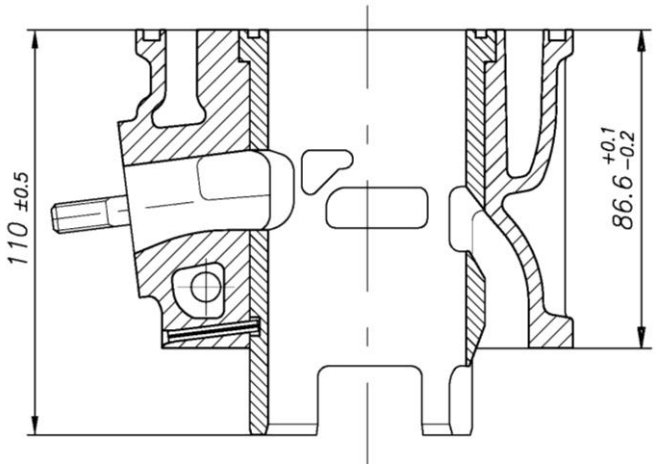
HEADER EXHAUST DIMENSIONS
CODE D'ECHAPPEMENT TAILLE



EXHAUST TEMPERATURE SENSOR POSITION (OPTIONAL)

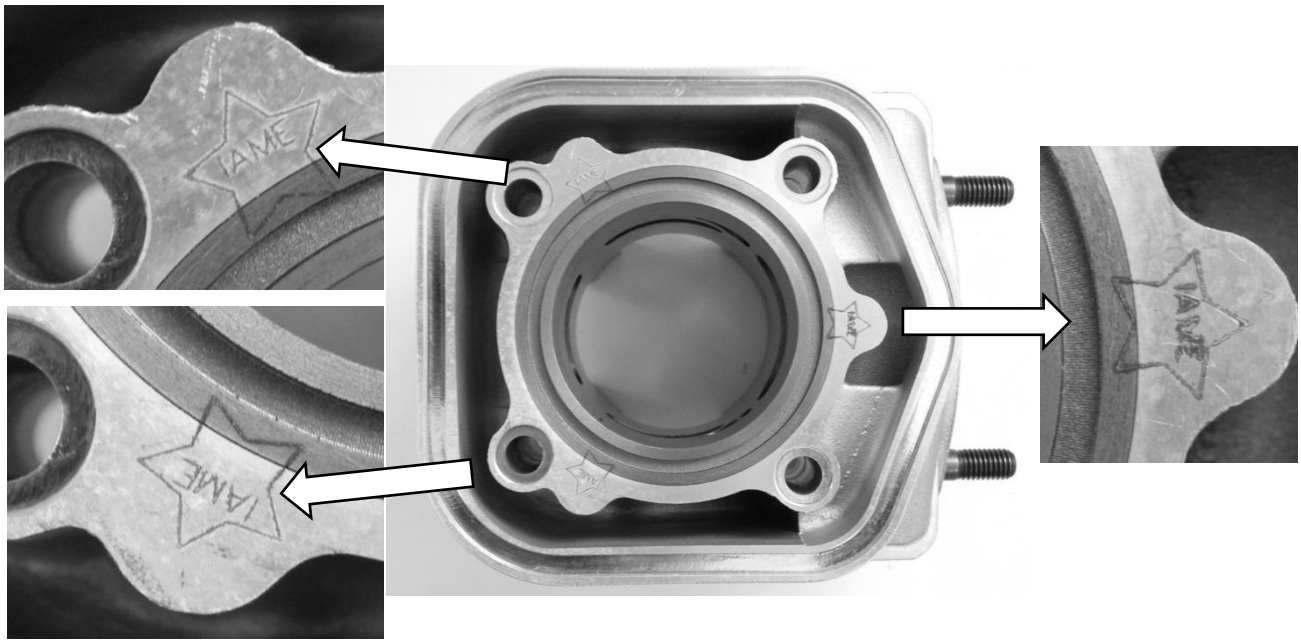
POSITION DU CAPTEUR DE TEMPERATURE D'ECHAPPEMENT (EN OPTION)

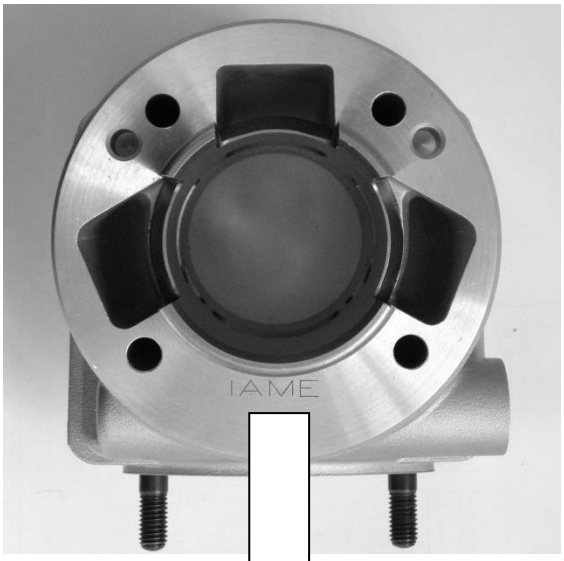
CYLINDER CROSS SECTION VIEW
VUE EN SECTION DU CYLINDRE

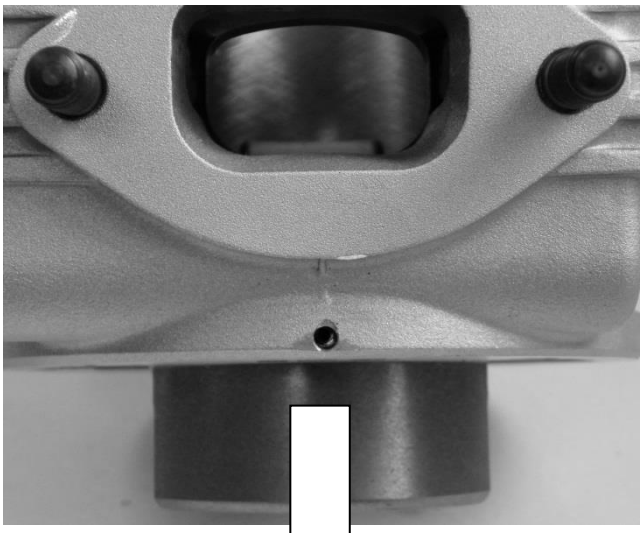


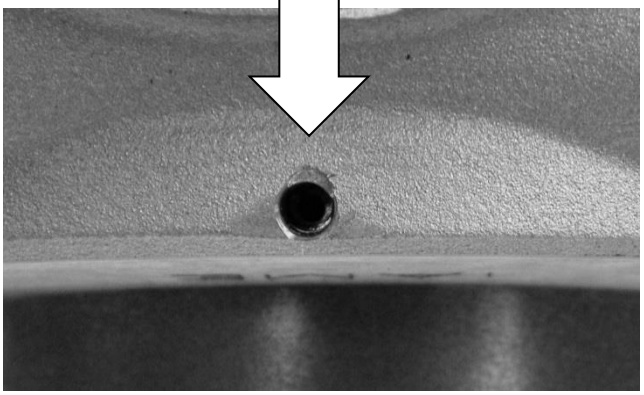
CYLINDER IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU CYLINDRE

STARTING FROM SERIAL NUMBER M3521/B3059 X30 ENGINES NEED TO BE EQUIPPED WITH MARKED CYLINDER AS SHOWED UNDER:









ALTERNATIVE PUSH BUTTONS – START & STOP
BOUTONS "START & STOP" DU DEMARREUR ALTERNATIVE

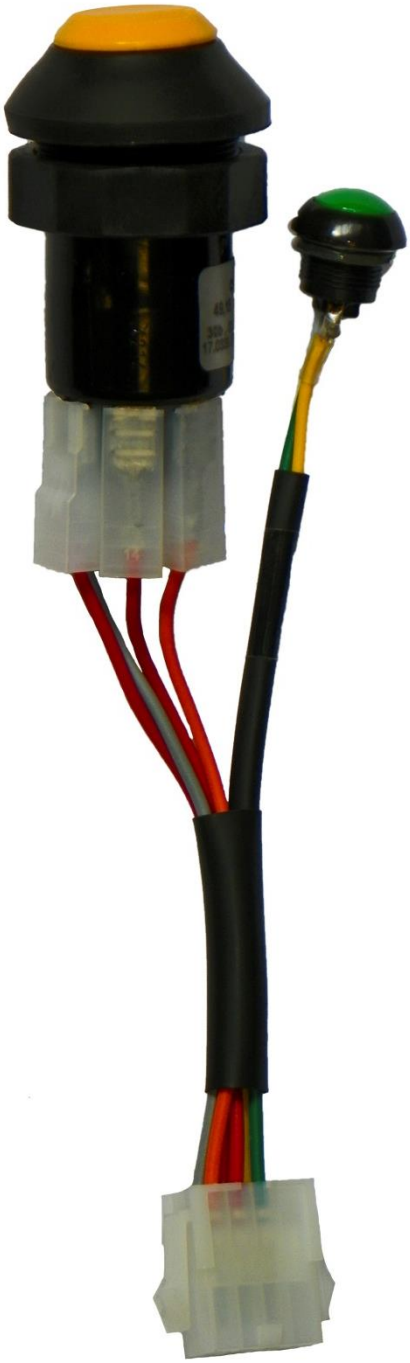
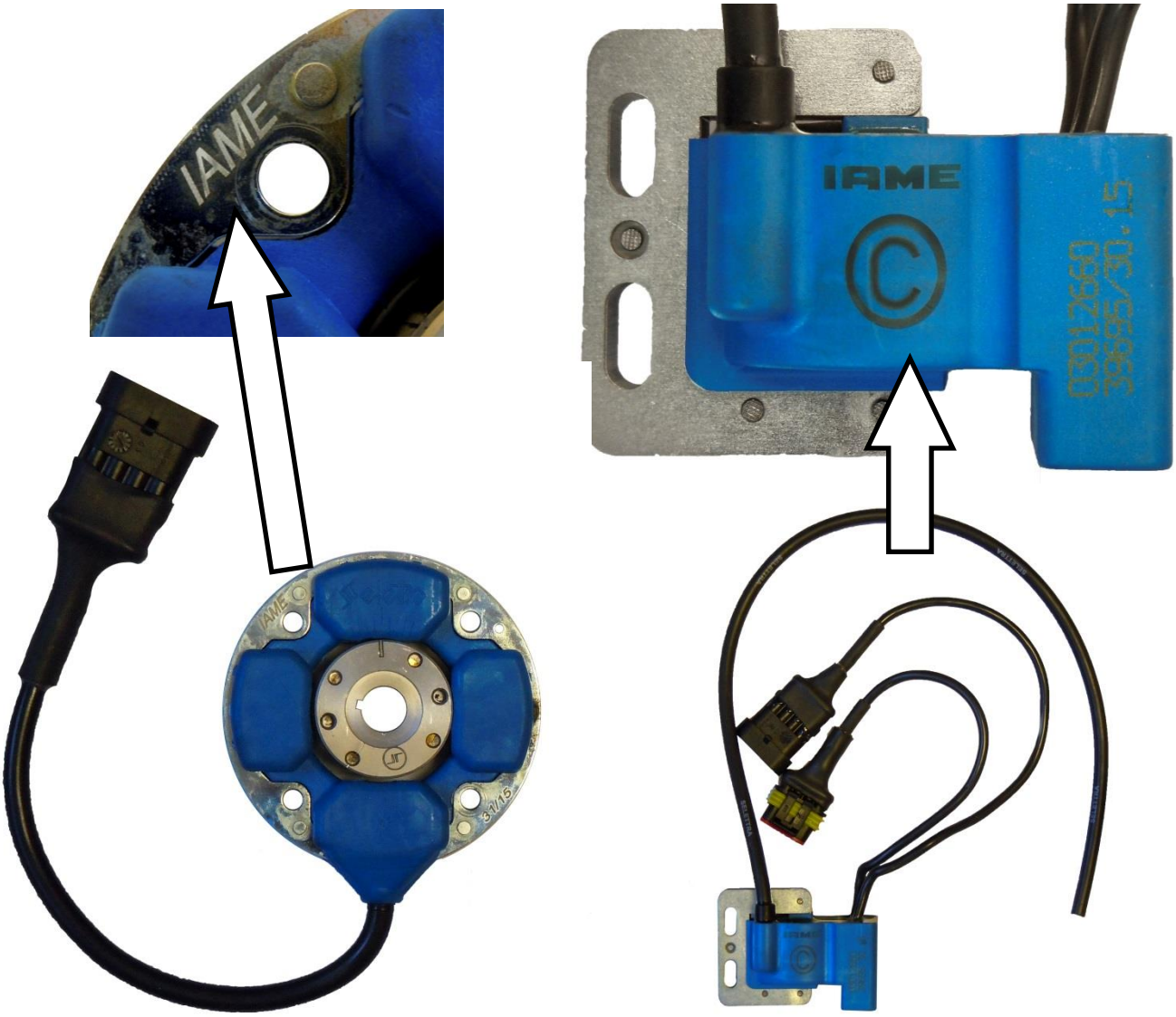
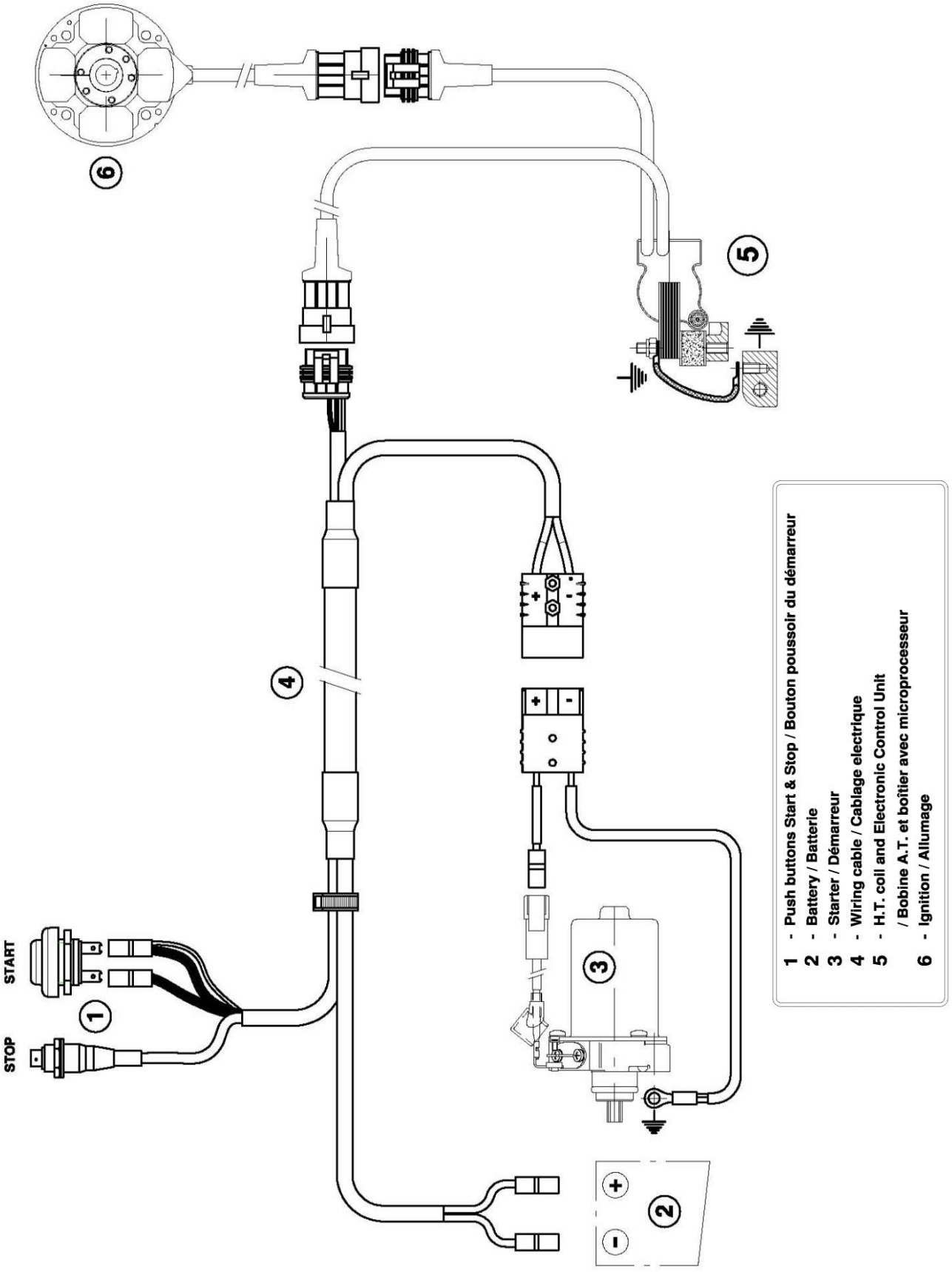


PHOTO COMPLETE ALTERNATIVE WIRING LOOM
PHOTO DU CABLAGE ELECTRONIQUE COMPLETE

PHOTO OF SELETTRA ALTERNATIVE DIGITAL “S” IGNITION, WITH IAME MARKING
PHOTO DU SELETTRA DIGITAL “S” ALLUMAGE, AVEC MARQUAGE IAME



