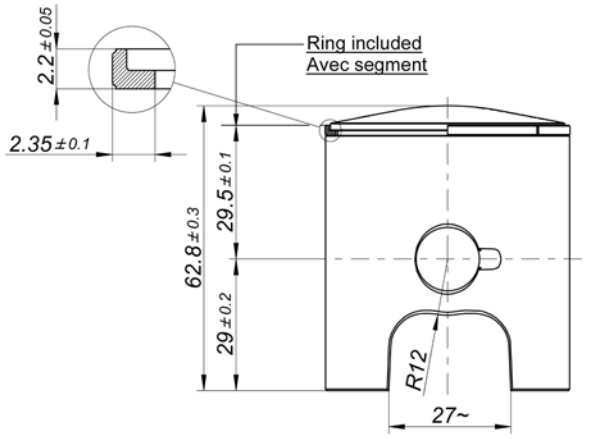
X30 125cc RL-C TaG

FEATURES - *CARACTERISTIQUES*	
Cylinder volume *Volume du cylindre*	123.67 cm³
Bore *Alésage*	54 mm
Max. bore *Alésage 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. bearing diam. *Diamètre roulement tête de bielle*	20x26x15	Selettra *or PVL ignition* *Allumage Selettra ou PVL*	Digital
Crankshaft bearing diam. *Diamètre roulement du vilebrequin*	30x62x16	Distance between conrod centers *Longueur (entraxe) de la bielle*	102 mm
Small end conr. bearing diam. *Diamètre roulement pied de bielle*	14x18x17.5	RPM limiter *Limiteur de régime*	Yes *Oui*
Balancing shaft *Arbre d'équilibrage*	*Yes* *Oui*	Electric starter *Démarreur électrique*	*Yes* *Oui*

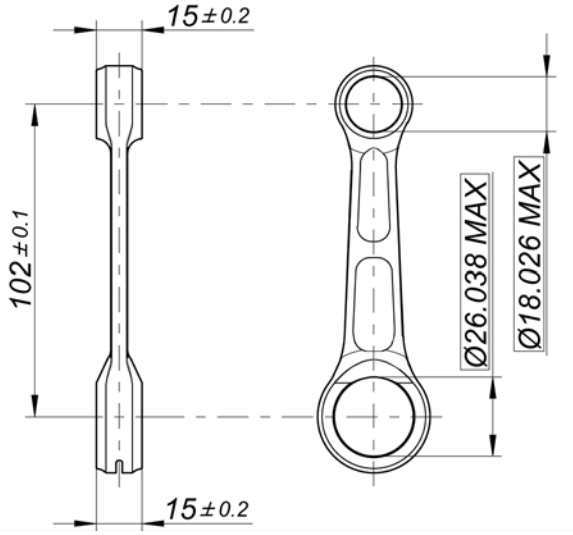
DESCRIPTION OF THE MATERIAL *DESCRIPTION DES MATERIAUX*	
Conrod material *Matériau de la bielle*	Steel *Acier*
Crankshaft material *Matériau du vilebrequin*	Steel *Acier*
Balancing shaft material *Matériau de l' arbre d' équilibrage*	Steel *Acier*
Gears material *Matériau des engrenages*	Steel *Acier*
Starter ring material *Matériau de la couronne démarreur*	Steel *Acier*
Head material *Matériau de la culasse*	Aluminium
Cylinder material *Matériau du cylindre*	Aluminium
Liner material *Matériau de la chemise*	Iron *Fonte*
Crankcase material *Matériau du carter*	Aluminium
Piston material *Matériau du piston*	Aluminium
Piston rings material *Matériau des segments*	Iron *Fonte*
Exhaust muffler material *Matériau du pot d' échappement*	Sheet-steel *Tôle acier*
Ball-bearings *Roulements*	Type 6206

PISTON



Piston min. weight (ring incl.) 128 g
Poids min. piston (avec segment) 128g

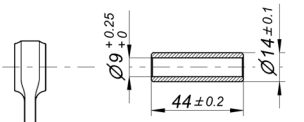
DISTANCE BETWEEN CONROD CENTERS
ENTRAXE DE LA BIELLE



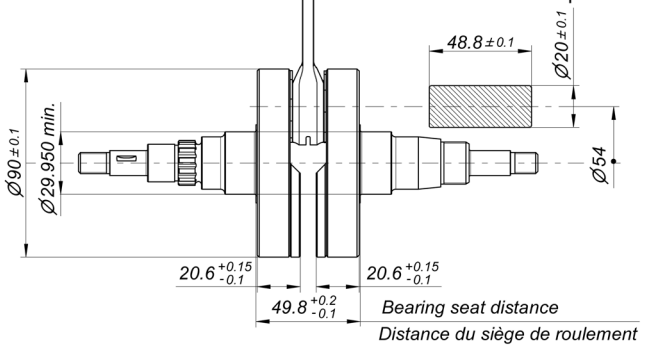
Min. weight 110 g
Poids min. 110 g

CRANKSHAFT - *VILEBREQUIN*

Piston pin min. weight 28 g
Poids min. axe de piston 28 g

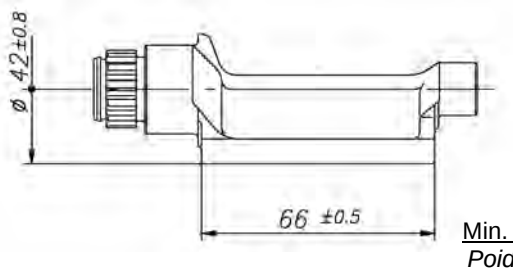


Crankpin min. weight 116 g
Poids min. axe de vilebrequin 116 g



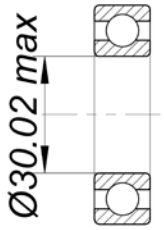
Complete crankshaft min. weight 2150 g
Poids min. du vilebrequin complet 2150 g

BALANCING SHAFT
ARBRE D'EQUILIBRAGE

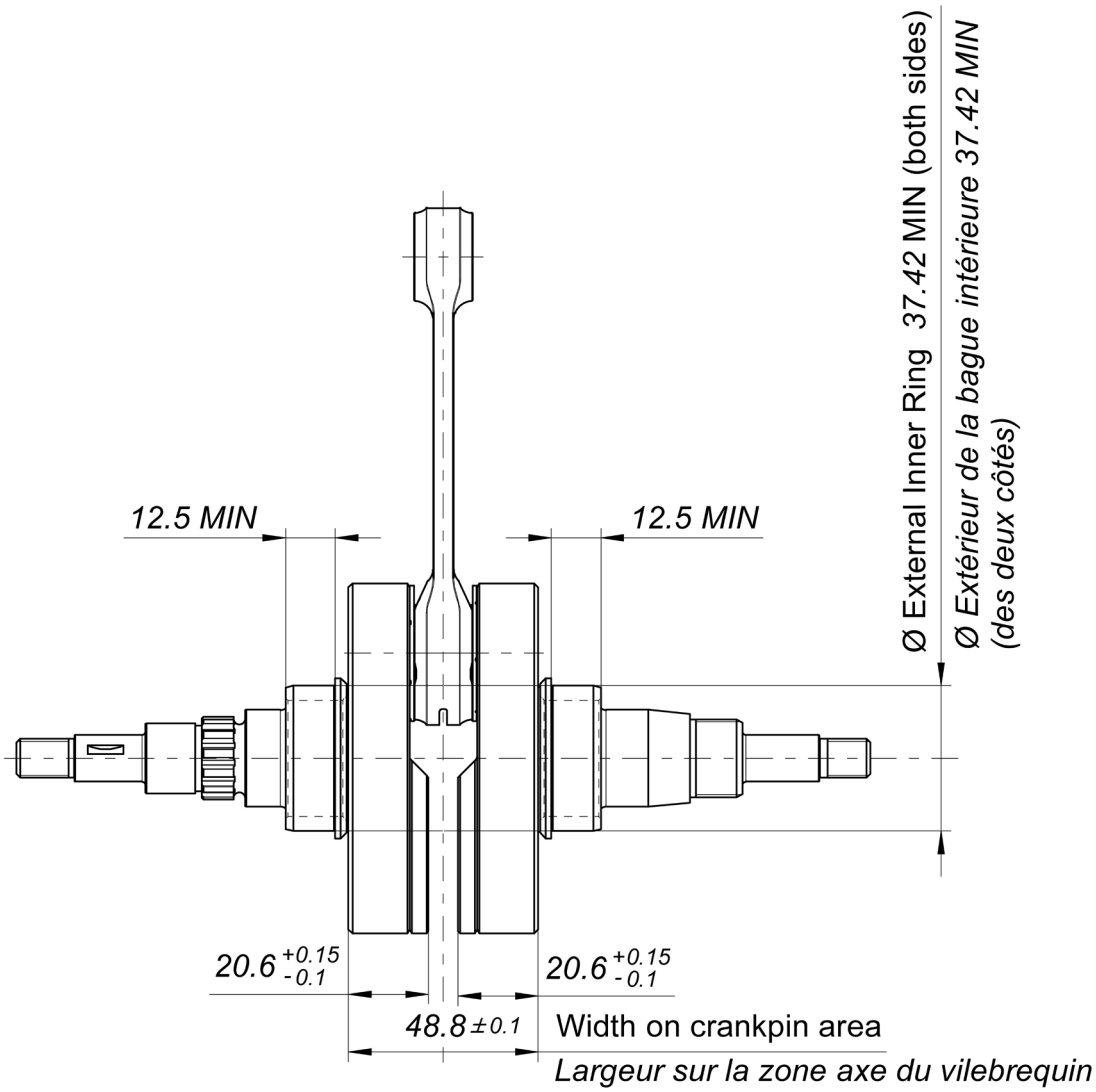


Min. weight 315 g
Poids Min. 315 g

CRANKSHAFT BALL BEARINGS
ROULEMENTS À BILLES DU VILEBREQUIN

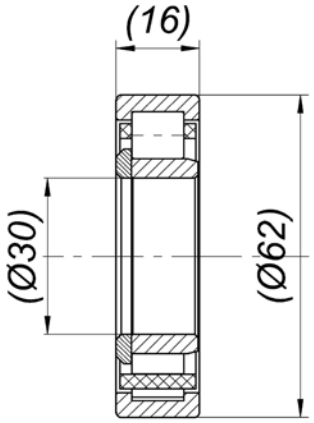


DIMENSIONS OF ALTERNATIVE CRANKSHAFT WITH ROLLER MAIN BEARINGS
DIMENSIONS DU VILEBREQUIN ALTERNATIF AVEC ROULEMENTS A ROULEAUX

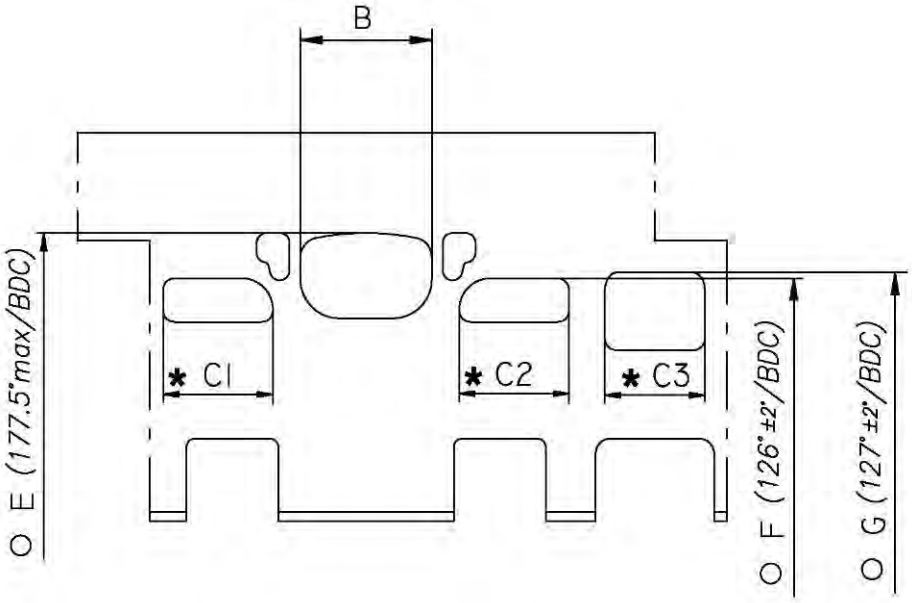


Crankshaft complete min. Weight 2220 g
Poids min. du vilebrequin

ROLLER MAIN BEARING
ROULEMENTS À ROULEAUX DU VILEBREQUIN



CYLINDER DEVELOPMENT - *DEVELOPPEMENT DU CYLINDRE*

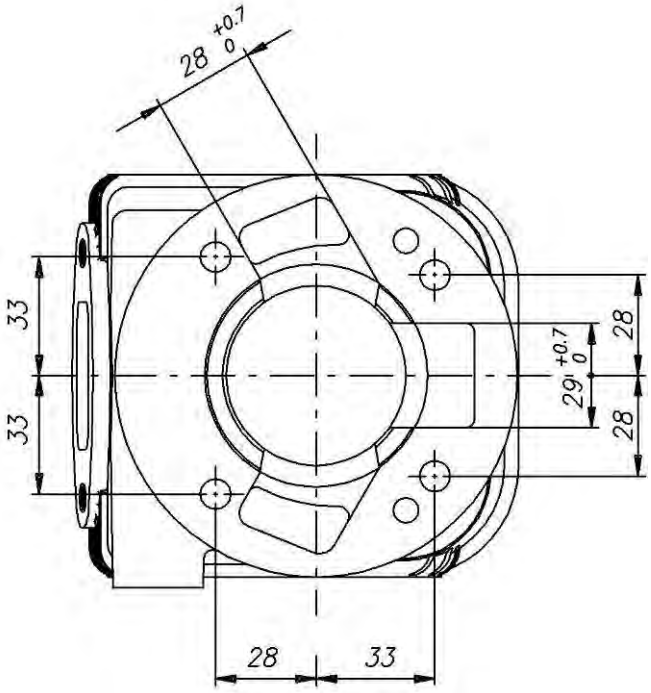


B	≤ 36.5 mm
C1 = C2	≤ 30 mm
C3	≤ 28.5 mm
E	177.5° max
F	126° ± 2°
G	127° ± 2°

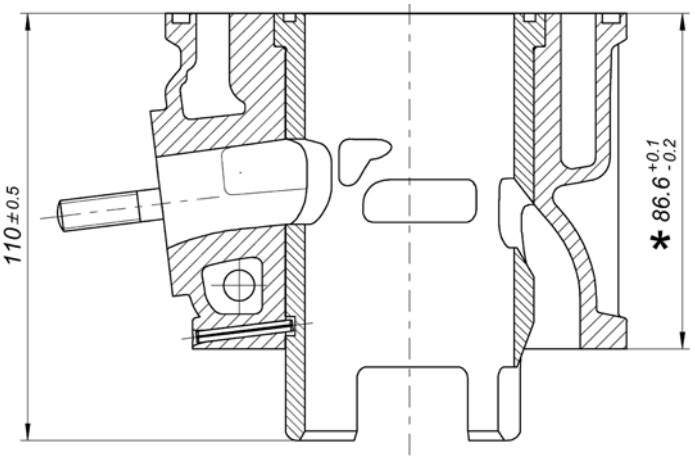
* *CHORDAL READING*
LECTURE CORDALE

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

CYLINDER BASE VIEW
VUE DE LA BASE DU CYLINDRE

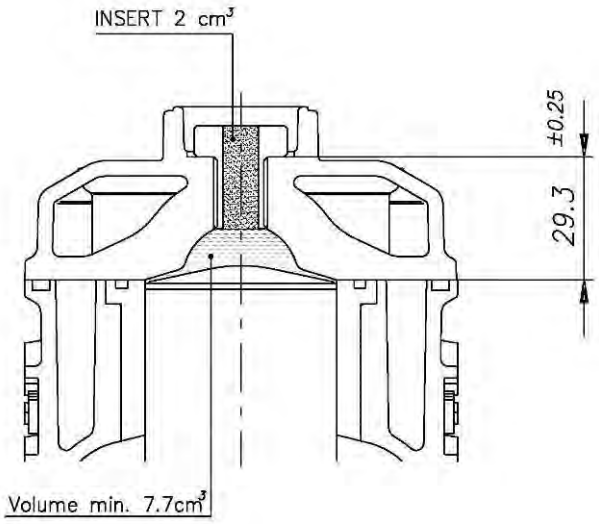


CYLINDER CROSS SECTION VIEW
VUE EN SECTION DU CYLINDRE



* from the base plane of the cylinder to the top plane of the liner
à partir du plan de base du cylindre jusqu'au plan supérieur de la chemise

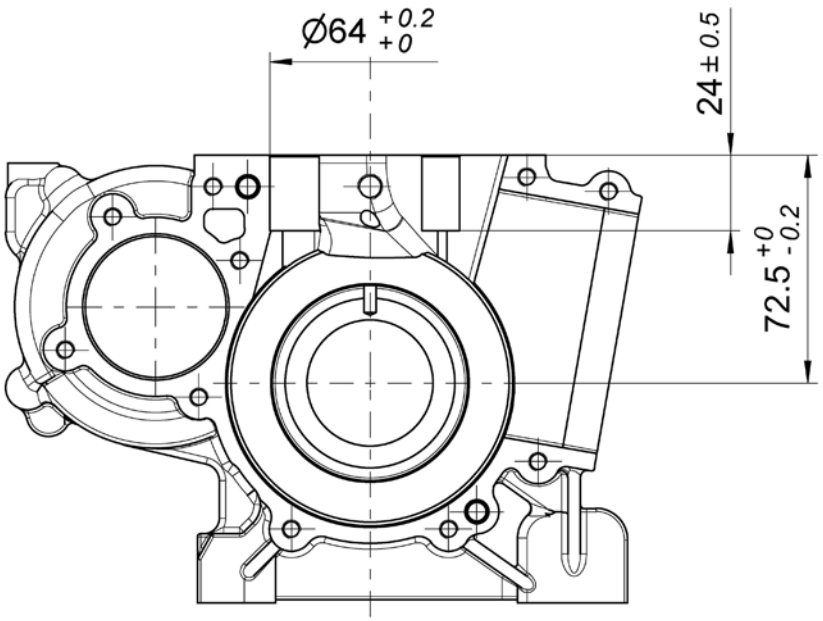
COMBUSTION CHAMBER VIEW
VUE DE LA CHAMBRE DE COMBUSTION



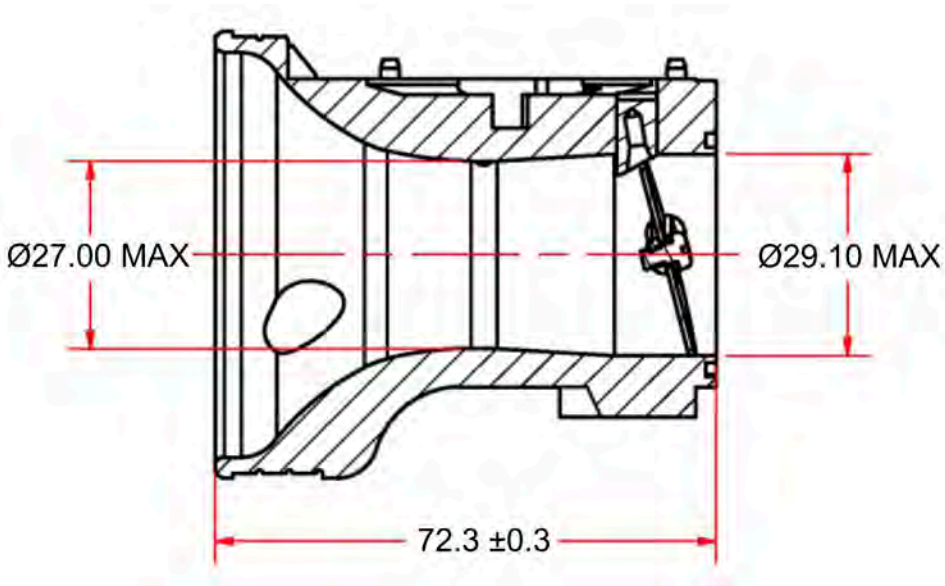
COMBUSTION CHAMBER VOLUME TOT. = 9.7 cm³ min.
VOLUME CHAMBRE COMBUSTION TOT. = 9.7 cm³ min.

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

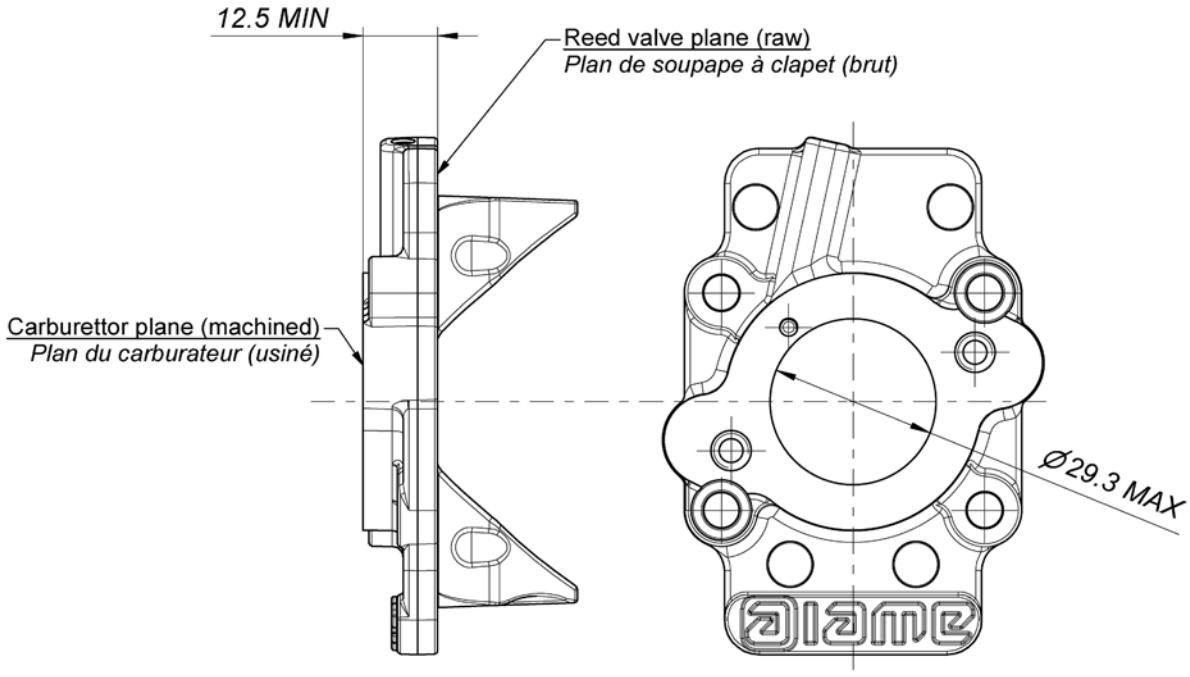
CRANKCASE INSIDE VIEW
VUE A' L' INTERIEUR DU CARTER



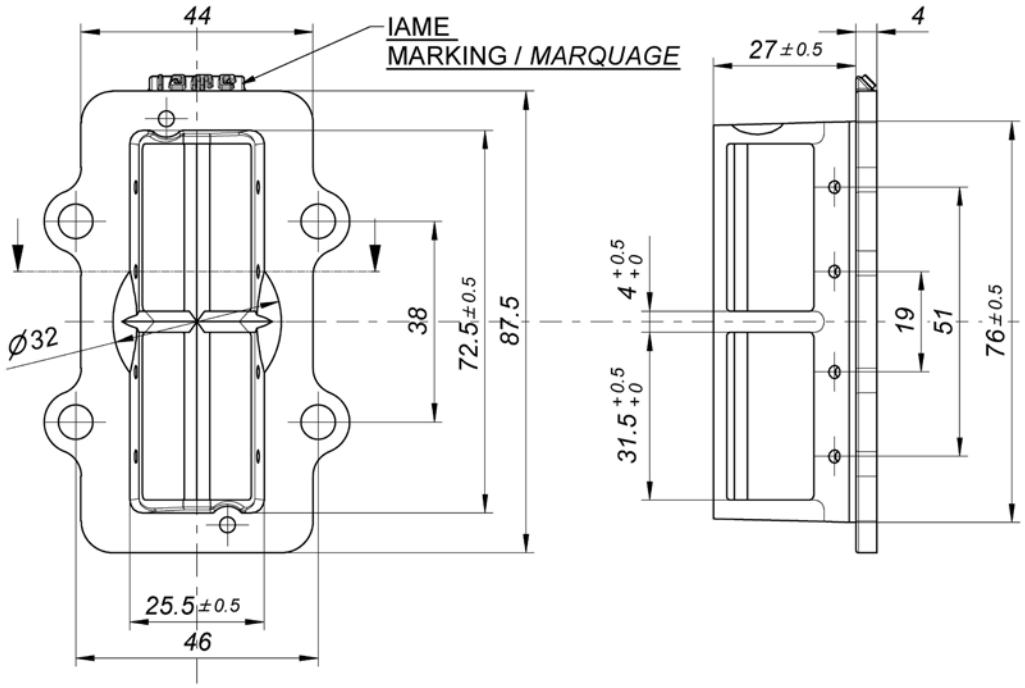
TILLOTSON HW-27A VENTURI CARBURETTOR DIMENSIONS
DIMENSIONS DU VENTURI DU CARBURATEUR TILLOTSON HW-27A

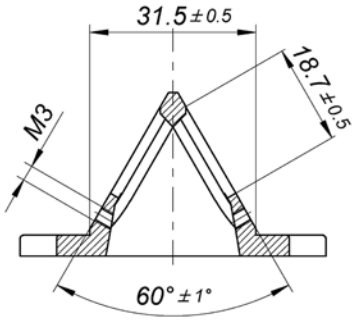


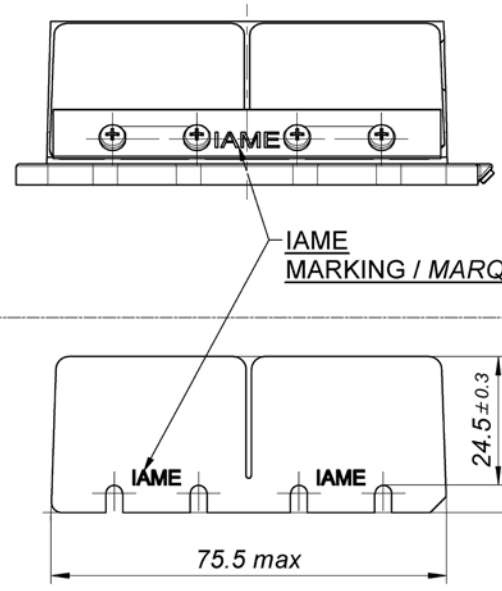
INLET CONVERYOR DIMENSIONS
CONVOYEUR D'ADMISSION



REED VALVE - DIMENSIONS AND MARKING
BOÎTE À CLAPETS - DIMENSIONS ET MARQUAGE



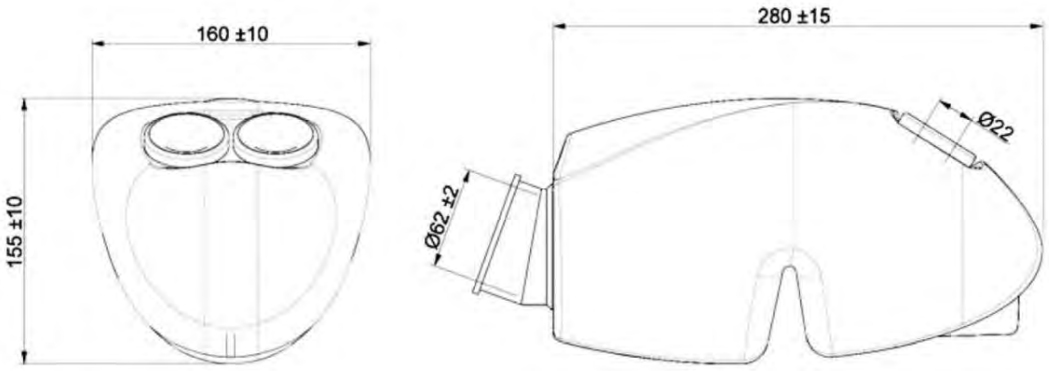




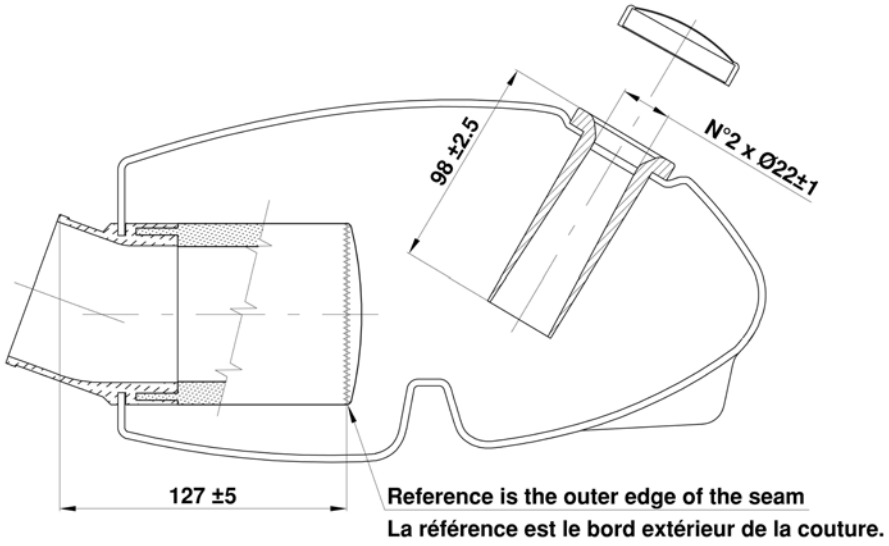
Genuine IAME vetronite reeds min. thickness 0.30mm
Clapets IAME authentique en fibre de verre 0.30mm épaisseur mini

Genuine IAME carbon fiber reeds min. thickness 0.22mm
Clapets IAME authentique en fibre de carbone 0.22mm épaisseur mini

INLET SILENCER – DRAWING
DESSIN DU SILENCIEUX D'ADMISSION

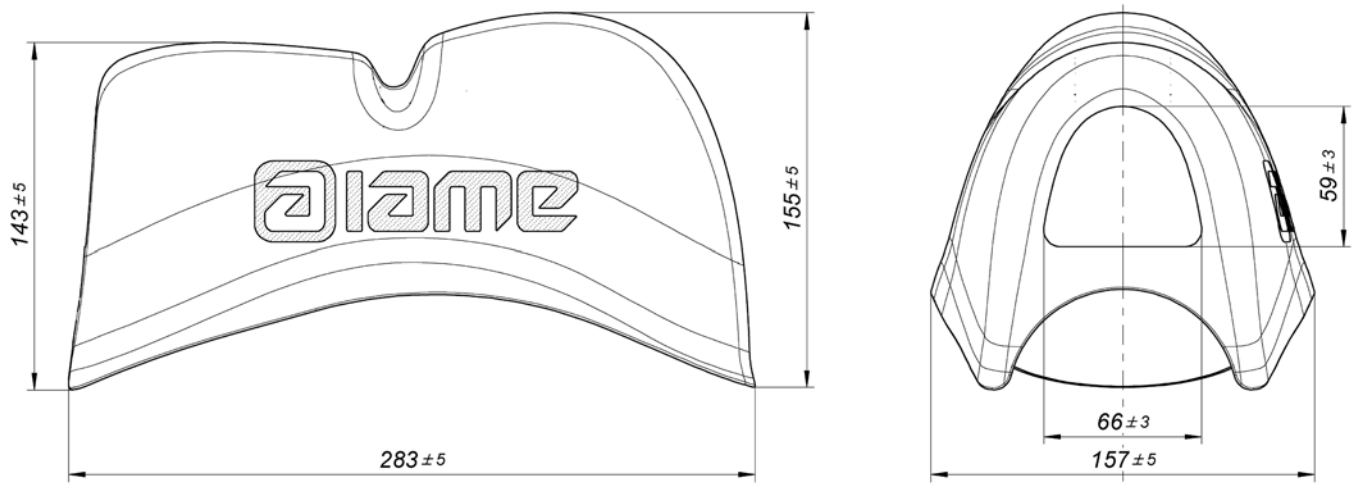


WITH SPONGE AIR FILTER
AVEC MANCHON COMPLET ET FILTRE À AIR



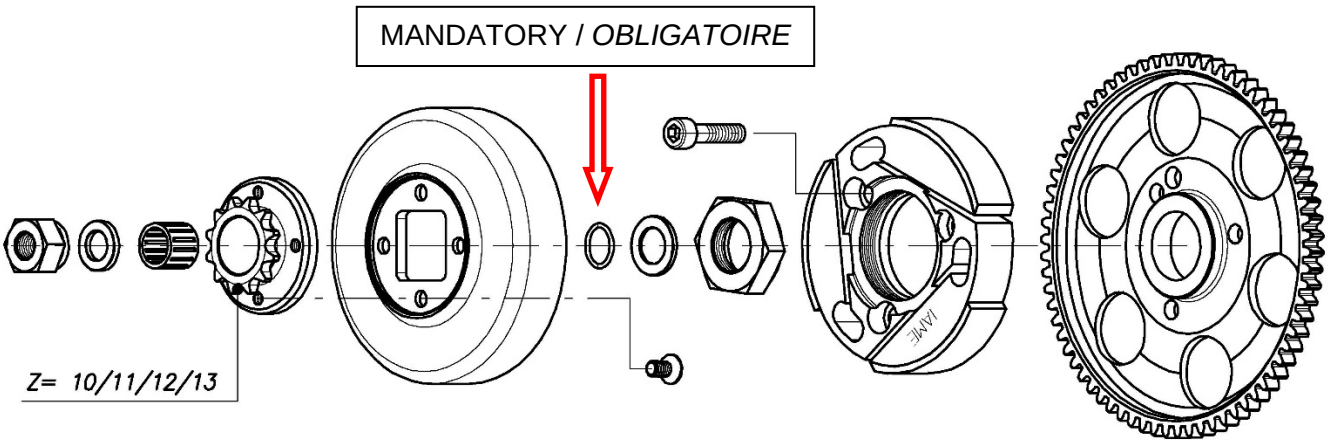
INLET SILENCER - PHOTO
PHOTO - SILENCIEUX D'ADMISSION

