

X30 WATERSWIFT 60CC - TAG



FEATURES - CARACTERISTIQUES

Cylinder volume <i>Volume du cylindre</i>	59.17 cm ³ (60.00 cm ³ max)
Bore <i>Alésage</i>	41.81 mm
Max. theoretical bore <i>Alésage théorique max.</i>	42.10 mm
Stroke <i>Course</i>	43mm
Cooling system <i>Système de refroidissement</i>	Water <i>Eau</i>
Inlet system <i>Système d'admission</i>	Piston valve <i>Jupe de piston</i>
Number of carbs <i>Nombre de carburateurs</i>	1

Tillotson Carburettor
Carburateur Tillotson

HW-31A

Cylinder / crankcase transfers n°
N° de canaux cylindre / carter

2

Number of piston rings
Nombre de segments

1

Inlet / exhaust ports number
N° lumières admiss / échapp.

1 / 1

Big end conrod bearing diam.
Diamètre palier tête de bielle

18x24x15

Combustion chamber shape
Forme chambre de combustion

Spherical
Sphérique

Crankshaft ball-bearing diam.
Diamètre palier du vilebrequin

20x47x14

Selettra ignition (adjustable)
Allumage Selettra (réglable)

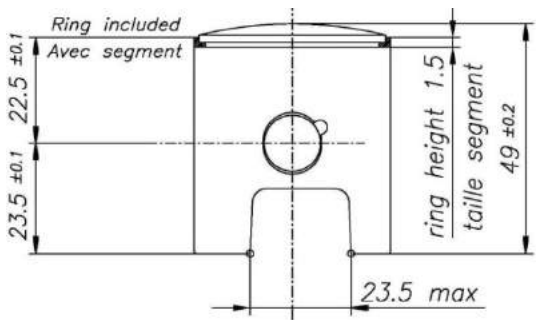
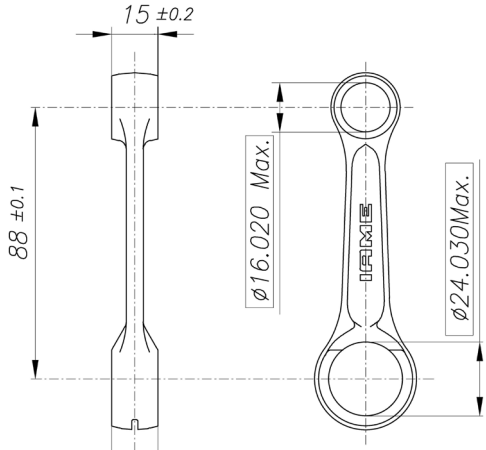
2 poles
2 pôles

Small end conr. bearing diam.
Diamètre palier pied de bielle

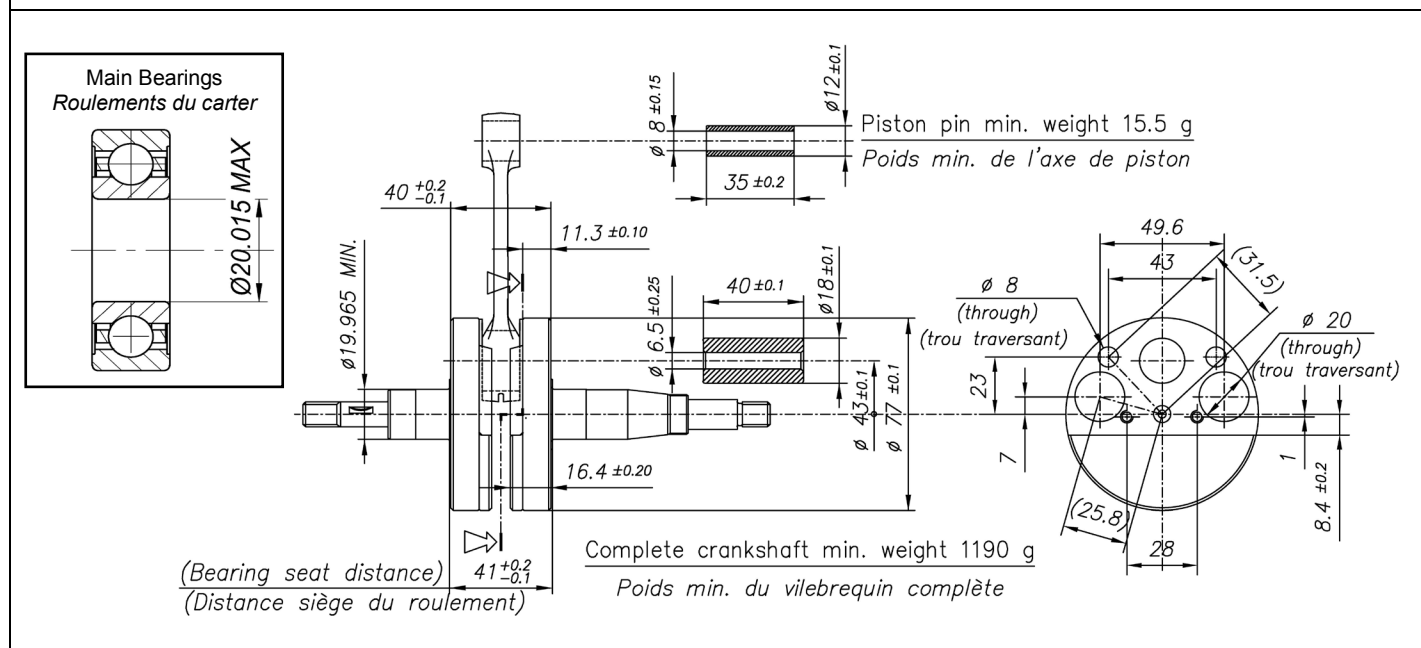
12x16x16

Distance between Conrod centres
Longueur (entre axe) de la bielle

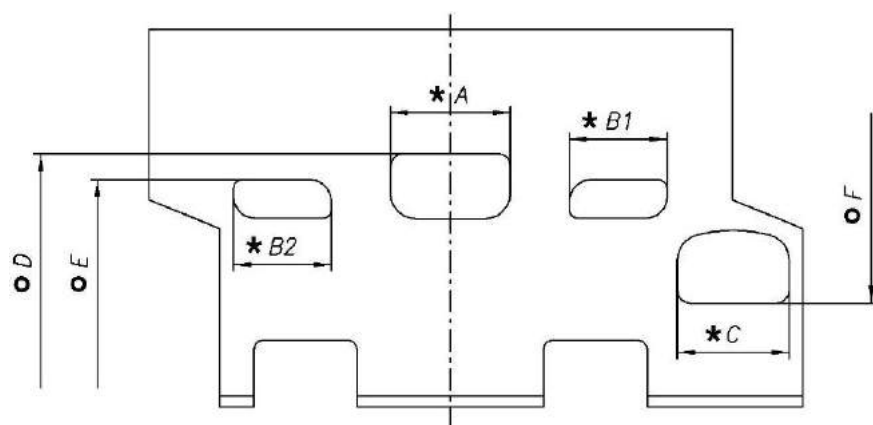
88 mm

DESCRIPTION OF THE MATERIAL DESCRIPTION DES MATERIAUX		PISTON
Conrod material <i>Matériel de la bielle</i>	Steel <i>Acier</i>	 Min. Weight Piston included ring = 60 g Poids Min. Piston avec segment = 60 g
Crankshaft material <i>Matériel du vilebrequin</i>	Steel <i>Acier</i>	
Head Material <i>Matériel de la culasse</i>	Aluminium	
Cylinder Material <i>Matériel du culindre</i>	Aluminium	
Liner material <i>Matériel de la chemise</i>	Cast Iron <i>Fonte</i>	DISTANCE BETWEEN CONROD CENTERS ENTRE AXE DE LA BIELLE
Crankcase material <i>Matériel du carter</i>	Aluminium	 Min. Weight 80 g Poids min.
Piston material <i>Matériel du piston</i>	Aluminium	
Piston rings material <i>Matériel des segments</i>	Cast Iron <i>Fonte</i>	
Exhaust muffler material <i>Matériel du pot d'échappment</i>	Sheet-steel <i>Tôle acier</i>	
Ball-bearings <i>Roulements</i>	6204 type	

CRANKSHAFT - VILEBREQUIN



CYLINDER DEVELOPMENT – DEVELOPPEMENT DU CYLINDRE



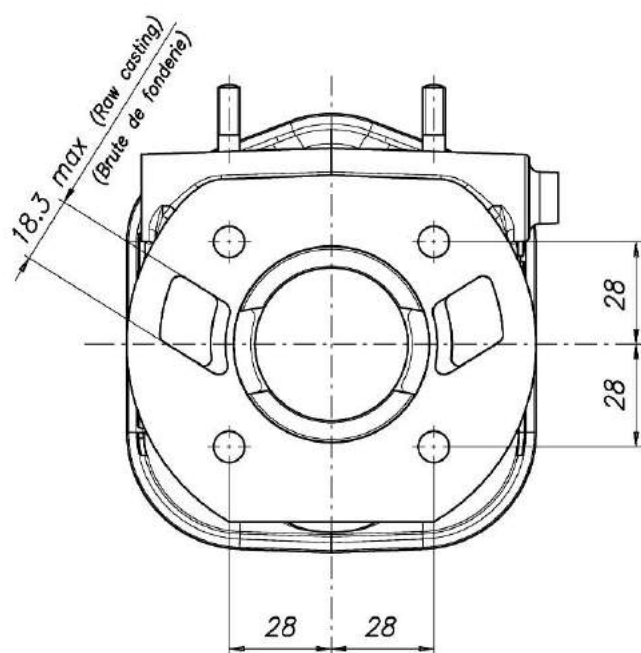
A	28±0.2 mm
B1 = B2	21.8±0.2 mm
C	26±0.2 mm
D	157° max
E	116° ±2°
F	145° max

CHORDAL READING – LECTURE CORDALE

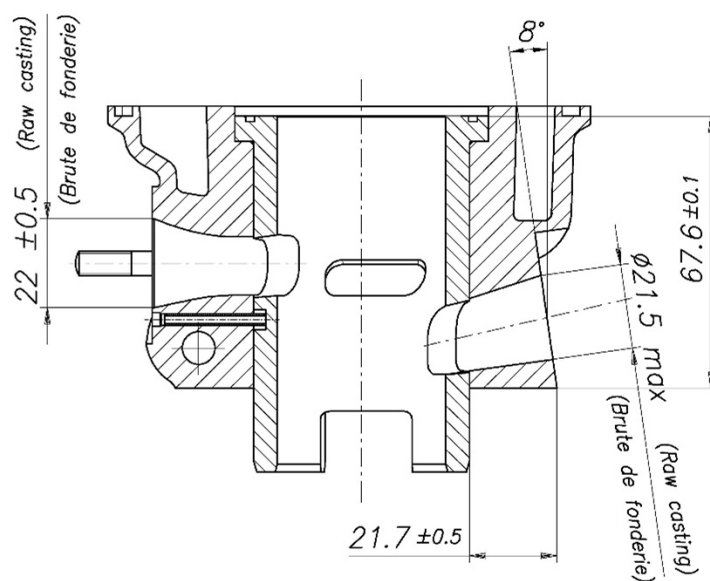
ANGULAR READING BY INSERT A 0.2 mm x 5 mm GAUGE –
LECTURE ANGULAIRE PAR INSERTION D'UNE CALE DE 0.2 mm x 5 mm