WIRING DIAGRAM (SELETTRA DIGITAL ''S'' IGNITION)
SCHEMA CIRCUIT ELECTRIQUE (ALLUMAGE SELETTRA DIGITAL ''S")



ALTERNATIVE WIRING LOOM
CABLAGE ELECTRONIQUE COMPLET ALTERNATIVE

ALTERNATIVE WIRING LOOM DIAGRAM
SCHEMA CIRCUIT ELECTRIQUE ALTERNATIVE

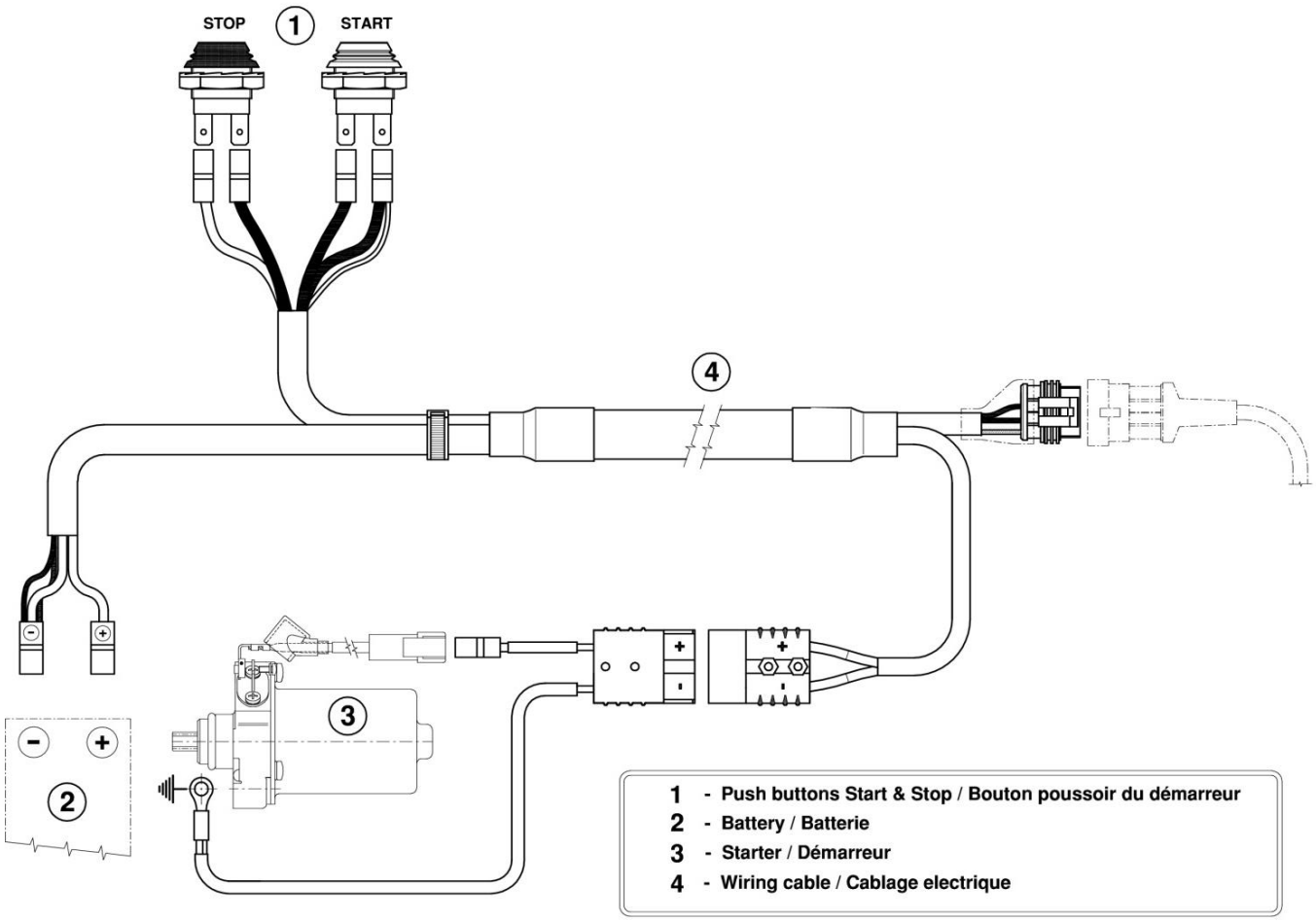
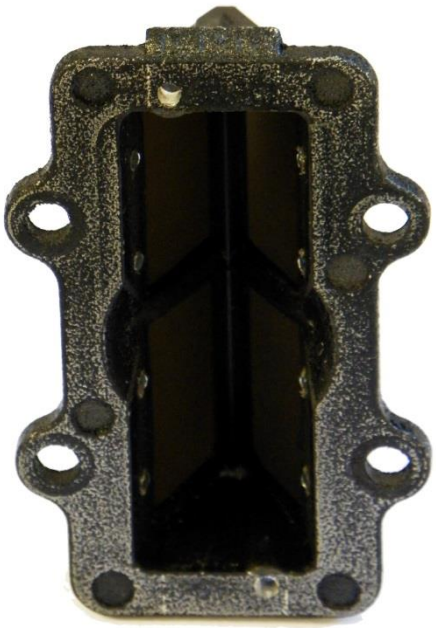
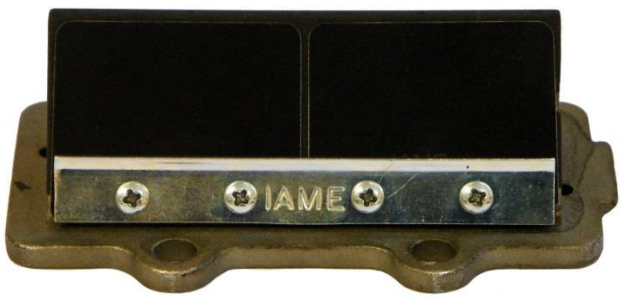
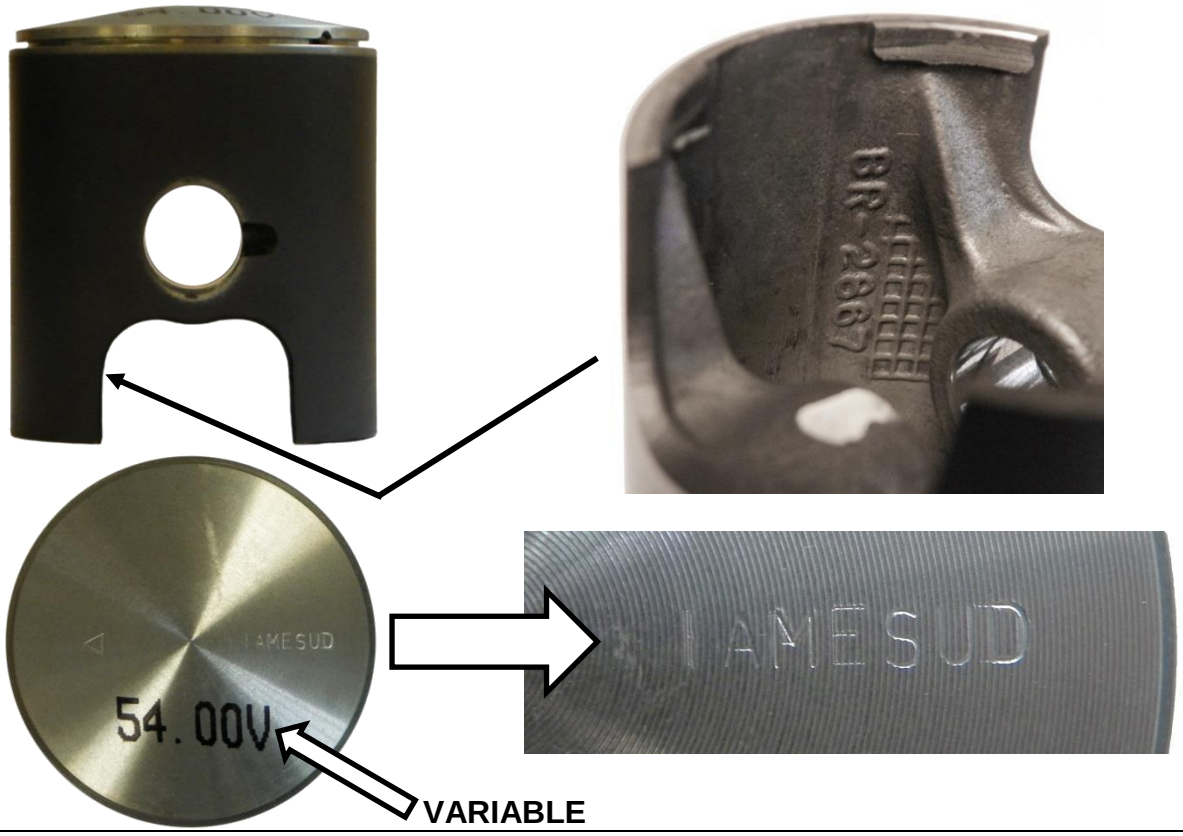


