

X30 WATERSWIFT 60CC - TAG



FEATURES - CARACTERISTIQUES

Cylinder volume <i>Volume du cylindre</i>	59.17 cm ³ (60.00 cm ³ max)
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Bore <i>Alésage</i>	41.81 mm
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Max. bore <i>Alésage max.</i>	42.10 mm
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Stroke <i>Course</i>	43mm
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Cooling system <i>Système de refroidissement</i>	Water <i>Eau</i>
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Inlet system <i>Système d'admission</i>	Piston valve <i>Jupe de piston</i>
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Number of carbs <i>Nombre de carburateurs</i>	1
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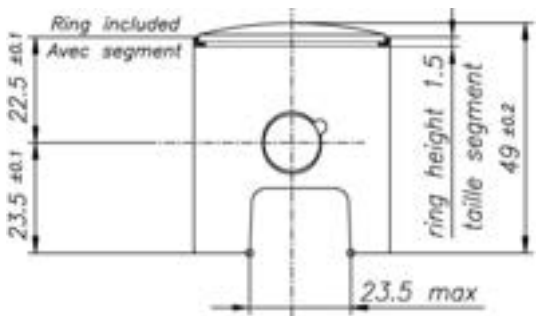
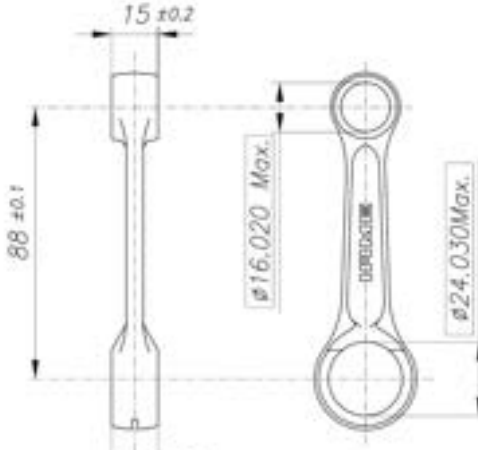
Tillotson Carburettor <i>Carburateur Tillotson</i>	HW-31A	Cylinder / crankcase transfers n° <i>N° de canaux cylindre / carter</i>	2
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Number of piston rings <i>Nombre de segments</i>	1	Inlet / exhaust ports number <i>N° lumières admiss / échapp.</i>	1 / 1
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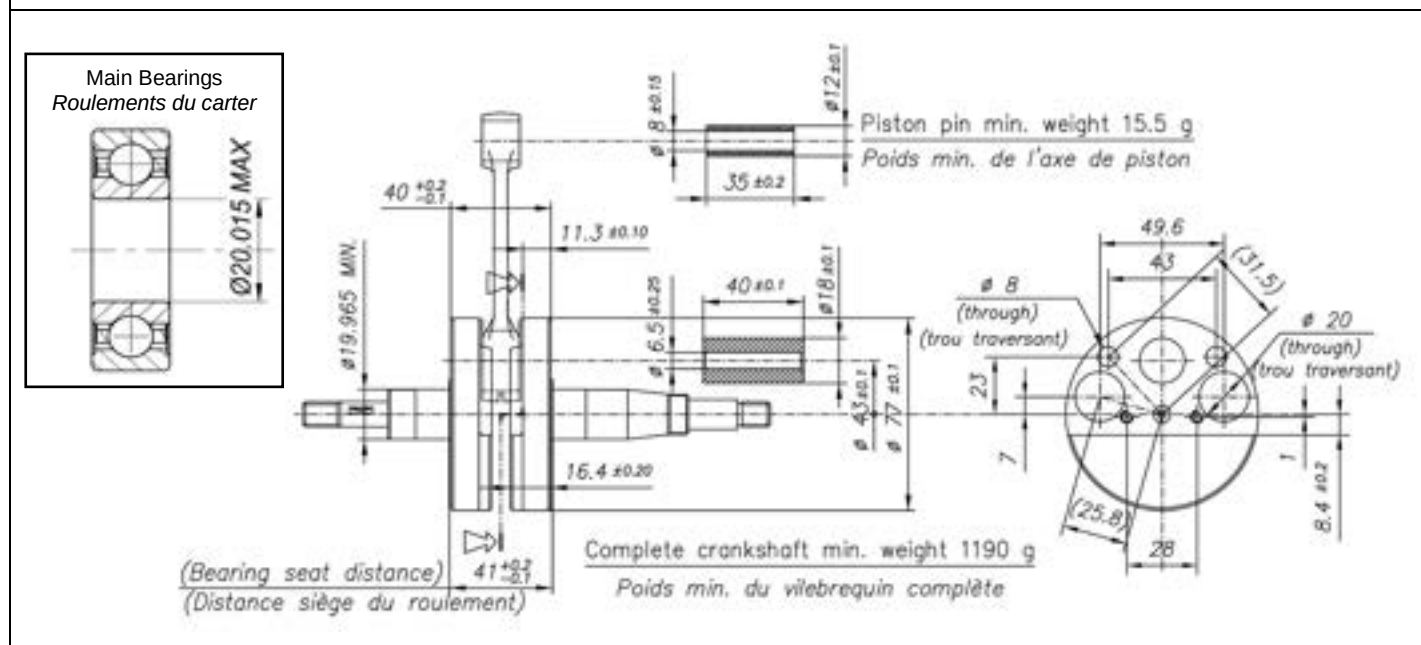