RAIN COVER INLET SILENCER – DRAWING
DESSIN DU COUVERTURE POUR LA PLUIE DU SILENCIEUX D'ADMISSION

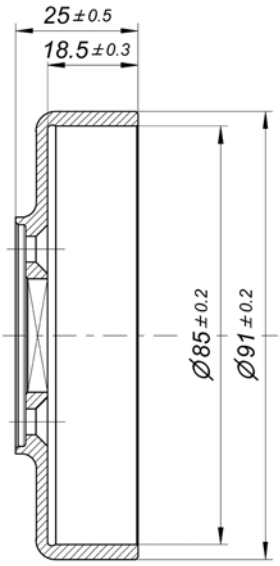


RAIN COVER INLET SILENCER - PHOTO
PHOTO - COUVERTURE POUR LA PLUIE DU SILENCIEUX D'ADMISSION

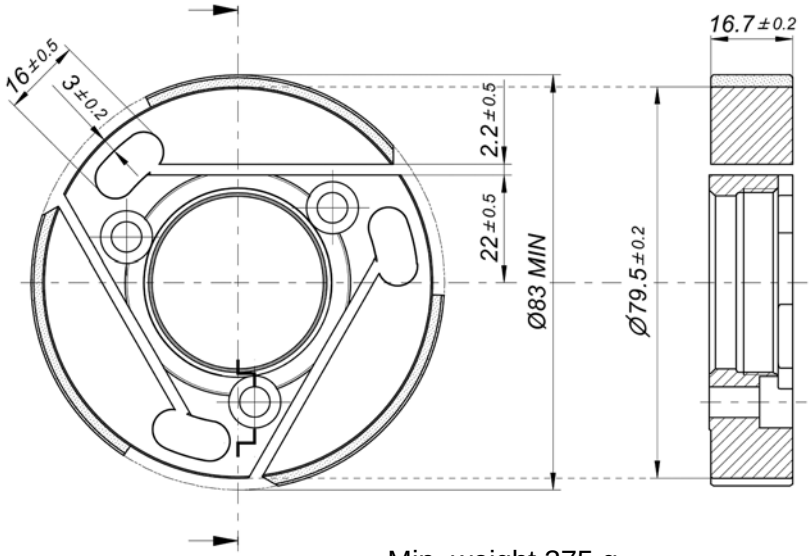
DESCRIPTION OF THE CLUTCH - *DESCRIPTION DE L'EMBRAYAGE*



COMPONENTS OF THE CLUTCH – *COMPOSANTS DE L' EMBRAYAGE*

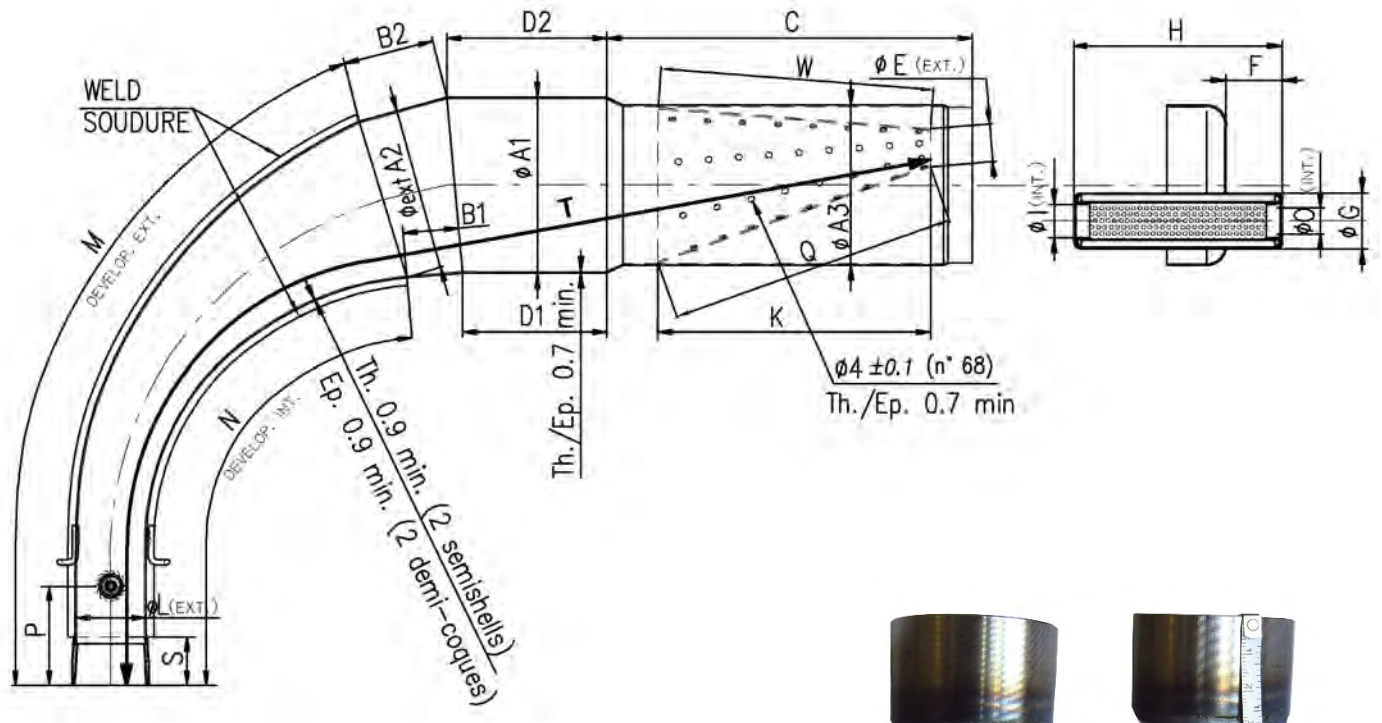


Min. weight 225 g
Poids min. 225g



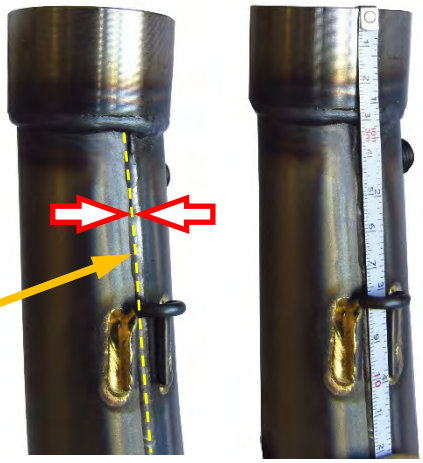
Min. weight 375 g
Poids min. 375g

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



The tape must follow the centerline of the weld at all points.

Le ruban doit suivre l'axe de la soudure en tous points.



Min. Weight 1.780 g
Poids min. 1.780 g

ØA1: 110 ±1.5 Øext.	**B2:** 60 ±3	**ØE:** 23.5 ±2 Øext.	**ØI:** 21 ±1 Øint.	**N:** 341 ±3	**T:** 690 ±3
ØA2: 102 ±1.5 Øext.	**C:** 219 ±3	**F:** 36 ±2	**K:** 170 ±3	**ØO:** 21 ±1 Øint.	**W:** 170 ±3
ØA3: 100 ±1.5 Øext.	**D1:** 90 ±3	**ØG:** 35 ±1 Øext.	**ØL:** 42.5 ±1.5 Øext.	**P:** 50 ±10	**Q:** 182 ±3
B1: 60 ±3	**D2:** 109 ±3	**H:** 132 ±3	**M:** 437 ±3	**S:** 29 ±1.5	

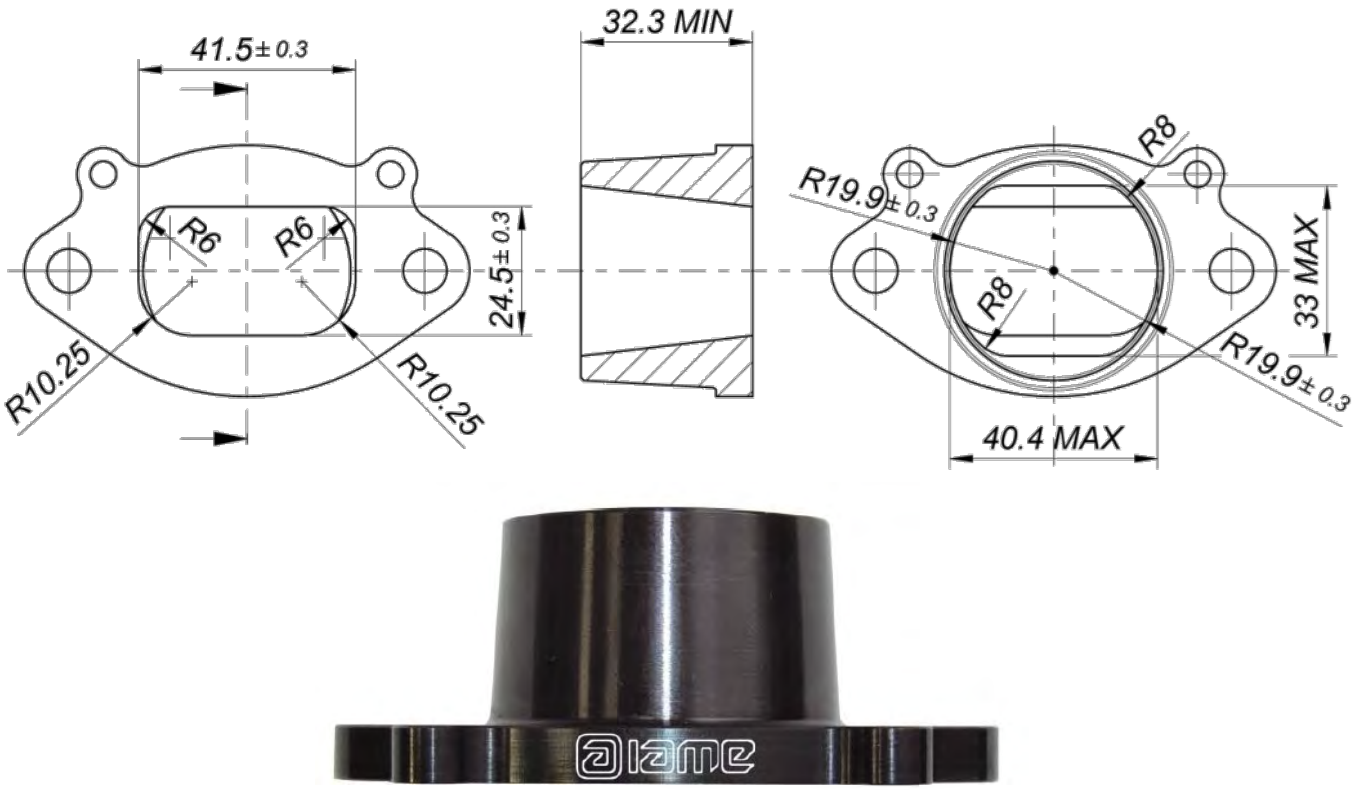
ATTENTION:

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.

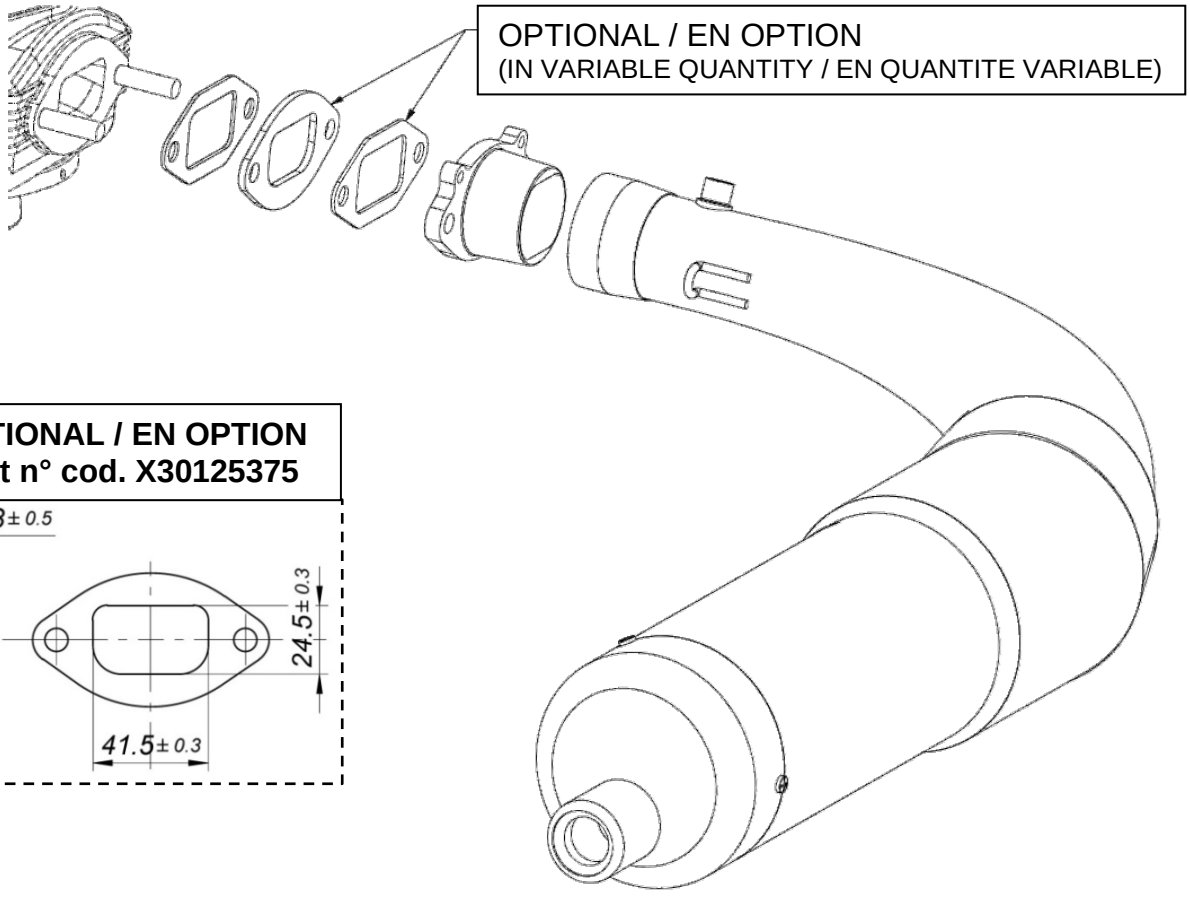
*Les dimensions « **M** », « **N** » et « **T** » doivent être prises à l'aide d'un ruban à mesurer en acier 6 mm de large.*
*Les dimensions « **M** », « **N** » doivent être prises sur l'axe de la soudure.*

The dimensions "**Q**" and "**W**" must be taken by steel tape measure 12mm wide.
*Les dimensions « **Q** » et « **W** » doivent être prises à l'aide d'un ruban à mesurer en acier 12 mm de large.*

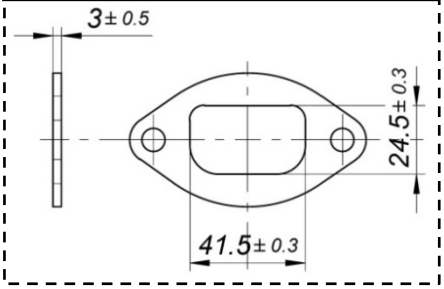
SENIOR EXHAUST FITTING
RACCORD D'ECHAPPEMENT SENIOR



SENIOR EXHAUST INSTALLATION
INSTALLATION DE L'ECHAPPEMENT SENIOR

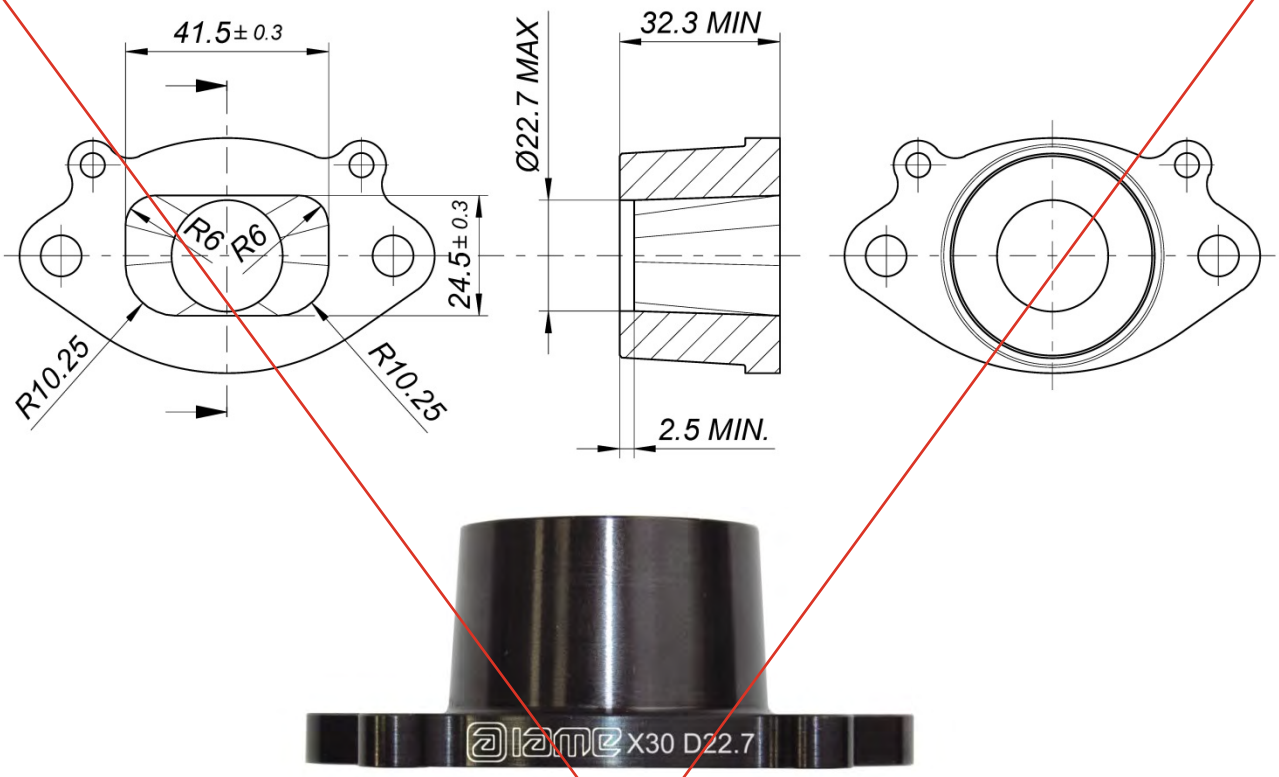


OPTIONAL / EN OPTION
Part n° cod. X30125375

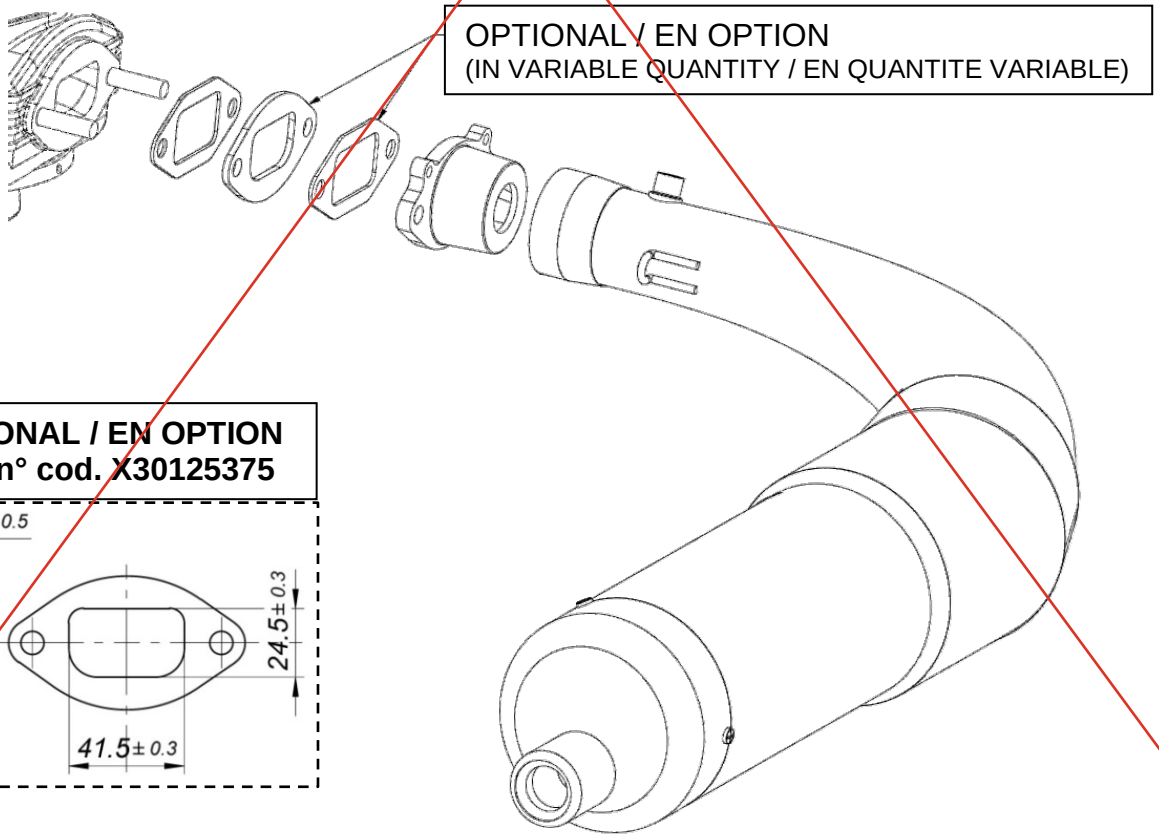


Not valid in Norway

JUNIOR EXHAUST FITTING
RACCORD D'ÉCHAPPEMENT JUNIOR

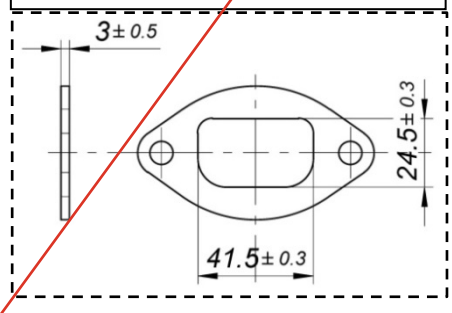


JUNIOR EXHAUST INSTALLATION
INSTALLATION DE L'ÉCHAPPEMENT JUNIOR

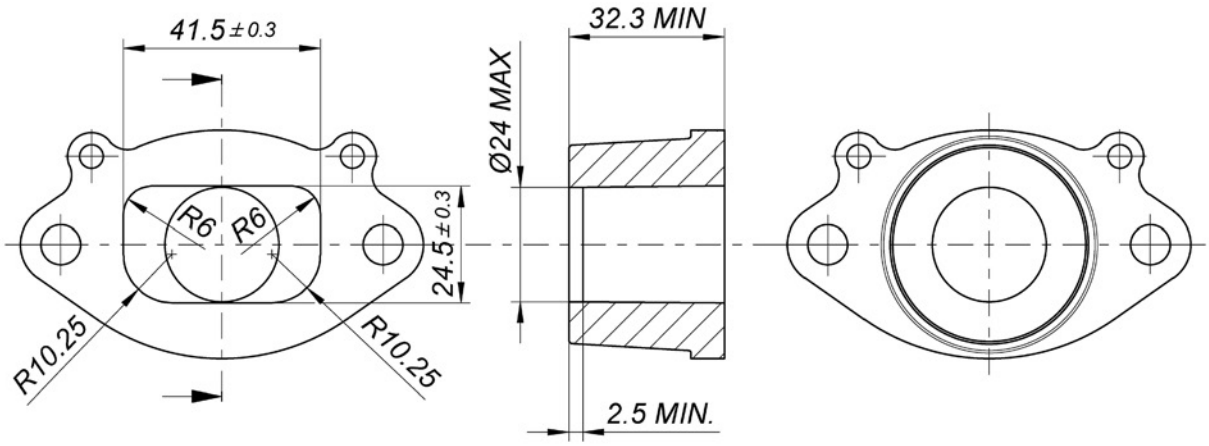


OPTIONAL / EN OPTION
(IN VARIABLE QUANTITY / EN QUANTITE VARIABLE)

OPTIONAL / EN OPTION
Part n° cod. X30125375

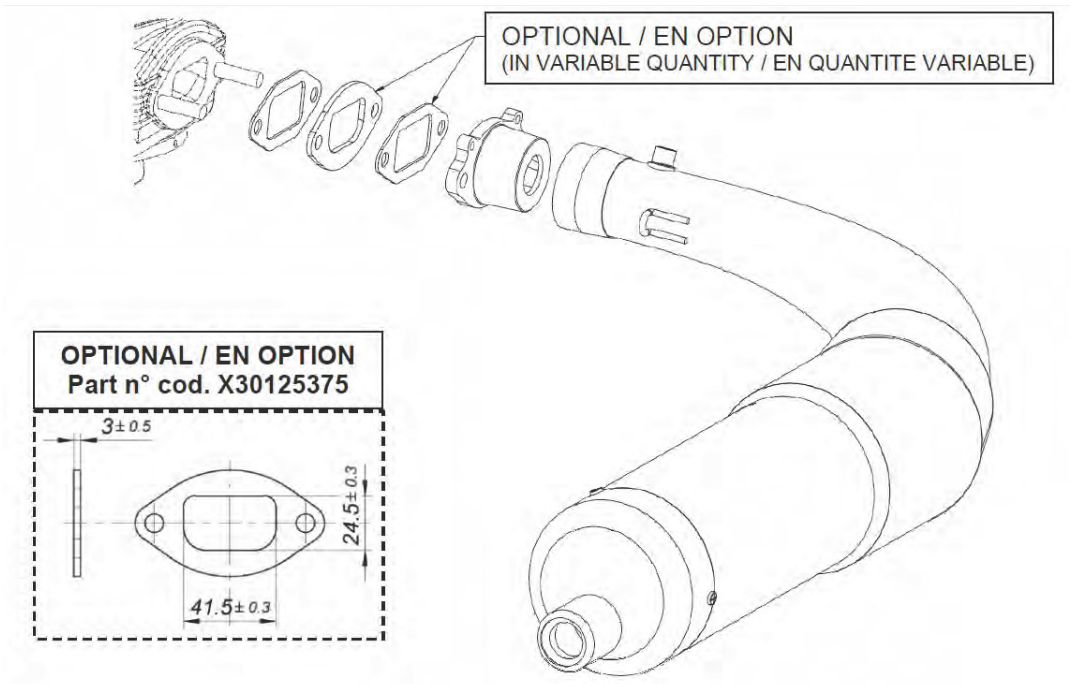


JUNIOR EXHAUST FITTING WITH Ø24 RESTRICTOR
RACCORD D'ÉCHAPPEMENT AVEC RESTRICTEUR Ø24



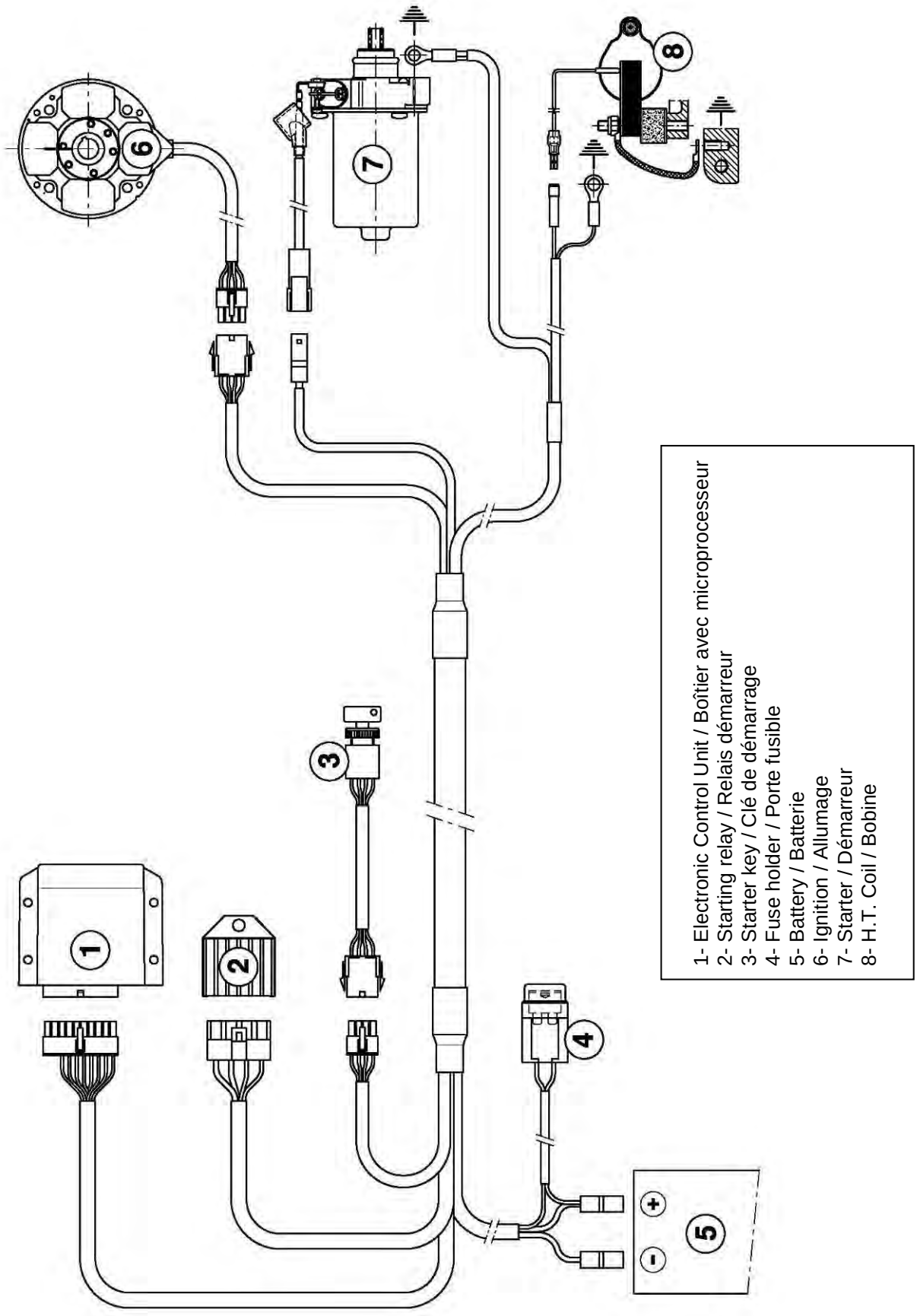
JUNIOR EXHAUST FITTING WITH Ø24 RESTRICTOR MARKING *MARQUAGE D'IDENTIFICATION DU RACCORD D'ÉCHAPPEMENT AVEC RESTR. Ø24*

JUNIOR EXHAUST WITH Ø24 RESTRICTOR INSTALLATION
INSTALLATION DE L'ECHAPPEMENT AVEC RESTRICTEUR Ø24

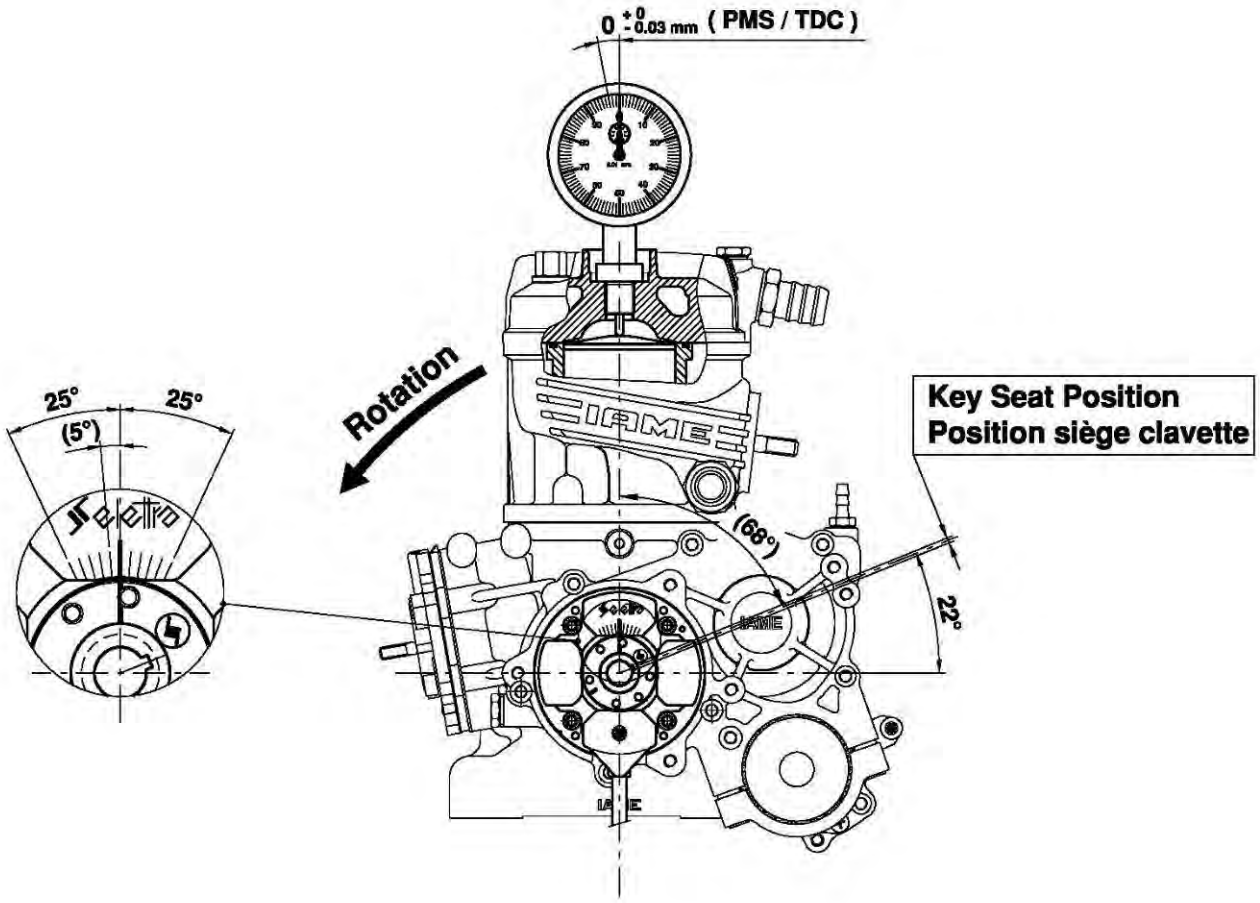


WIRING DIAGRAM (SELETTRA DIGITAL ‘‘K’’ IGNITION)