USING IAME TOOL Cod. 10194 – UTILISER OUTIL

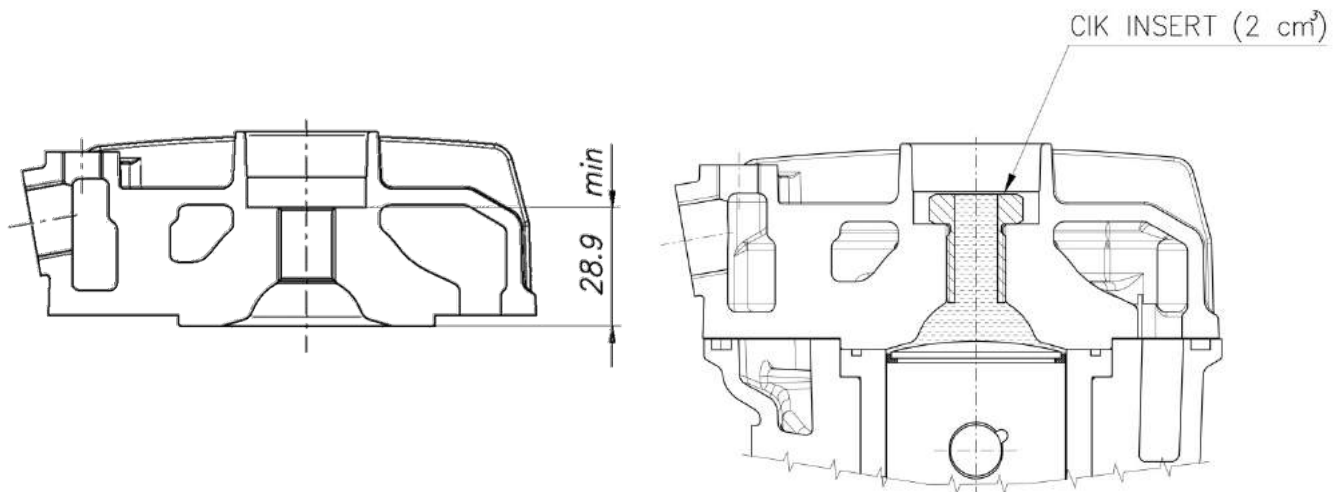
CYLINDER BASE VIEW VUE DE LA BASE DU CYLINDRE



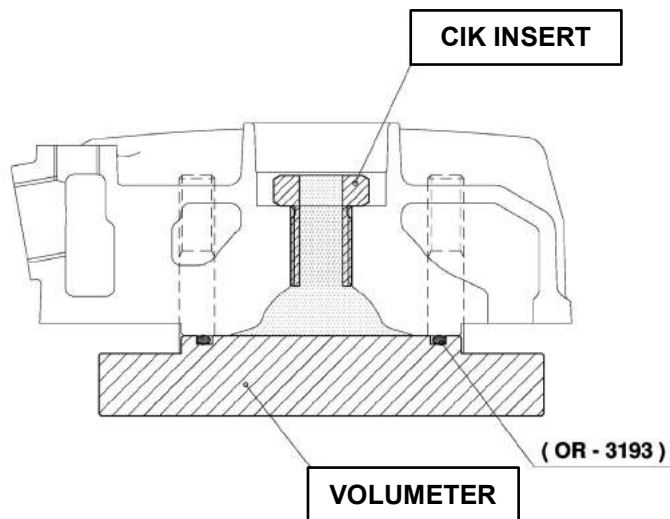
CYLINDER SECTION VIEW VUE EN SECTION DU CYLINDRE



COMBUSTION CHAMBER VIEW
VUE DE LA CHAMBRE DE COMBUSTION



COMBUSTION CHAMBER VOLUME = 6.5 cm³ min.
VOLUME CHAMBRE COMBUSTION

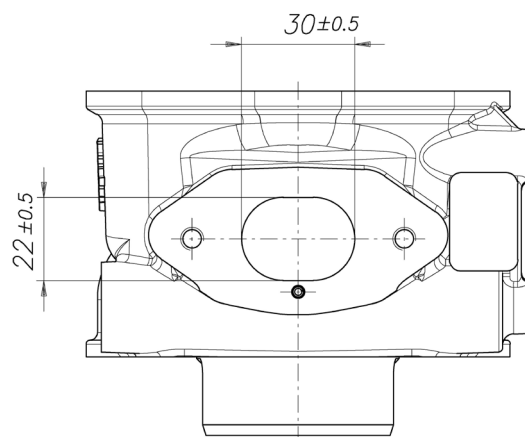


SQUISH MIN. = 0.75 mm

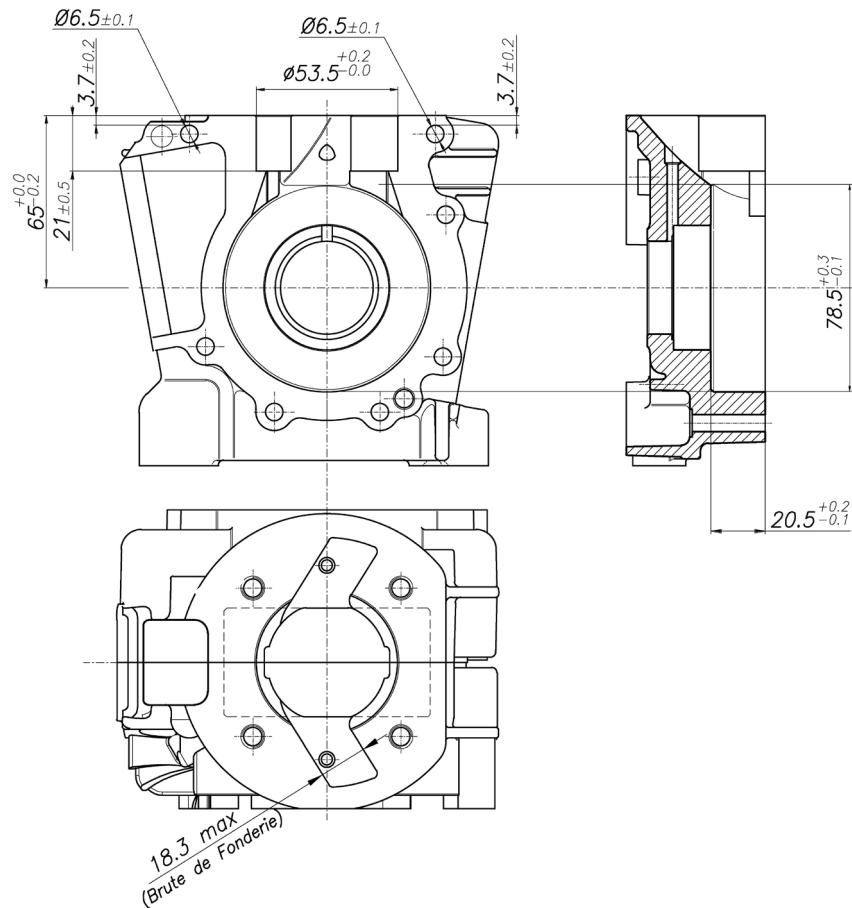
measured with Ø1.5mm TIN
mesurée avec de l'étain Ø1.5mm

MIN. TOT. VOLUME OF CHAMBER IN THE CYLINDER HEAD = 7.4 cm³
VOLUME MIN. CHAMBRE DE COMBUSTION DANS LA CULASSE

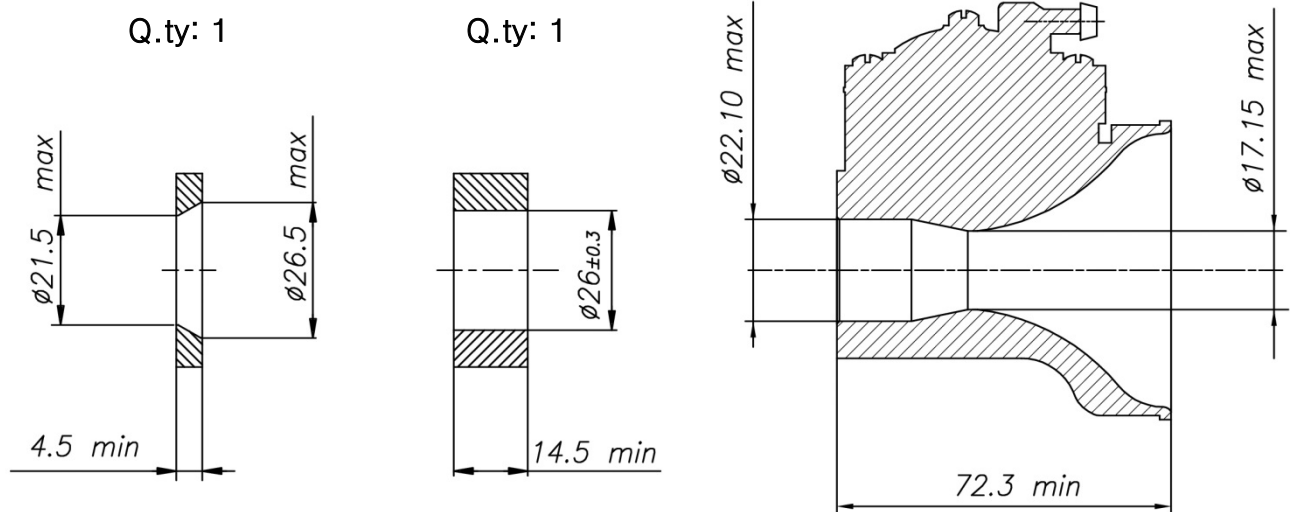
REAR VIEW AND DIMENSION
ARRIERE VUE ET DIMENSION