Big end conrod bearing diam. <i>Diamètre palier tête de bielle</i>	18x24x15	Combustion chamber shape <i>Forme chambre de combustion</i>	Spherical <i>Sphérique</i>
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Crankshaft ball-bearing diam. <i>Diamètre palier du vilebrequin</i>	20x47x14	Selettra ignition (adjustable) <i>Allumage Selettra (réglable)</i>	2 poles 2 pôles
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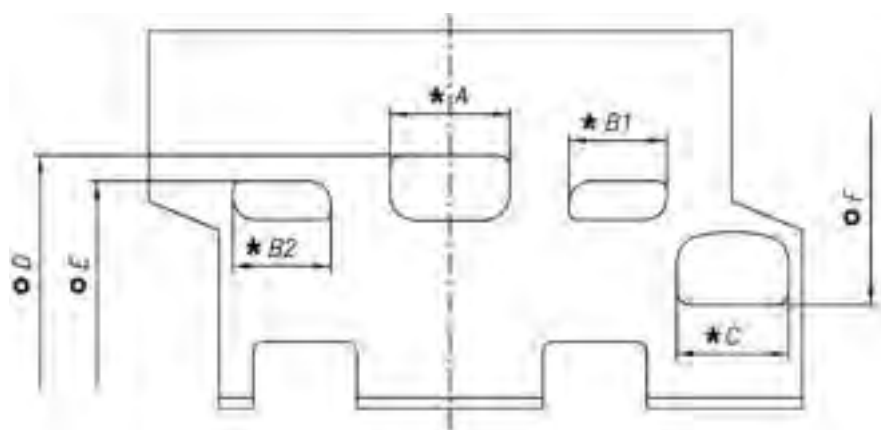
Small end conr. bearing diam. <i>Diamètre palier pied de bielle</i>	12x16x16	Distance between Conrod centres <i>Longueur (entre axe) de la bielle</i>	88 mm
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DESCRIPTION OF THE MATERIAL DESCRIPTION DES MATERIAUX		PISTON
Conrod material <i>Matériel de 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 cylindre</i>	Aluminium	
Liner material <i>Matériel de la chemise</i>	Cast Iron <i>Fonte</i>	
Crankcase material <i>Matériel du carter</i>	Aluminium	DISTANCE BETWEEN CONROD CENTERS ENTRE AXE DE LA BIELLE  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'échappement</i>	Sheet-steel <i>Tôle acier</i>	
Ball-bearings <i>Roulements</i>	6204 type	