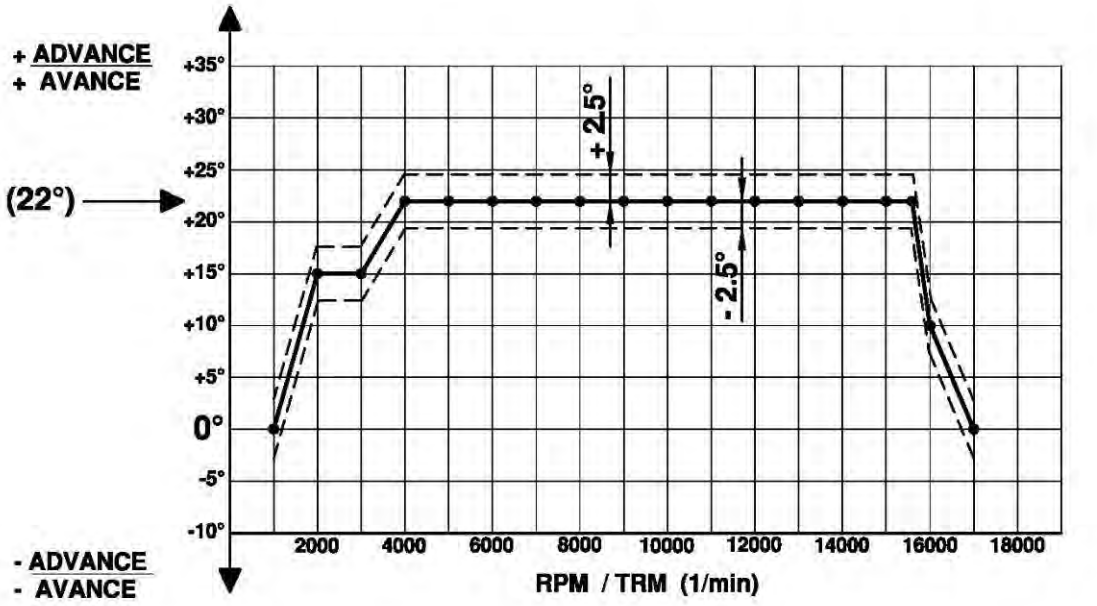
SCHEMA CIRCUIT ELECTRIQUE (ALLUMAGE SELETTRA DIGITAL ’’K’’)



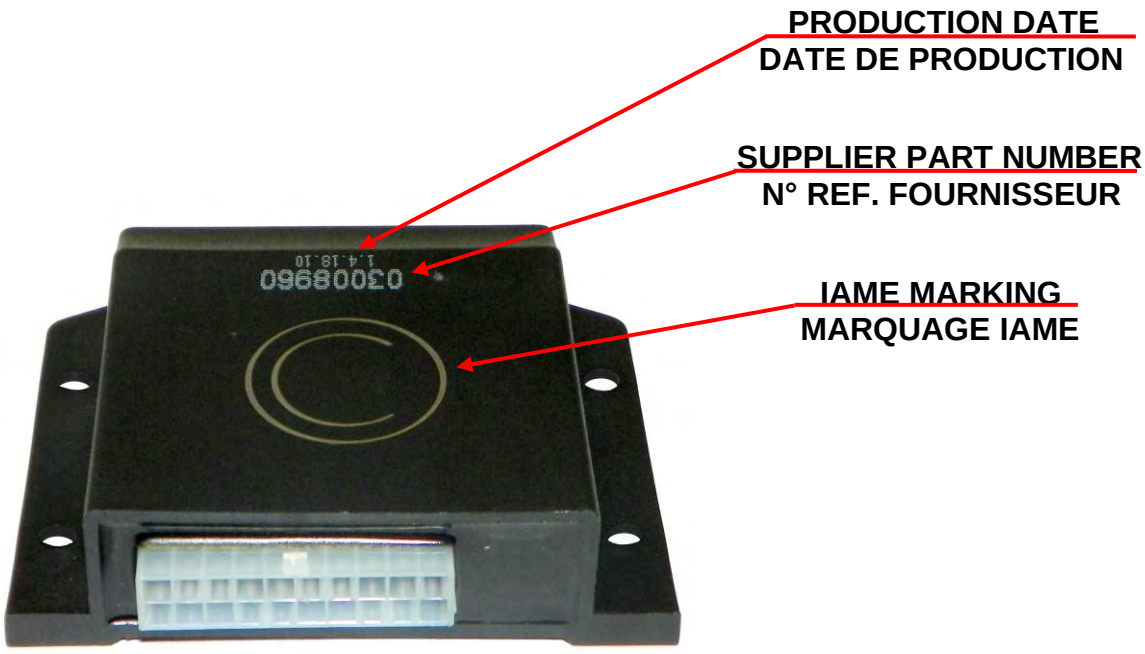
SCHEME FOR ADVANCE CONTROL
SCHEMA POUR LE CONTROLE DE L'AVANCE



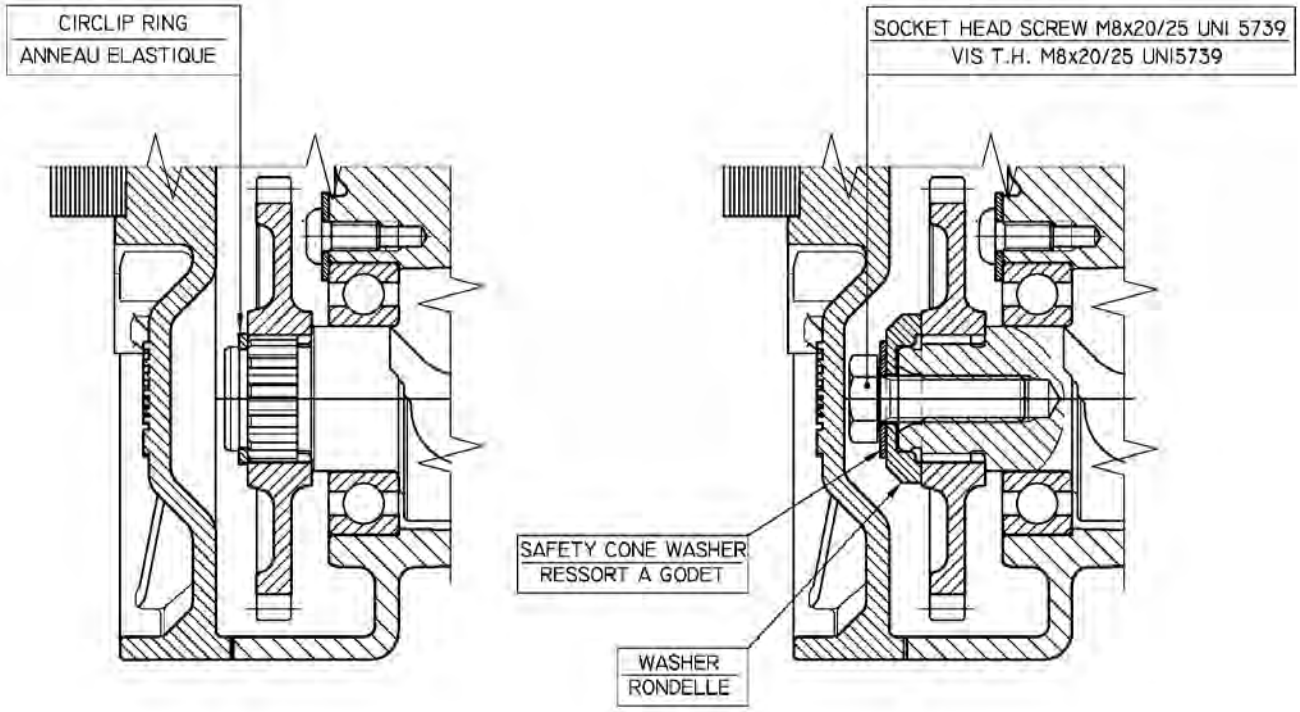
ADVANCE CURVE GRAPHS / GRAPHIQUES DE LA COURBE D'AVANCE

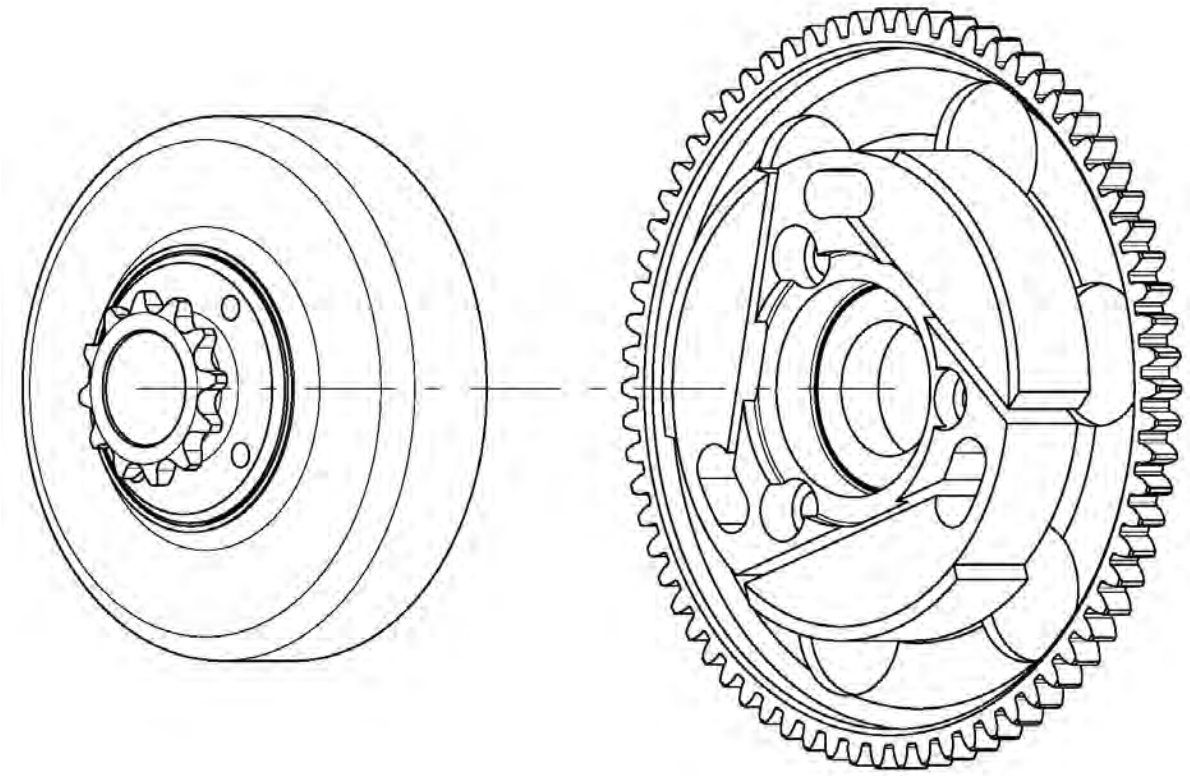


ELECTRONIC BOX MARKING
MARQUAGE DU BOITIER ELECTRONIQUE



GEAR ALTERNATIVE FIXING
FIXATION ALTERNATIVE DE L'ENGRENAGE

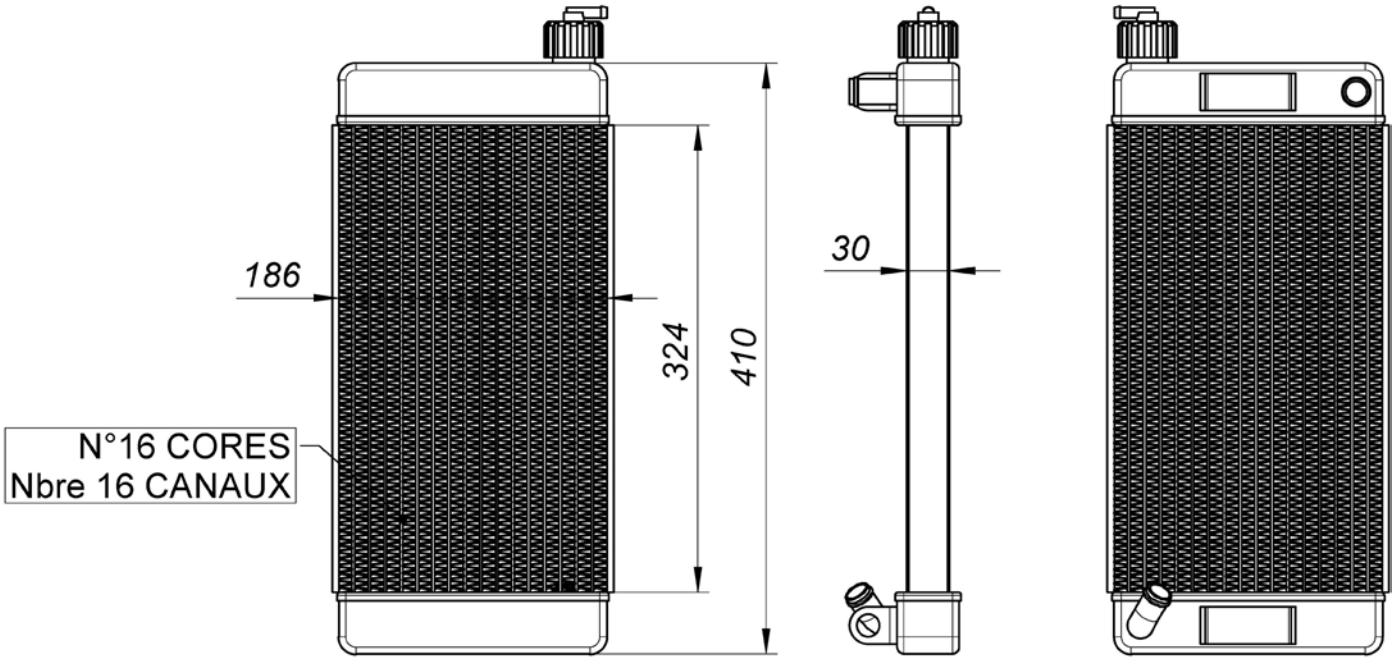




Min. weight 300 g
Poids min. 300 g

Min. weight 680 g
Poids min. 680 g

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



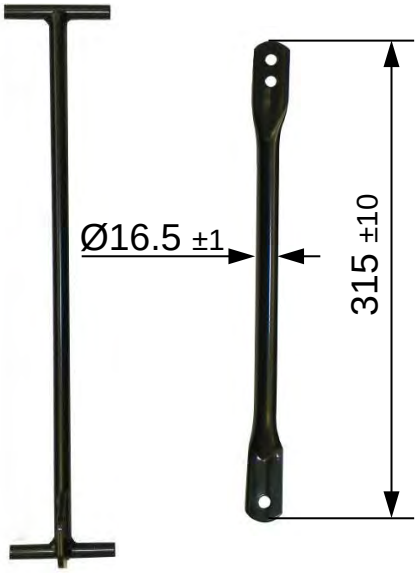
FRONT / *AVANT*

REAR / *ARRIERE*

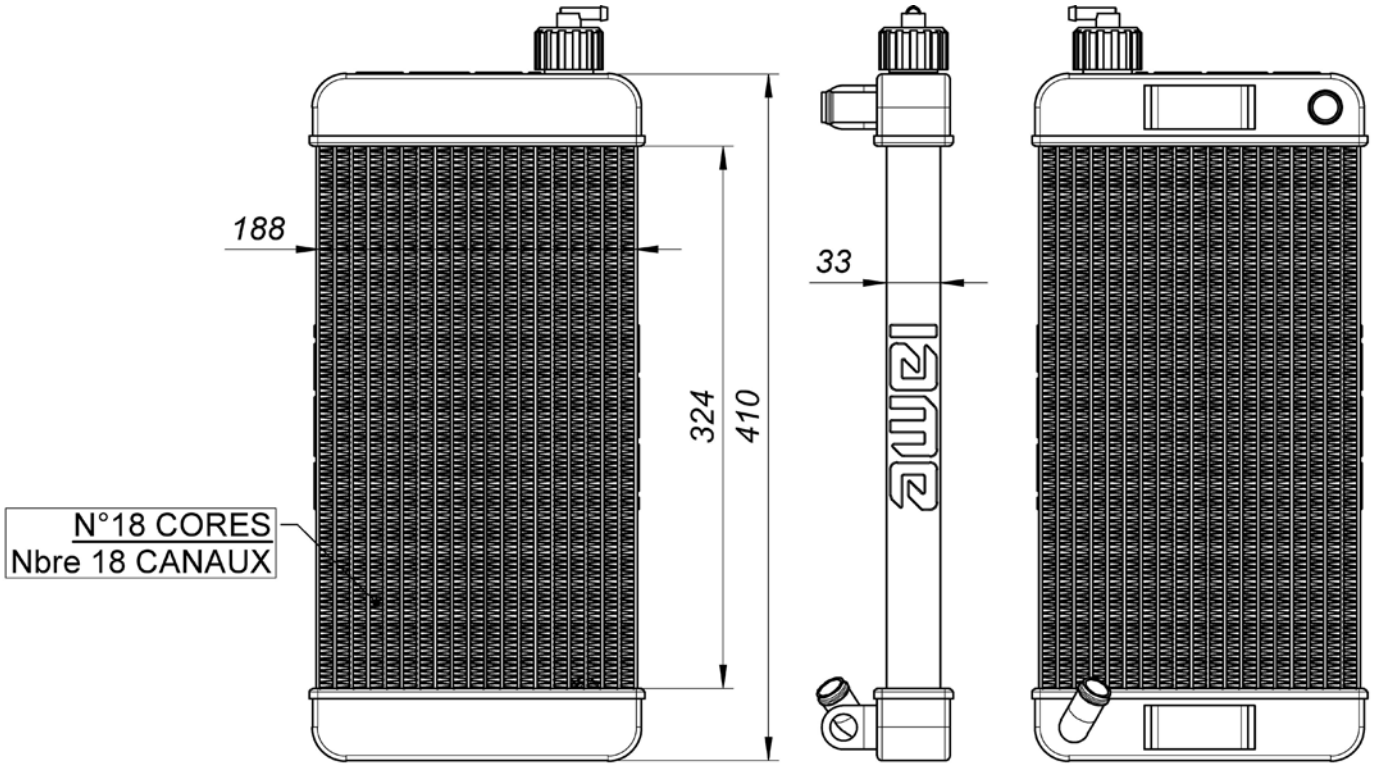
PAINTED AND NOT PAINTED
PEINT ET PAS PEINT