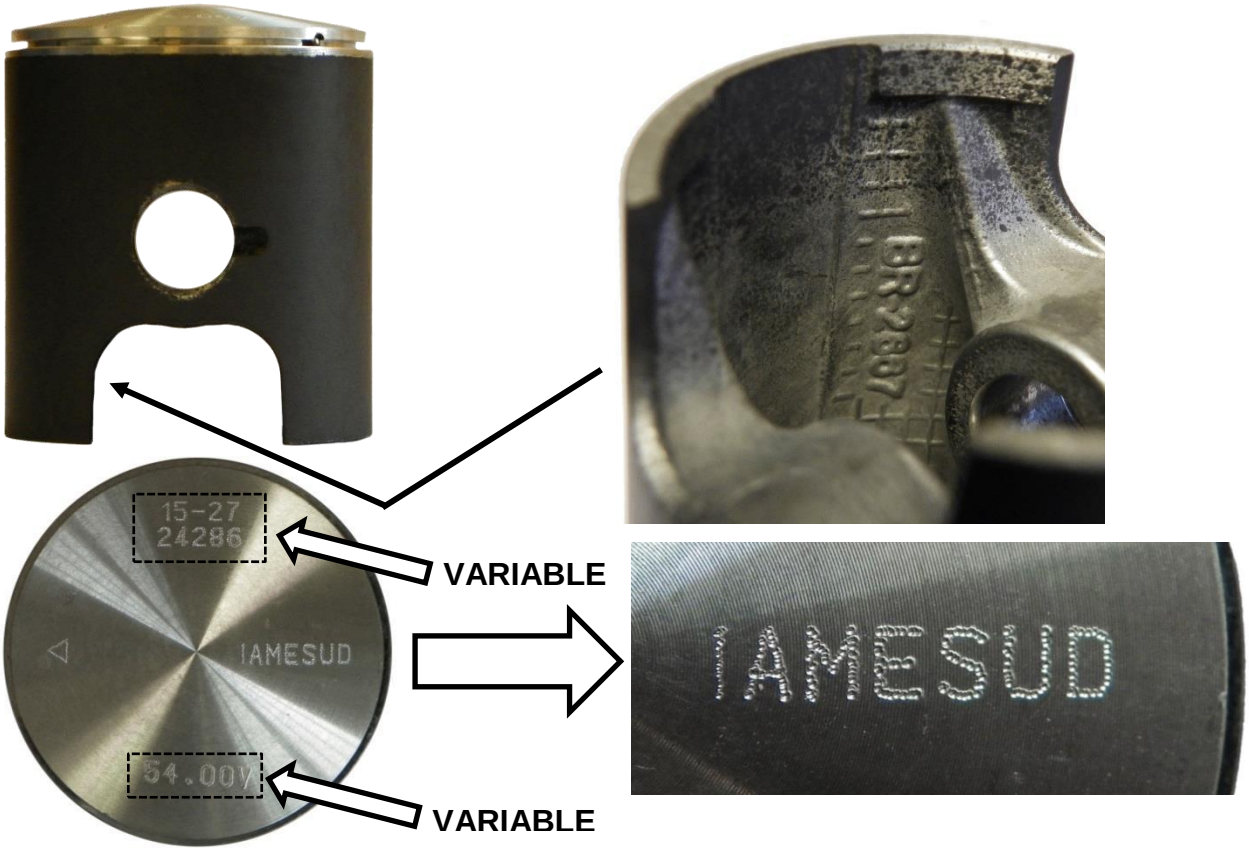
PHOTO IDENTIFICATION REED GROUP
PHOTO IDENTIFICATION PYRAMIDE DE CLAPETS

ACTUAL VERSION *COURANT VERSION*	ALTERNATIVE VERSION *VERSION ALTERNATIVE*
   	 

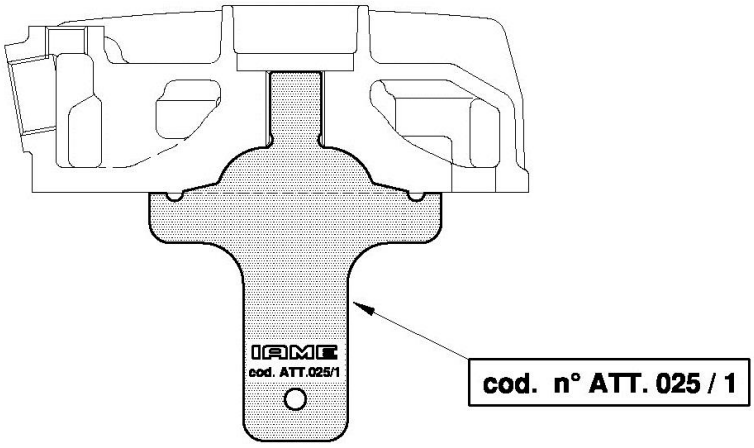
ACTUAL PISTON
PISTON COURANT



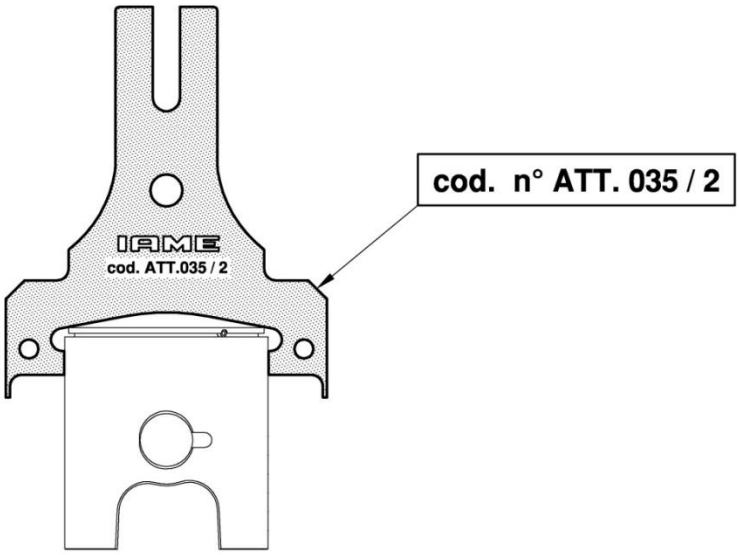
ALTERNATIVE PISTON
PISTON ALTERNATIVE



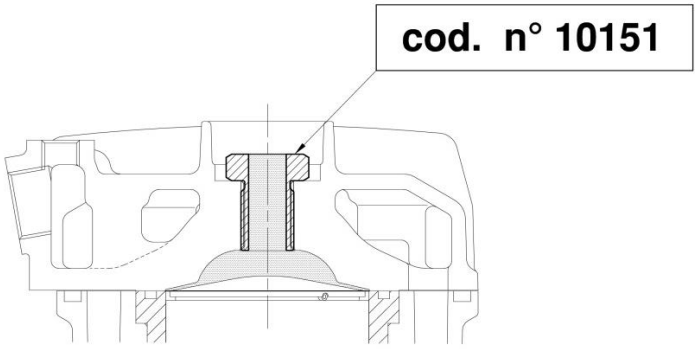
CHECKING THE SHAPE OF THE COMBUSTION CHAMBER
CONTRÔLE DE LA FORME DE LA CHAMBRE DE COMBUSTION