CRANKCASE INSIDE VIEW
VUE A' L'INTERIEUR DU CARTER

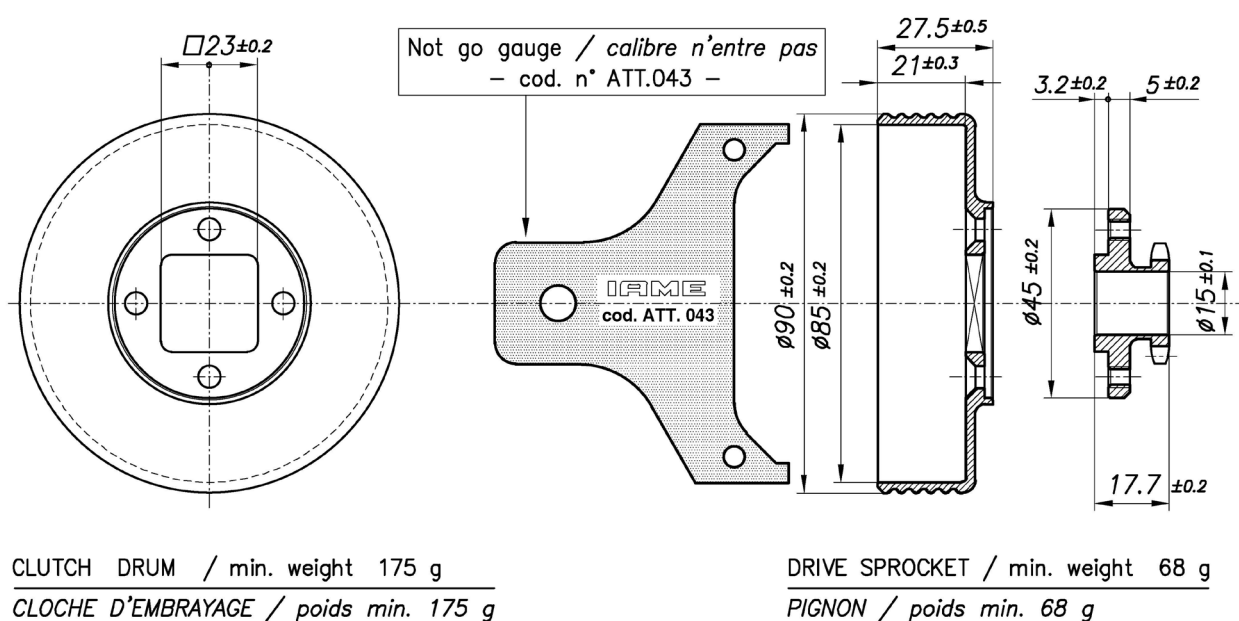
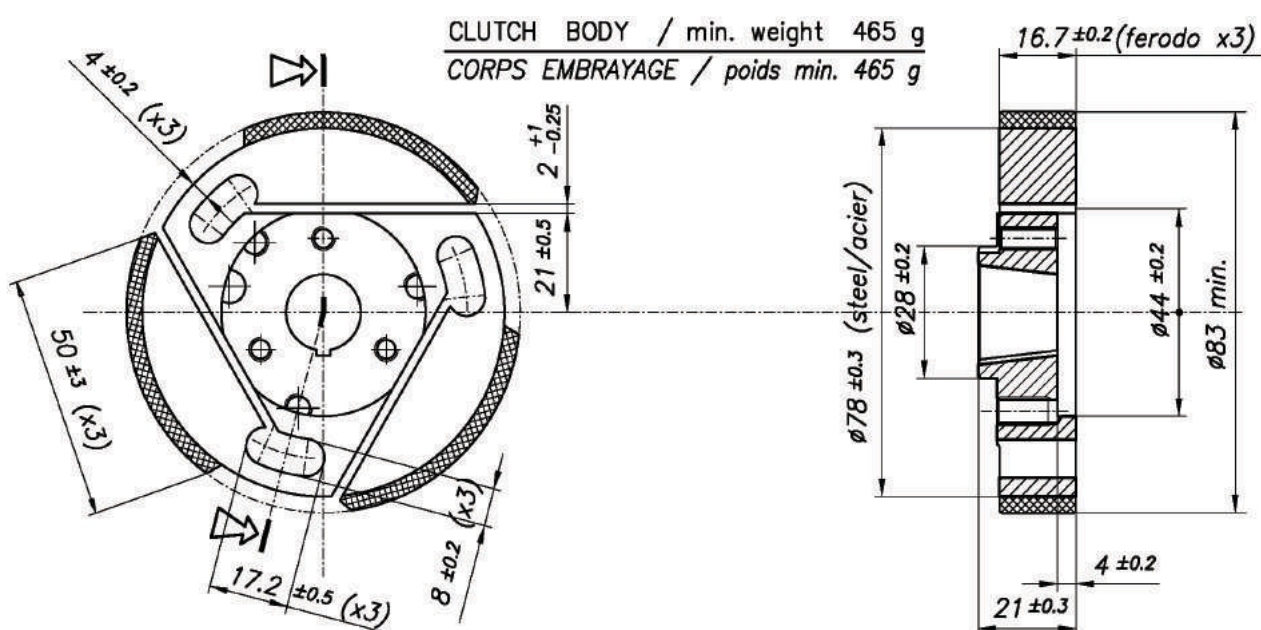
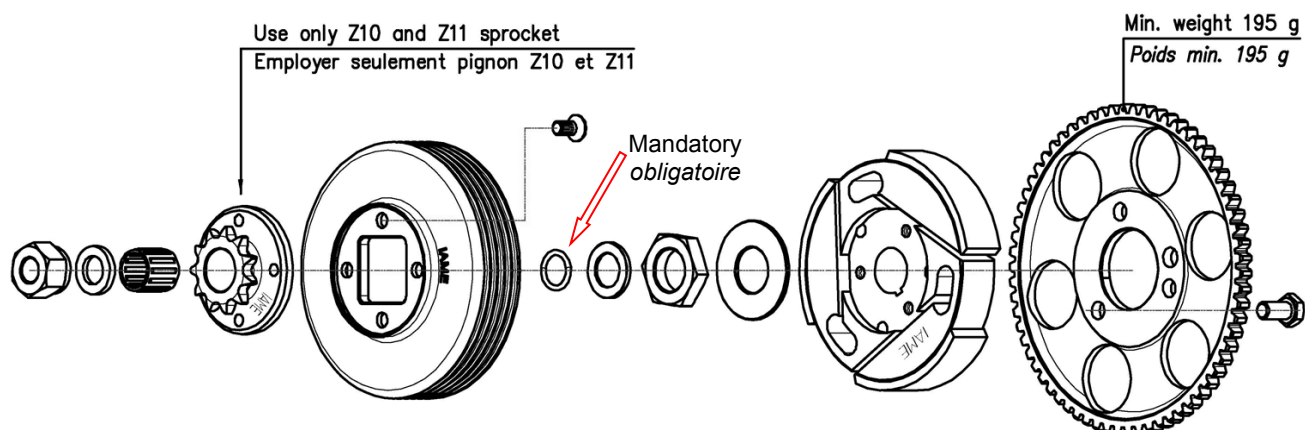


VENTURI CARB. DIMENSIONS and THERMAL SPACERS
CARBURATEUR ET SONS ENTRETOISES

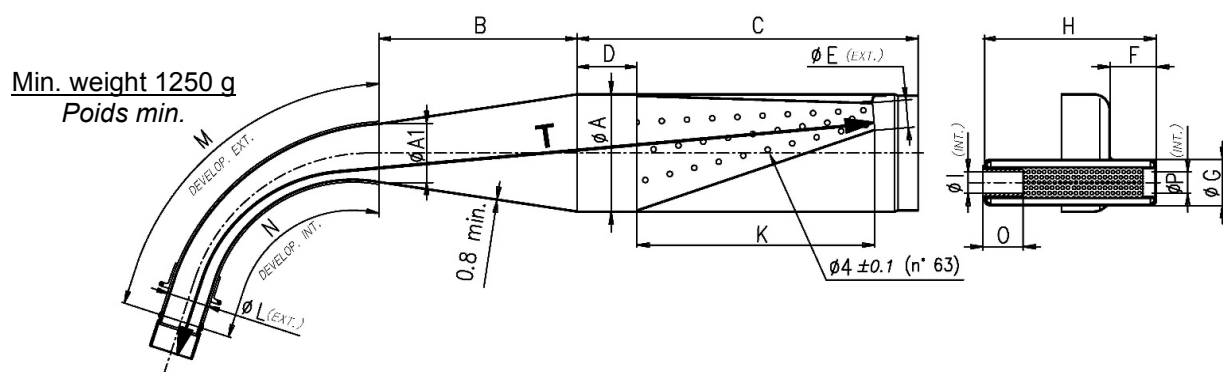


TILLOTSON MOD. HW-31A

DESCRIPTION OF THE CLUTCH – DESCRIPTION DE L'EMBRAYAGE

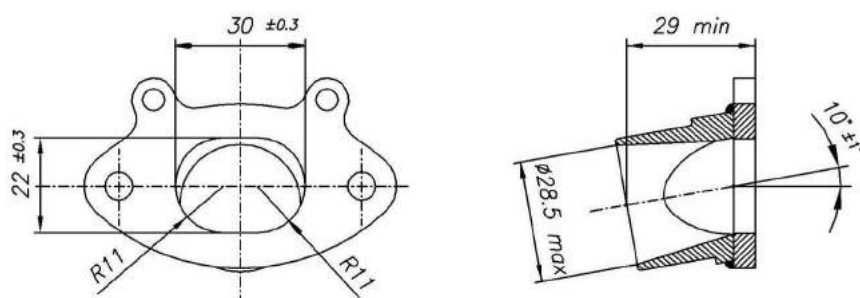


EXHAUST MUFFLER VIEW AND DIMENSIONS VUE ET DIMENSIONS DU SILENCIEUX D'ÉCHAPPEMENT

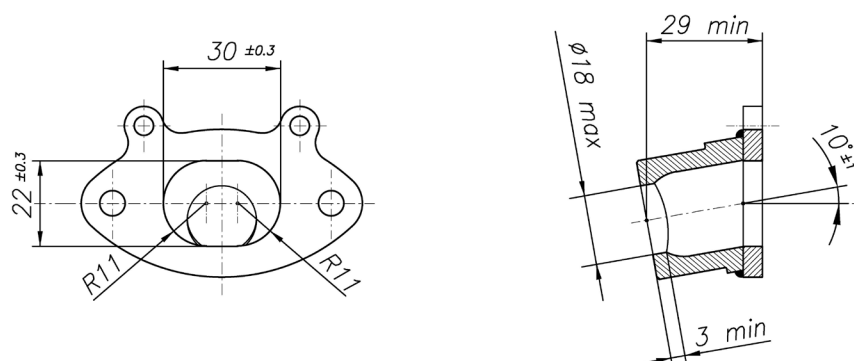
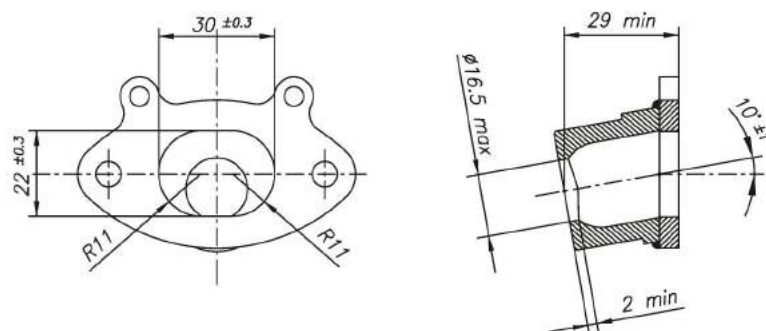


A: 90 ± 1.5	C: 260 ± 3	F: 35 ± 3	I: 17 Max.	M: 240 ± 3	P: 21 ± 1
A1: 45 ± 1	D: 47 ± 5	G: 35 ± 1	K: 181 ± 3	N: 190 ± 3	T: 600 ± 5
B: 150 ± 3	E: 20 ± 1	H: 132 ± 2	L: 31 ± 1.5	O: 30 Min.	

EXHAUST MANIFOLD RACCORD D'ÉCHAPPEMENT

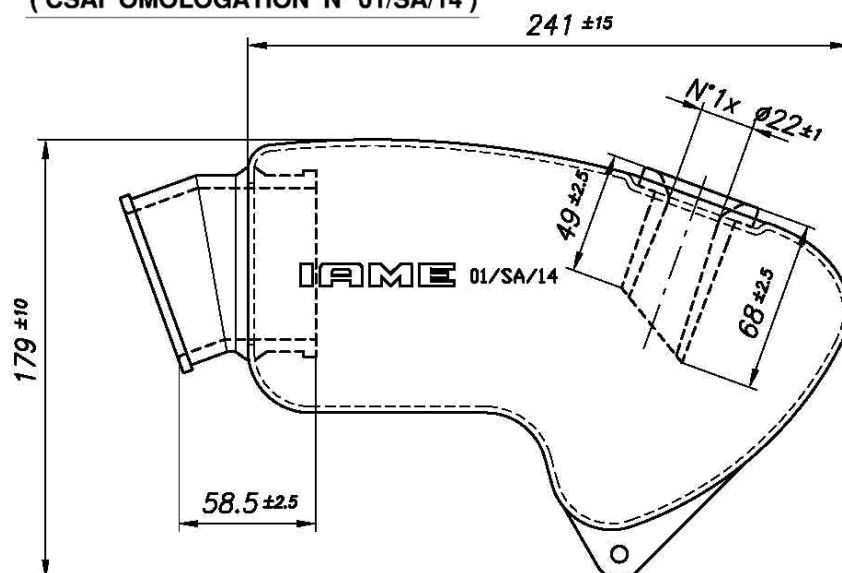
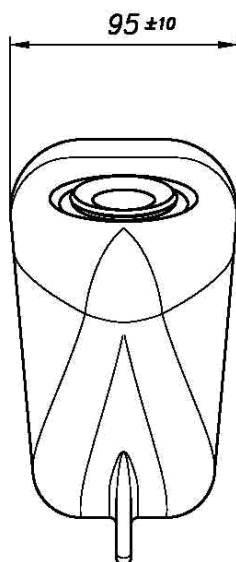


EXHAUST MANIFOLDS WITH RESTRICTED RACCORDS AVEC RECSTRICTEUR D'ÉCHAPPEMENT



INLET SILENCER – SILENCIEUX D'ASPIRATION

(CSAI OMOLOGATION N° 01/SA/14)