CRANKSHAFT - VILEBREQUIN



CYLINDER DEVELOPMENT – DEVELOPPEMENT DU CYLINDRE



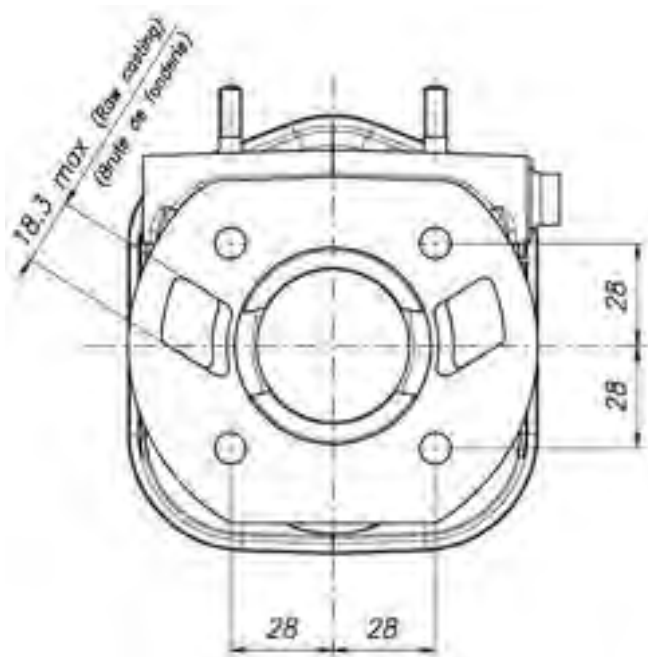
A	28±0.2 mm
B1 = B2	21.8±0.2 mm
C	26±0.2 mm
D	157° max
E	116° ±2°
F	145° max

CHORDAL READING - *LECTURE CORDALE*

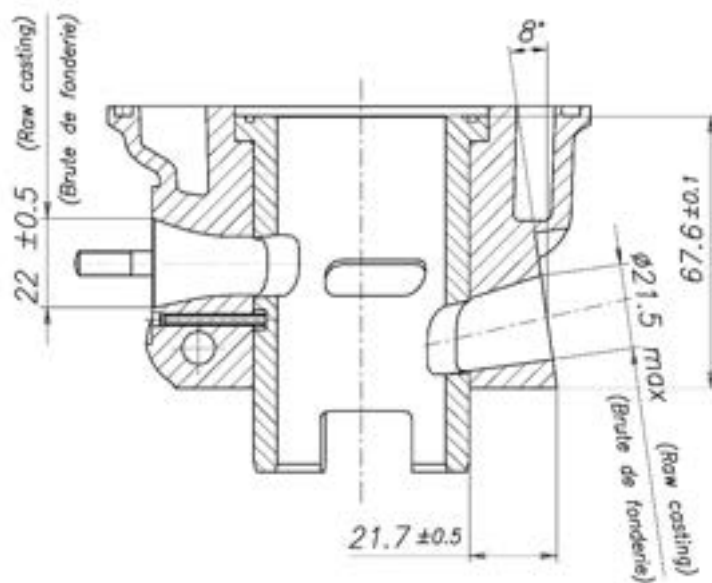
ANGULAR READING BY INSERT A 0.2 mm x 5 mm GAUGE -
LECTURE ANGULAIRE PAR INSERTION D'UNE CALE DE 0.2 mm x 5 mm

USING IAME TOOL Cod. 10194 – *UTILISER OUTIL*

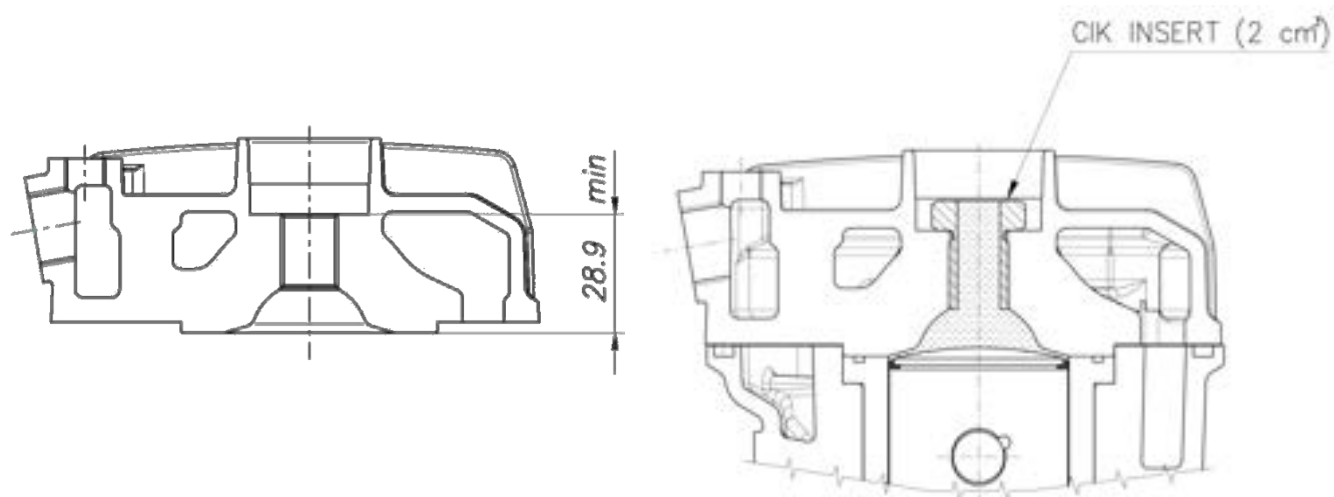
CYLINDER BASE VIEW *VUE DE LA BASE DU CYLINDRE*