CONTROL OF THE PISTON DOME
CONTRÔLE DU DÔME DE PISTON

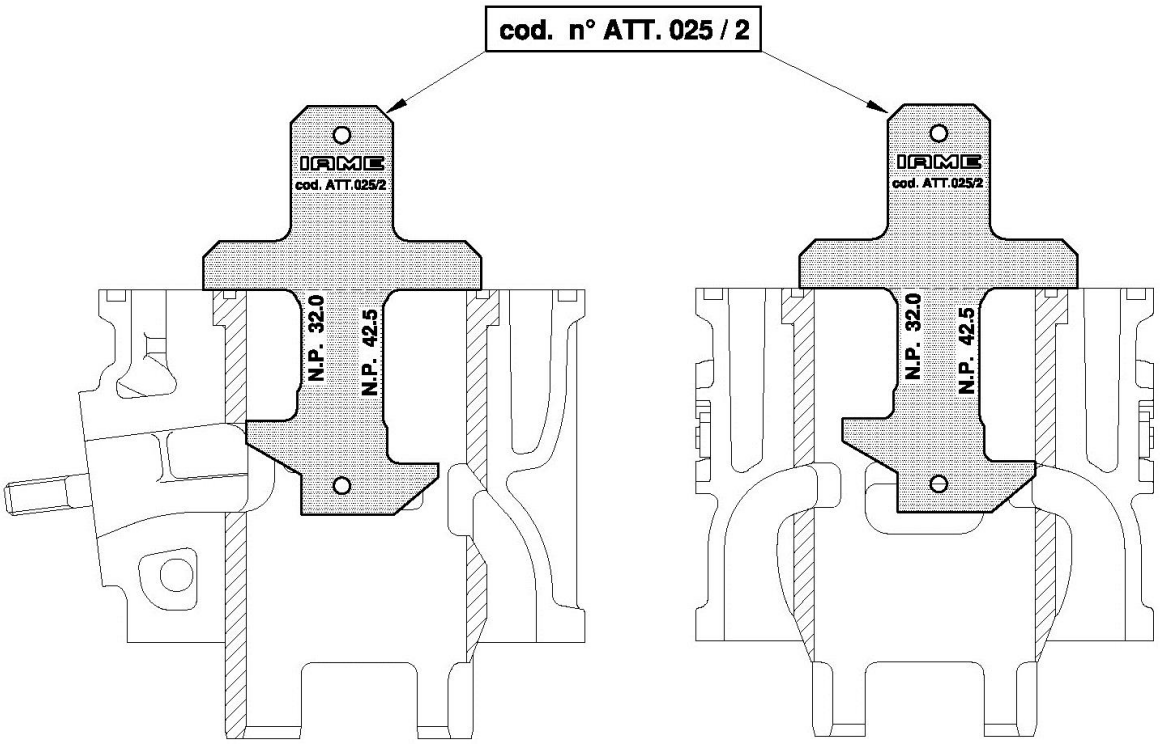


CONTROL OF THE VOLUME OF THE COMBUSTION CHAMBER
CONTRÔLE DU VOLUME DE LA CHAMBRE DE COMBUSTION

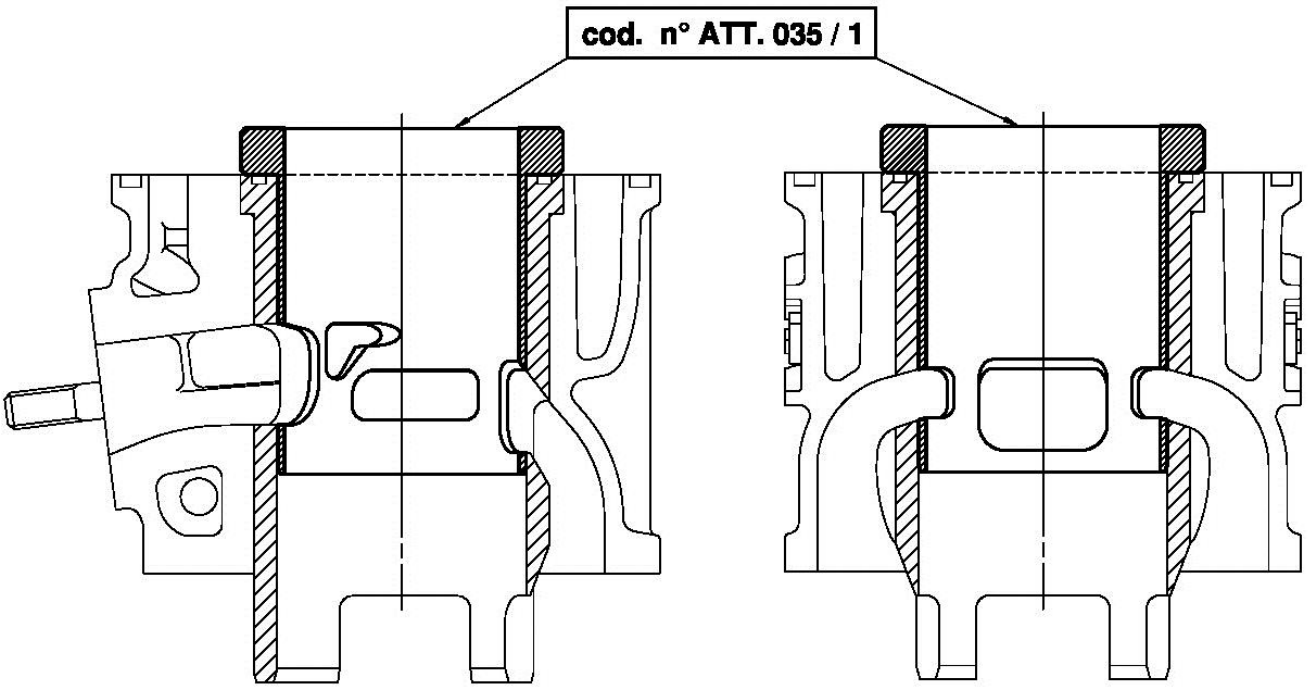


CYLINDER CHECK - *CONTRÔLE DU CYLINDRE*

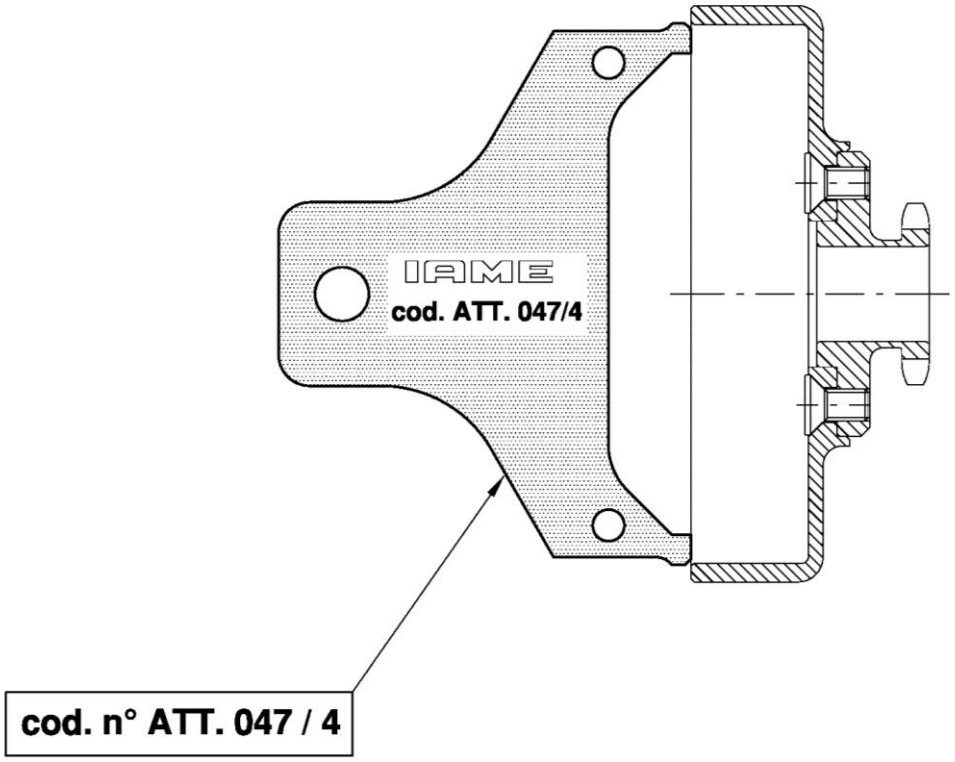
CHECK OF EXHAUST DUCT AND LATERAL TRANSFERS
CONTRÔLE DE LA LUMIÈRE D'ÉCHAPPEMENT ET DES TRANSFERTS LATÉRAUX