ALTERNATIVE
MANIFOLD WITH SPONGE FILTER
COLLECTEUR AVEC UNE EPONGE
FILTRE

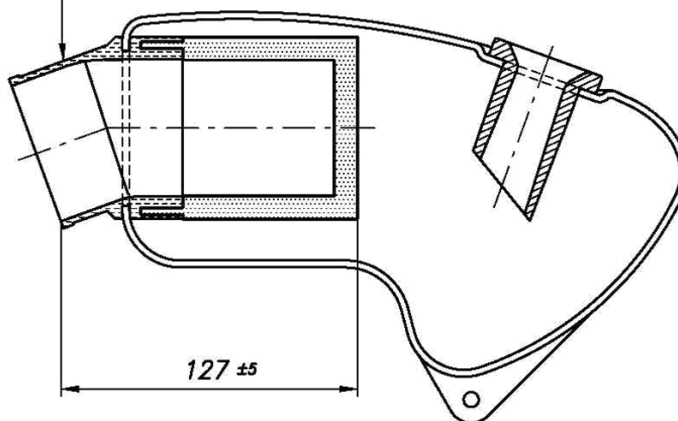
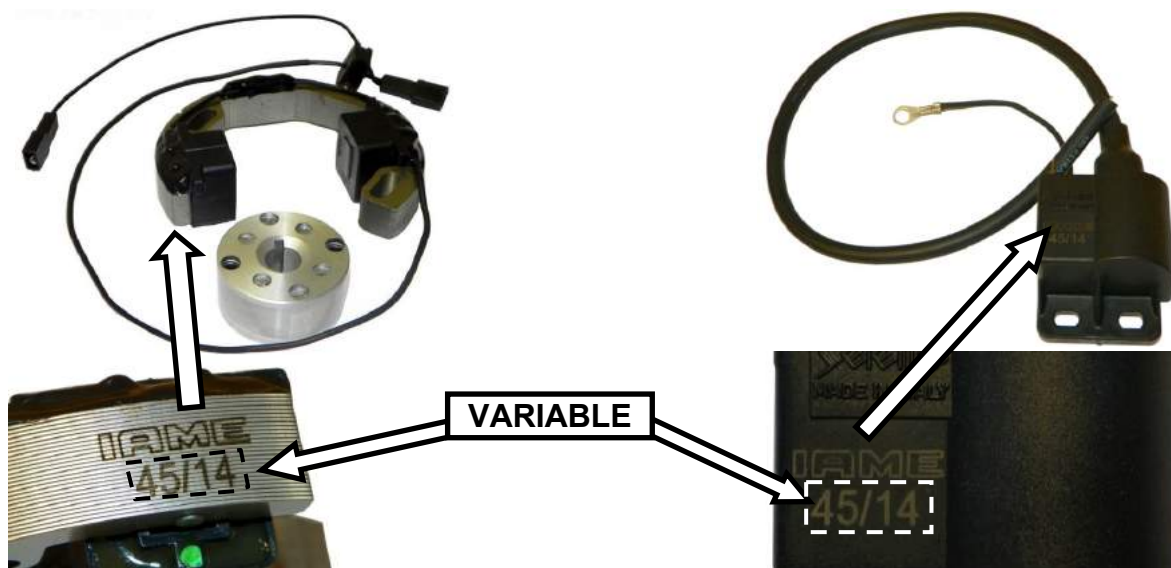
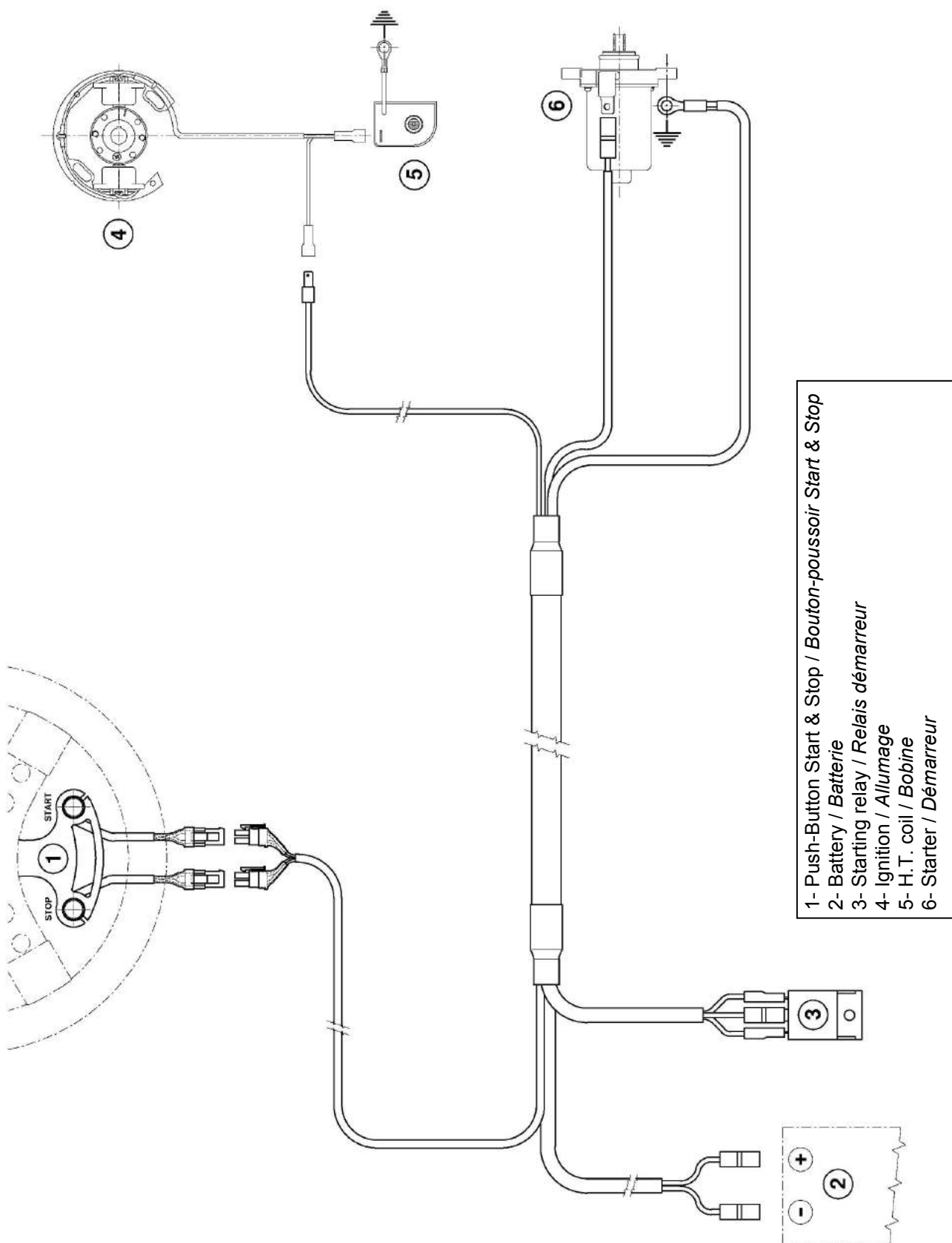


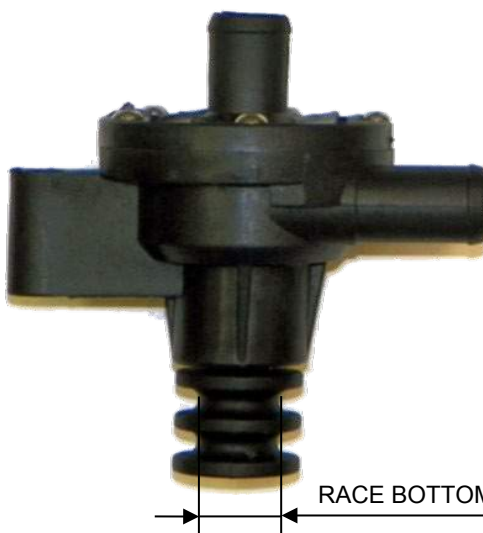
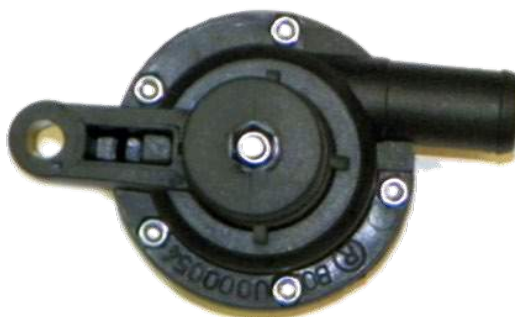
PHOTO IGNITION / PHOTO H.T. COIL (SELETTA ANALOGUE 2 POLES)
PHOTO ALLUMAGE / PHOTO BOBINE (SELETTA ANALOGIQUE 2 POLES)



WIRING DIAGRAM
SCHEMA CIRCUIT ELECTRIQUE



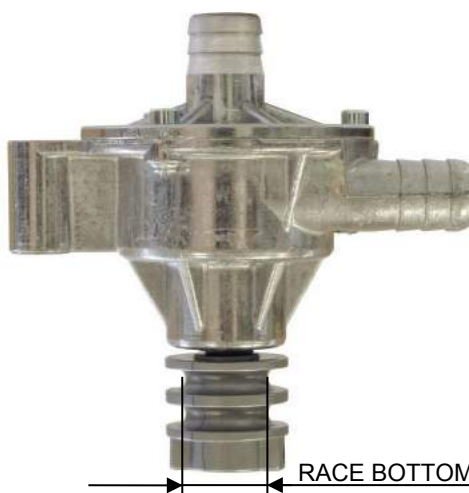
WATER PUMP ALTERNATIVES – ALTERNATIVES DU POMPE A' EAU



PLASTIC

RACE BOTTOM FOND GORGE $\varnothing 19 \pm 1$

ALTERNATIVE

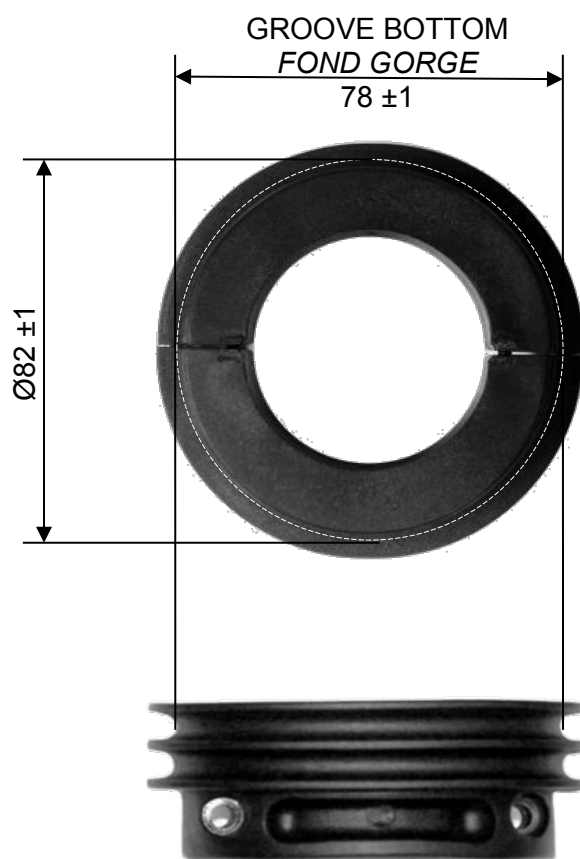


ALUMINUM

RACE BOTTOM - FOND GORGE $\varnothing 20 \pm 1$



PULLEY ALTERNATIVE – ALTERNATIVE DU POULIE



PLASTIC

ALTERNATIVE



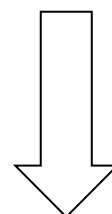
ALUMINUM

RADIATOR AND ITS SUPPORTS
RADIATEUR ET SES SUI TIEN

PAINTED AND NOT PAINTED / PEINT ET PAS PEINT



ALTERNATIVE RADIATOR
RADIATEUR ALTERNATIF



EXHAUST IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION ECHAPPEMENT



PHOTO IDENTIFICATION OF CONROD – TYPES ALTERNATIVE
PHOTO D' IDENTIFICATION DE LA BIELLE – TYPES ALTERNATIFS

TYPE 1

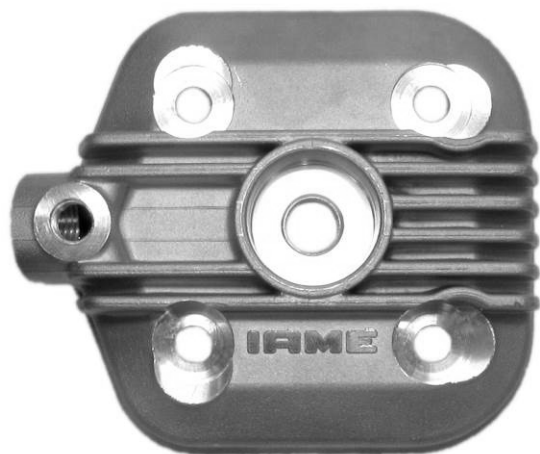


TYPE 2



PARTICULARS WITH ALTERNATIVE NEW LOGO "IAME"
PARTICULARITÉS AVEC NOUVEAU LOGO ALTERNATIF "IAME"