FRONT / *AVANT*

REAR / *ARRIERE*



RADIATOR ALTERNATIVE DESCRIPTION AND SKETCH
DESCRIPTION DU RADIATEUR ALTERNATIF

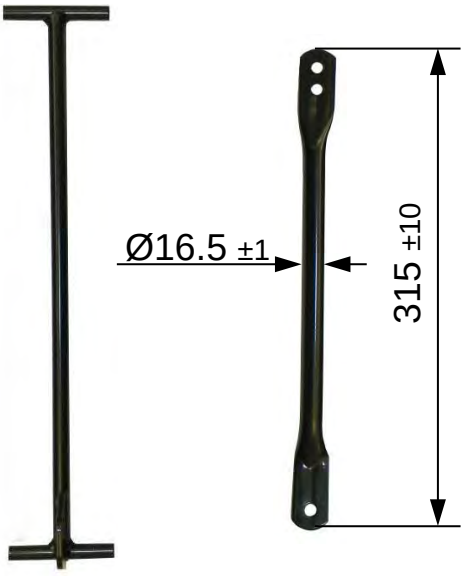


FRONT / *AVANT*

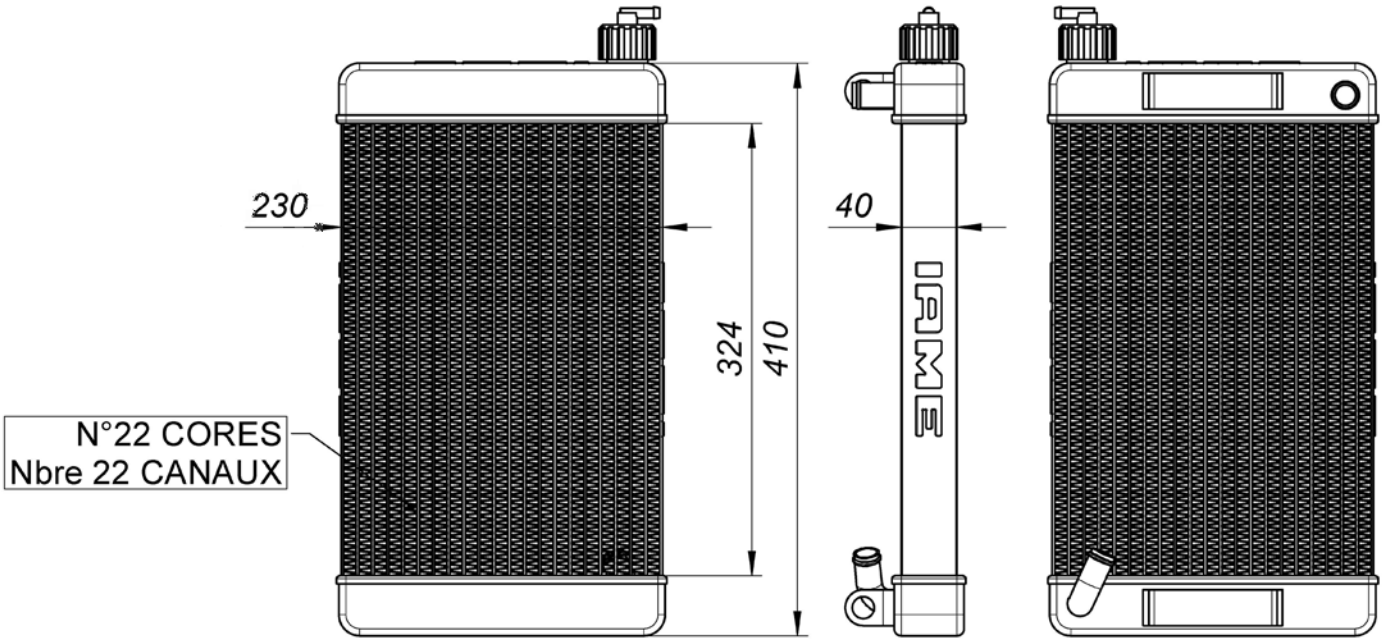
REAR / *ARRIERE*

FRONT / *AVANT*

REAR / *ARRIERE*



RADIATOR ALTERNATIVE DESCRIPTION AND SKETCH
DESCRIPTION DU RADIATEUR ALTERNATIF



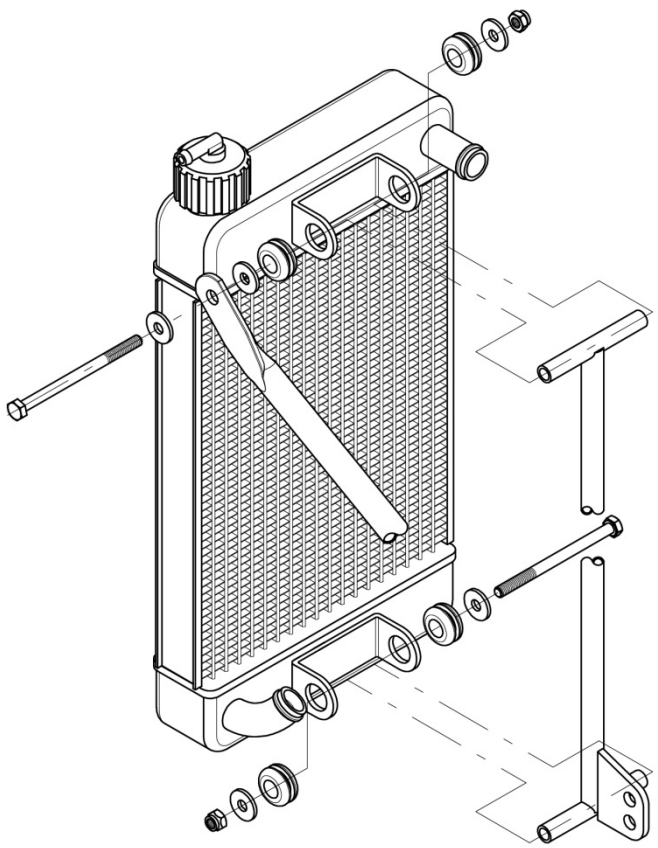
FRONT / *AVANT*

REAR / *ARRIERE*

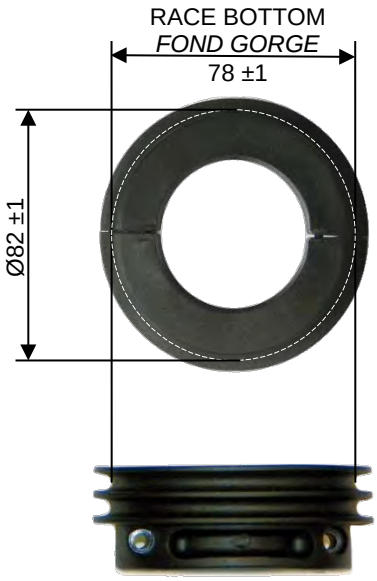
FRONT / *AVANT*

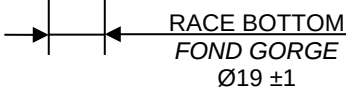
REAR / *ARRIERE*

RADIATOR AND ITS SUPPORTS
RADIATEUR ET SES SUPPORTS



WATER PUMP GROUP
GROUPE POMPE A' EAU

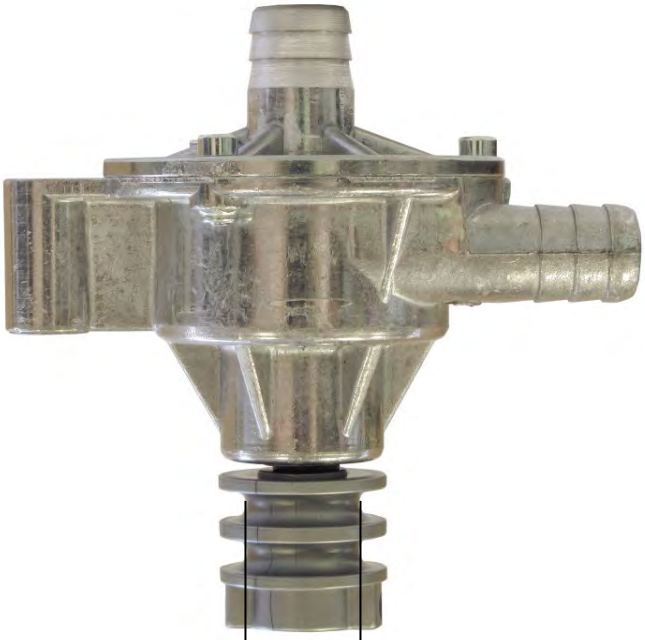


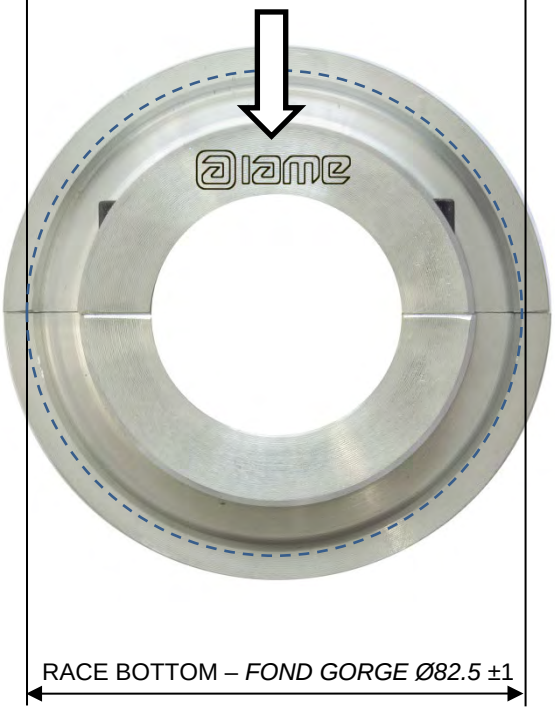


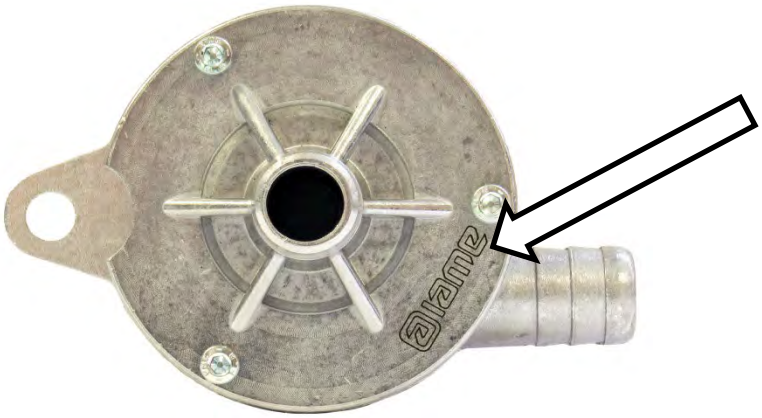
THERMOSTAT

ALTERNATIVE
ALTERNATIF

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

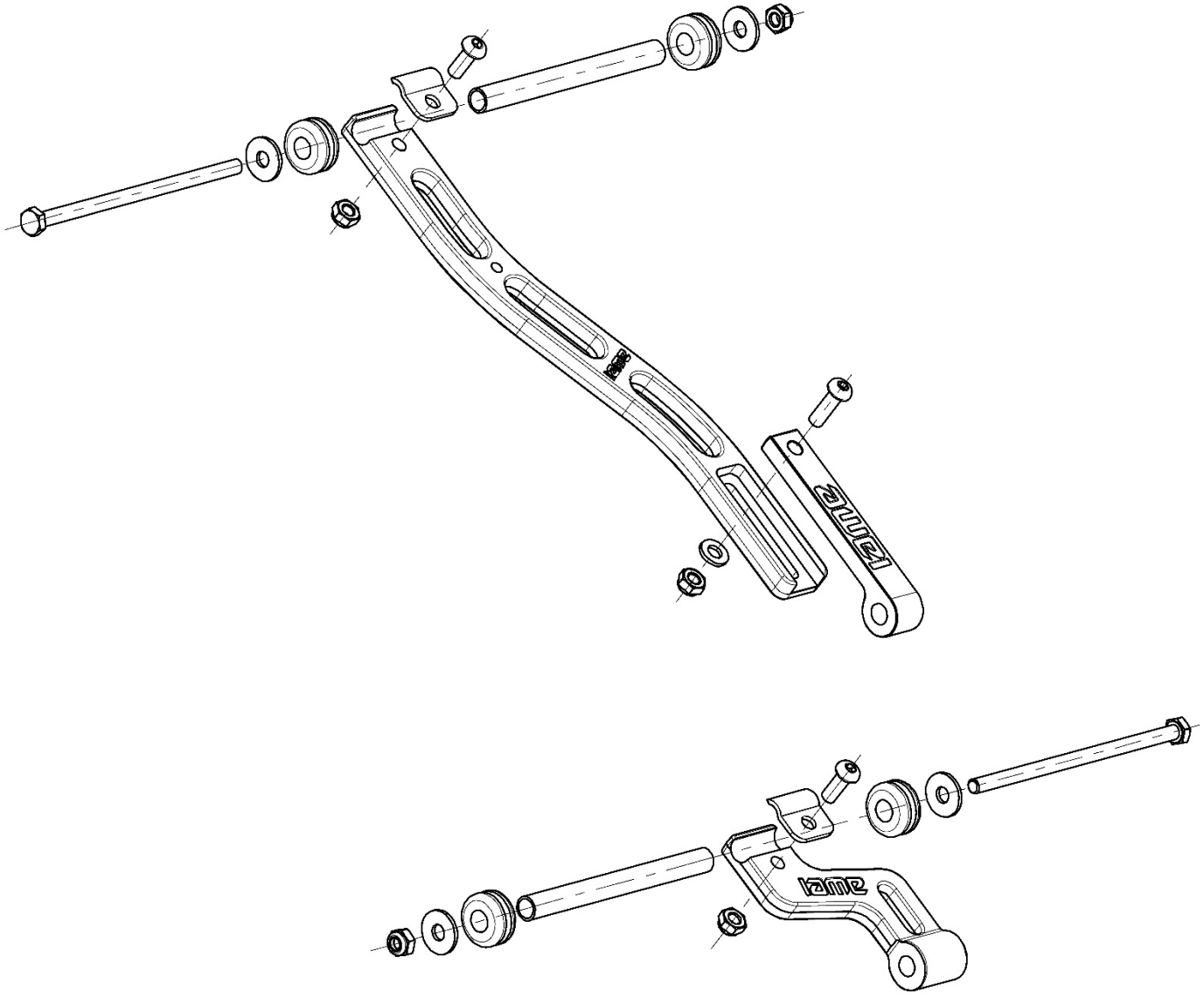






ALTERNATIVE RADIATOR SUPPORT
SUPPORT ALTERNATIF DU RADIATEUR

ALTERNATIVE COMPLETE RADIATOR SUPPORTS
ENSEMBLE DES SUPPORTS RADIATEUR ALTERNATIF



PISTON IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION PISTON

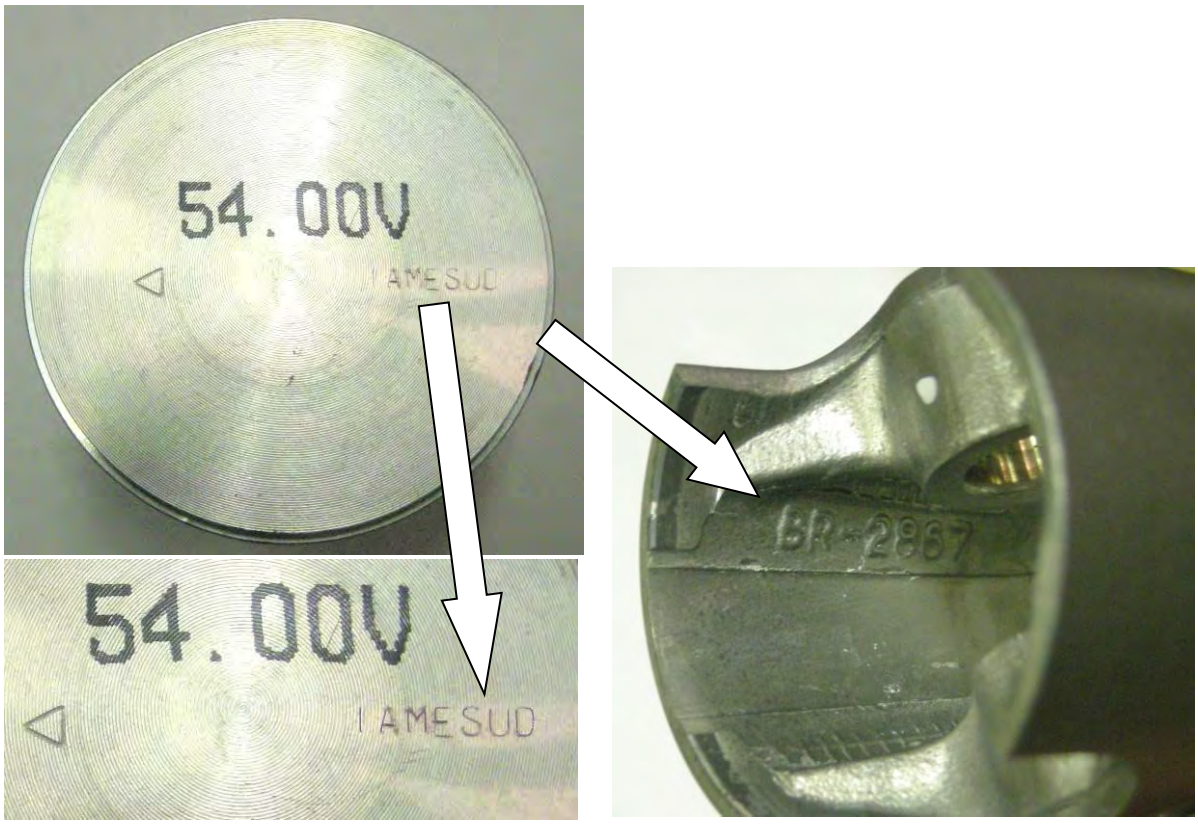
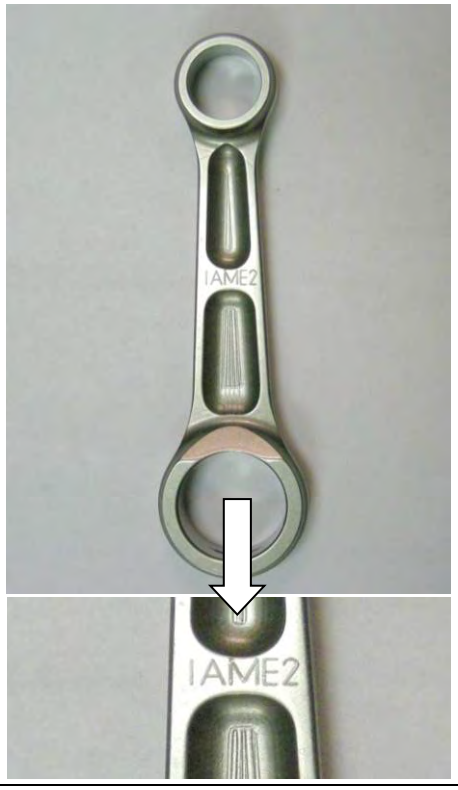
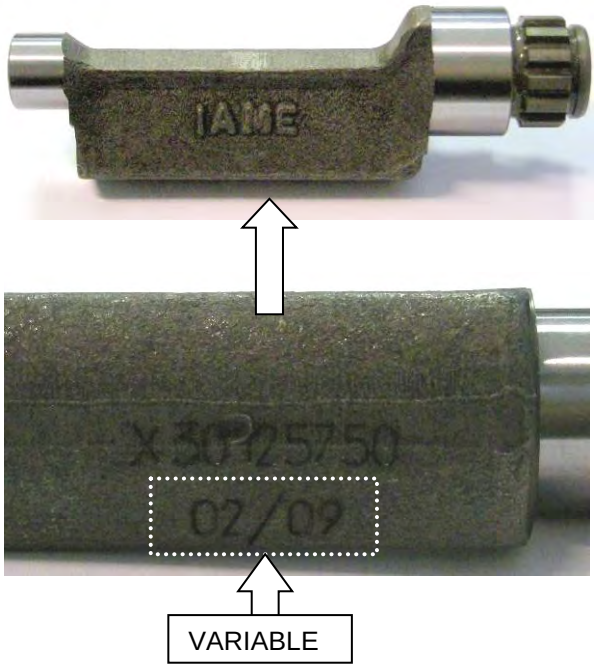


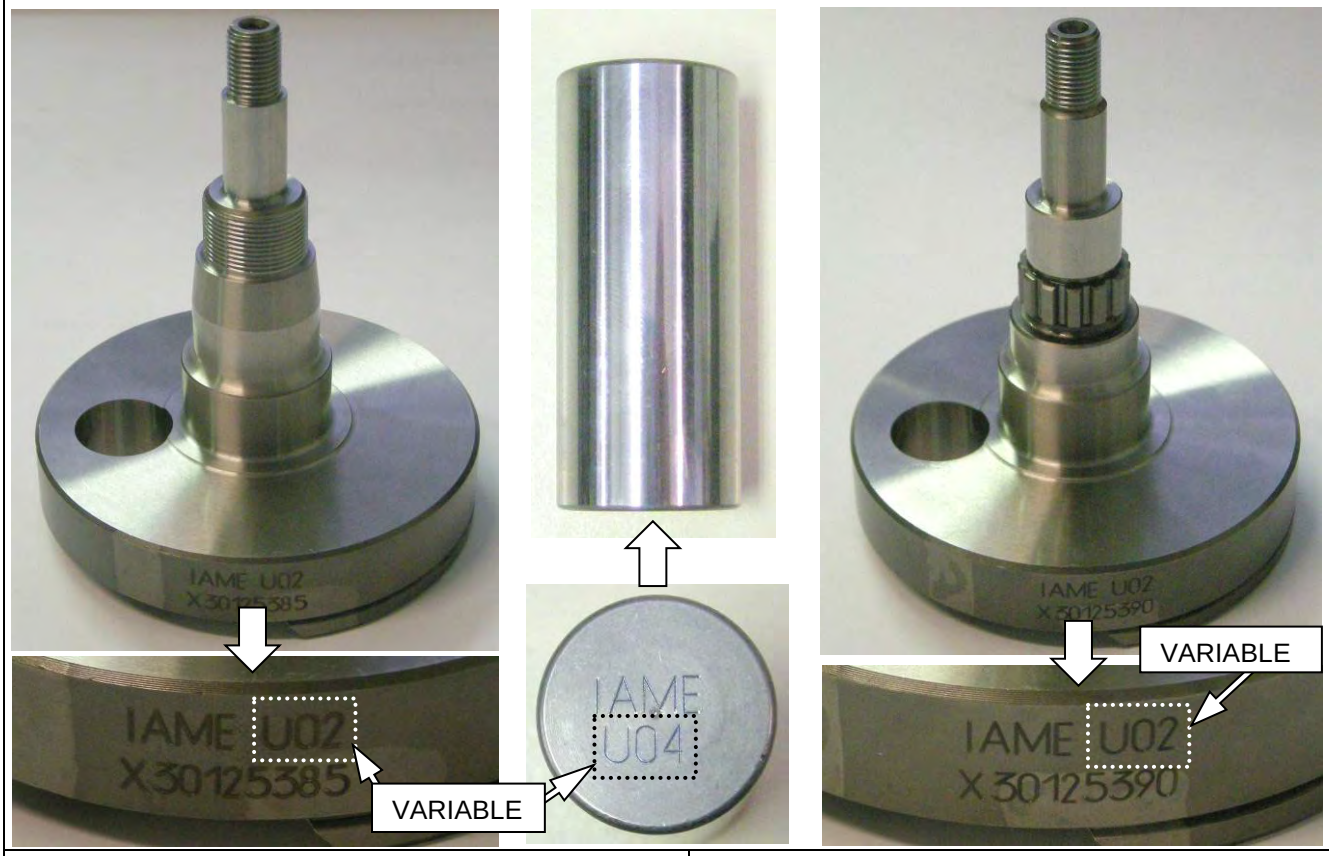
PHOTO IDENTIFICATION CONROD
PHOTO D'IDENTIFICATION BIELLE



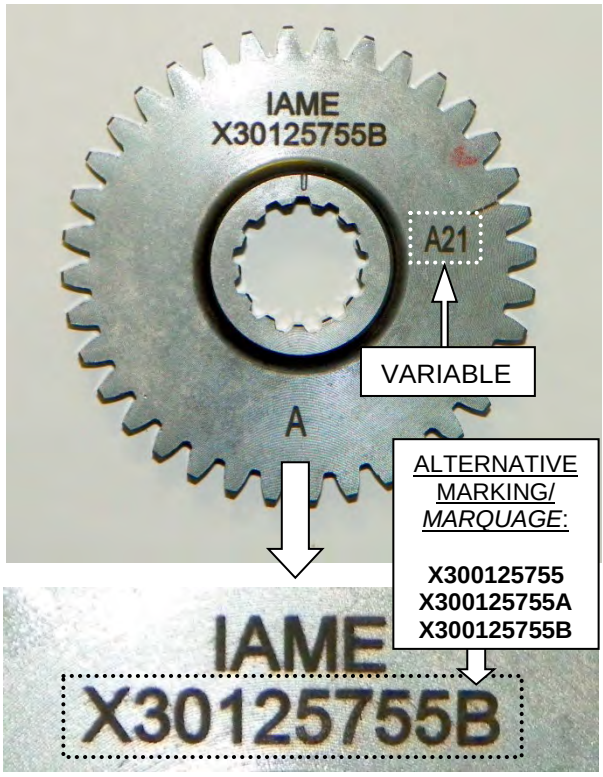
IDENTIFICATION BALANCING SHAFT MARKING
MARQUAGE D'IDENTIFICATION ARBRE D'EQUILIBRAGE



CRANKSHAFT IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU VILEBREQUIN



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

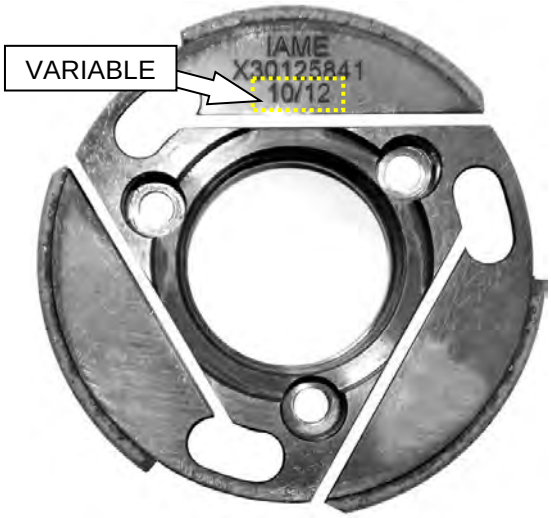


SPROCKET IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU PIGNON

CLUTCH BODY IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU CORPS DE L'EMBRAYAGE

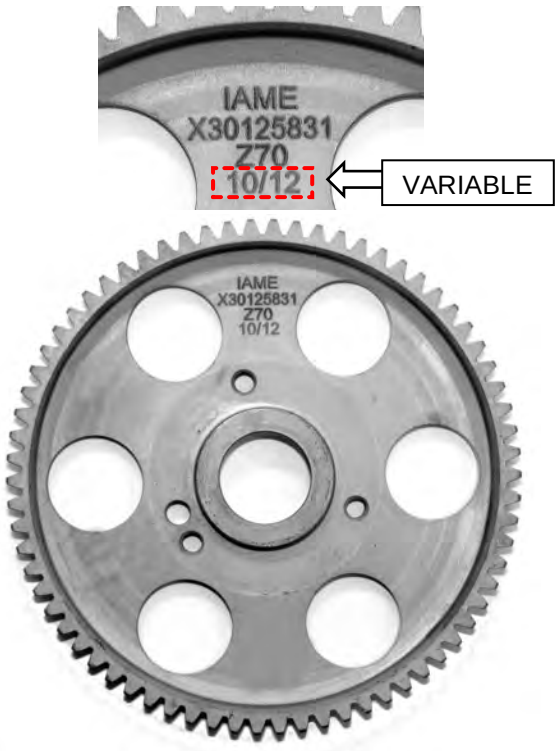
ALTERNATIVE FRICTION MATERIAL

MATÉRIAU DE FRICTION ALTERNATIVE

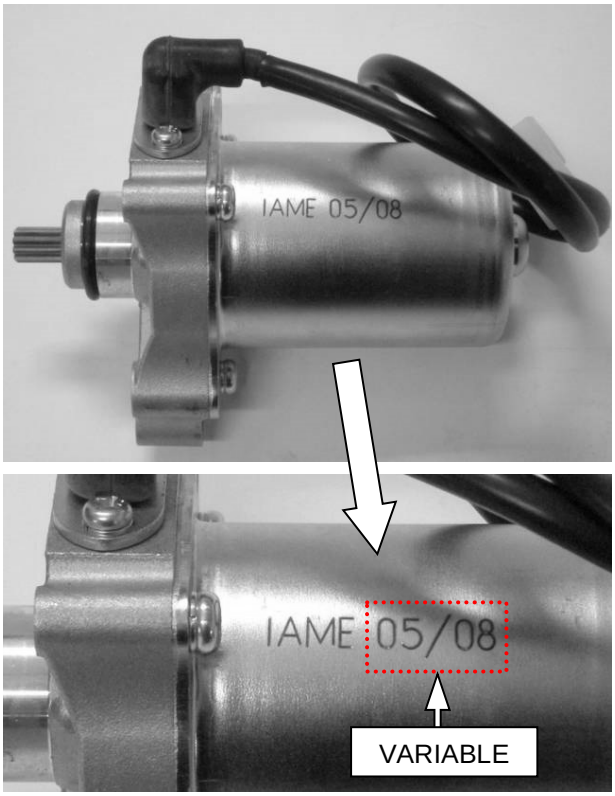


CLUTCH DRUM IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DE LA CALOTTE

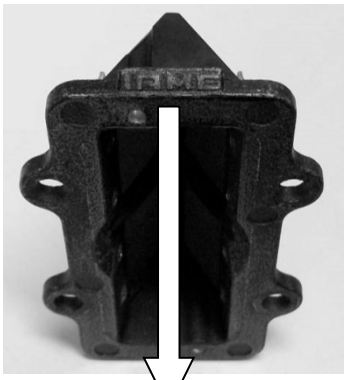
STARTER RING IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DE LA COURONNE DE DEMARRAGE

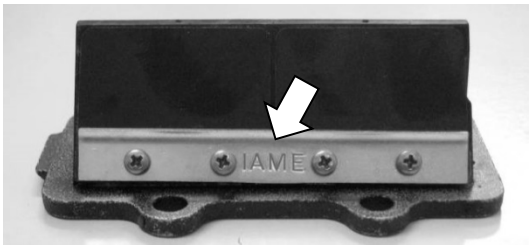


STARTER IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU DEMARREUR

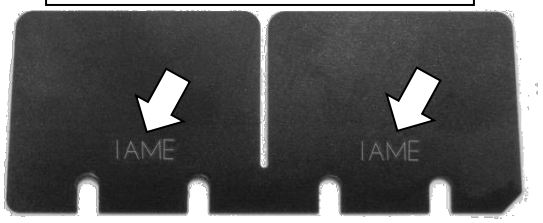


REED GROUP & PETALS IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DE LA BOÎTE À CLAPETS ET CLAPETS



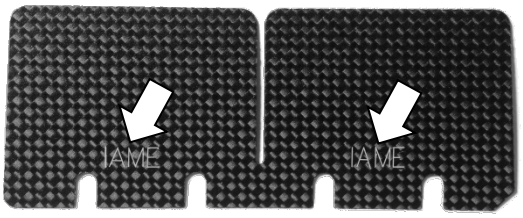


VETRONITE – FIBRE DE VERRE



CARBON FIBER / *FIBRE CARBONE*

FRONT SIDE
CÔTÉ AVANT



REAR SIDE
CÔTÉ ARRIÈRE

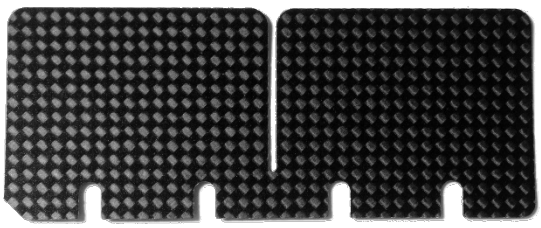
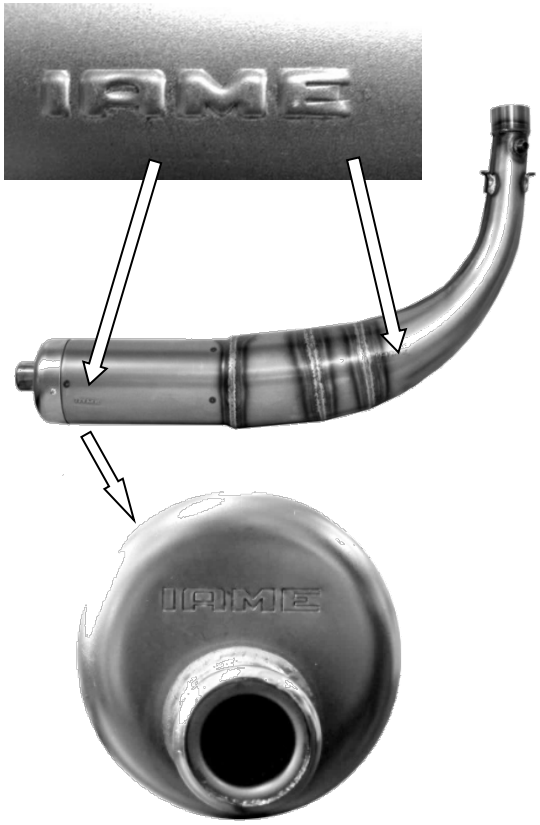
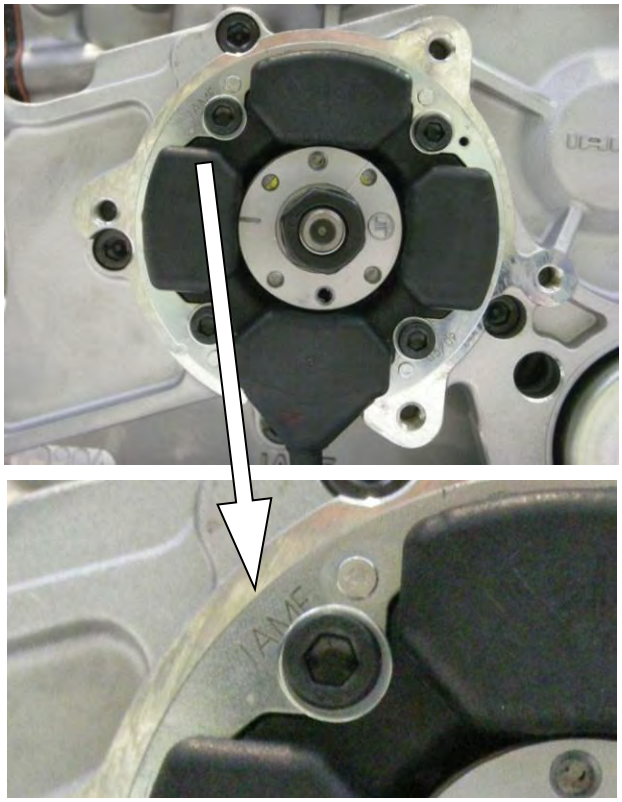


PHOTO IDENTIFICATION CARBURETOR INLET CONVEYOR
MARQUAGE D'IDENTIFICATION DU COLLECTEUR D'ADMISSION

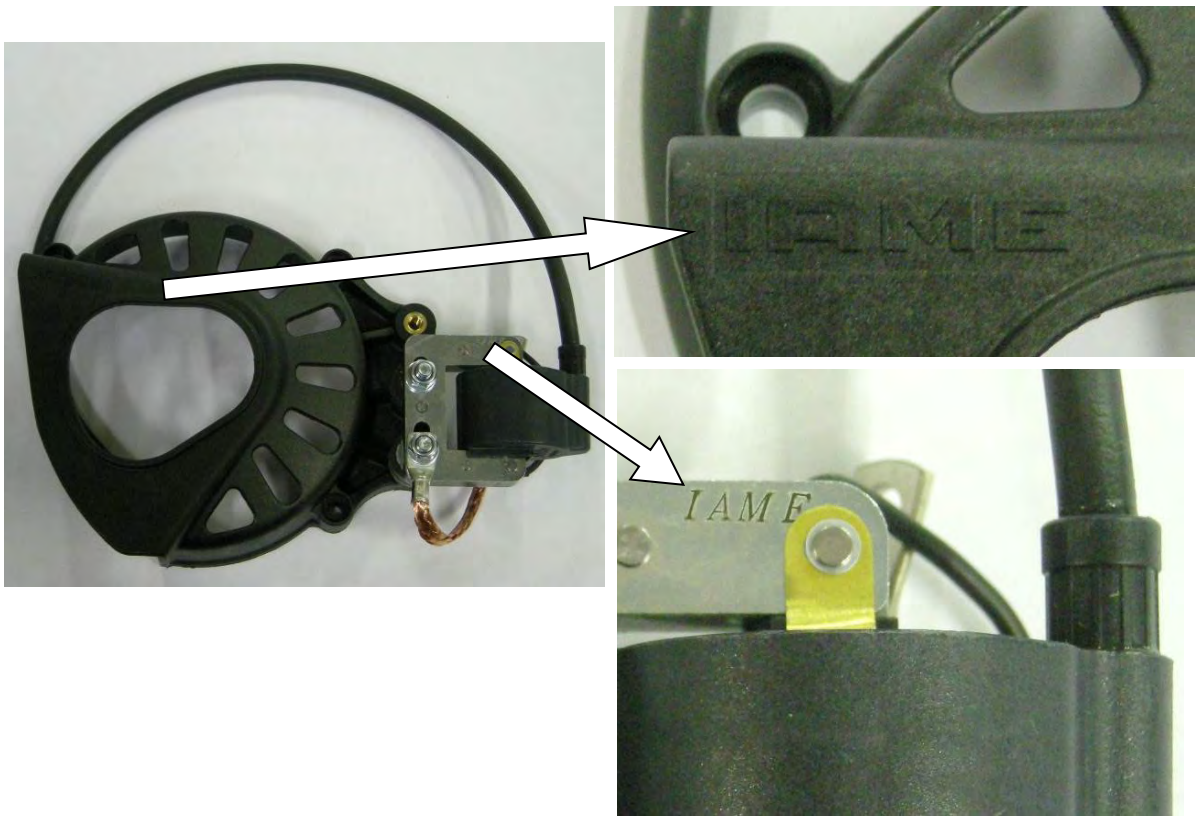
EXHAUST SILENCER IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION ECHAPPEMENT



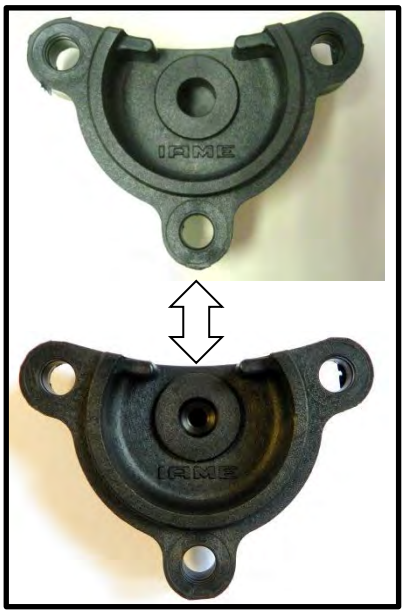
STATOR IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU STATOR



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

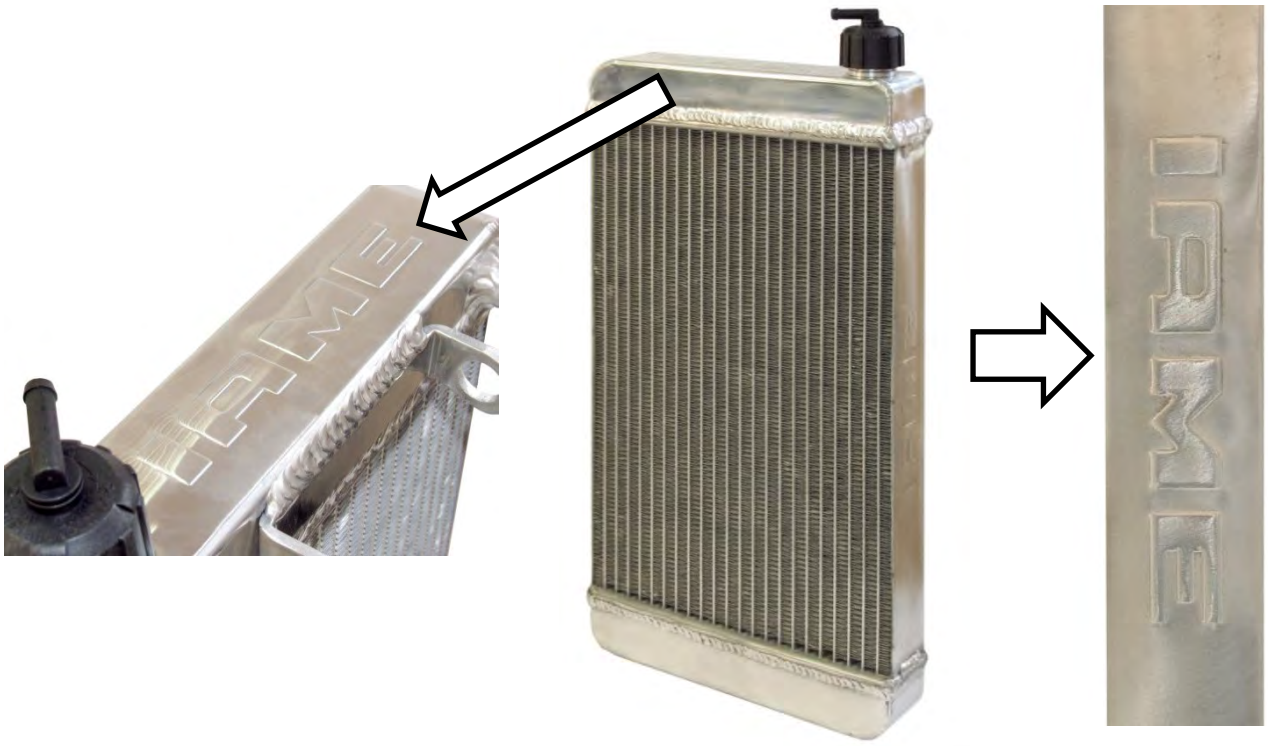


BENDIX COVER IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU COUVERCLE DU CONTRE-ARBRE DE DEMARRAGE



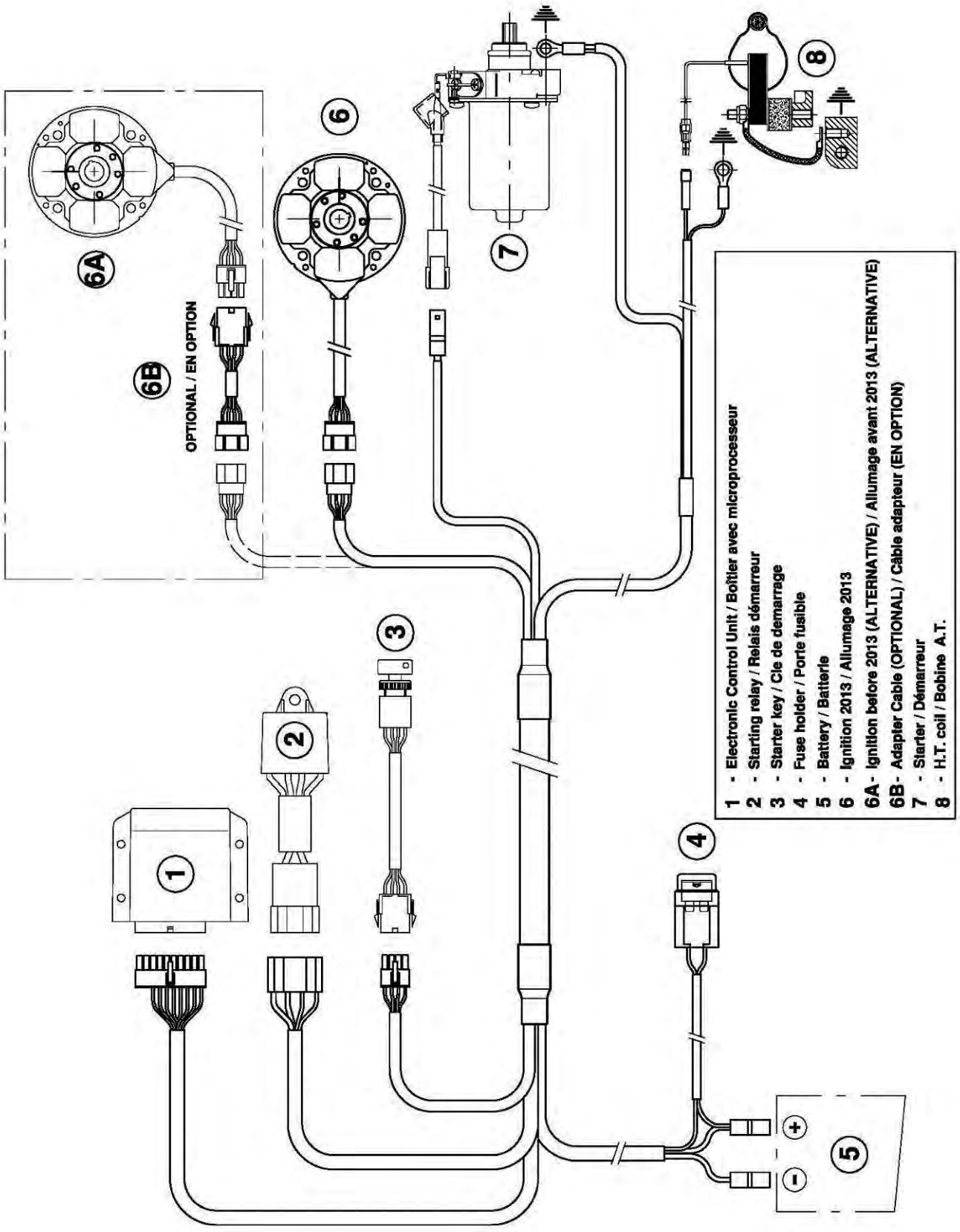
ALTERNATIVE

ALTERNATIVE RADIATOR IDENTIFICATION MARKING
MARQUAGE ALTERNATIF D'IDENTIFICATION DU RADIATEUR



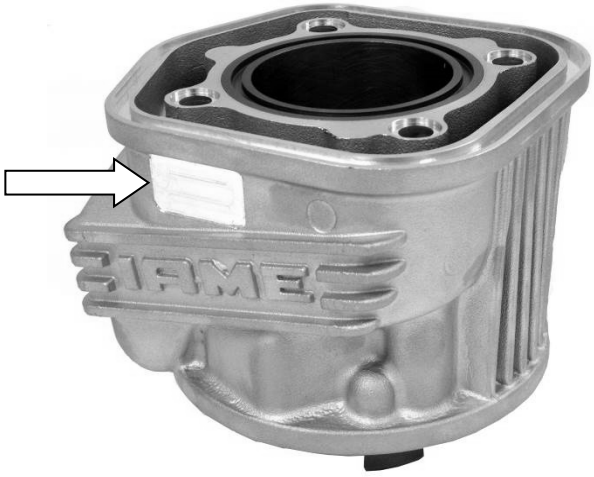
WIRING DIAGRAM (SELETTRA DIGITAL ‘‘K’’ IGNITION 2013)