CYLINDER LINER DUCTS AND TRANSFERS CHECK TOOL
OUTIL DE VÉRIFICATION DES LUMIÈRES DE LA CHEMISE DU CYLINDRE

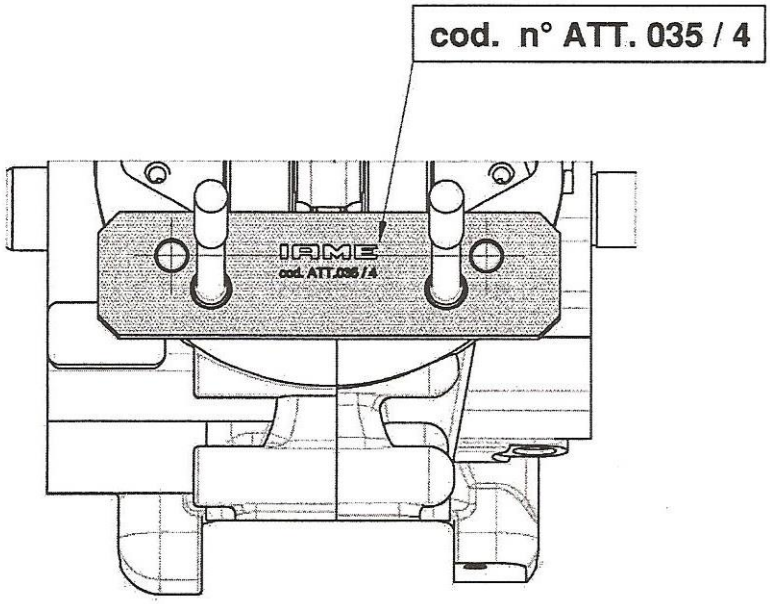


CLUTCH DRUM CHECK TOOL
CONTRÔLE DE LA CLOCHE D'EMBRAYAGE

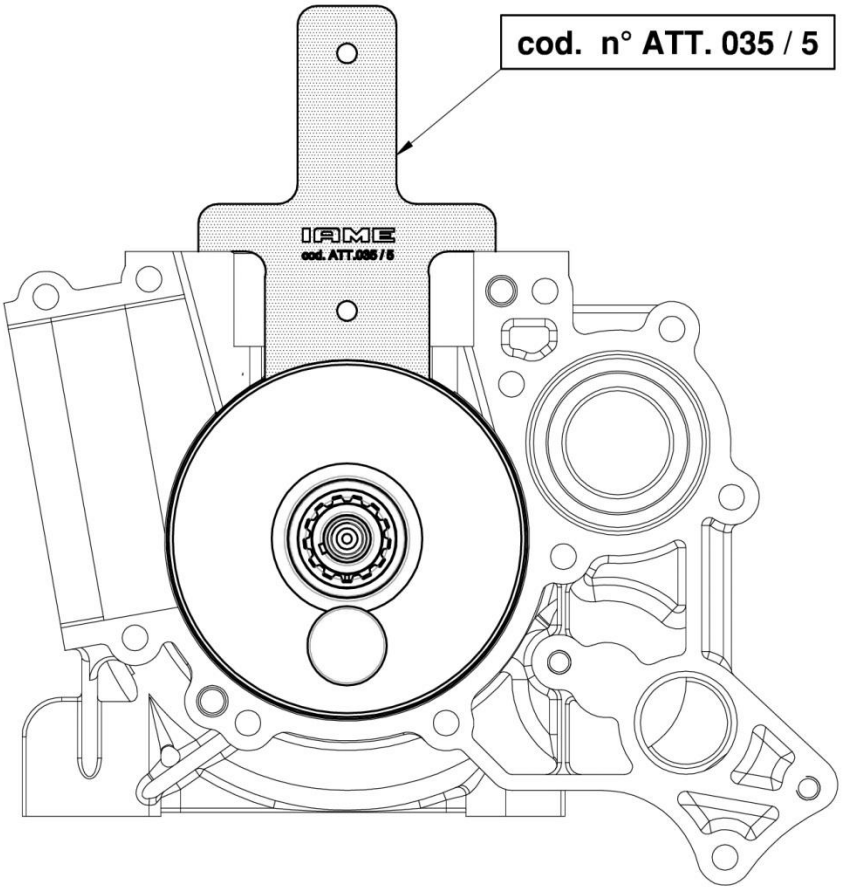


CRANKCASE CHECK TOOLS - CONTRÔLE DU CARTER

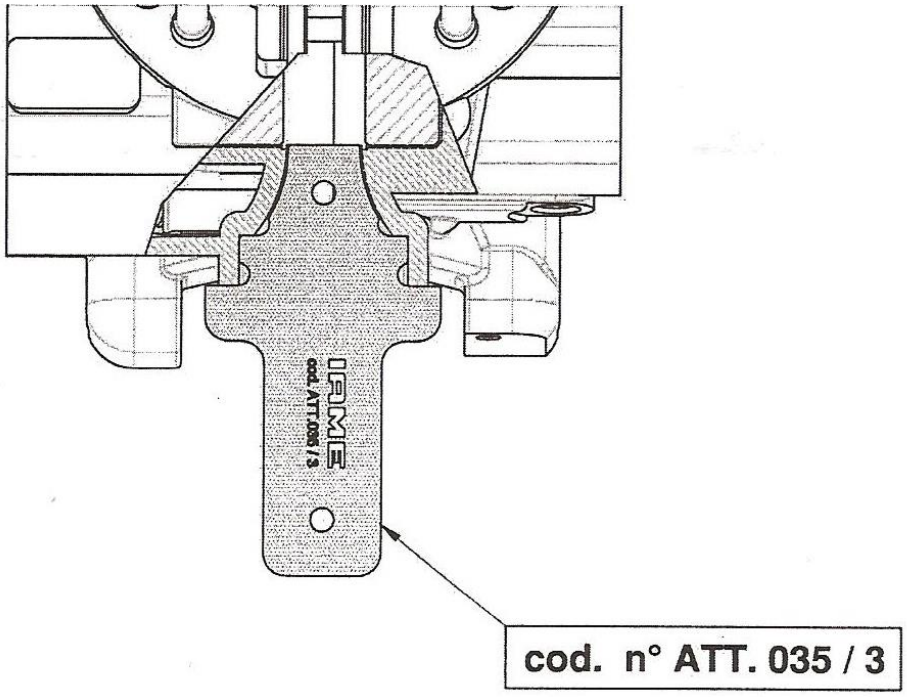
CHECKING THE DISTANCE BETWEEN THE CILYNDER PINS
CONTRÔLE DE L'ENTRAXE DES PINNULES D'INDEXATION DU CYLINDRE



CONTROL OF THE HEIGHT OF THE JOINT PLANE
CONTRÔLE DE LA HAUTEUR DU PLAN DE JOINT

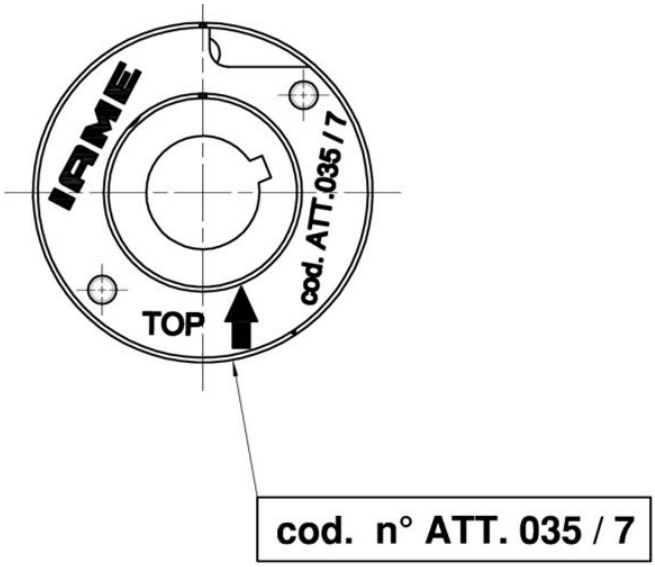


CHECKING OF THE REEDS VALVE SEAL PLANE
CONTRÔLE DU PLAN DE JOINT DE LOGEMENT DE BOITE À CLAPETS



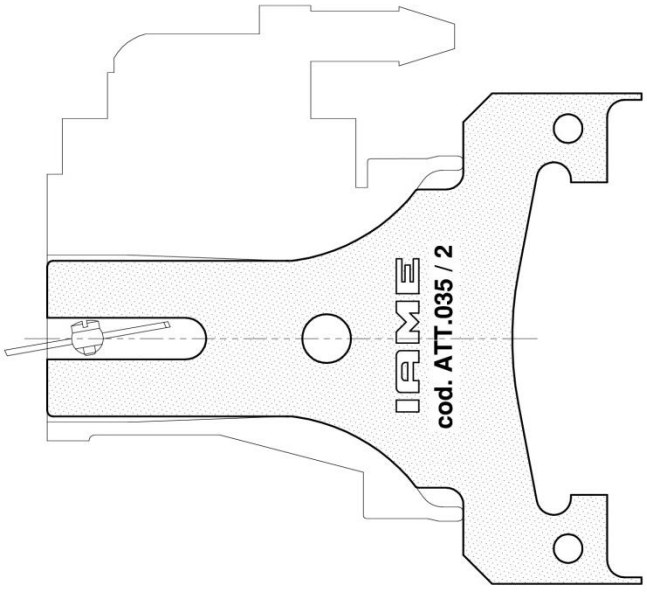
CONTROL OF THE POSITION OF SELETTRA DIGITAL "S" PHASE MARKING

CONTROLE DU POSITION REGULA DU MARQUAGE DU PHASE SELETTRA DIGITAL "S"