CYLINDER HEAD
CULASSE



NEW / NOUVEAU LOGO



CYLINDER
CILINDRE



NEW / NOUVEAU LOGO



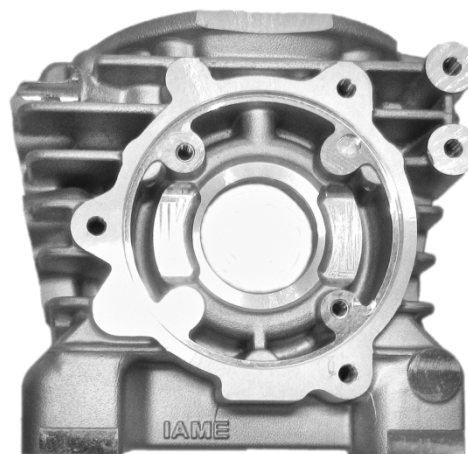
SEMICARTER TRANSMISSION SIDE
SEMICARTER CÔTÉ PIGNON



NEW / NOUVEAU LOGO



SEMICARTER IGNITION SIDE
SEMICARTER CÔTÉ ALLUMAGE



NEW / NOUVEAU LOGO



PARTICULARS WITH ALTERNATIVE NEW LOGO "IAME" PARTICULARITÉS AVEC NOUVEAU LOGO ALTERNATIF "IAME"	
IGNITION COVER COUVERCLE DU ALLUMAGE	CLUTCH COVER COUVERCLE D'EMBRAYAGE
 NEW / NOUVEAU LOGO 	 NEW / NOUVEAU LOGO 
INLET SILENCER SILENCIEUX D'ASPIRATION	EXHAUST ECHAPPEMENT
 NEW / NOUVEAU LOGO 	 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 MARQUAGE (LASER OU POINÇONNEUSE) AUJOURD'HUI AVEC LE LOGO OU ÉCRIT «IAME»

I A M E

or

IAME

NOW COULD BE MARKED WITH NEW LOGO "IAME"
MAINTENANT POURRAIT EST MARQUAGE AVEC UN NOUVEAU LOGO "IAME"

I a m e

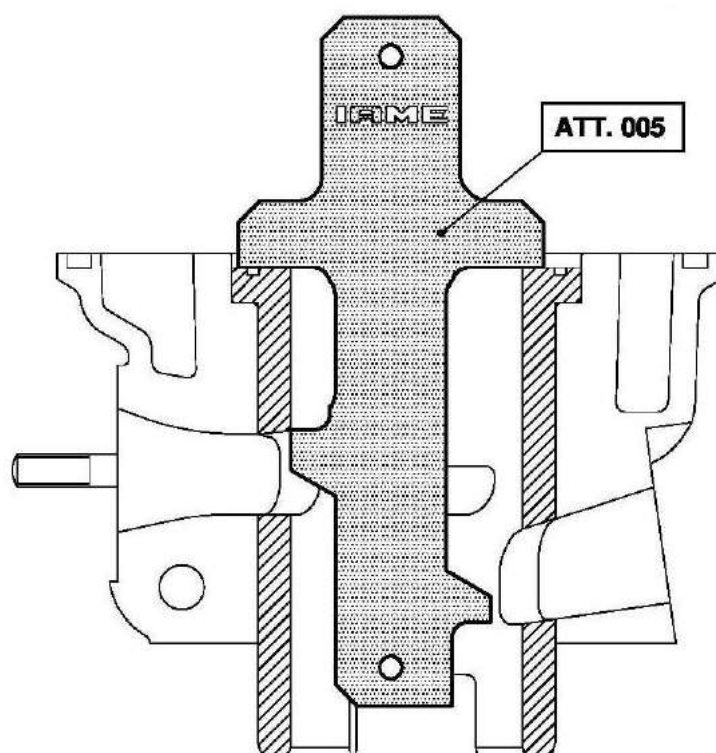
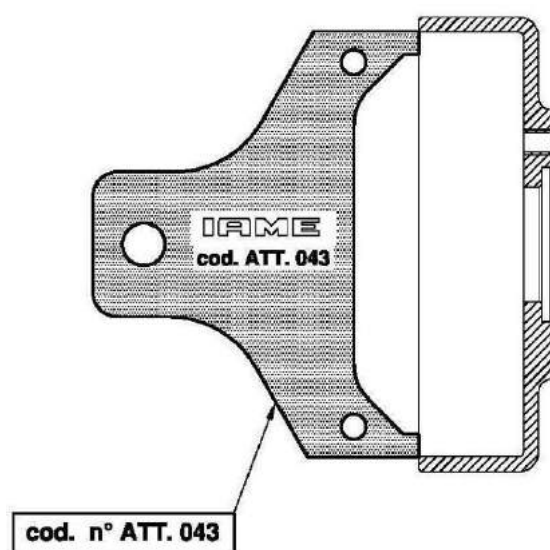
or

Q I a m e

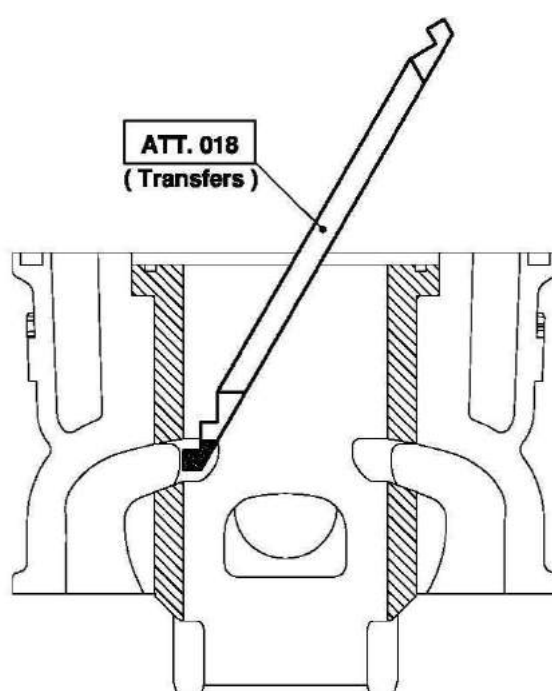
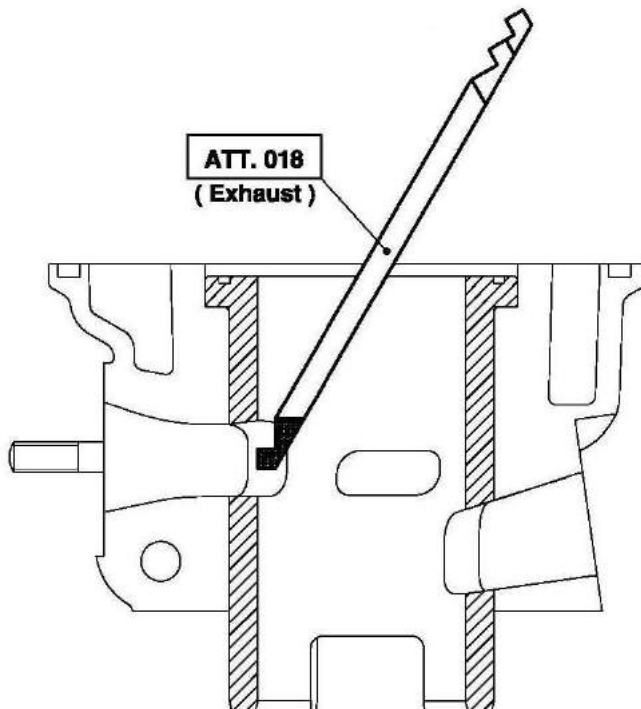
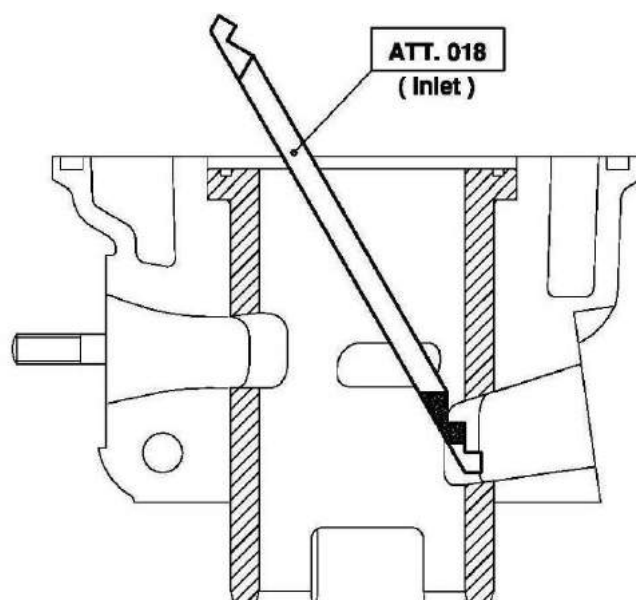
or



NO GO GAUGES
OUTILS N'ENTRE PAS DANS

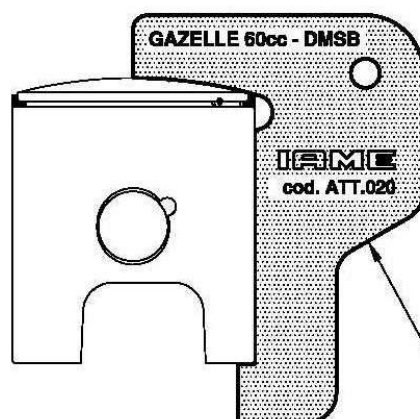
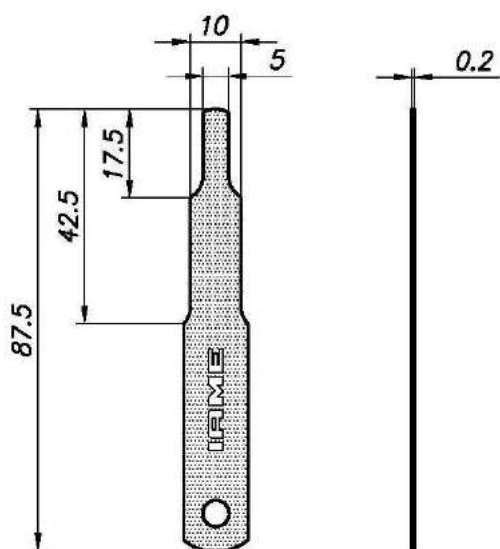