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

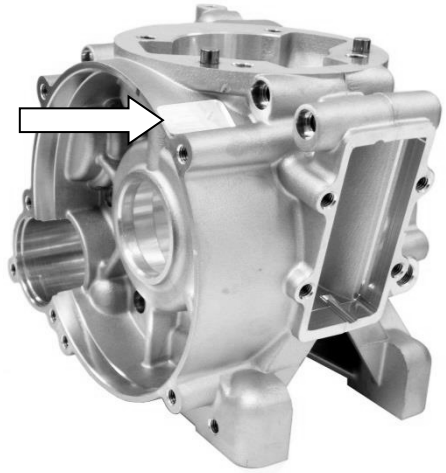


FROM 2014 ON - A *PARTIR DE 2014*

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

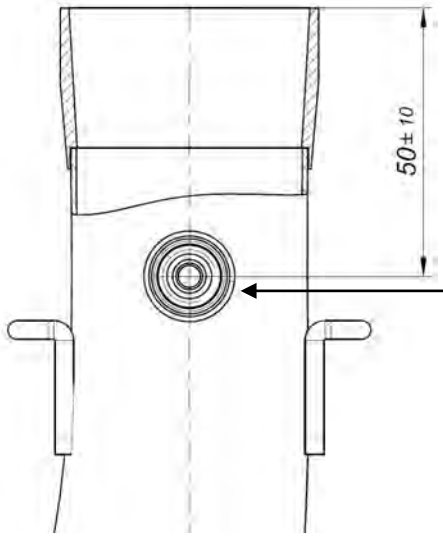


ALTERNATIVE AREA / ZONE ALTERNATIVE



EXHAUST TEMPERATURE SENSOR

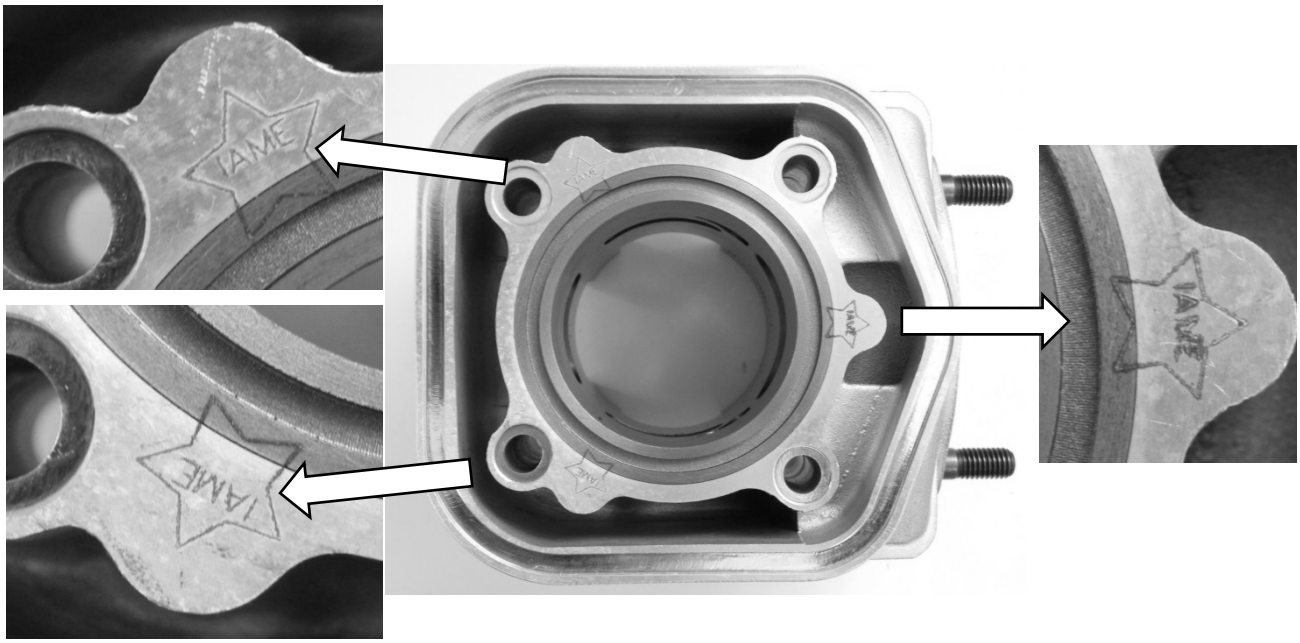
CAPTEUR DE TEMPERATURE D'ECHAPPEMENT

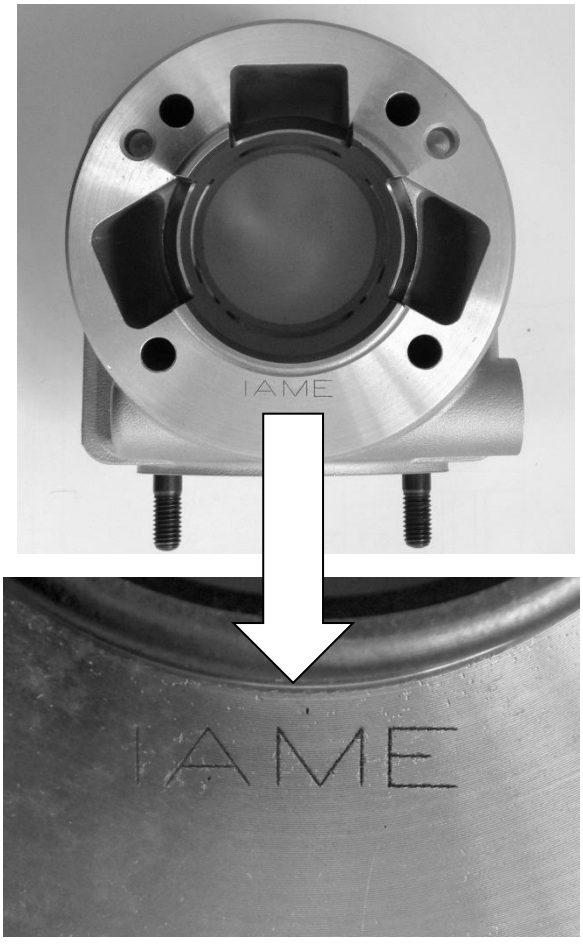


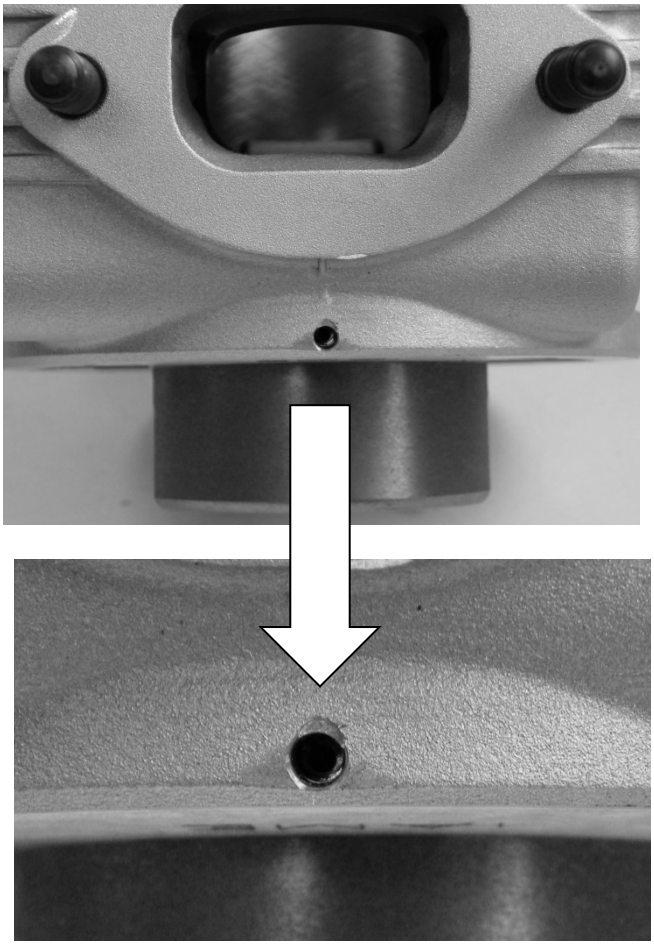
EXHAUST TEMPERATURE SENSOR POSITION (OPTIONAL)

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

CYLINDER IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU CYLINDRE

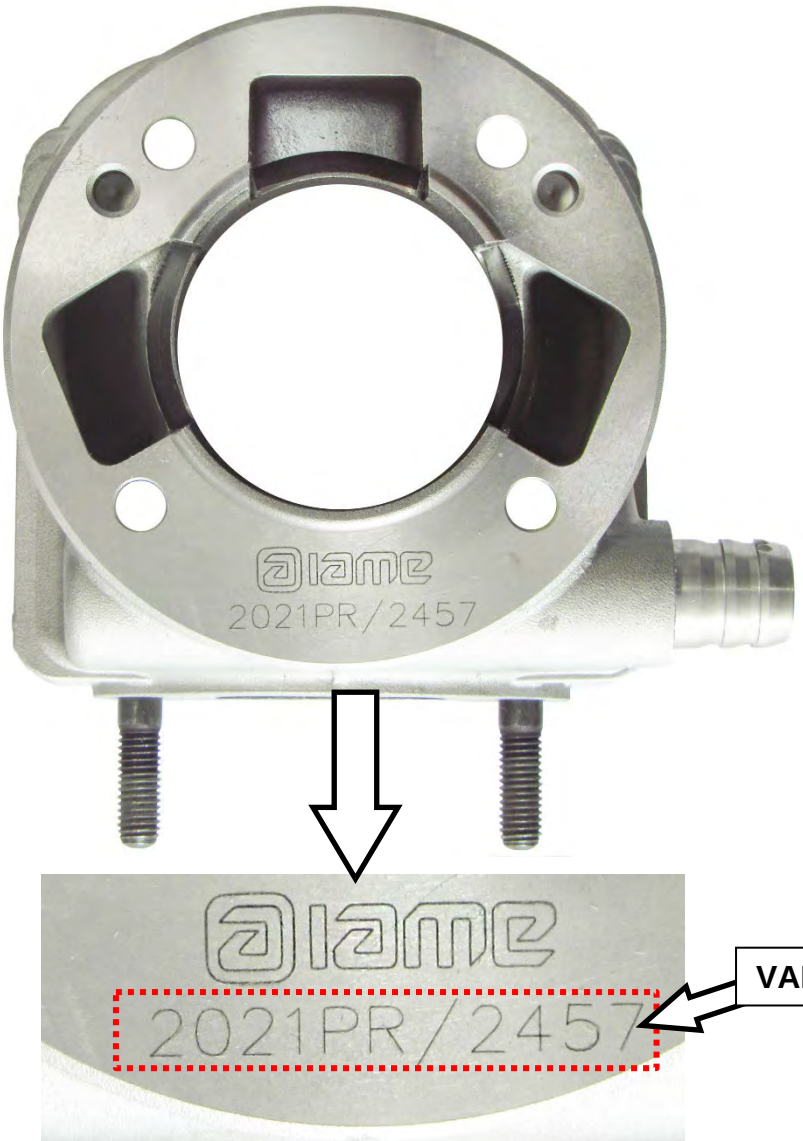






CYLINDER BASE ALTERNATIVE MARKING
MARQUAGE ALTERNATIF DE LA BASE DU CYLINDRE

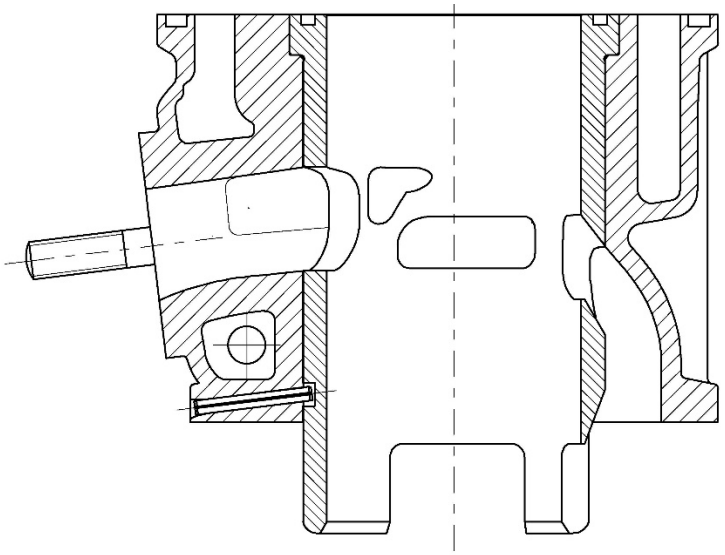
ALTERNATIVE



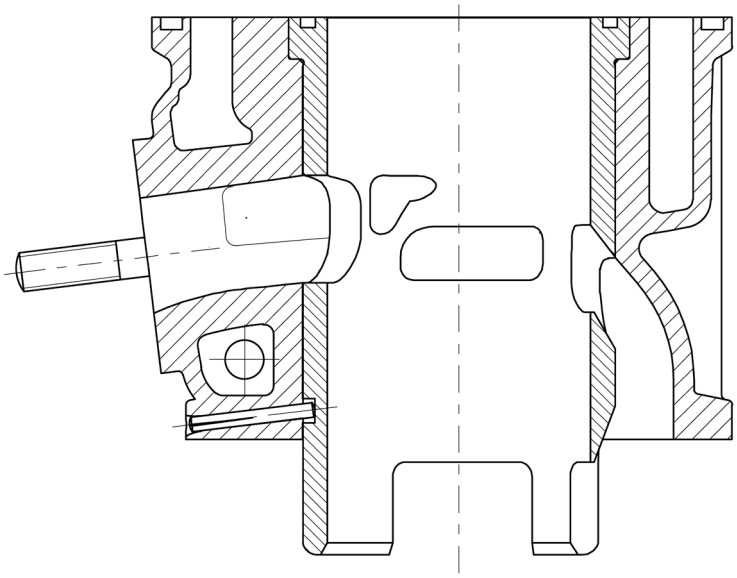
FROM 2025 ON - A *PARTIR DE 2025*

CYLINDER IDENTIFICATION – ALTERNATIVE CYLINDER LINER LOCK PIN
IDENTIFICATION DU CYLINDRE – GOUPILLE DE BLOCAGE DE LA CHEMISE ALTERNATIF

CURRENT PIN (SPRING PIN)
GOUPILLE COURANTE (GOUPILLE À RESORT)



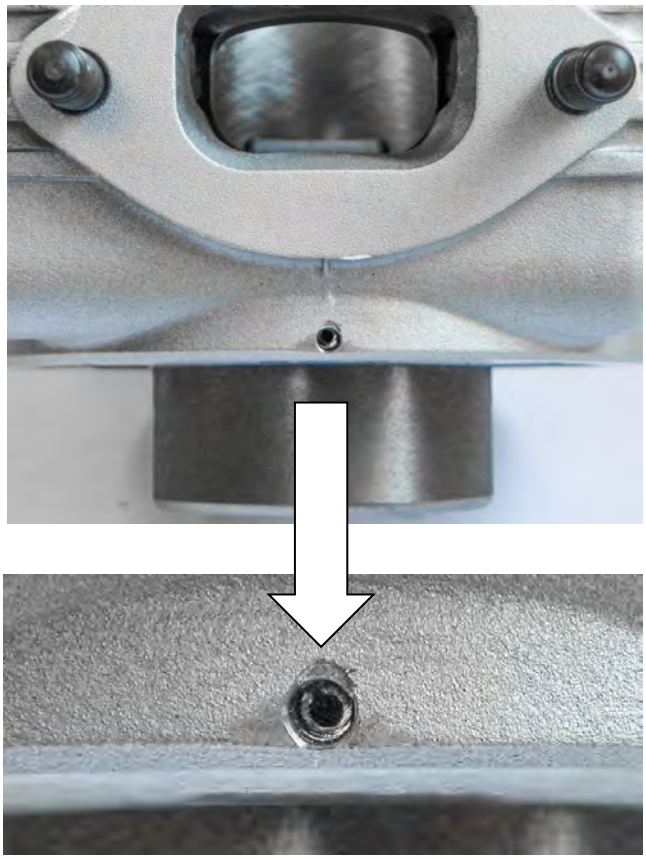
ALTERNATIVE PIN (GROOVED PIN)
GOUPILLE ALTERNATIF - (GOUPILLE CANNELÉE)



FROM 2025 ON – A' *PARTIR DE 2025*

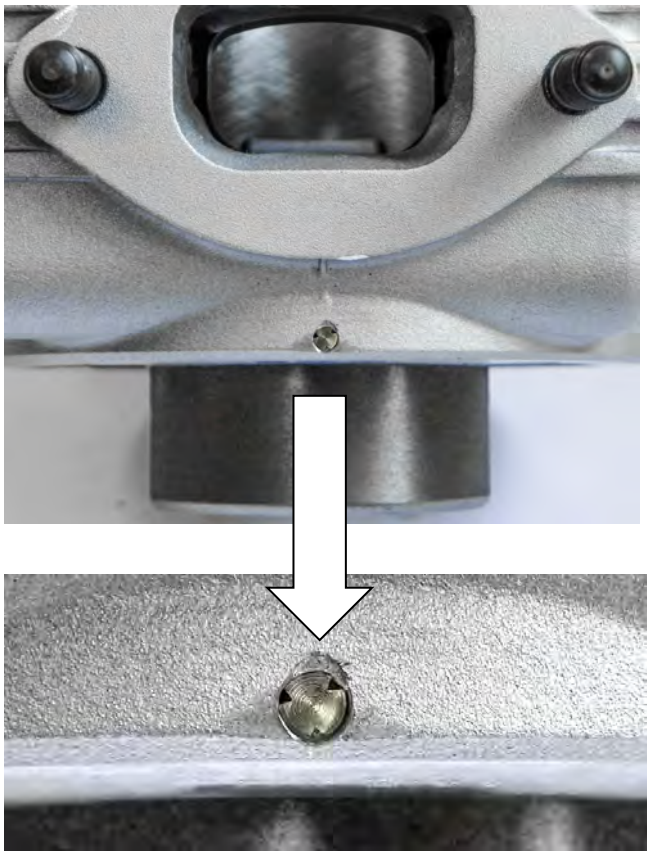
CYLINDER IDENTIFICATION – ALTERNATIVE CYLINDER LINER LOCK PIN
IDENTIFICATION DU CYLINDRE – GOUPILLE DE BLOCAGE DE LA CHEMISE ALTERNATIF

CURRENT PIN
GOUPILLE COURANTE



SPRING PIN
GOUPILLE À RESORT

ALTERNATIVE PIN
GOUPILLE ALTERNATIF



GROOVED PIN
GOUPILLE CANNELÉE

ALTERNATIVE PUSH BUTTONS – START & STOP
BOUTONS ALTERNATIF “START & STOP” DU DEMARREUR

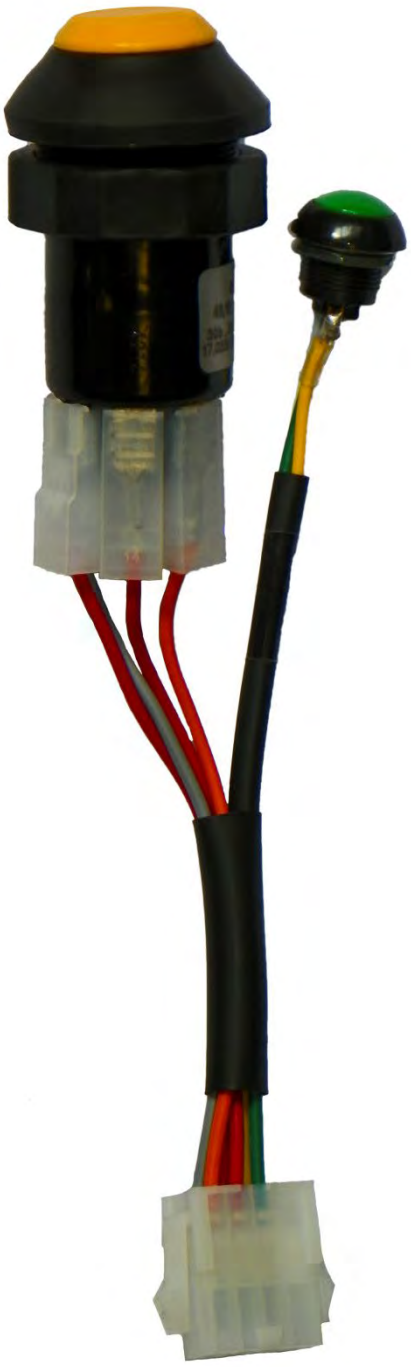
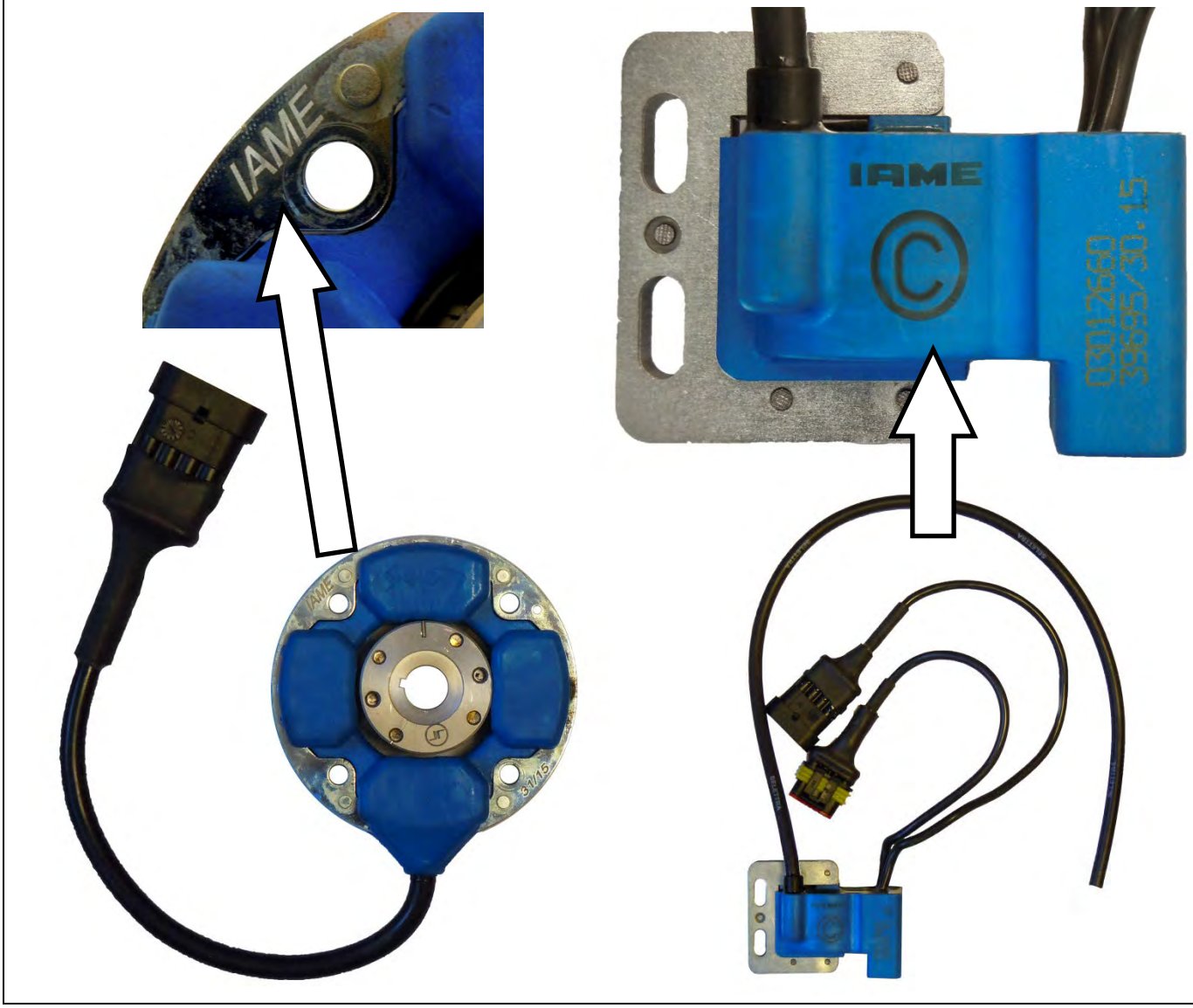


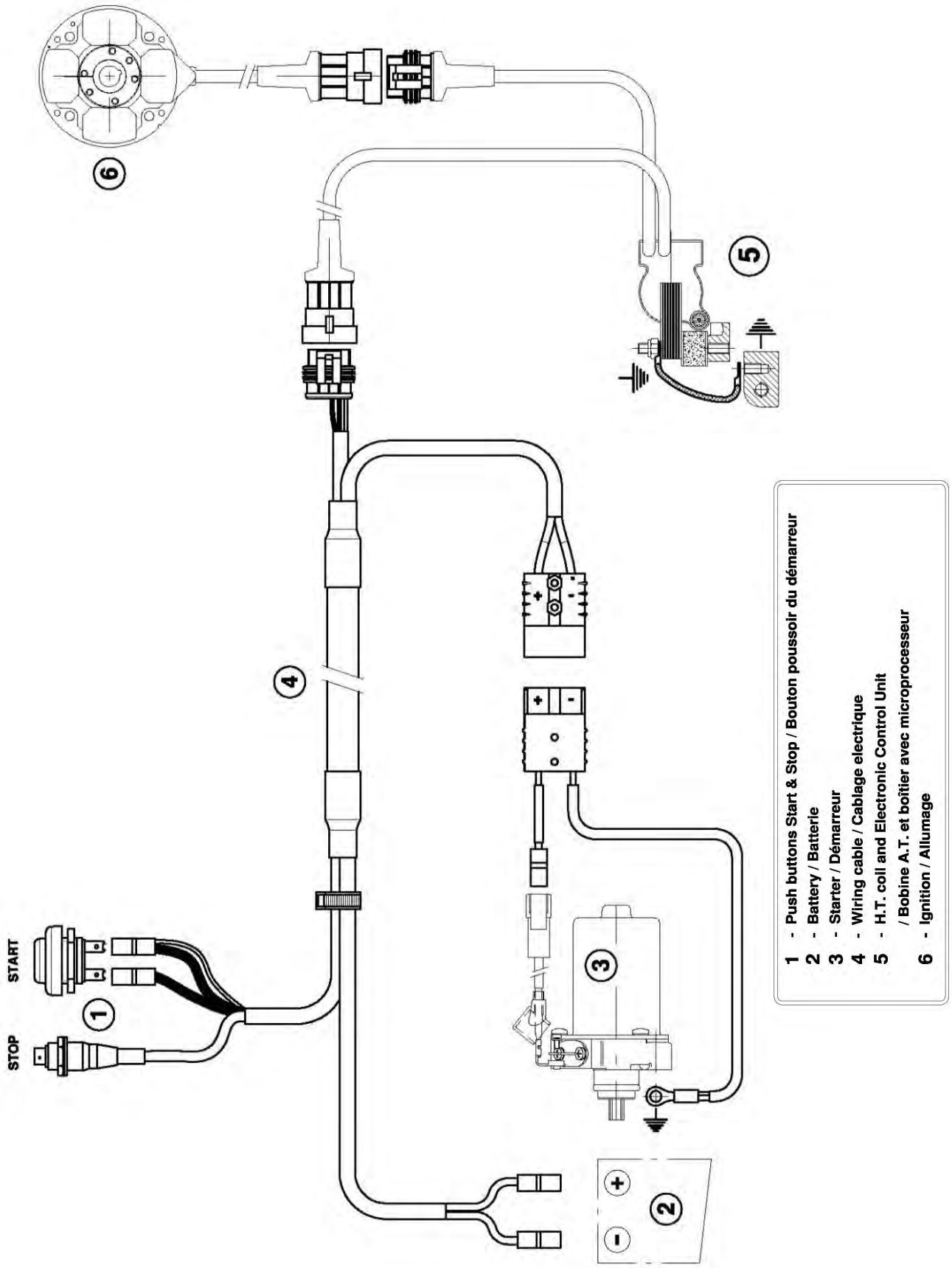
PHOTO COMPLETE ALTERNATIVE WIRING LOOM
PHOTO DU CABLAGE ELECTRIQUE COMPLET ALTERNATIF

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



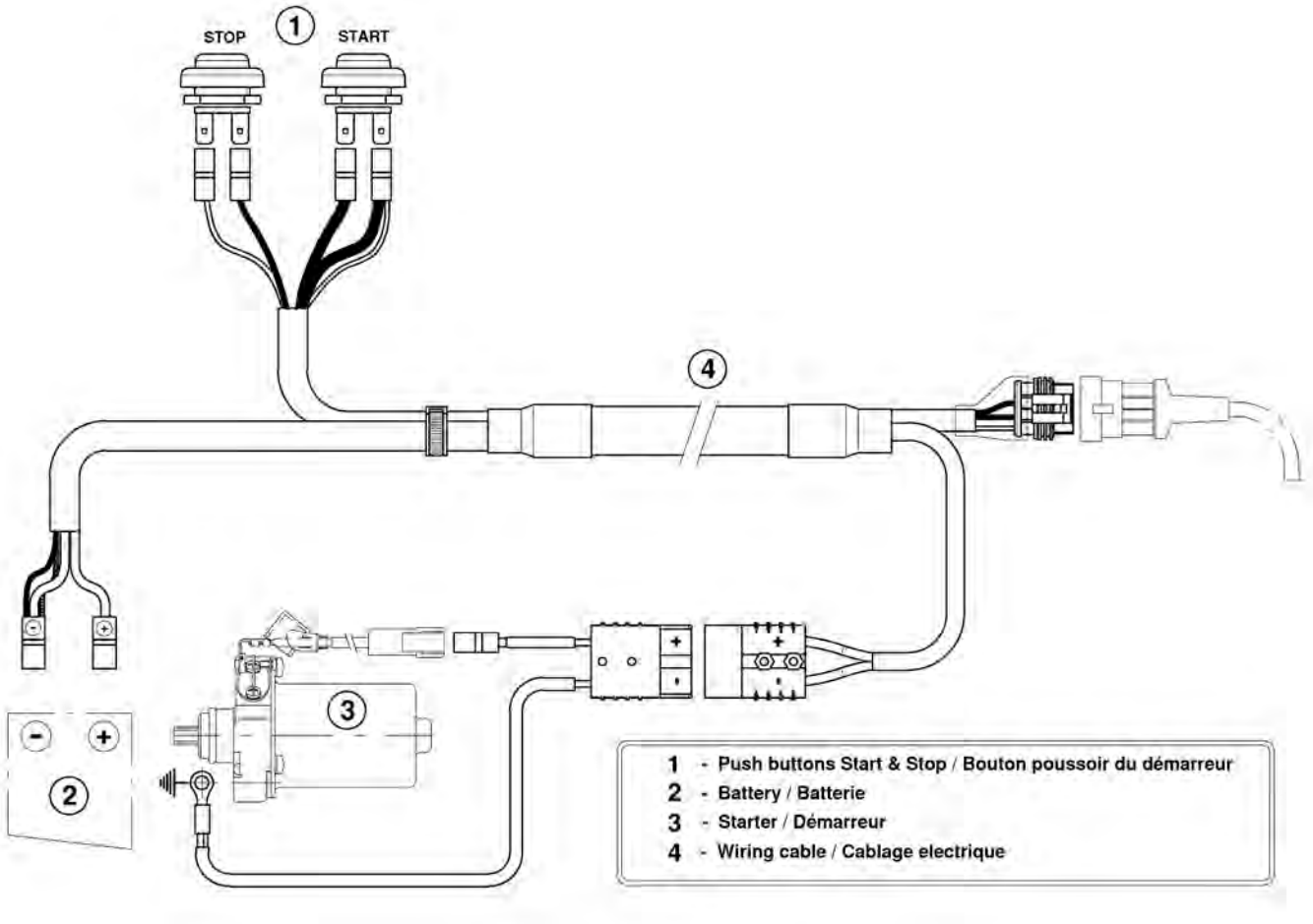
WIRING DIAGRAM (SELETTRA DIGITAL ‘‘S’’ IGNITION)

SCHÉMA CIRCUIT ELECTRIQUE (ALLUMAGE SELETTRA DIGITAL ’’S")