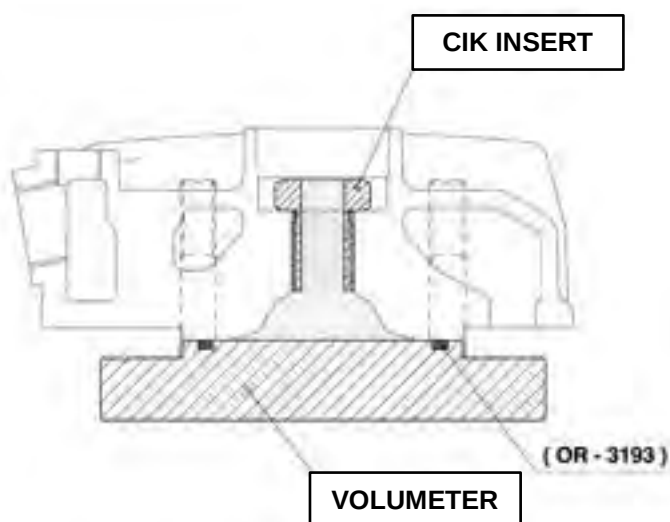
CYLINDER SECTION VIEW *VUE EN SECTION DU CYLINDRE*



COMBUSTION CHAMBER VIEW
VUE DE LA CHAMBRE DE COMBUSTION



COMBUSTION CHAMBER VOLUME = 6.5 cm³ min.
VOLUME CHAMBRE COMBUSTION

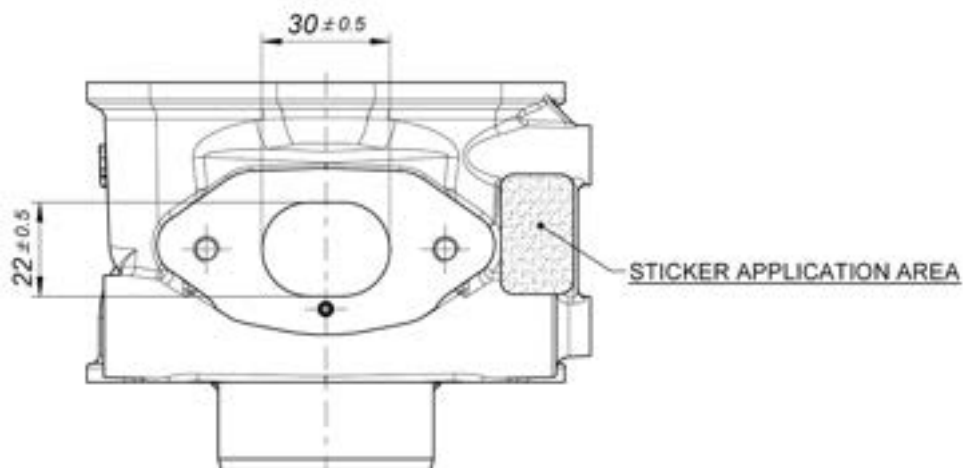


SQUISH MIN. = 0.75 mm

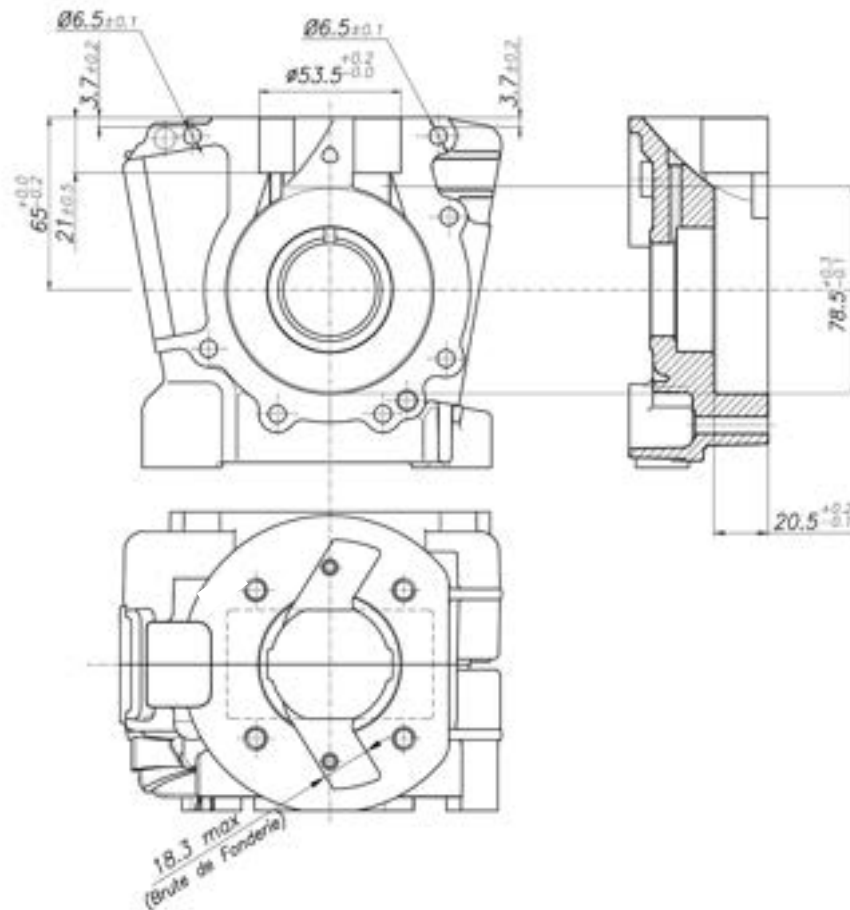
measured with Ø1.5mm TIN