NO GO GAUGES
OUTILS N'ENTRE PAS DANS

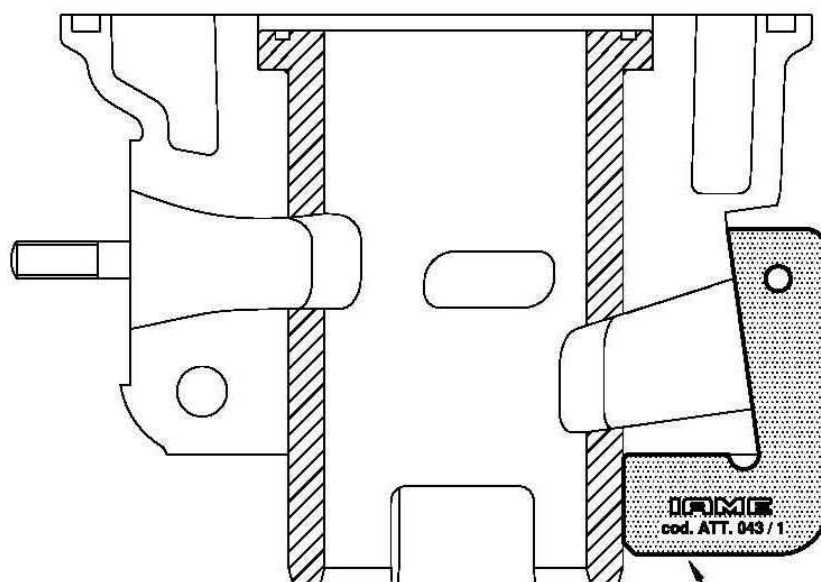


CONTROL GAUGES
OUTILS DE CONTROLL

TOOL IAME Cod. 10194

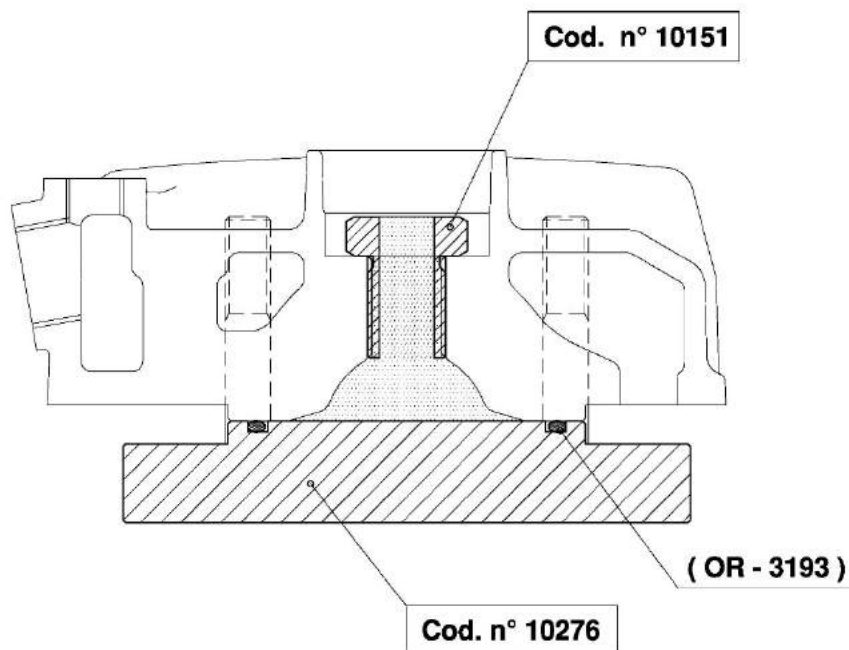
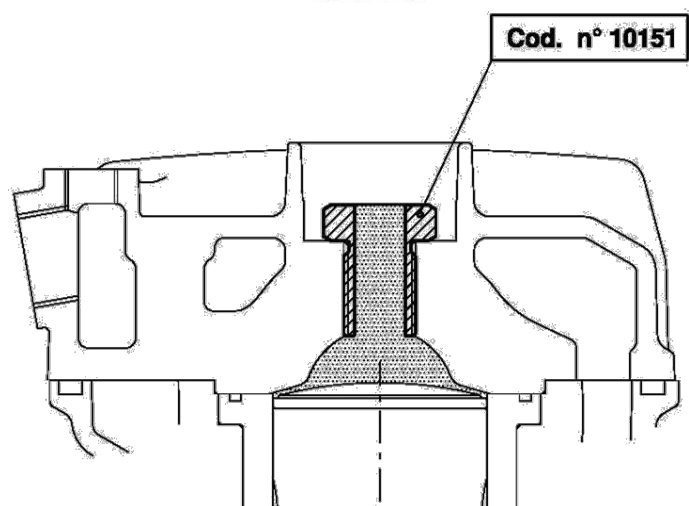
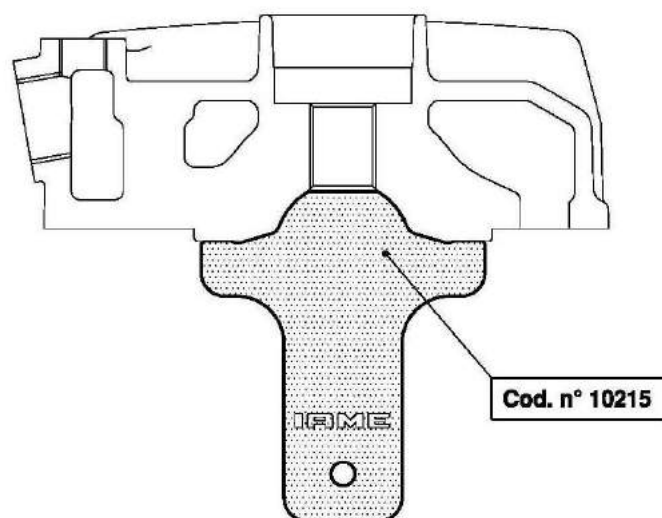


cod. n° ATT. 020

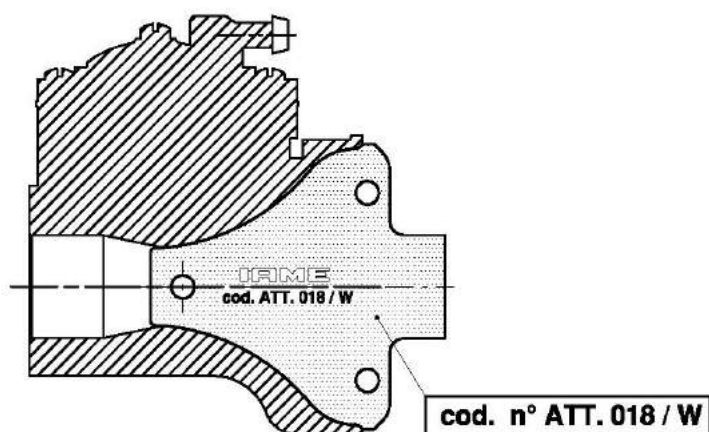


cod. n° ATT. 043 / 1

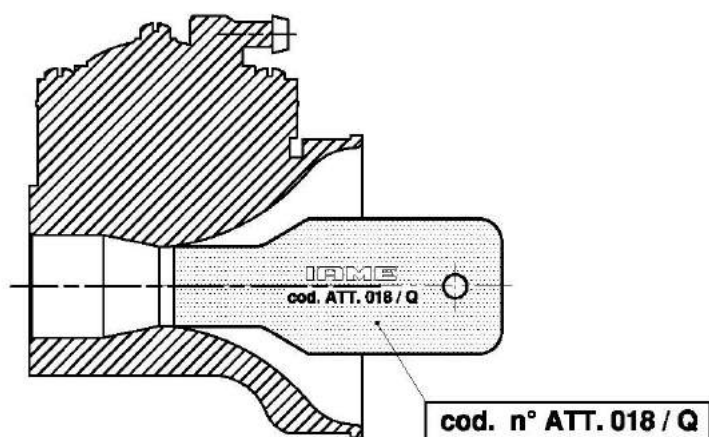
CONTROL GAUGES
OUTILS DE CONTROLL



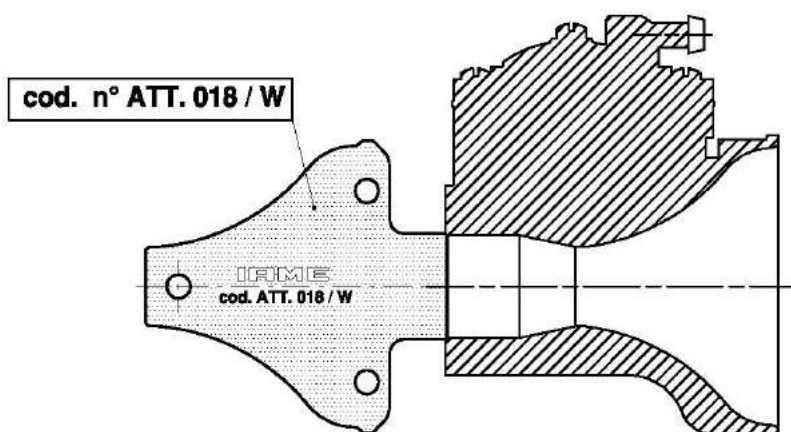
**CONTROL GAUGES
OUTILS DE CONTROLL**



Check that the tool must be the same shape of the inlet carburettor.
Vérifier que l'outil doit avoir la même forme que l'admission du carburateur.

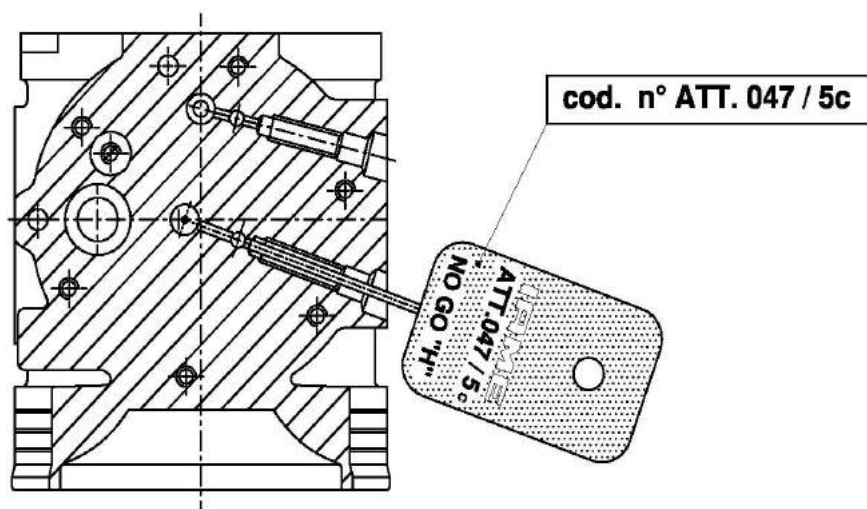
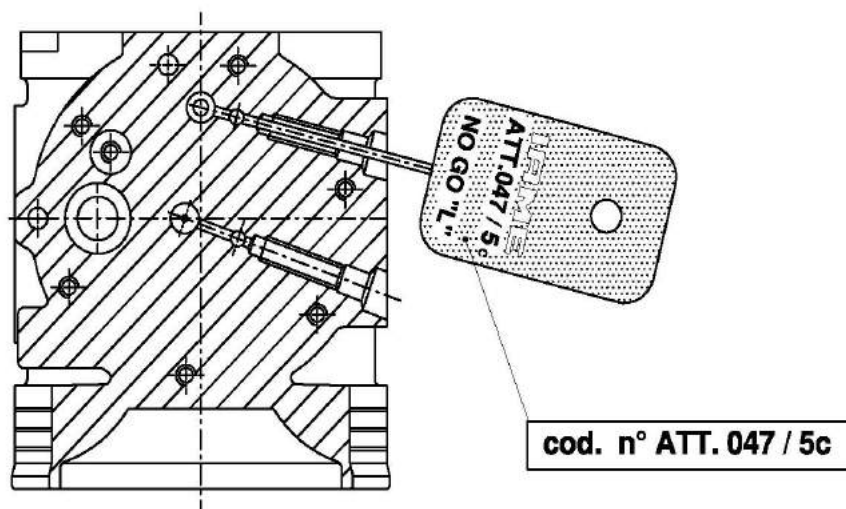


Check that the tool does not enter into the venturi duct inlet of carburettor.
Vérifier que l'outil n'entre pas dans l'entrée du conduit Venturi du carburateur.



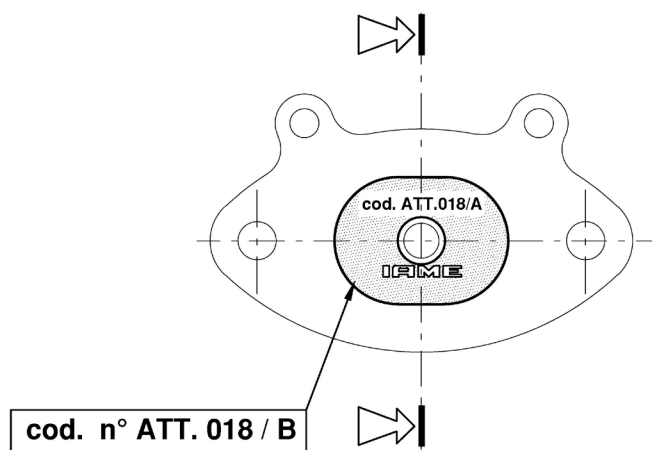
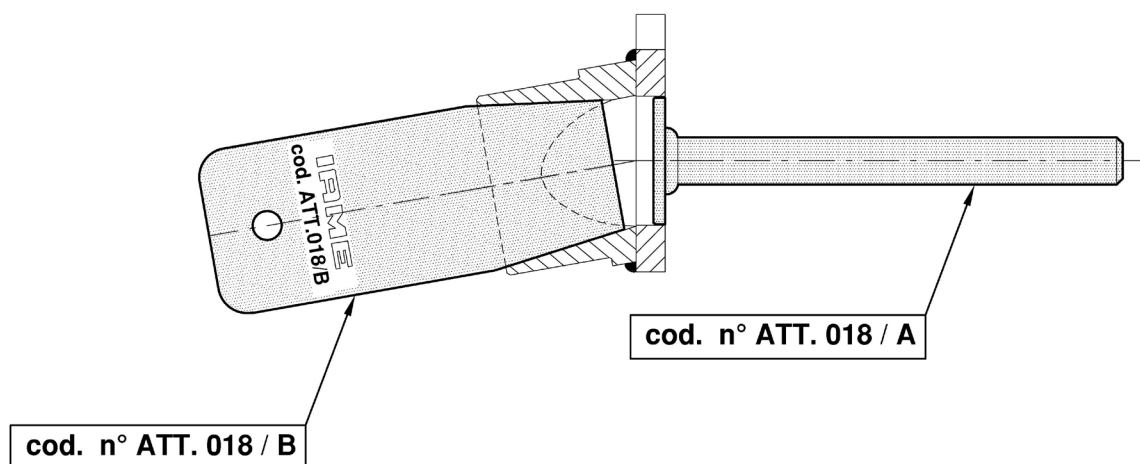
Check that the tool does not enter into the venturi duct outlet of carburettor.
Vérifier que l'outil n'entre pas dans la sortie du conduit Venturi du carburateur.