ALTERNATIVE WIRING LOOM
CABLAGE ELECTRIQUE COMPLET ALTERNATIF

ALTERNATIVE WIRING LOOM DIAGRAM
SCHÉMA CIRCUIT ELECTRIQUE ALTERNATIF



ALTERNATIVE WIRING LOOM
CABLAGE ELECTRIQUE COMPLET ALTERNATIF

ALTERNATIVE WIRING LOOM DIAGRAM
SCHÉMA CIRCUIT ELECTRIQUE ALTERNATIF

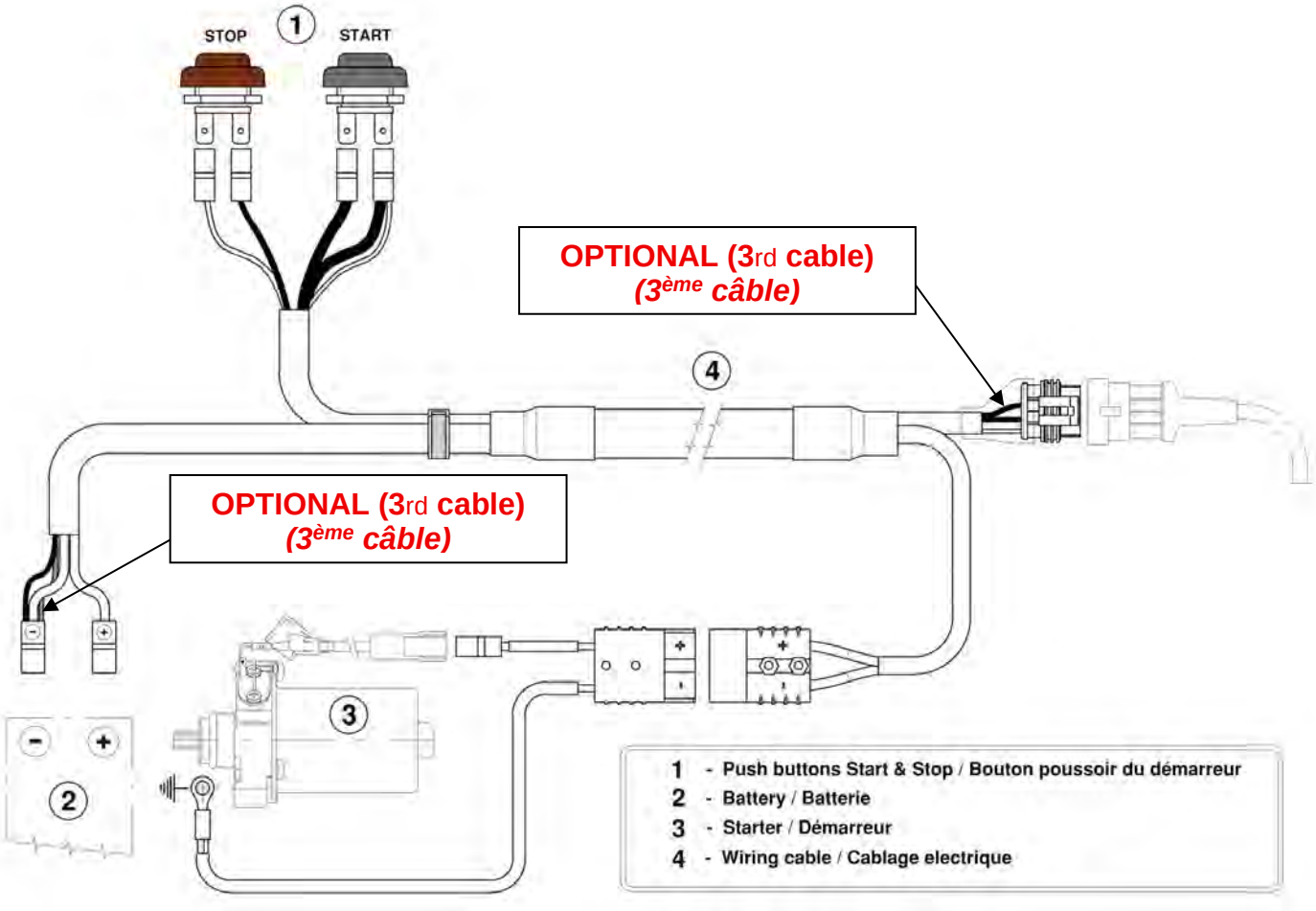
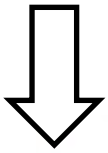
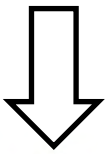
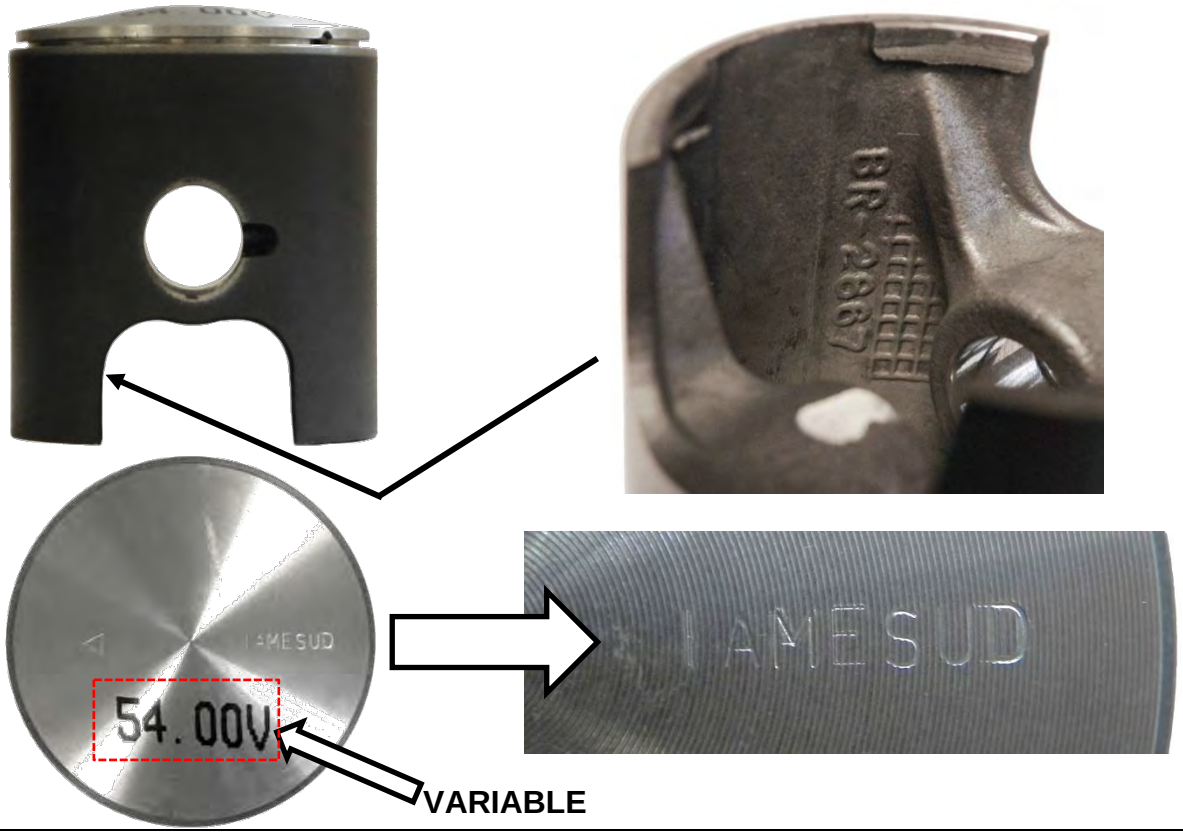


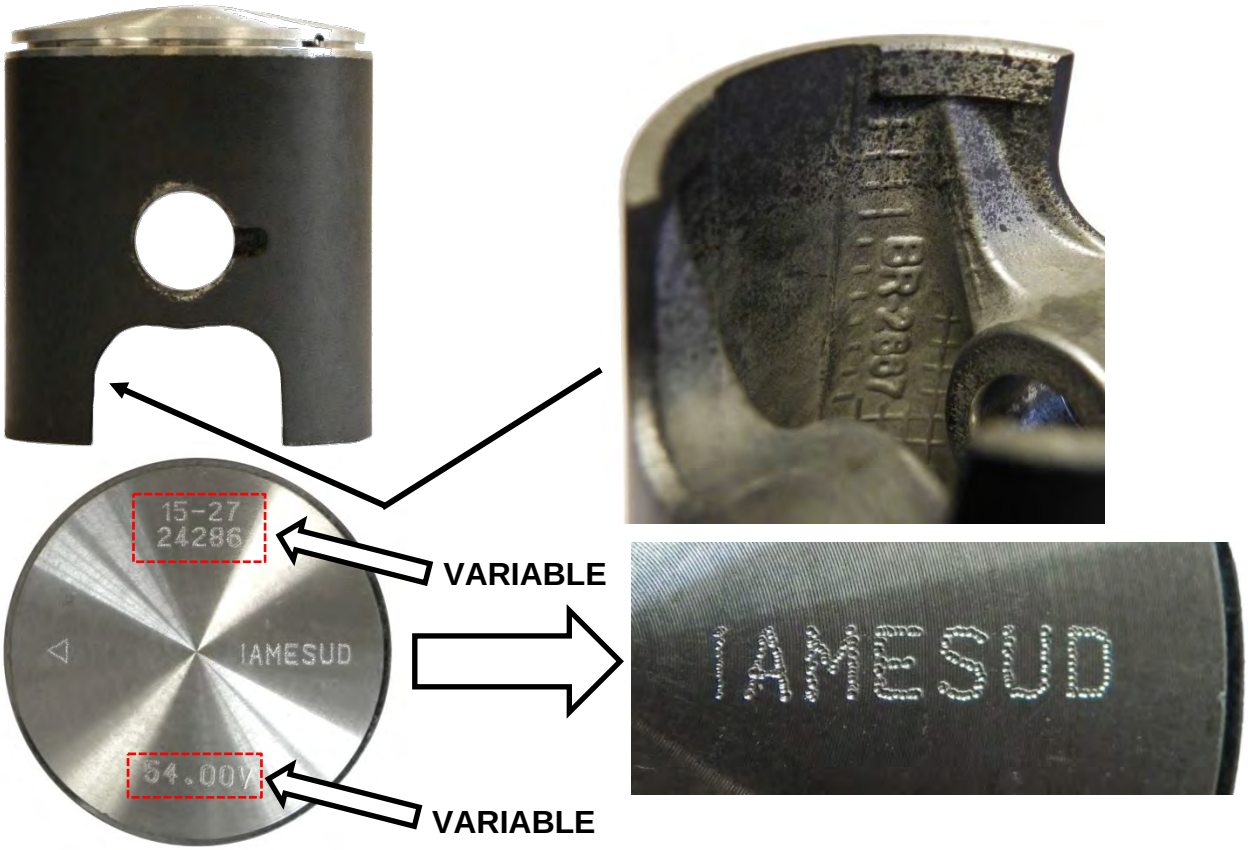
PHOTO IDENTIFICATION REED GROUP
PHOTO IDENTIFICATION BOÎTE À CLAPETS

ACTUAL VERSION *VERSION COURANTE*	ALTERNATIVE VERSION *VERSION ALTERNATIVE*
   	   

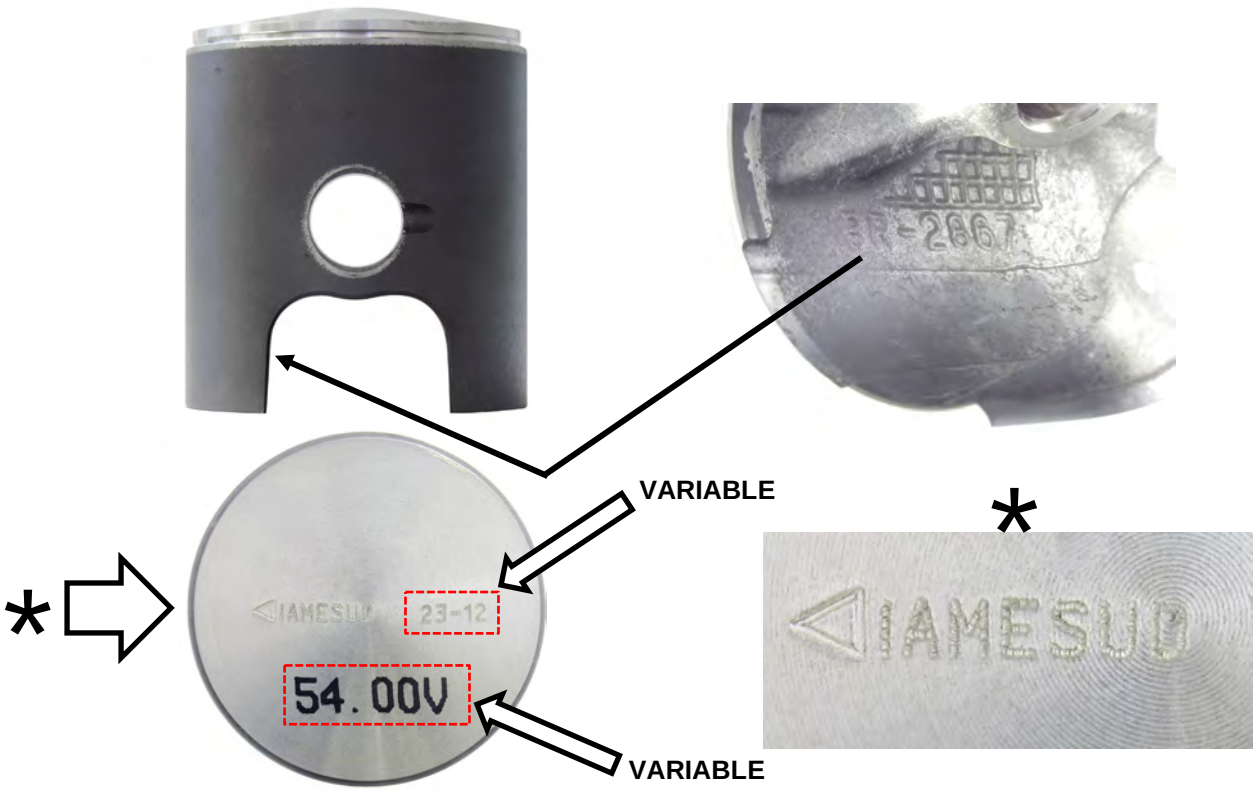
ACTUAL PISTON
PISTON COURANT



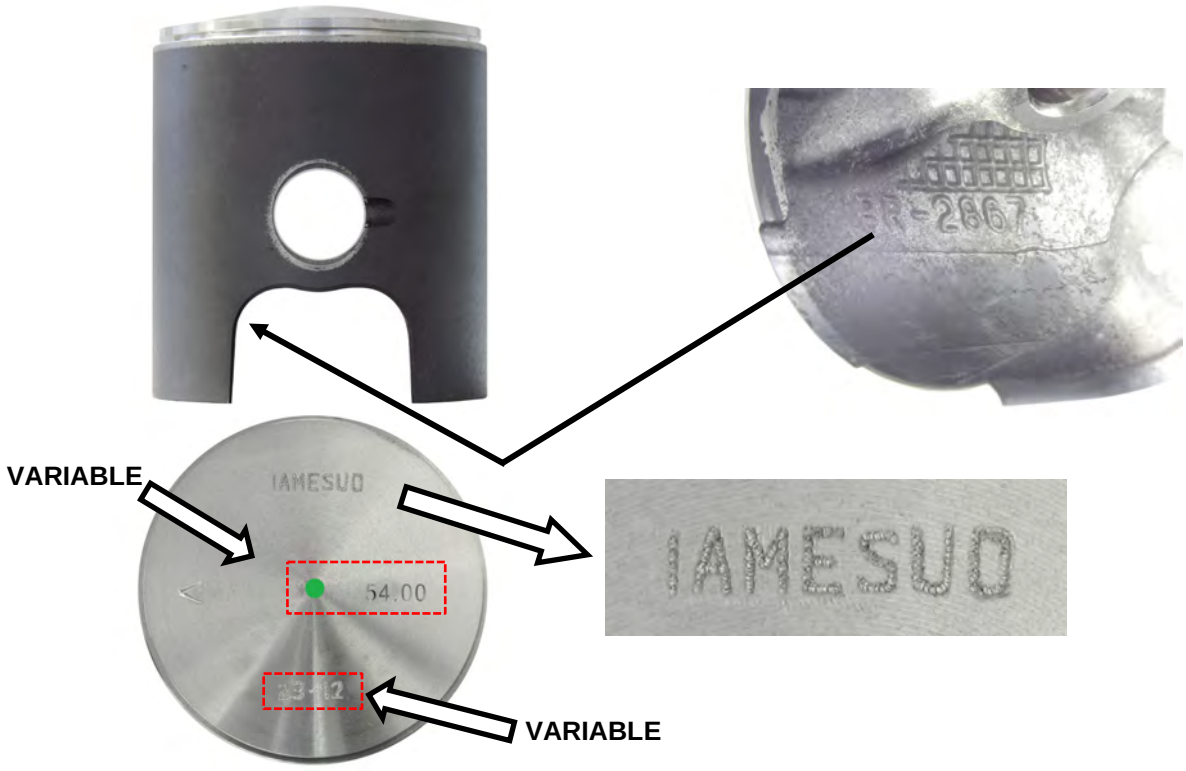
ALTERNATIVE PISTON
PISTON ALTERNATIF



ALTERNATIVE PISTON MARKING
MARQUAGE ALTERNATIF DU PISTON



ALTERNATIVE PISTON MARKING
MARQUAGE ALTERNATIF DU PISTON



ALTERNATIVE CONROD
BIELLE ALTERNATIVE

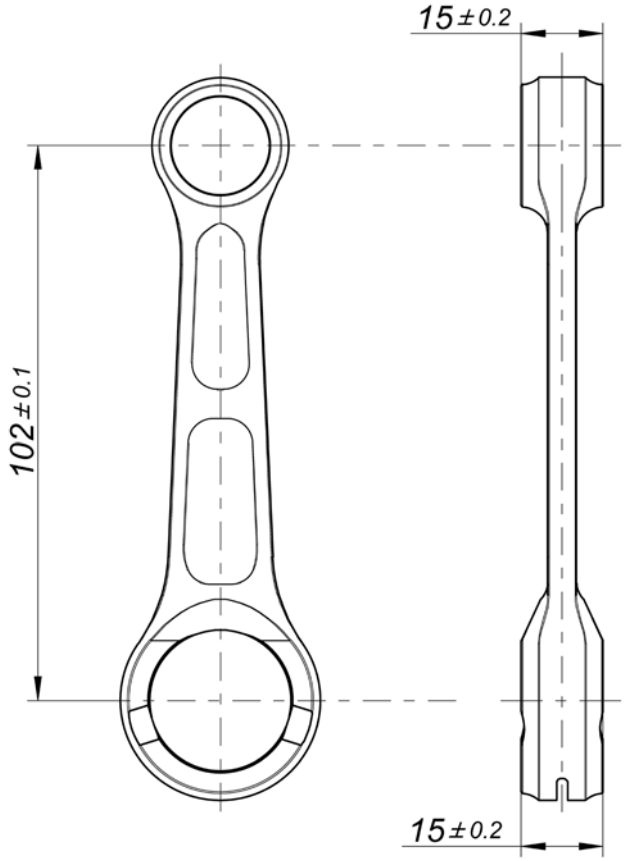
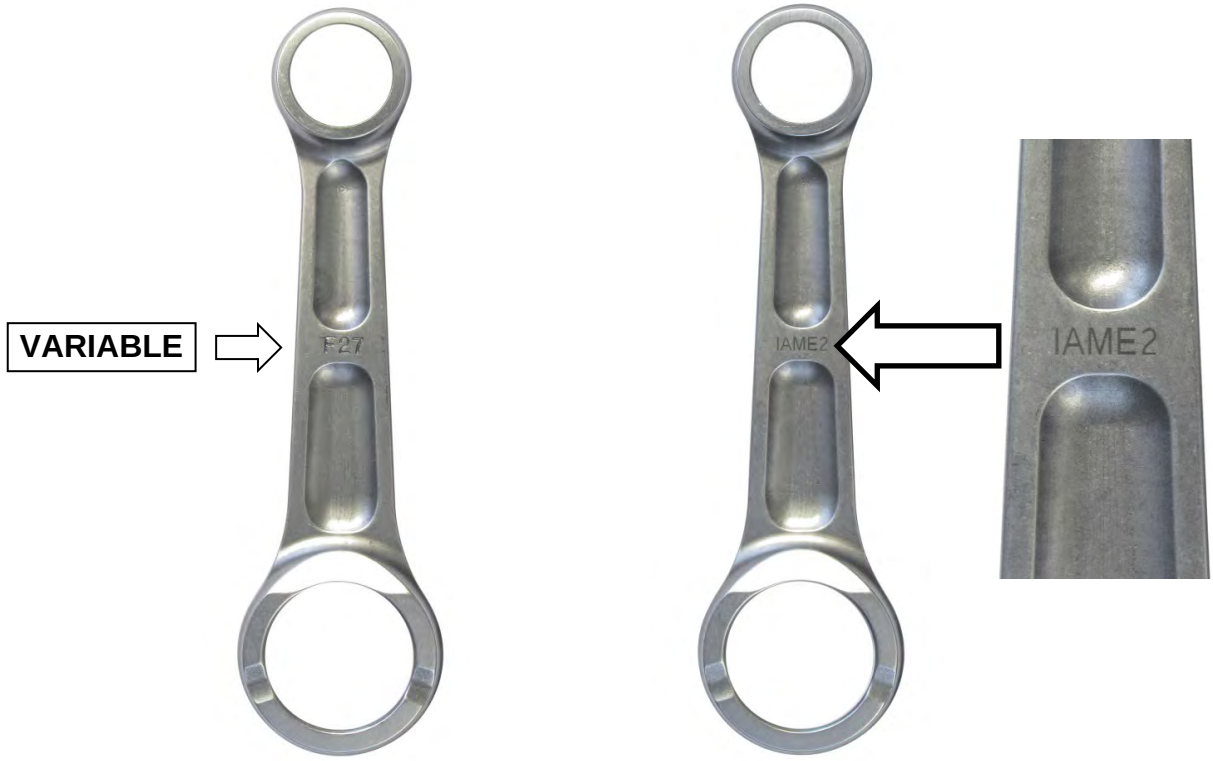


PHOTO OF THE CONROD BOTH SIDE – ALTERNATIVE
PHOTO DES DEUX COTES DE LA BIELLE - ALTERNATIVE



BOTH TYPES OF CONROD CAN BE USED WITH BOTH TYPES OF WASHERS (IN COUPLE)
LES DEUX TYPES DE BIELLE PEUVENT ÊTRE UTILISÉS AVEC LES DEUX TYPES DE RONDELLES (EN COUPLE)

PHOTO IDENTIFICATION OF SMALL END CONROD BEARING – TYPES ALTERNATIVE
PHOTO D'IDENTIFICATION DU ROULEMENT PIED DE BIELLE – TYPES ALTERNATIFS

TYPE 1

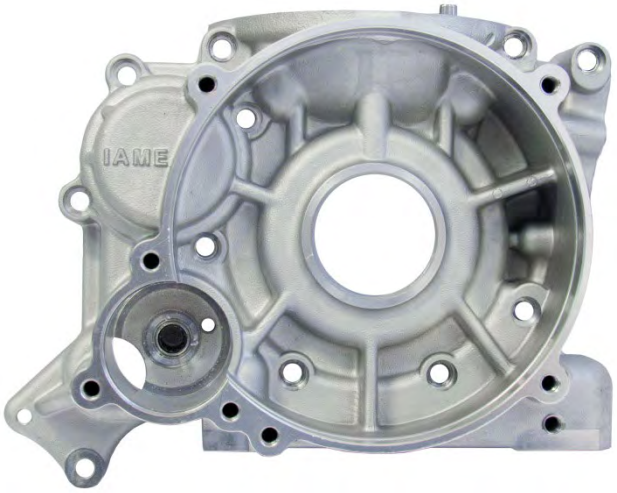
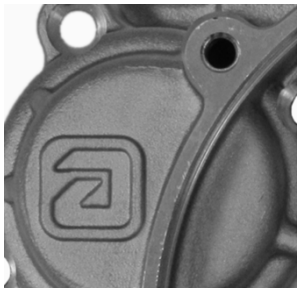
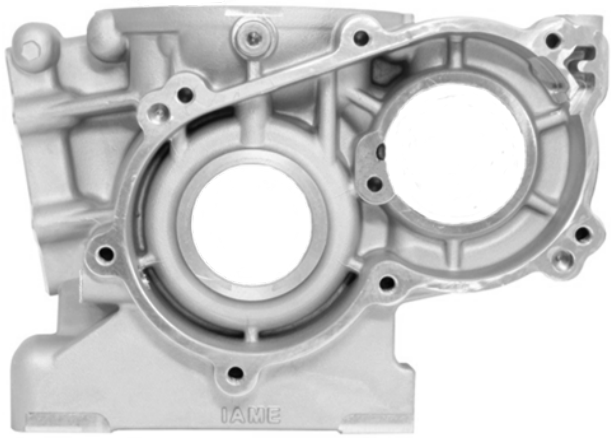
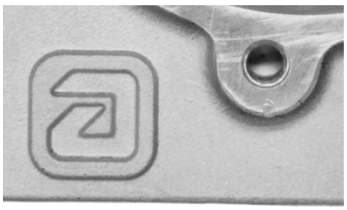
TYPE 2

PHOTO IDENTIFICATION OF CONROD WASHER – TYPES ALTERNATIVE
PHOTO D'IDENTIFICATION RONDELLE DE BIELLE – TYPES ALTERNATIVES

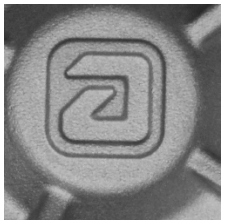
TYPE 1

TYPE 2

PARTS WITH ALTERNATIVE NEW LOGO “IAME”
COMPOSANTS AVEC UN NOUVEAU LOGO ALTERNATIF «IAME»

CYLINDER HEAD *CULASSE*	CYLINDER *CYLINDRE*
 **NEW / *NOUVEAU* LOGO** 	 **NEW / *NOUVEAU* LOGO** 
SEMICARTER TRANSMISSION SIDE *DEMI-CARTER CÔTÉ PIGNON*	SEMICARTER IGNITION SIDE *DEMI-CARTER CÔTÉ ALLUMAGE*
 **NEW / *NOUVEAU* LOGO** 	 **NEW / *NOUVEAU* LOGO** 

PARTS WITH ALTERNATIVE NEW LOGO “IAME”
COMPOSANTS AVEC UN NOUVEAU LOGO ALTERNATIF «IAME»

IGNITION COVER *COUVERCLE DE L’ALLUMAGE*	CLUTCH COVER *COUVERCLE D'EMBRAYAGE*
 **NEW / *NOUVEAU* LOGO** 	 **NEW / *NOUVEAU* LOGO** 
REED GROUP *GROUPE CLAPETS*	CARBURETTOR INLET CONVEYOR *CONVOYEUR D’ADMISSION*
 **NEW / *NOUVEAU* LOGO** 	 **NEW / *NOUVEAU* LOGO** 

PARTS WITH ALTERNATIVE NEW LOGO “IAME”
COMPOSANTS AVEC UN NOUVEAU LOGO ALTERNATIF «IAME»

RADIATOR
RADIATEUR

NEW / *NOVEAU* LOGO

EXHAUST SILENCER
ECHAPPEMENT

NEW / *NOUVEAU* LOGO

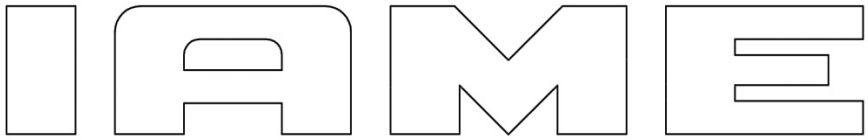
NEW / *NOUVEAU* LOGO

BALANCING SHAFT
ARBRE D’EQUILIBRAGE

NEW / *NOUVEAU* LOGO

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

LES AUTRES COMPOSANTS DU MOTEUR AVEC COMME MARQUAGE (LASER OU POINÇONNEUSE) L'ANCIEN LOGO OU ÉCRIT «IAME»

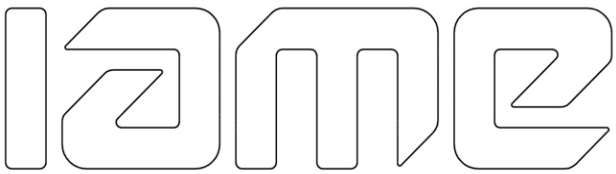


or

IAME

NOW COULD BE MARKED WITH NEW LOGO "IAME"

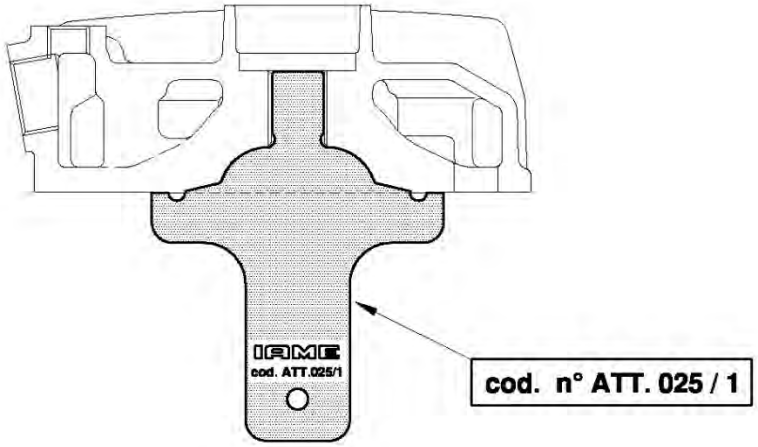
POURRAIENT MAINTENANT ETRE MARQUES AVEC LE NOUVEAU LOGO "IAME"



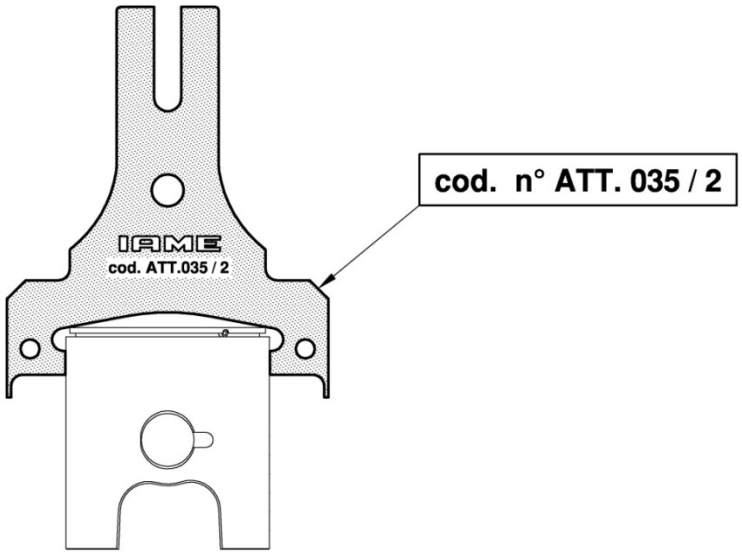
or

or

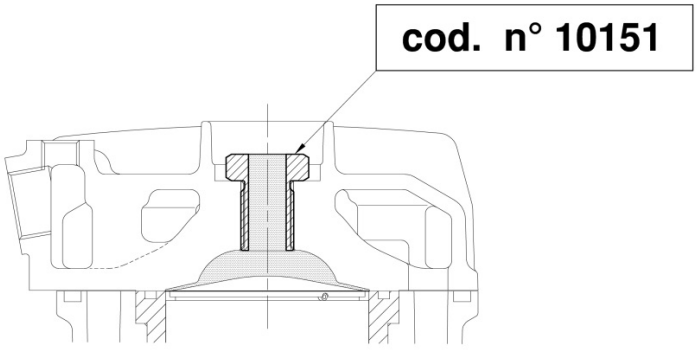
TEMPLATE FOR COMBUSTION CHAMBER SHAPE
GABARIT POUR LA FORME DE LA CHAMBRE DE COMBUSTION



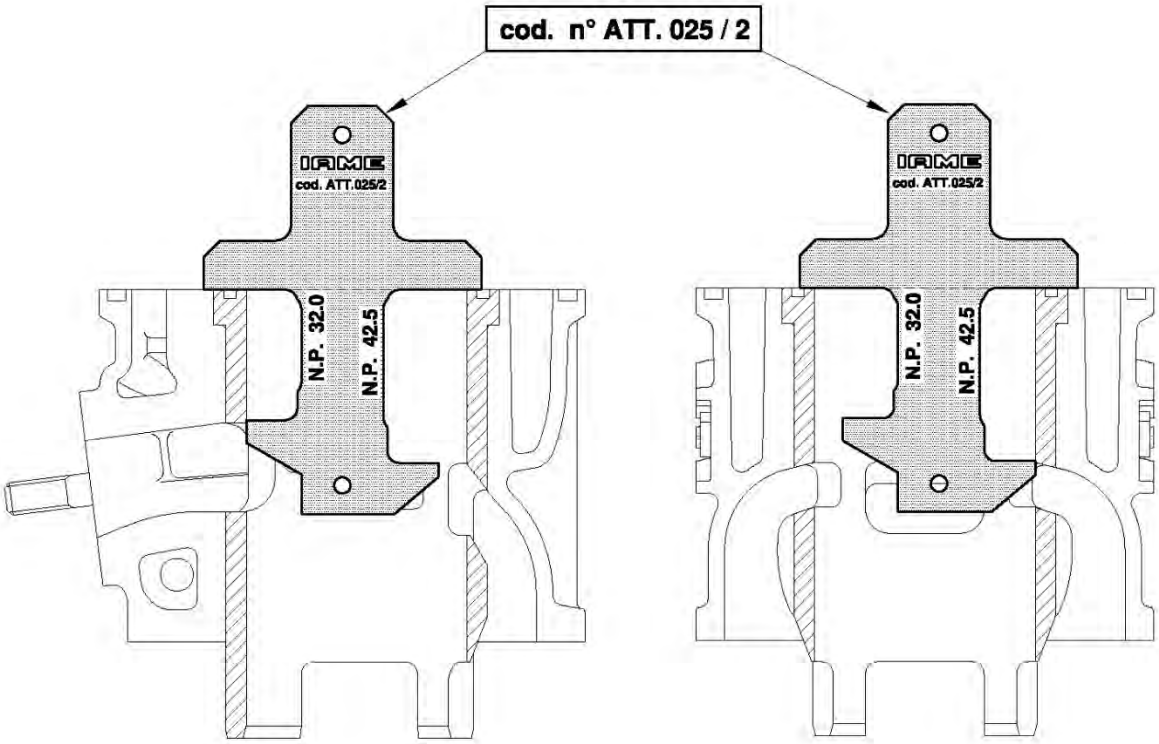
TEMPLATE FOR THE PISTON DOME
GABARIT POUR LE DÔME DU PISTON