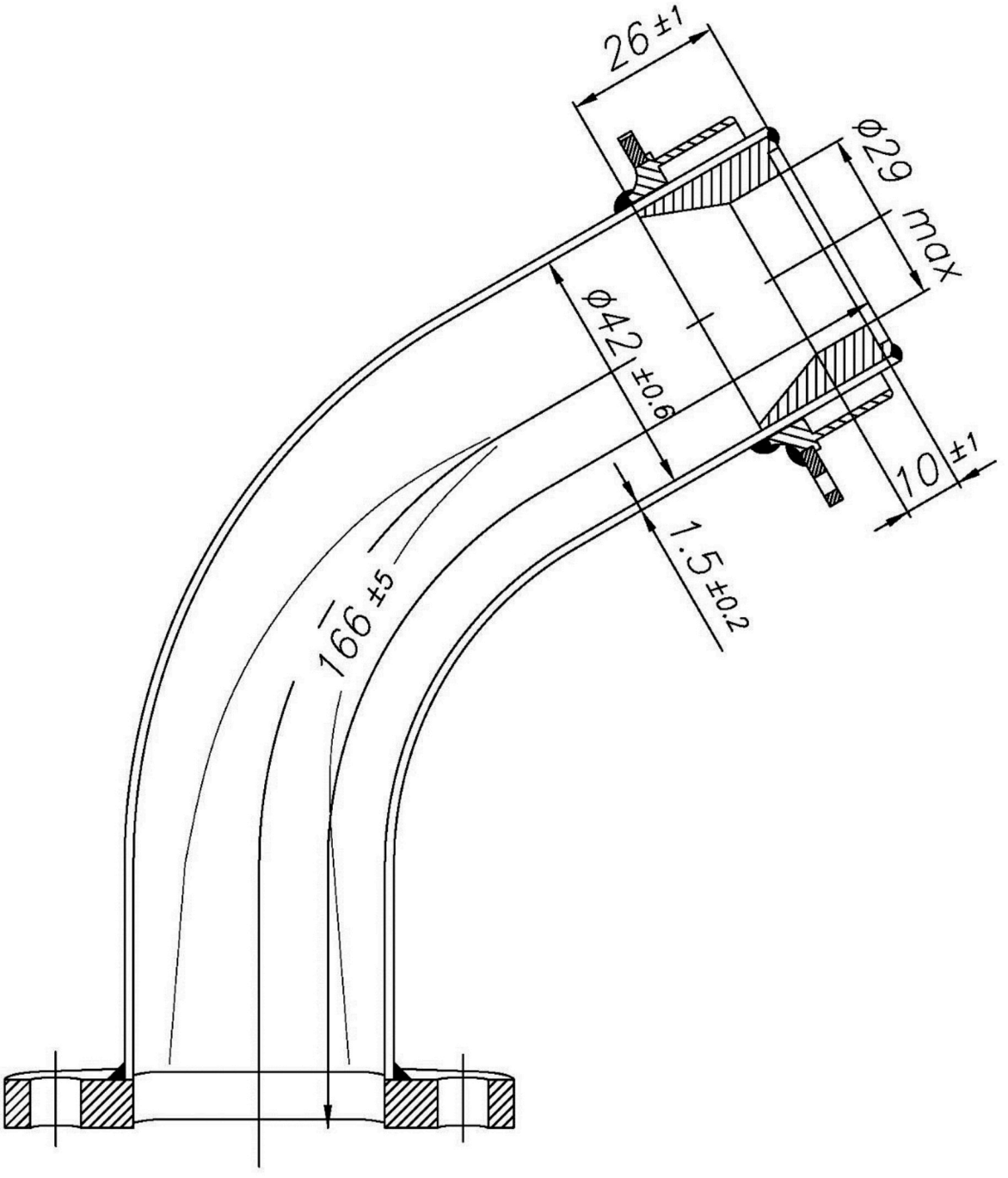


VENTURI SHAPE CONTROL OF TILLOTSON HW-27A CARBURETTOR

CONTROLE DU VENTURI DU CARBURATEUR TILLOTSON HW-27A



ALSO ALLOWED TO USE:



ALTERNATIVE EXHAUST HEADER
COLLECTEUR D'ECHAPPEMENT ALTERNATIVE

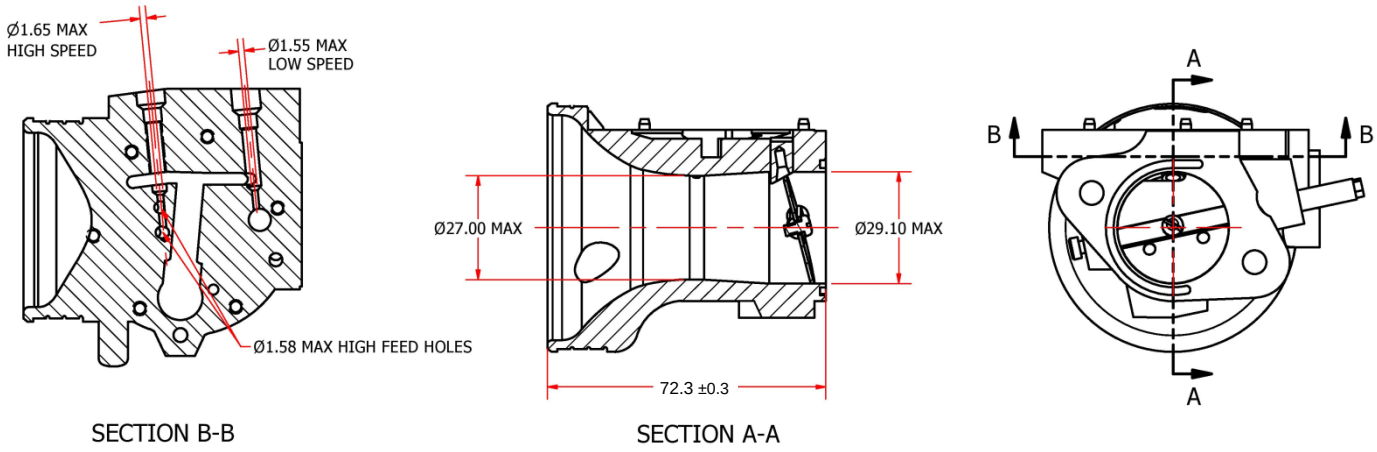
CARBURETTOR

Tillotson HW-27A

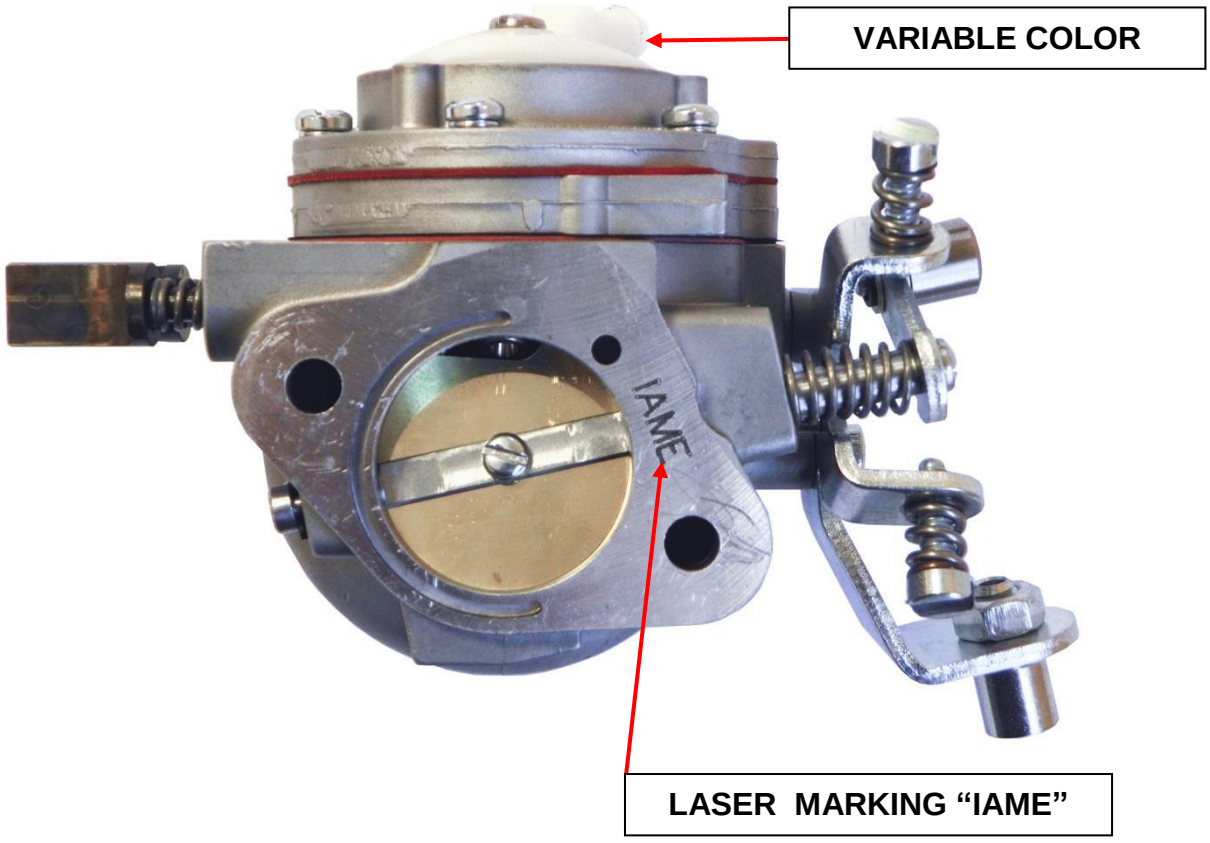
PHOTO OF ADJUSTING SIDE	PHOTO OF INLET SIDE