**CONTROL GAUGES
OUTILS DE CONTROL**

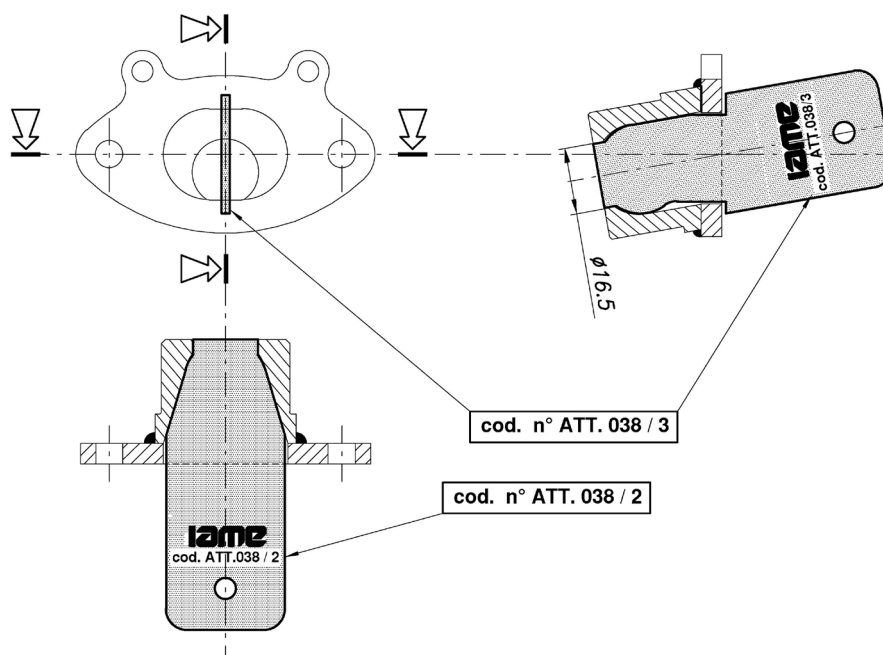


Check that the spikes does not enter into the holes.
Vérifiez que les pointes n'entrent pas dans les trous.

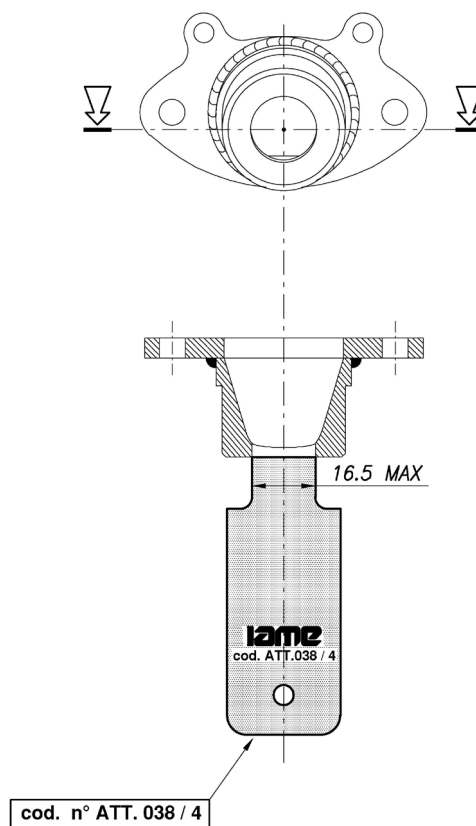
CONTROL GAUGES
OUTILS DE CONTROLL



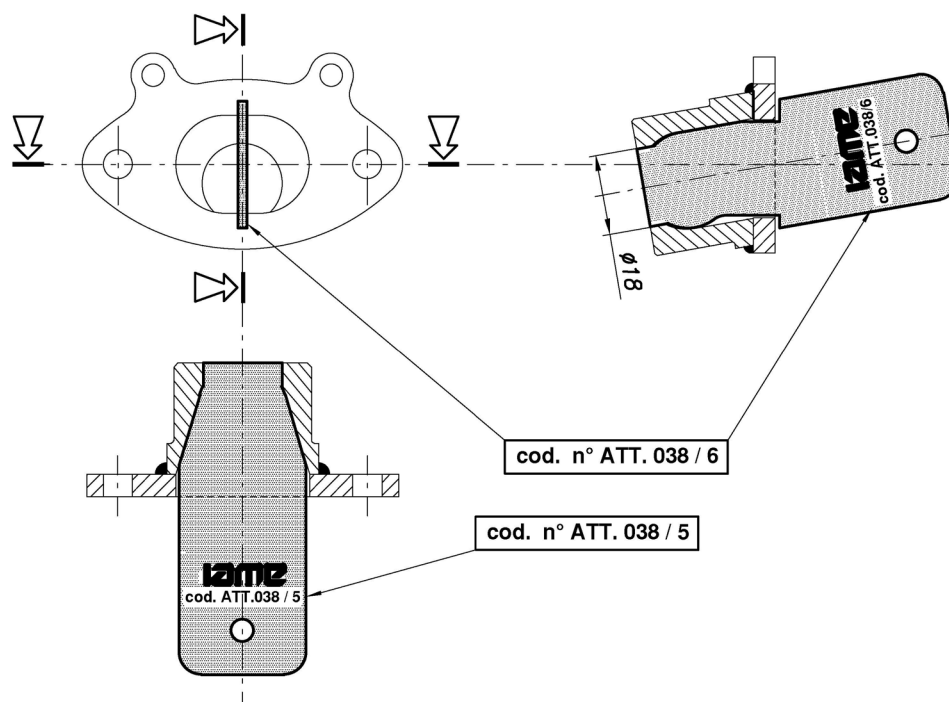
Check that the tool must be the same shape of the exhaust manifold.
Vérifiez que l'outil doit être de la même forme du collecteur d'échappement



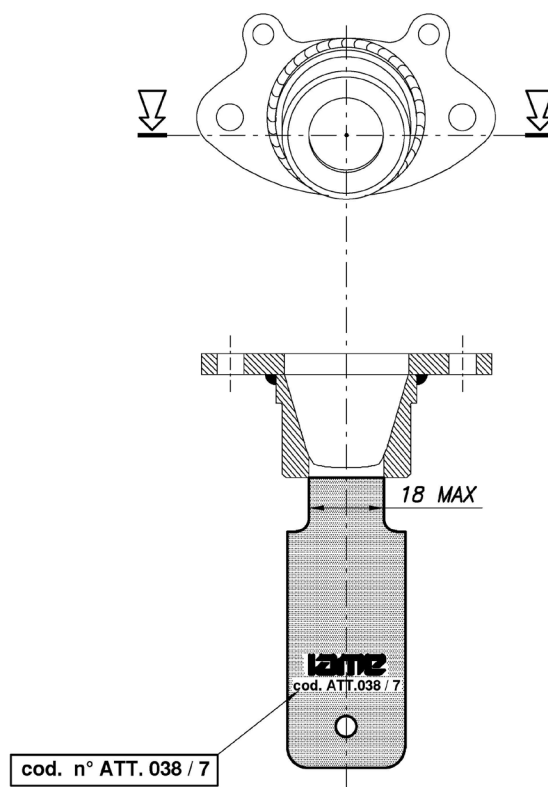
Check that the tool must be the same shape of the inlet carburettor.
Vérifier que l'outil doit avoir la même forme que l'admission du carburateur.



Check that the tool does not enter into the exhaust restrictor.
Vérifier que l'outil n'entre pas dans le restricteur d'échappement



Check that the tool must be the same shape of the inlet carburettor.
Vérifier que l'outil doit avoir la même forme que l'admission du carburateur.



Check that the tool does not enter into the exhaust restrictor.
Vérifier que l'outil n'entre pas dans le restricteur d'échappement