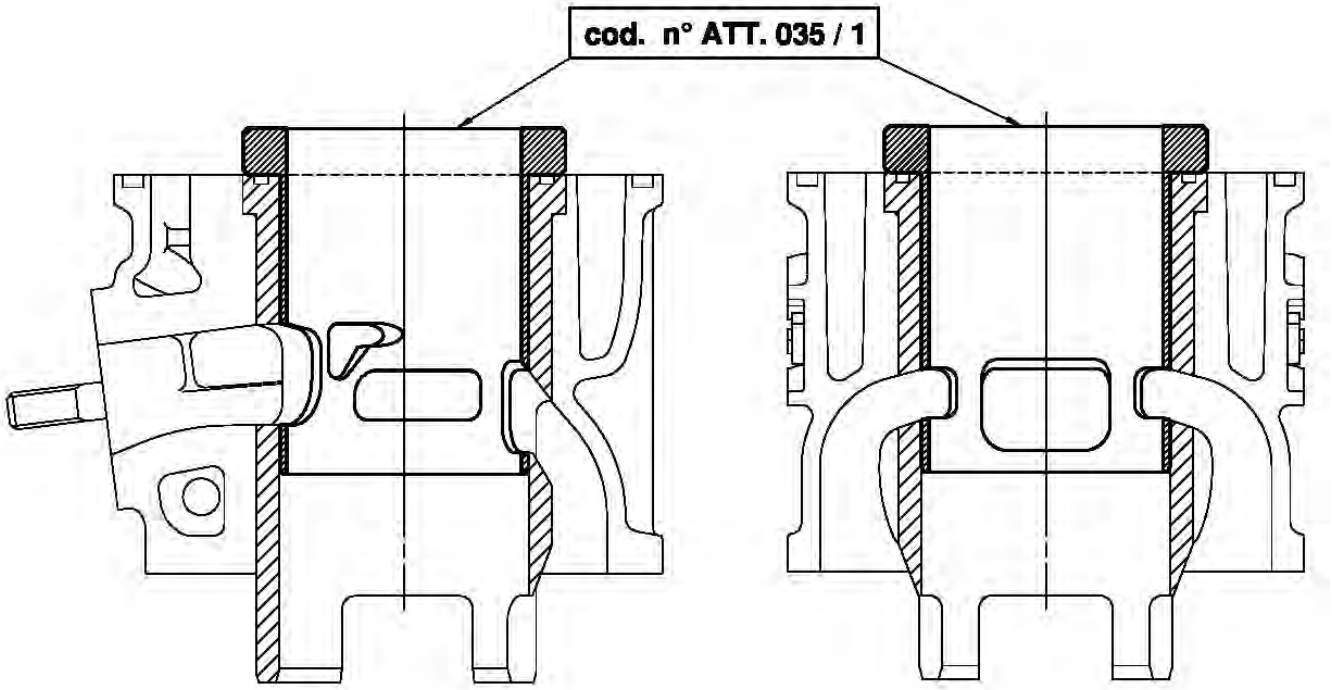
INSERT FOR COMBUSTION CHAMBER VOLUME
INSERT POUR LE VOLUME DE LA CHAMBRE DE COMBUSTION



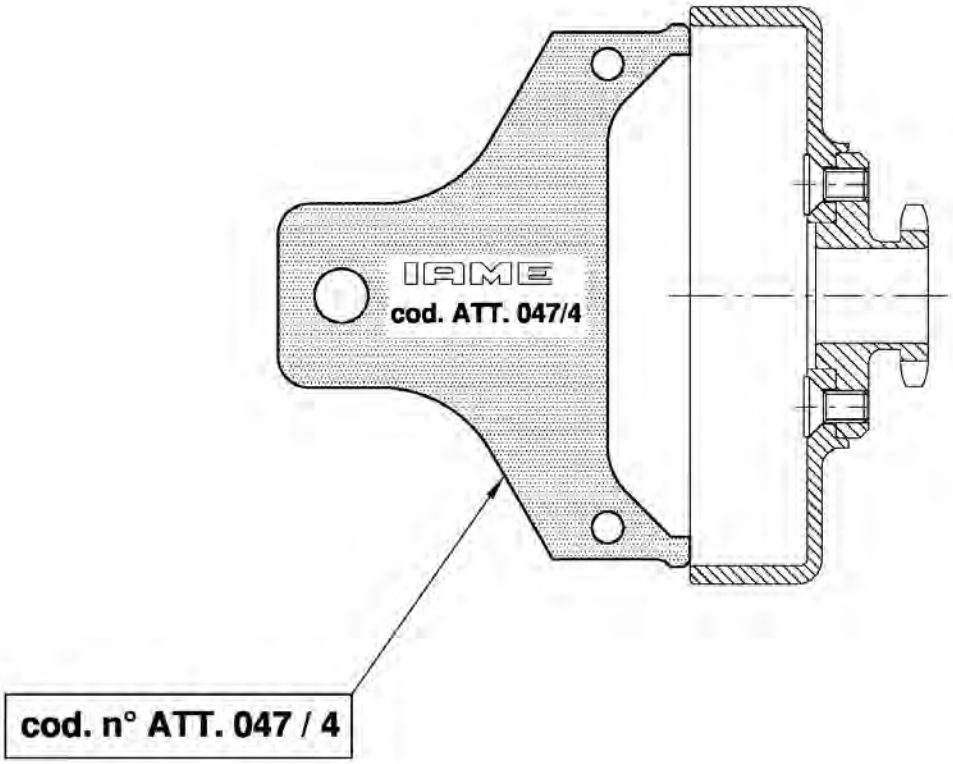
NO GO GAUGE FOR THE HEIGHT OF EXHAUST PORT AND LATERAL TRANSFERS
GABARIT POUR LA HAUTEUR DE LA LUMIÈRE D'ÉCHAPPEMENT ET DES TRANSFERTS LATÉRAUX



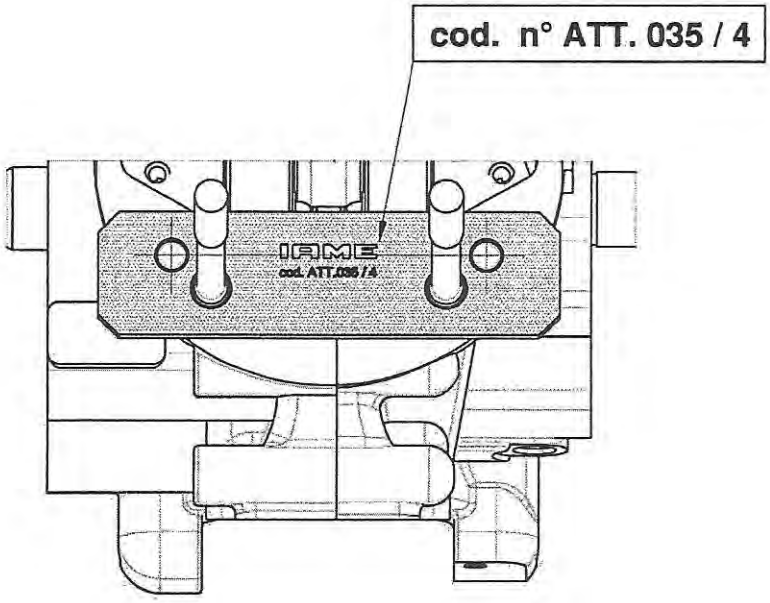
CHECKING TOOL FOR PORTS IN THE CYLINDER LINER
GABARIT POUR LES LUMIÈRES DANS LA CHEMISE DU CYLINDRE



NO-GO GAUGE FOR CLUTCH DRUM
GABARIT POUR LA CLOCHE D'EMBRAYAGE



TEMPLATE FOR THE CILYNDER PINS INTERAXLE
GABARIT POUR L'ENTRAXE DES PIONS DE CENTRAGE DU CYLINDRE

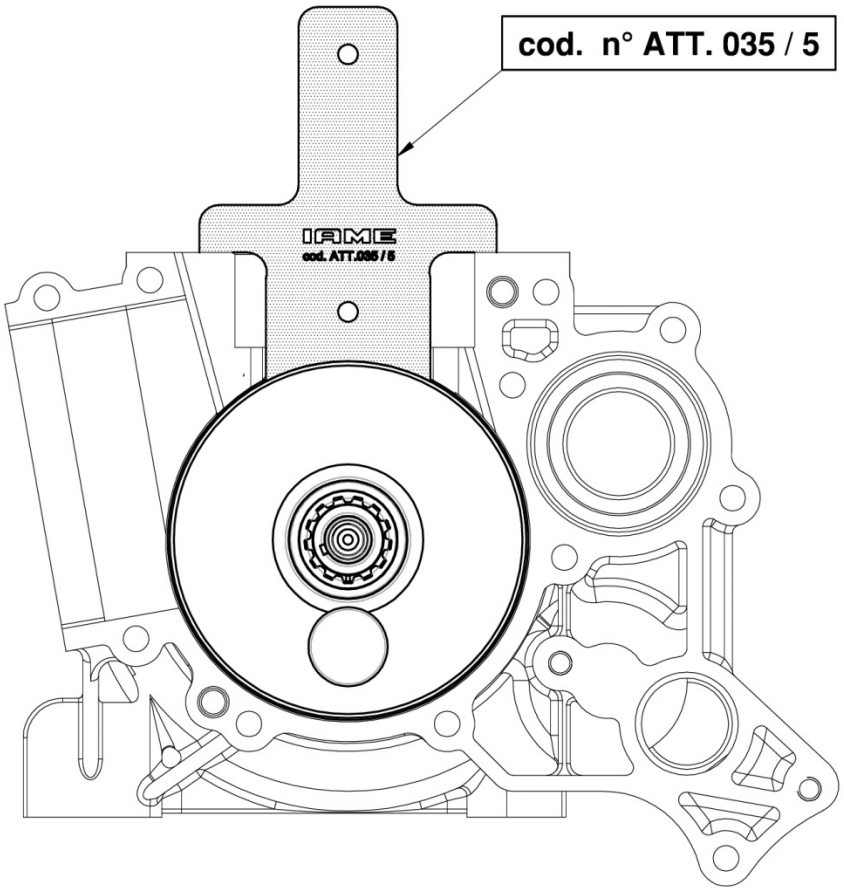


GAUGE FOR THE CYLINDER BASE PLANE ON THE CRANKCASE

It must touch the plane before touching the crankshaft

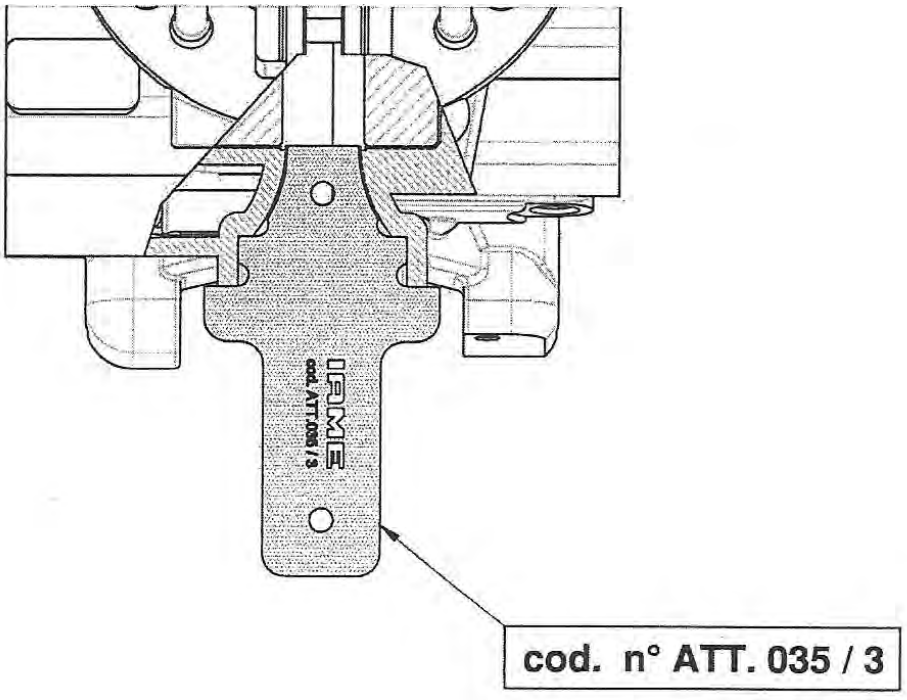
GABARIT POUR LA HAUTEUR DU PLAN CYLINDRE SUR LE CARTER

il doit toucher le plan avant te toucher le vilebrequin



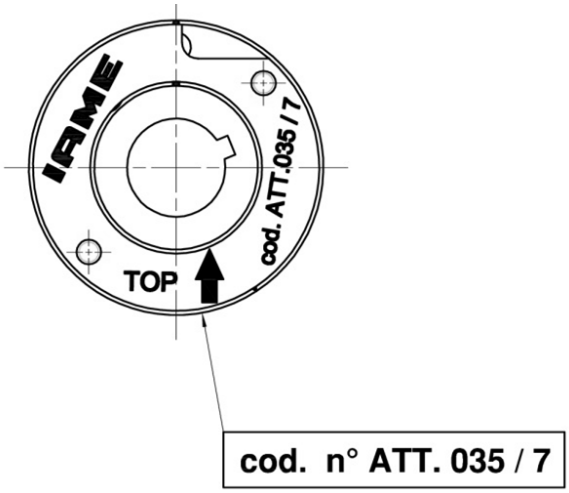
GAUGE FOR REED VALVE SEAT AND PLANE

GABARIT POUR LE PLAN ET LOGEMENT DE LA BÔITE À CLAPETS

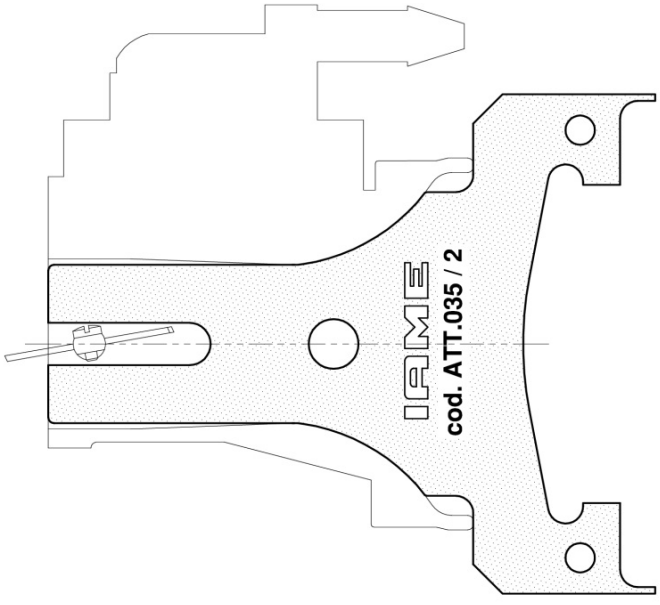


TEMPLATE FOR THE MARKING POSITION ON SELETTRA DIGITAL "S" ROTOR
OK when the marking is hidden by the template

GABARIT POUR LA LE MARQUAGE DE PHASE SUR LE ROTOR SELETTRA DIGITAL "S"
OK si le marquage est couvert par le gabarit

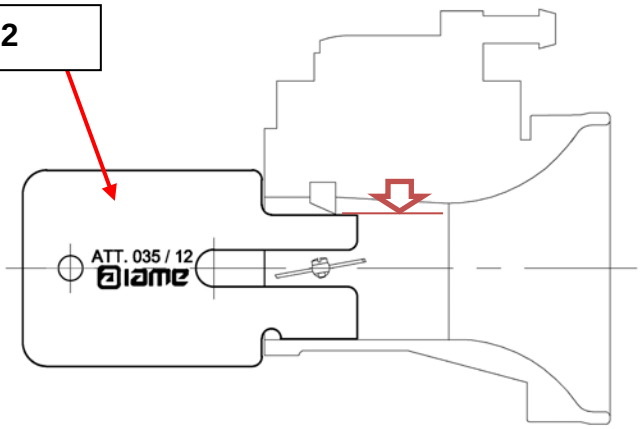


TEMPLATE FOR THE VENTURI SHAPE OF TILLOTSON HW-27A CARBURETTOR
GABARIT POUR LE VENTURI DU CARBURATEUR TILLOTSON HW-27A



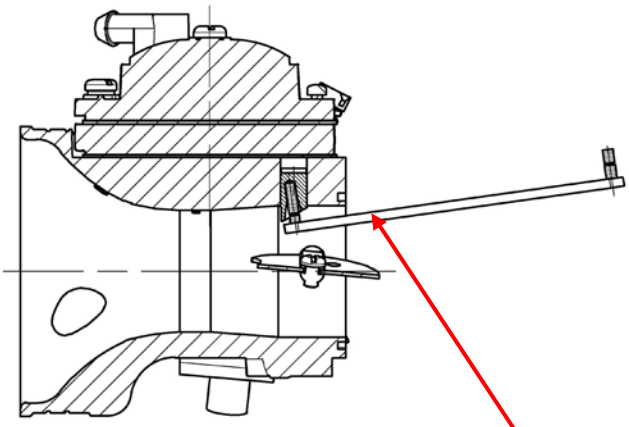
GAUGE FOR THE HEIGHT OF THE ATOMISER – IT MUST ENTER
GABARIT POUR LA HAUTEUR DU PULVERISATEUR - IL DOIT ENTRER

ATT.035 / 12



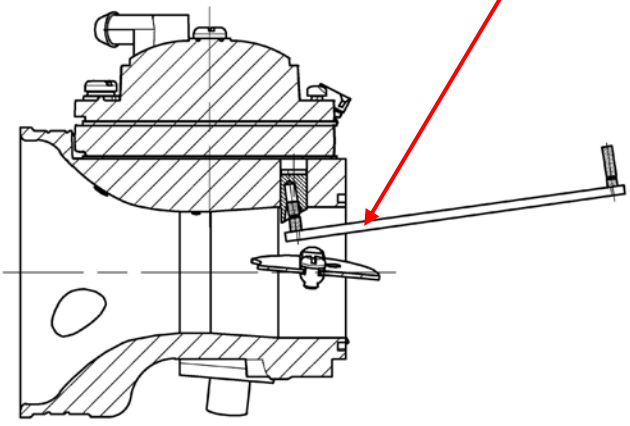
NO GO GAUGE FOR THE HOLE OF THE NOZZLE
GABARIT POUR LE TROU DU PULVERISATEUR

GO Side – must enter
Côté GO – doit entrer



ATT.035 / 19

NO GO Side – must not enter
Côté NO GO – ne doit pas entrer



EXHAUST MANIFOLD CHECKING TOOL - *CONTRÔLE DU RACCORD D'ECHAPPEMENT*

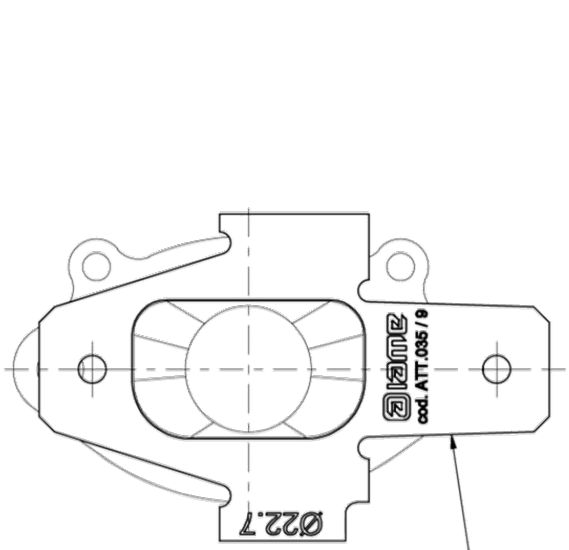


fig. 1

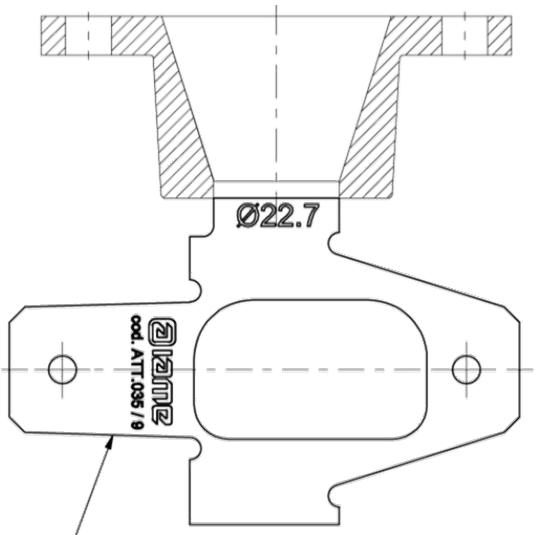


fig. 2

cod. ATT.035 / 9

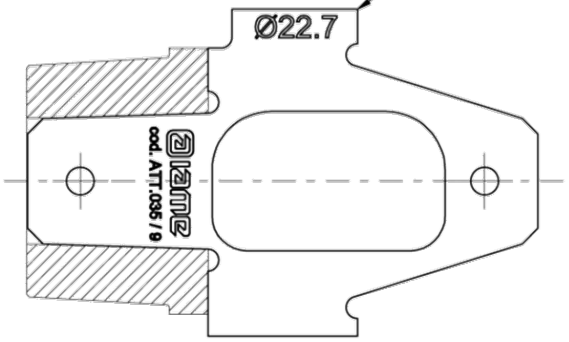


fig. 3

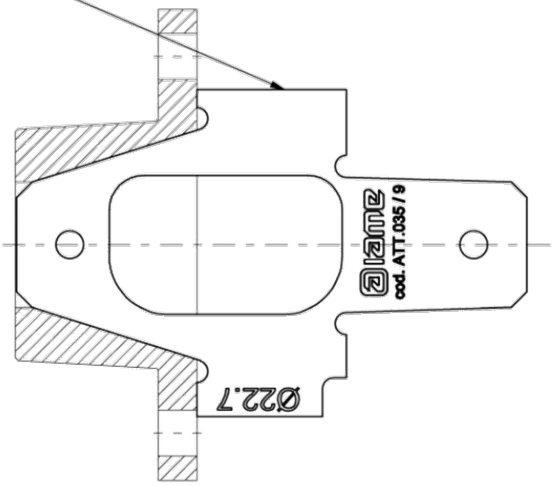


fig. 4

THE NO-GO GAUGE MUST NOT ENTER INTO THE EXHAUST RESTRICTOR, (FIG.2);
LE GABARIT NE DOIT PAS ENTRER DANS LE TROU DU RESTRICTEUR D'ECHAPPEMENT.

THE SHAPE OF THE DUCT IN THE HEADER MUST MATCH WITH THE TEMPLATE, (FIG.1,3 AND 4).
LA FORME DU CONDUIT DANS LE COLLECTEUR TOIT ÊTRE LA MEME QUE L'OUTIL

EXHAUST FITTING WITH Ø24 RESTRICTOR CHECKING TOOL *CONTRÔLE DU RACCORD D'ECHAPPEMENT AVEC RESTRICTEUR Ø24*

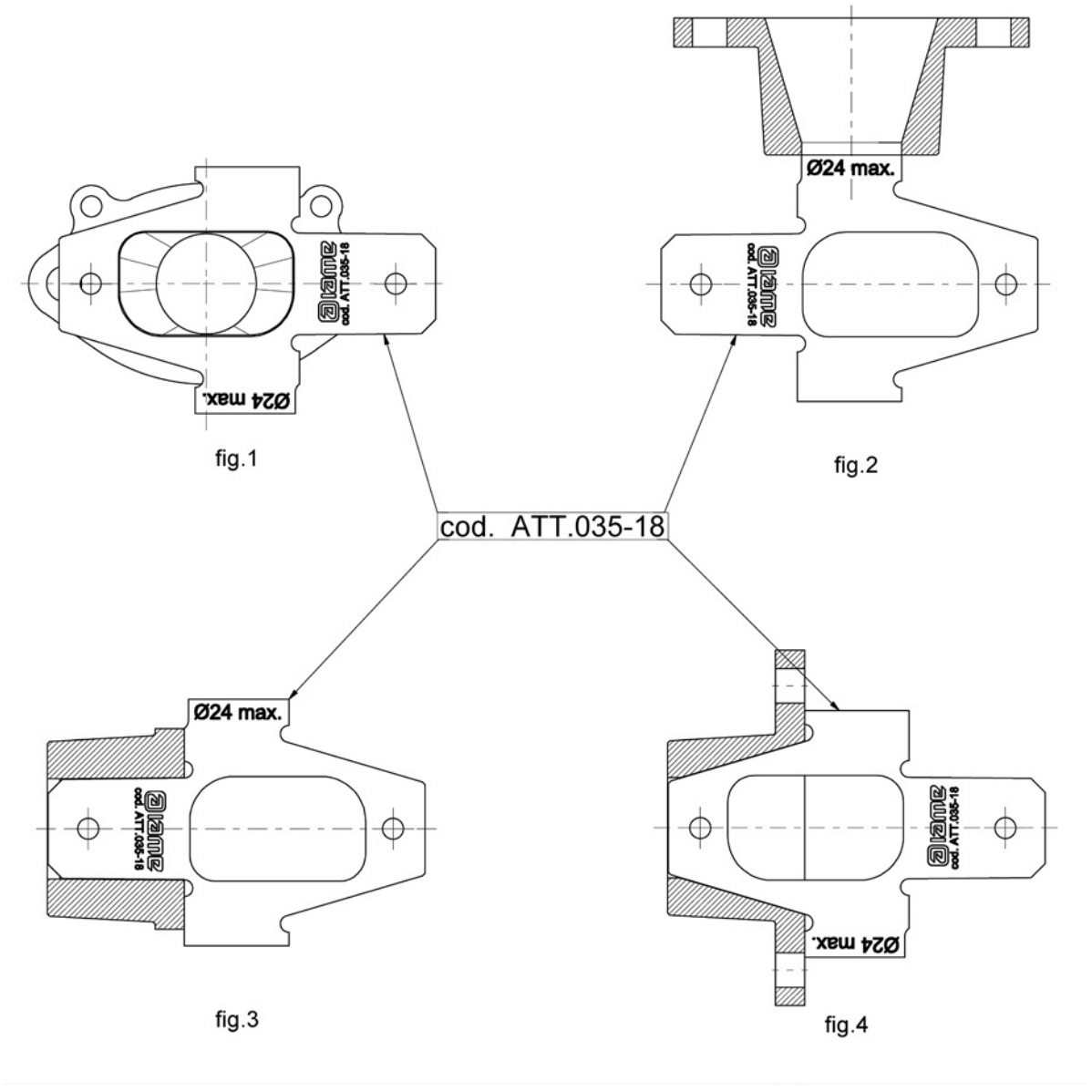


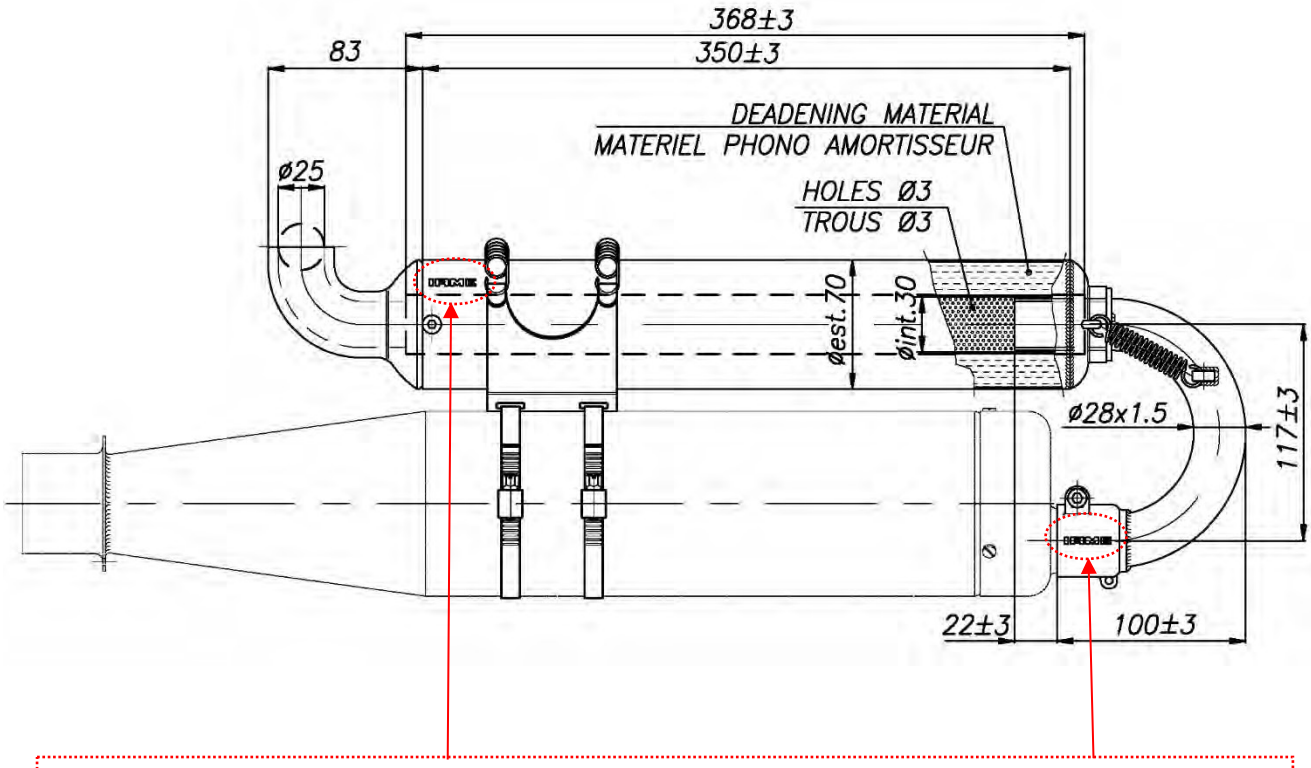
fig.1 fig.2

fig.3 fig.4

THE NO-GO GAUGE MUST NOT ENTER INTO THE EXHAUST RESTRICTOR, (FIG.2); *VERIFIEZ QUE LE CALIBRE N'ENTRE PAS DANS LE TROU DU RESTRICTEUR D'ECHAPPEMENT.*

CHECK THAT THE TOOL MATCHES THE SHAPE OF THE EXHAUST MANIFOLD, (FIG.1,3 AND 4).
VERIFIEZ QUE LA FORME DU RESTRICTEUR D'ECHAPPEMENT EST LA MEME DE L'OUTIL