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

SECTION VIEW

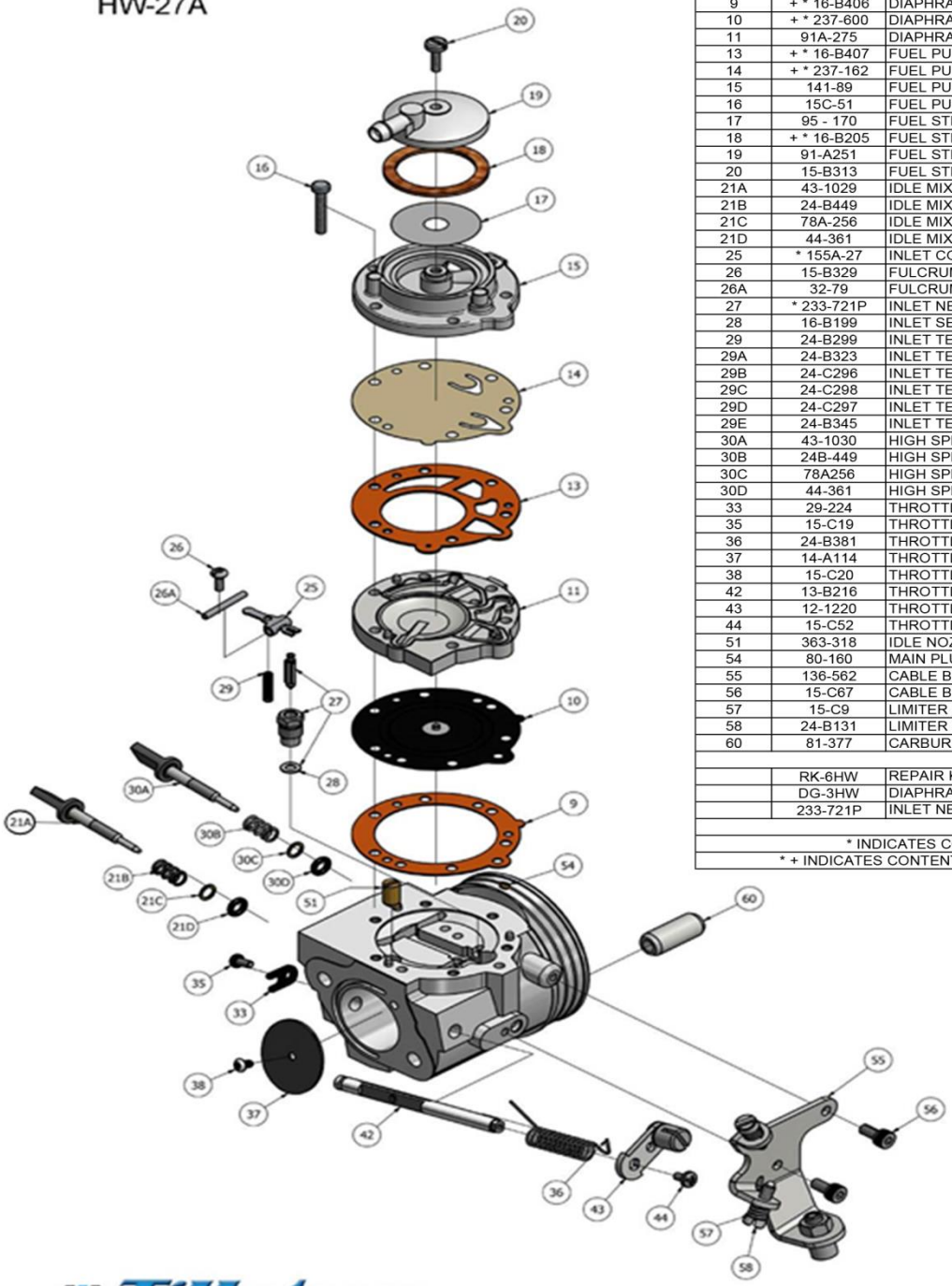


MARKING



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 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

PARTS OF CARBURETTOR

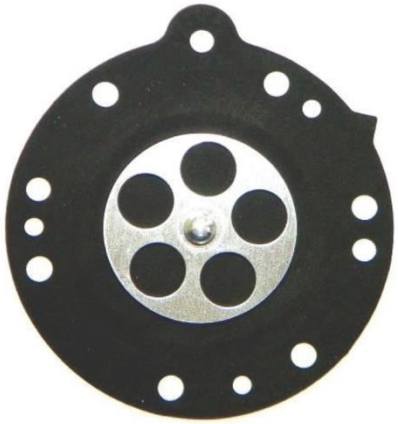
REF.9 - P. N°16-B406
DIAPHRAGM GASKET (ORANGE COLOR)

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

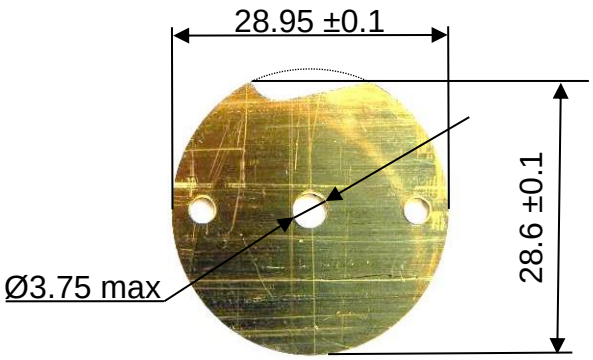
REF.11 - P. N° 91-A275
DIAPHRAGM COVER

Thickness = 6.75 ±0.15 mm

REF.15 - P. N° 141-89
PUMP COVER

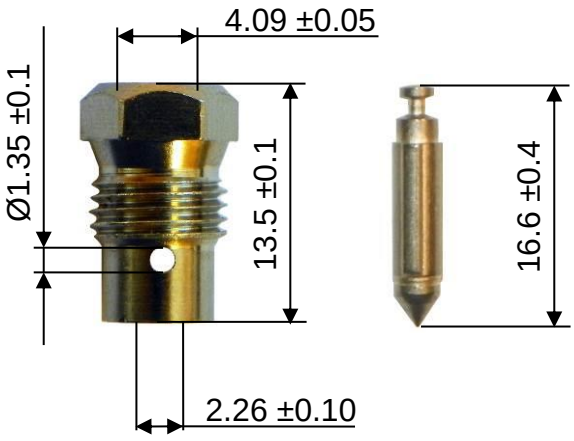
Thickness = 12.5 ±0.15 mm

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

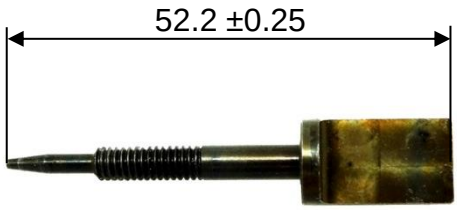


Thickness = 0.81 ±0.1 mm

REF.27 - P. N° 233-721P
SEAT + NEEDLE



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

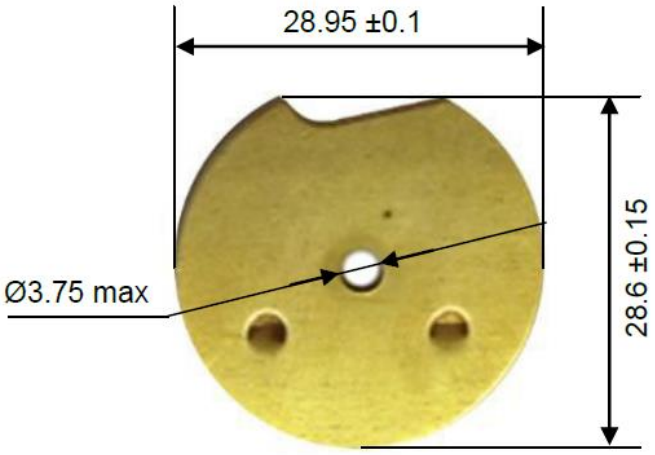


ALTERNATIVE THROTTLE SHUTTER
(made from production tooling)

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

ALTERNATIVE FUEL NEEDLE

REF.37 - P. N° 14-A114



Thickness = 0.81 ±0.1 mm

REF.27 - P. N° 233-721P