CARBURETTOR Tillotson HW-31A



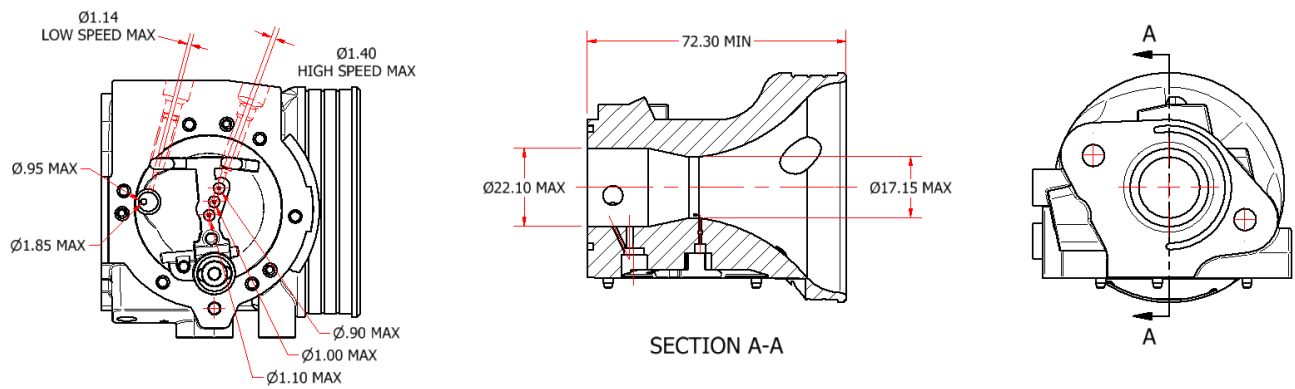
PHOTO OF ADJUSTING SIDE



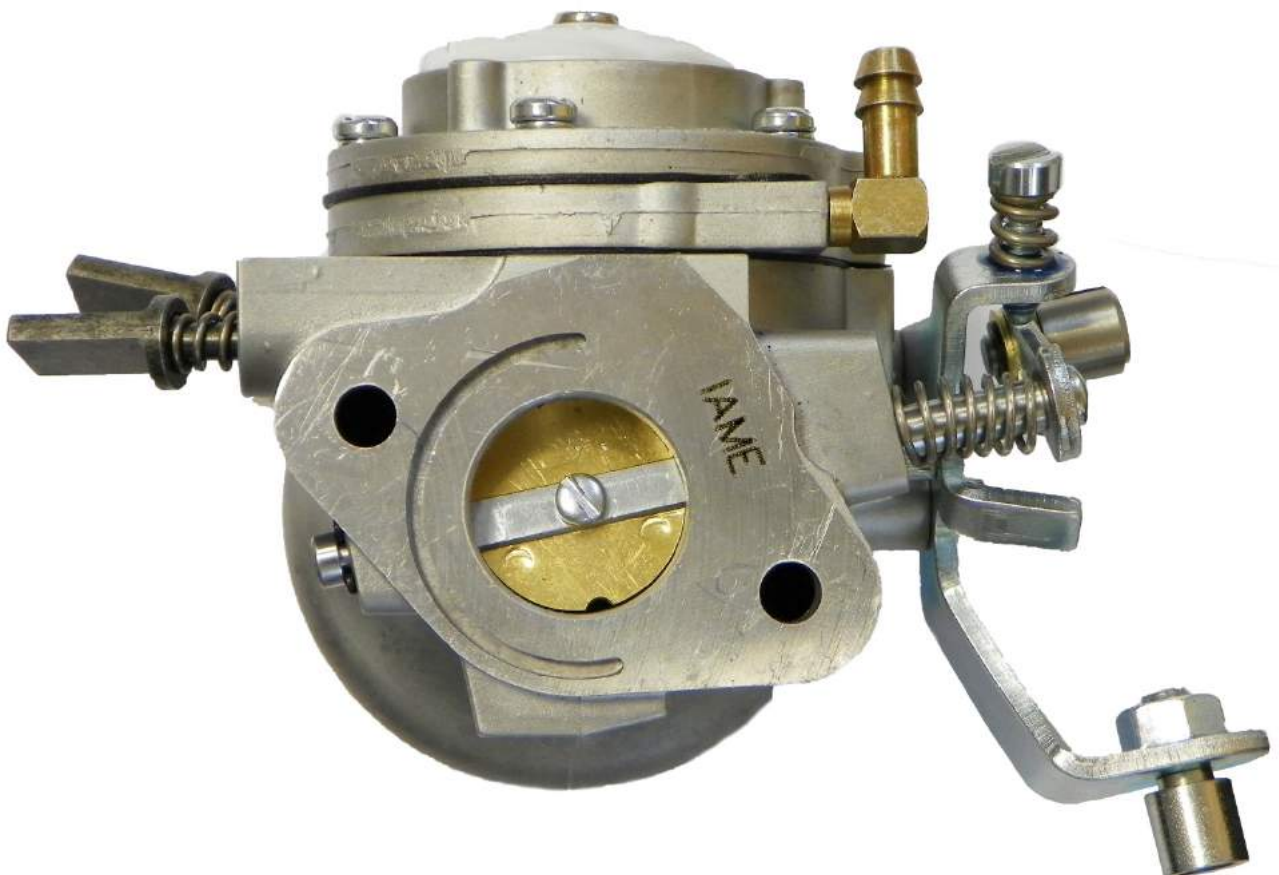
PHOTO OF INLET SIDE

Manufacturer	TILLOTSON LTD.
Make	TILLOTSON
Model	HW-31A

SECTION VIEW

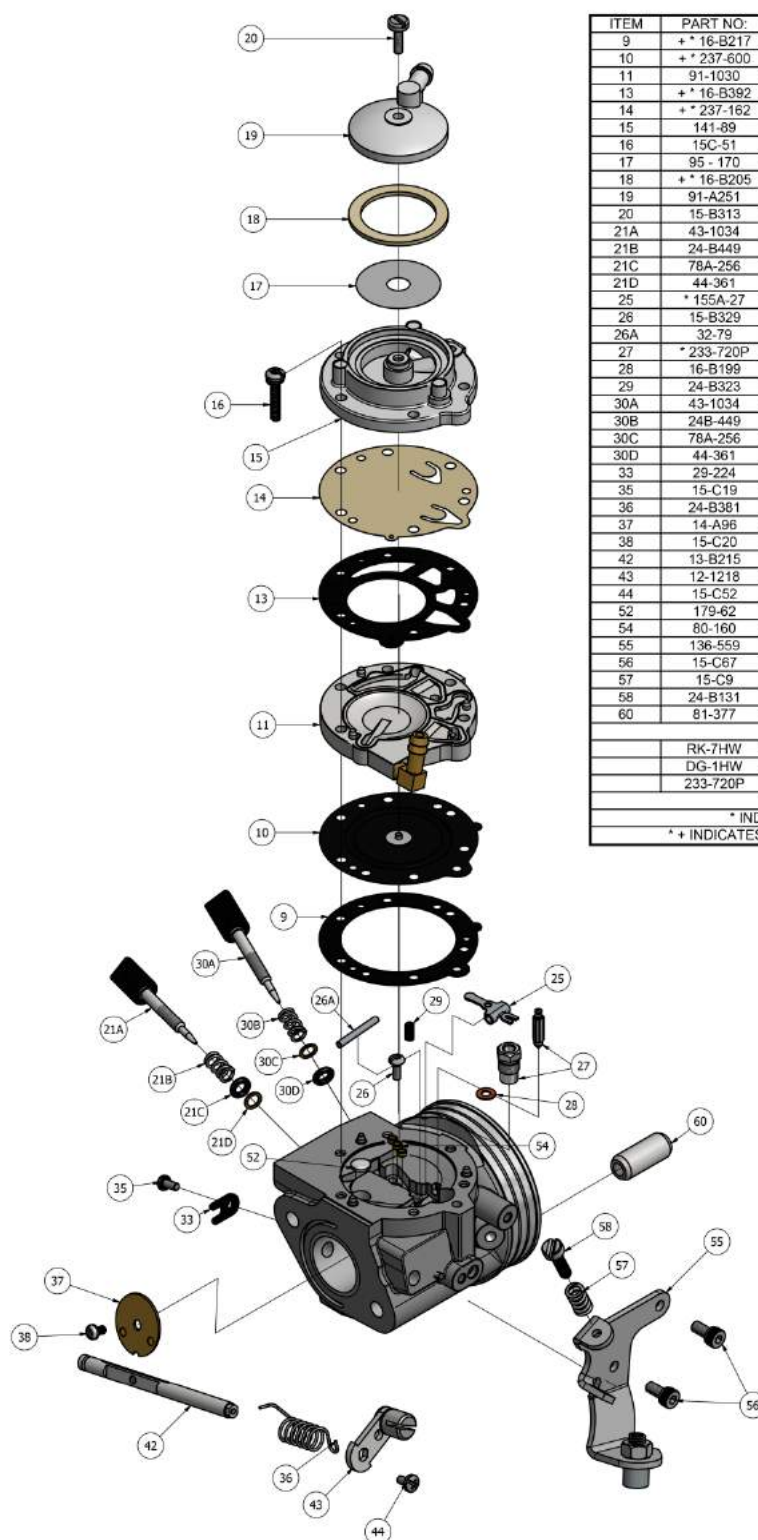


"IAME" MARKING



CARBURETTOR DESCRIPTION AND SKETCH OF PARTS

HW-31A



ITEM	PART NO.	DESCRIPTION	QTY
9	* 16-B217	DIAPHRAGM GASKET	1
10	+ * 237-600	DIAPHRAGM	1
11	91-1030	DIAPHRAGM COVER	1
13	+ * 16-B392	FUEL PUMP GASKET	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	43-1034	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	* 233-720P	INLET NEEDLE & SEAT SET	1
28	16-B199	INLET SEAT GASKET	1
29	24-B323	INLET TENSION SPRING	1
30A	43-1034	HIGH SPEED MIXTURE SCREW	1
30B	24B-449	HIGH SPEED MIXTURE SCREW SPRING	1
30C	78A-256	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-A96	THROTTLE SHUTTER	1
38	15-C20	THROTTLE SHUTTER SCREW	1
42	13-B215	THROTTLE SHAFT	1
43	12-1218	THROTTLE LEVER ASSEMBLY	1
44	15-C52	THROTTLE LEVER RETAINING SCREW	1
52	179-62	WELCH PLUG	1
54	80-160	MAIN PLUG	3
55	136-559	CABLE BRACKET	1
56	15-C67	CABLE BRACKET RETAINING SCREW	2
57	15-C9	LIMITER SCREW	2
58	24-B131	LIMITER SPRING	2
60	81-377	CARBURETTOR MOUNTING NUT	2
RK-7HW REPAIR KIT			
DG-1HW DIAPHRAGM & GASKET (STANDARD)			
233-720P INLET NEEDLE & SEAT SET			
* INDICATES CONTENTS OF REPAIR KIT			
*+ INDICATES CONTENTS OF DIAPHRAGM & GASKET SET			

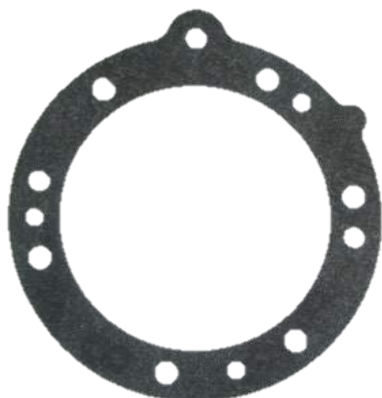


Clash Industrial Estate - Tralee - Ireland
www.tillotson-racing.com



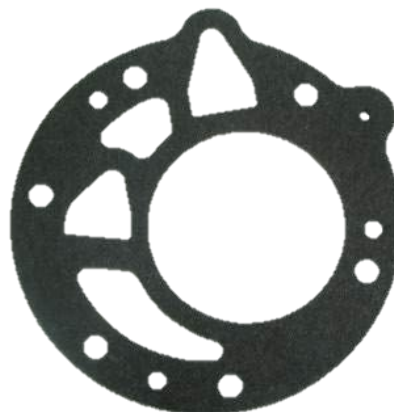
PARTS OF CARBURETTOR

**REF.9 - P. N°16-B217
DIAPHRAGM GASKET**



Thickness = 0.5 ± 0.1 mm

**REF.13 - P. N° 16-B392
PUMP DIAPHRAGM GASKET**



Thickness = 0.8 ± 0.1 mm

**REF.10 - P. N°237-600
DIAPHRAGM**



Thickness = 0.13 ± 0.07 mm

**REF.14 - P. N°237-162
PUMP DIAPHRAGM**



Thickness = 0.10 ± 0.063 mm

**REF.11 - P. N° 91-1031
DIAPHRAGM COVER**



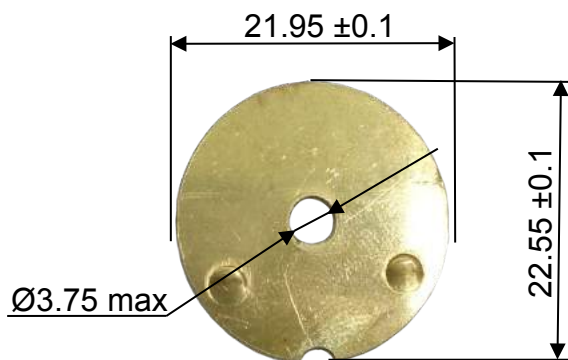
Thickness = 6.75 ± 0.15 mm

**REF.15 - P. N° 141-89
PUMP COVER**



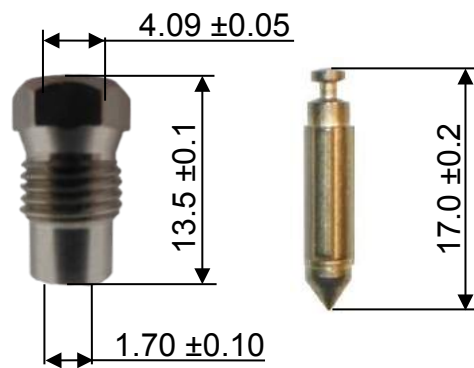
Thickness = 12.5 ± 0.15 mm

REF.37 - P. N° 14-A96
THROTTLE SHUTTER

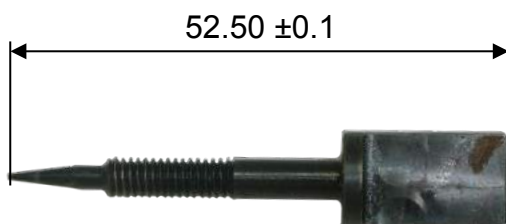


Thickness = 0.81 ± 0.1 mm

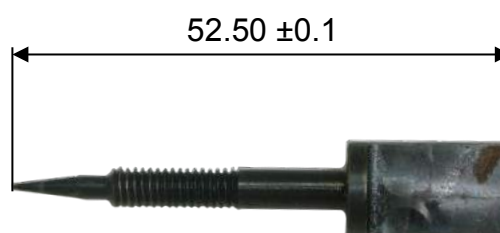
REF.27 - P. N° 233-720P
SEAT + NEEDLE



REF.21A - P. N° 43-1034
NEEDLE LOW SPEED



REF.30A - P. N° 43-1034
NEEDLE HIGH SPEED



NEEDLE FUEL ALTERNATIVE

REF.27 - P. N° 233-720P



The carburettor can have this hole for sealing.

Le carburateur peut avoir ce trou pour le plombage.