EHXAUST SILENCER *SILENCIEUX D'ÉCHAPPEMENT*

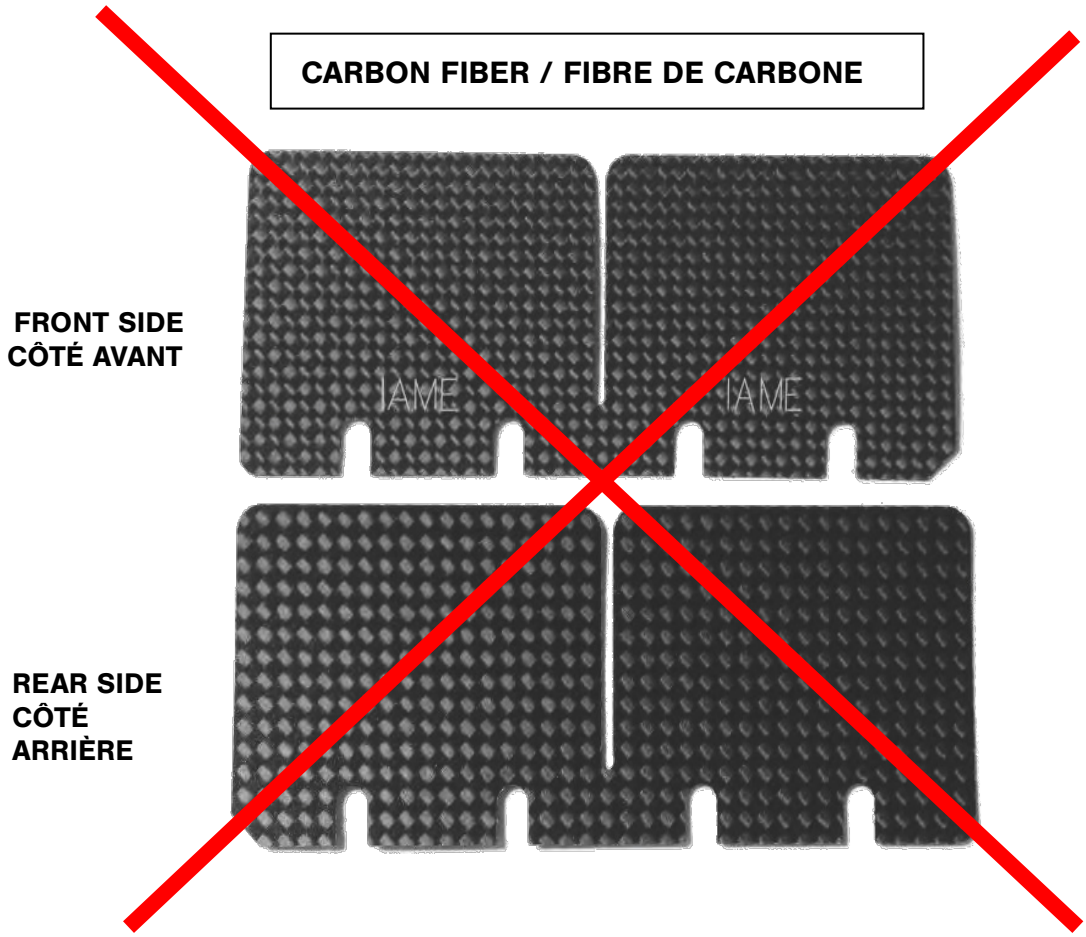


OR / *OU*

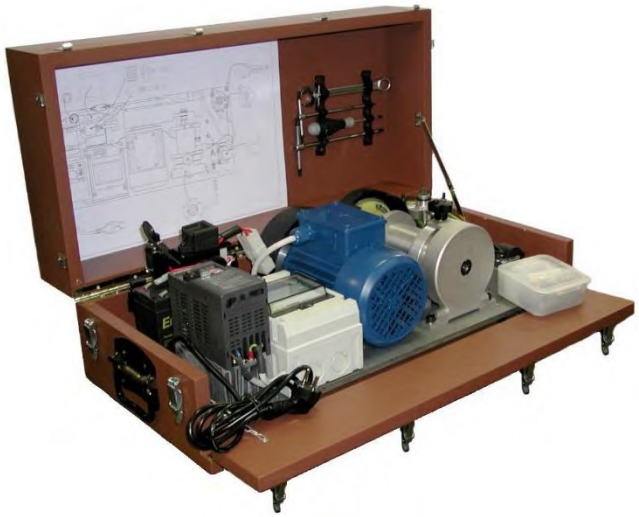
OR / *OU*

IAME MARKING / MARQUAGE IAME

NOT ALLOWED CARBON FIBER REEDS
NON ADMIS LES CLAPETS EN FIBRE DE CARBONE



IGNITION BENCH TESTER
BANC D'ESSAI ALLUMAGE



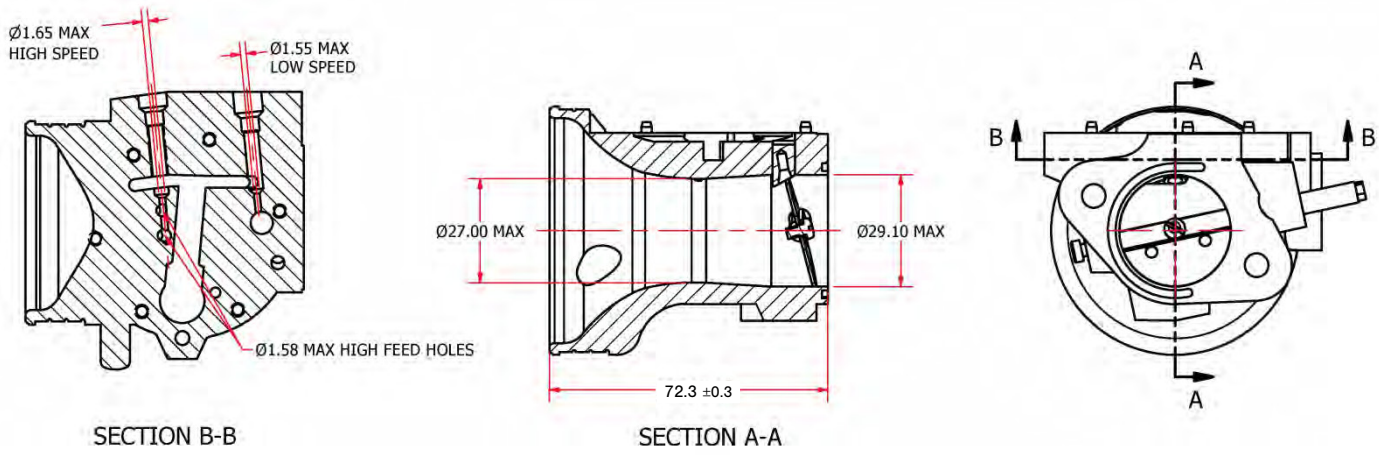
CARBURETTOR

TILLOTSON HW-27A

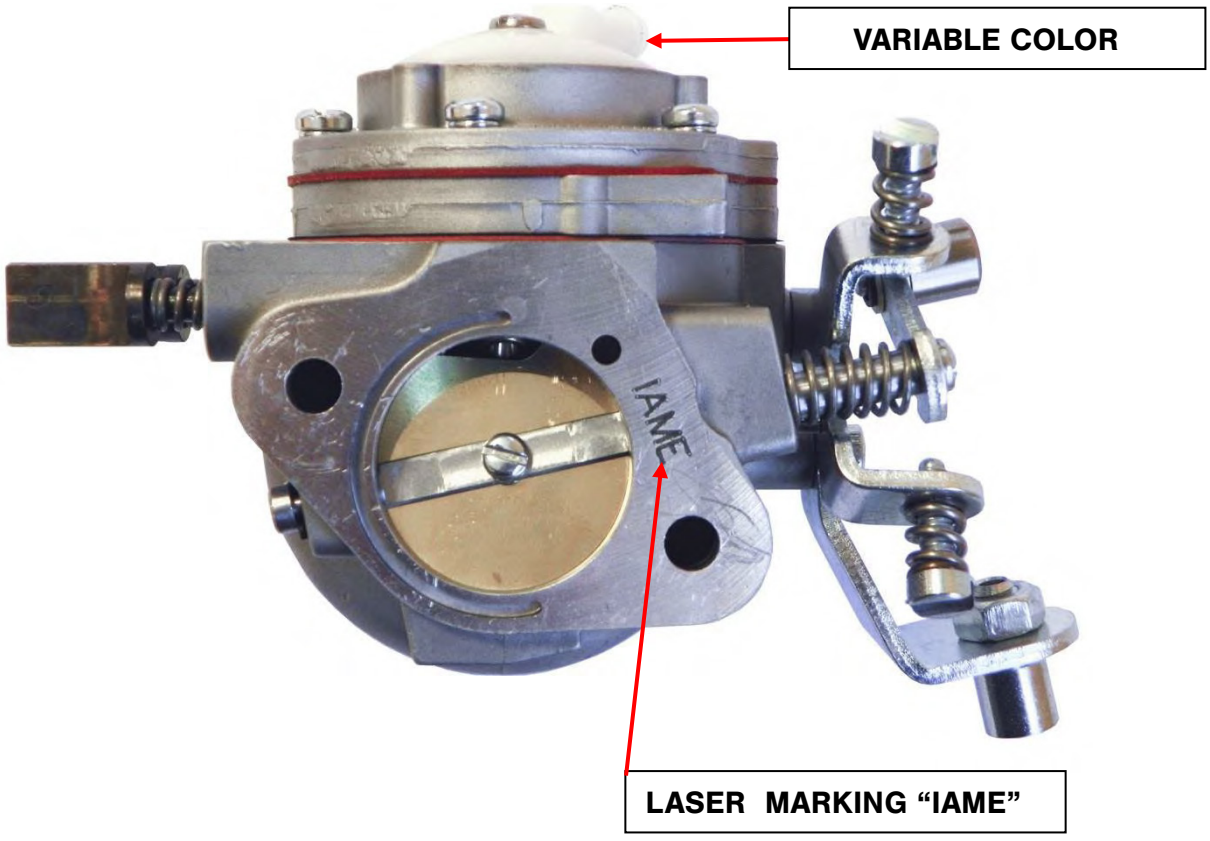
	
PHOTO OF ADJUSTING SIDE	PHOTO OF INLET SIDE

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

SECTION VIEW

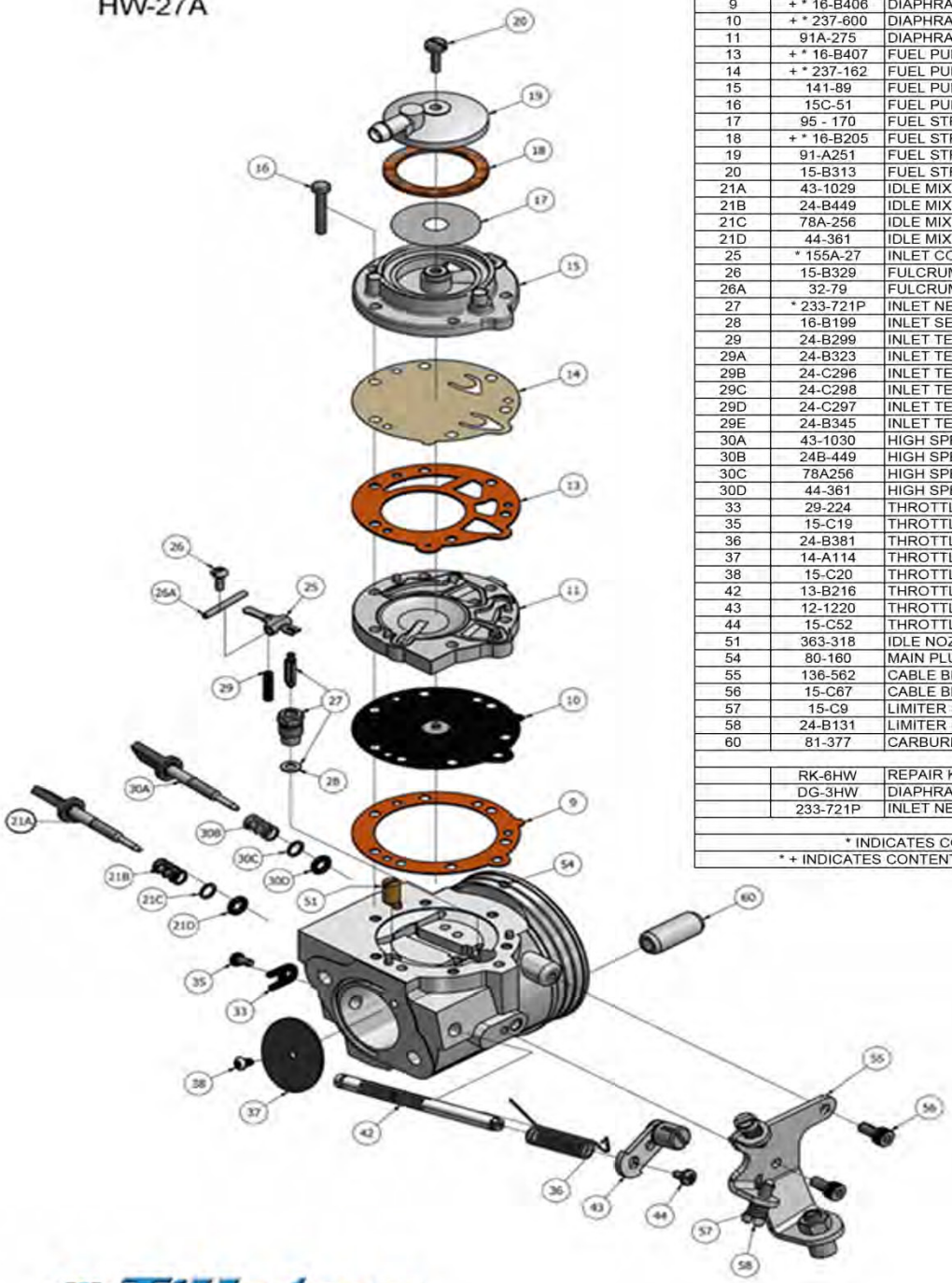


MARKING



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

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

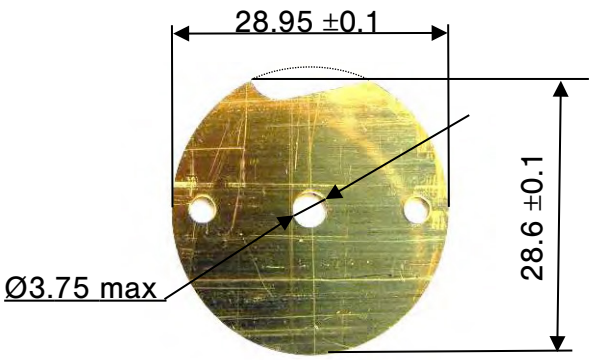
REF.11 - P. N° 91-A275
DIAPHRAGM COVER

Thickness = 6.75 ±0.15 mm

REF.15 - P. N° 141-89
PUMP COVER

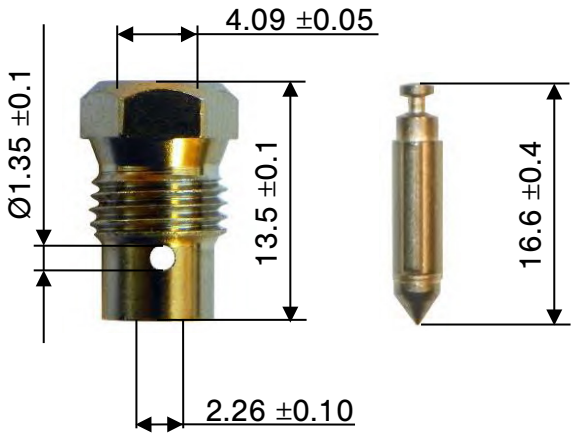
Thickness = 12.5 ±0.15 mm

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



Thickness = 0.81 ±0.1 mm

REF.27 - P. N° 233-721P
SEAT + NEEDLE



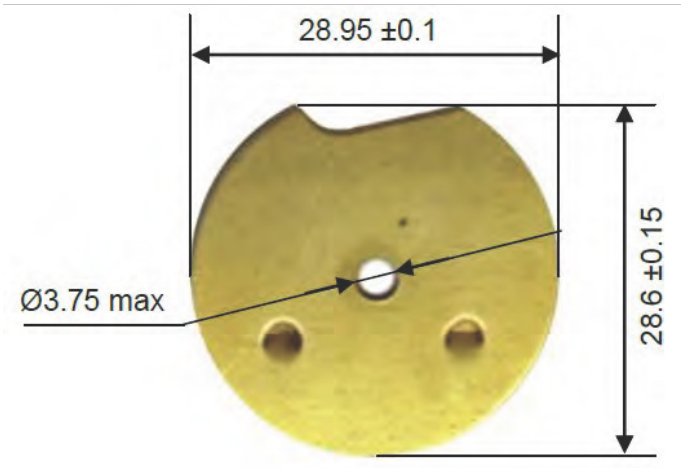
REF.21A - P. N° 43-1029
NEEDLE LOW SPEED

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

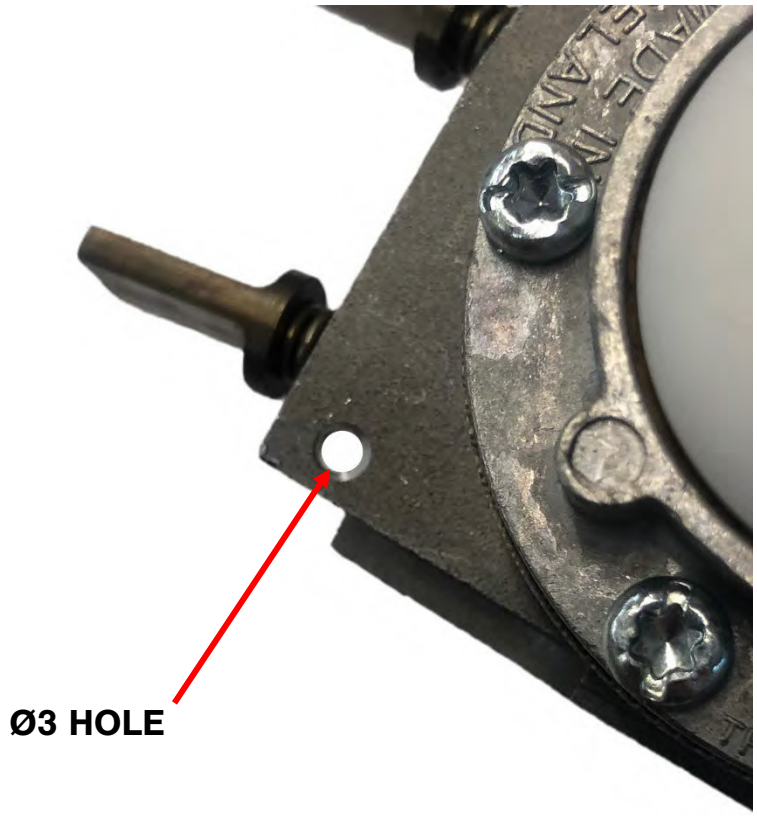


Thickness = 0.81 ±0.1 mm

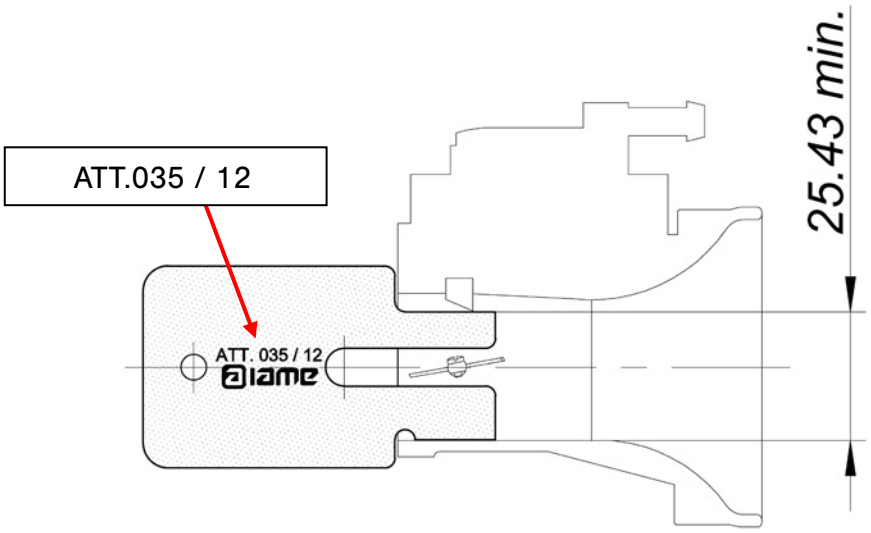
REF.27 - P. N° 233-721P

HOLE FOR CARBURETTOR SEALING

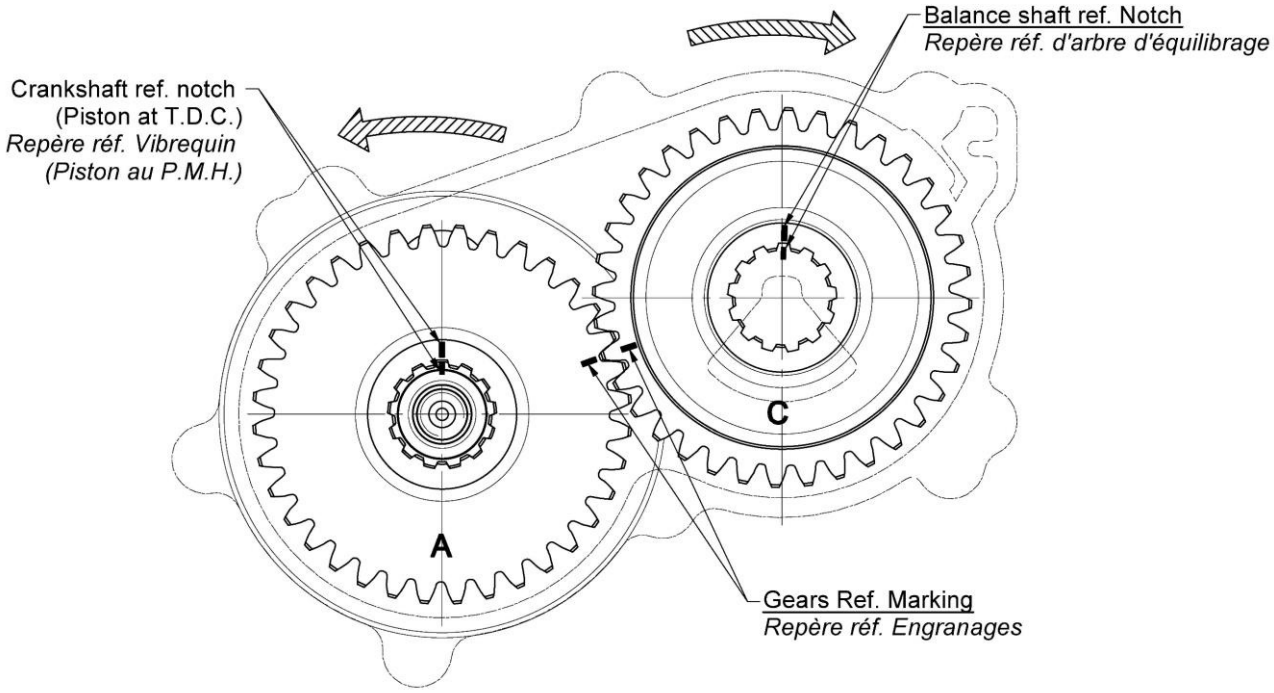
The carburettor can have this hole for sealing.



ATOMIZER - HEIGHT LIMITS AND CHECKING TOOL



X30 BALANCE SHAFT GEARS – ASSEMBLY DIAGRAM with piston at T.D.C.
ENGRENAGES DE L'ARBRE D'ÉQUILIBRAGE X30 – SCHEMA DE MONTAGE avec piston au Point Mort Haut



1. FUEL
1.1 The oil mixture ratio shall be 4% in Sweden, 4% to 6% in Norway.
1.2 It`s forbidden to add any liquid and/or power-boosting chemicals in the fuel

2. WEIGHT – This point is overruled by changes in the regulation from SBF, NBF or IAME Nordic Cup.
2.1 X30 Junior: Sweden(SBF) 150kg(24mm exhaust restrictor), Norway(NBF) 152kg(24mm exhaust restrictor) and IAME Nordic Cup(NBF/XPromotion) 145kg(22,7mm exhaust restrictor)
2.2 X30 Senior: 162 Kg
2.2 X30 Master: 175 Kg (From the calendar year you turn 30years old)

3. INSPECTIONS
3.1 The technical stewards have the right to inspect any part to the point that it can no longer be employed. Inspected parts resulting as regular will be replaced to the driver at no cost. Any part resulting irregular will not be refunded.
3.2 In any moment, the technical officials have the right to replace any part, any accessory or even the entire engine.
3.3 The Promoter, while guaranteeing the perfect efficiency and operation of the supplied material, will in no case be held liable for any malfunction occurring as a result of the replacement.
3.4 The technical forms are the main comparison reference for Scrutineers.
3.5 In case of doubts on the engine parts conformity, the comparison with the sample engine will be the definitive probating element.
3.6 In case of extremely controversial events during engines scrutineering, the Scrutineers can decree the delivery of the concerned part, duly sealed, to IAME S.p.A. for an accurate inspection at the factory at the presence of representatives of the Entrant and the Sporting Authority (ASN).
3.7 Controls can be carried on the engines, in race conditions, at any time of the Event

4. ENGINE IAME X30 125cc
4.1 Any modification to the engine and its accessories is strictly prohibited, unless expressly authorized.
4.2 IAME considers as modifications any action modifying the initial appearance and dimensions of an original part. Any modification and/or installation resulting in the modification of a dimension and/or its possibility of control is strictly prohibited. Polishing, sanding, trimming or machining are prohibited.
4.3 Any heat treatment or additional surface treatment is prohibited. The competitor is responsible for the conformity of his own equipment.
4.4 Only the IAME X30 125cc, original and strictly in accordance with the manufacturer's technical form (Technical characteristics, dimensions, weights, diagrams with the tolerances prescribed by the manufacturer) is allowed.
4.5 The pictures on the original engine tech form are also valid to identify the engine and the parts.
4.6 The engines must be provided with their original serial number.
4.7 No modification, improvement, polishing, addition or removal of material from any part of the engine is allowed
4.8 Each internal or external part of the engine must be mounted in its original position and function according to the original design specifications.
4.9 The machining, assembly and adjustment tolerances indicated on the engine tech form refer exclusively to the manufacturing tolerances.
4.10 The competitor is absolutely not authorised to intervene on the engine, even if, after his intervention, the characteristic dimensions remain within the prescribed tolerances.

4.11 Any tuning is prohibited. The maximum and minimum values allowed and the volume of the combustion chamber must be measured in accordance with the technical regulations of the CIK/FIA Karting.
4.12 Diagrams and volume chart: see the engine tech form
4.13 All the gauges described in the engine homologation form are considered as valid means and certified by the Manufacturer to check the conformity of the part for which they were designed.

5 CYLINDER HEAD
5.1 The cylinder head must be strictly original.
5.2 Only the thread repair by means of a Helicoil M14 x1,25 of the same length as the original thread is authorised. The spark plug clamped to the cylinder head should not protrude above the top of the combustion chamber dome.
5.3 The squish (distance between the piston and the cylinder head) must comply, in all respects, with the engine tech form.
5.4 The Squish measurement will be carried out with a Ø 1.5mm tin/lead wire.
5.5 The original IAME template ATT-025/1 is the reference for checking the conformity of the cylinder head profile. The shape of the gauge should match the profile of the dome, the squish area and the joint plane.
5.6 The CIK insert tightened on the cylinder head must not protrude from the upper part of the combustion chamber dome.

6. CYLINDER
6.1 Strictly original and supplied with the original safety pin and IAME markings.
6.2 Polishing, sanding, deburring or adjustments are prohibited.
6.3 Only reboring is allowed. In case of doubt, the shape and the height of the ports will be compared to the cylinder of the sample engine.
6.4 No heat treatment or additional surface treatment is allowed.
6.5 Adjustment of the diagram is permitted only by means of cylinder gasket replacement.
6.6 The number and thickness of cylinder gaskets is not limited. Only original gaskets are allowed.
6.7 No cylinder head gasket is permitted.
6.8 The original IAME gauge n. ATT-025/2 is the reference for measuring the height of cylinder ports.
6.9 The original IAME gauge n. ATT-035/1 is the reference for carrying out a visual inspection of all the ports
6.10 Only straight water connection on the bottom of the cylinder can be replaced by an elbow connection.

7. CRANKCASE - CRANKSHAFT - CONNECTING ROD - CRANK PIN
7.1 Strictly original and without any modification.
7.2 The original IAME ATT-035/3 template is the reference for checking the gasket plane of the reed valve block. 7.3 The original IAME ATT-035/4 template is the reference for checking the centre distance of the cylinder indexing pins.
7.4 The original IAME ATT-035/5 template is the reference for checking the height of the crankcase base plane.
7.5 Only original connecting rod roller cages (X30125431), connecting rod small end roller cages (E-10440/E-10441) and washers (X30125436/X30125437) are authorised.
7.6 Crankcase/crankshaft oil seals must be installed correctly with the hollow side inboard of the crankcase and not filled with any material. Under no circumstances can they be modified.

8. BEARINGS
8.1 Only crankshaft bearings 6206 set C4 and SKF roller bearings BC1-3342 B are authorised. It is forbidden to mix ball bearings and roller bearings on the same motor. Only balance shaft bearings 6202 C3/C4/C4H and 6005 C3/C4 with steel ball bearings and polyamide cage are authorised.
8.2 Bearings with oblique contact prohibited.
8.3 Ceramic balls prohibited.
8.4 The bearings must be mounted with balls visible from the inside of the crankcase.
8.5 All bearings that do not have the correct and clearly visible reference number, as described in these regulations, are expressly prohibited.
8.6 The use of spacers behind the bearings is allowed, in order to obtain the correct axial play.
8.7 All the internal parts of the engine must be the original manufacturer's, the same number as the assembly of the factory and mounted in the same direction.

9. PISTON – PISTON RING – PISTON PIN

9.1 Strictly original without any modifications and in compliance with the technical form of the engine. 9.2 The original IAME ATT-035/2 template is the reference for checking the shape of the piston dome.
9.3 Other tan carbon deposit, naturally created by the combustion of mixture oil, no other material can be inserted between the piston and the piston ring. This includes any solid material and any kind of glue or grease.

10. REED VALVE

10.1 Strictly original without any modification.
10.2 No machining of gasket planes is authorised.
10.3 Original reed valve cover without modification.
10.4 The thickness of the reed valve/housing gasket is 1mm (allowed tolerance +/- 0.3mm).
10.5 The thickness of the conveyor/housing gasket is 0.8 mm (allowed tolerance +/- 0.3 mm).

11 REED PETALS

11.1 Fibreglass petals (minimum thickness 0.30mm), marked and IAME original authorised
11.2 Carbon fibre petals are prohibited. Even if it's original IAME X30.
11.3 Prohibition to modify the original shape

12 CARBURETTOR

12.1 Only the Tillotson HW-27A carburettor supplied with the engine in its original configuration (same brand, same model, same reference) is permitted.
12.2 Only the accessories supplied with the original carburettor and shown on the carburettor data sheet are authorised.
12.3 The spring and the fork are free.
12.4 The mounting of the carburettor is free. (Pump up or down)
12.5 The thickness of the carburettor gasket is 1 mm (Admitted tolerance +/- 0.3mm).
12.6 The original IAME template ATT-035/2 is the only reference to check the shape of the carburettor inlet duct. The shape of the duct must correspond in all respects and over its entire length to the profile of the template.

13 INLET SILENCER

13.1 The inlet silencer (ref. X30125740) must be identical to the original one supplied with the engine (same brand, same model, same reference) with intake tubes of 23mm maximum diameter.
13.2 Protective grilles are optional.
13.3 The rubber sleeve with air filter connecting the inlet silencer to the carburettor is mandatory, it must be installed and comply with the homologation form.
13.4 Any injection and/or spray system is prohibited.
13.5 In the event of rain, only the inlet silencer protection device reference SKE005-PN-IAME is authorised. Do not need IAME logo for 2025. IAME logo mandatory from 2026.

14. CLUTCH

14.1 The centrifugal clutch must engage at 4,000 rpm maximum and begin to move the kart with the Driver in racing conditions.
14.2 The clutch should be fully engaged at 6,000 rpm maximum in any condition, this measurement can be checked with the appropriate hardware if necessary.
14.3 Each Driver will be responsible for the state of wear and cleanliness of the clutch and the friction parts (Friction material and bell).
14.4 The proper functioning of the clutch can be checked at any time during the event, and even after each phase. The original IAME ATT-047/4 gauge is the reference for checking the clutch drum. In the event of a pre-grid check, any Driver who does not comply with the prescribed value will be prevented from starting. In the event of a check on arrival, any Driver who does not comply with the prescribed value will be subject to a report of technical non-compliance.
14.5 The tool must not enter the clutch housing in a perpendicular position with respect to the axis of the clutch housing.
14.6 No substance should be on the running surface of the clutch.

15. IGNITION
15.1 Only the original ignitions, Selettra Digital "K" or Selettra Digital "S" are authorised, without any modification.
15.2 The Scrutineers may request the replacement of the entire ignition system or part at any time during the meeting.
15.3 The organiser cannot be held responsible for any possible breakdown occurring after the replacement.
15.4 Only the electronic box/coil the type "C" (16000 rpm) are authorised and must be fixed to the frame or to the engine.
15.5 The markings on the electronic box/coil are mandatory and must be clearly visible without dismantling the electronic box/coil. Covering them with adhesive tape is prohibited.
15.6 Modifications to the stator mounting, shape and thickness of the rotor key, rotor keyways and crankshaft are prohibited.
15.7 The original IAME ATT-035/7 gauge is the reference to check the correct position of the phase reference marking on the rotor.
15.8 The battery must be secured to the frame and connected to the wiring harness.
15.9 The IAME Battery box should be fixed to the left-hand side of the chassis with the battery in it connected to the wiring harness.
15.10 Both wires should be attached to the battery and attached to all other components to start the engine.

16. SPARK PLUG
16.1 Only NGK BR9EG - BR9EIX - BR10EG - BR10EIX - R6252K-105 - R6254E-105 spark plugs are authorised, strictly original and without any modification.
16.2 The spark plug must be fitted with its original gasket.
16.3 The porcelain insulator must not protrude from the spark plug base and the length of the spark plug base (gasket included) must be 18.5 mm. maximum (Appendix 7 of the CIK technical regulations).
16.4 The only authorised spark plug caps are NGK-TB05EMA / PVL 401 222 / Selettra 6000721001 5KOhm, (IAME ref. 10544).

17 EXHAUST PLANT
17.1 Only the original muffler and exhaust manifold delivered with the engine are authorised, strictly original and compliant with the tech form. No modification of structure or dimensions is authorised. 17.2 Drilling and welding operations on the muffler are only authorised for the installation of a temperature probe.
17.3 The complete sealing of the exhaust gases between the cylinder and the exhaust manifold must be guaranteed at all times.
17.4 The exhaust gas sealing check can be carried out at any time by plugging the outlet of the exhaust pipe and filling it through the exhaust port with liquid in order to check the sealing.
17.5 The proper sealing of the exhaust system is the responsibility of the Driver.
17.6 A minimum of one original gasket between the cylinder and the exhaust manifold is permitted. 17.7 The use of the original IAME X30125375 spacer (thickness 3 mm +/- 0.5) for adjusting the exhaust length is authorised.
17.8 X30 Junior: The use of the original exhaust manifold with the restrictor as described in the tech form is compulsory. No modifications allowed. Sweden(SBF) and Norway(NBF) 24mm. IAME Nordic Cup(NBF/XPromotion) 22,7mm
17.9 The use of the exhaust silencer(X30125723-K) is mandatory at all times in Norway(NBF). In Sweden(SBF) the exhaust silencer is optional.
17.10 Exhaust manifold reference template: ATT-035/9(22,7mm), ATT-035/18(24mm)

18 COOLING SYSTEM

18.1 The cooling system must be in its original configuration: a single IAME original radiator (T-8000B or T-8001).
18.2 A single IAME original water pump pulley (aluminium or black/blue plastic) is authorised and in compliance with the tech form form.
18.3 The number and shape of radiator supports is free. Non-original Supports is allowed. (Can change for 2027)
18.4 Only original IAME thermostat are authorised and their use is optional. The housing can also be installed without the thermostat capsule inside and function as a fitting for Water temp.
18.5 Only water without any other additives is allowed for cooling.
18.6 Radiator shields, adhesive or mechanical, are permitted but must not be removable while the kart is in motion.
18.7 Original blue and black water hoses supplied with the engine.
18.8 The type of water pump drive belt is free.
18.9 The use of the Original IAME pulley with the belts in position is mandatory.
18.10 The combination of plastic or aluminium water pumps with plastic or aluminium water pump pulleys is permitted.
18.11 All heaters or heater connection systems on the water circuit are strictly prohibited.

19 STARTER
19.1 The engine is fitted with an on-board electric starter.
19.2 The original on-board starting system must be installed with all its components, properly connected and in working properly.
19.3 If the on-board starter is not working, you are allowed to us an external starter, made for the purpose to start the engine. This is not mechanical work on the kart!

20 SPROCKETS
20.1 Only IAME original Z10 / Z11 / Z12 / Z13 sprockets are allowed
21 REGISTRATION OF ENGINE
21.1 All engine need to be registratet by SK Service AS or Octane Nordic AB. This is free of charge.