mesurée avec de l'étain Ø1.5mm

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

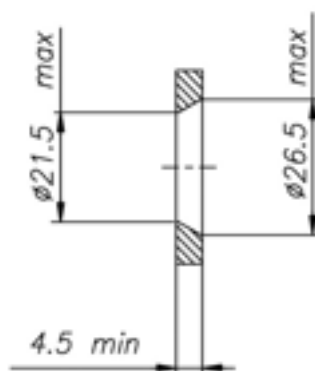


CRANKCASE INSIDE VIEW
VUE A' L'INTERIEUR DU CARTER

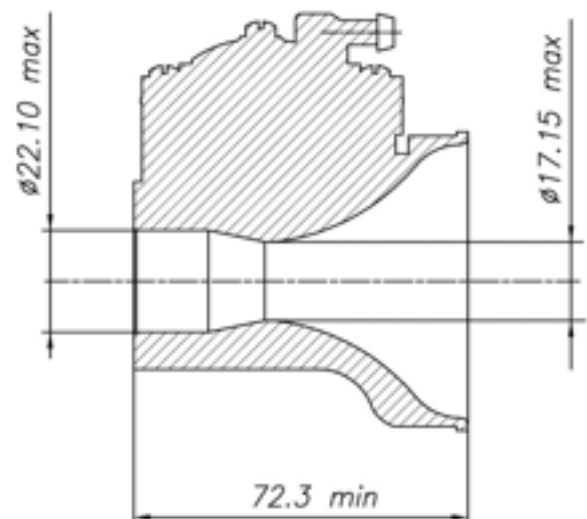
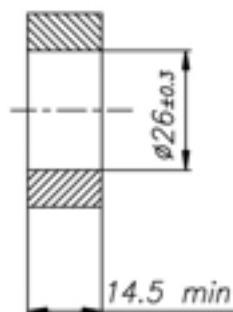


VENTURI CARB. DIMENSIONS and THERMAL SPACERS
CARBURATEUR ET SONS ENTRETOISES

Q.ty: 1

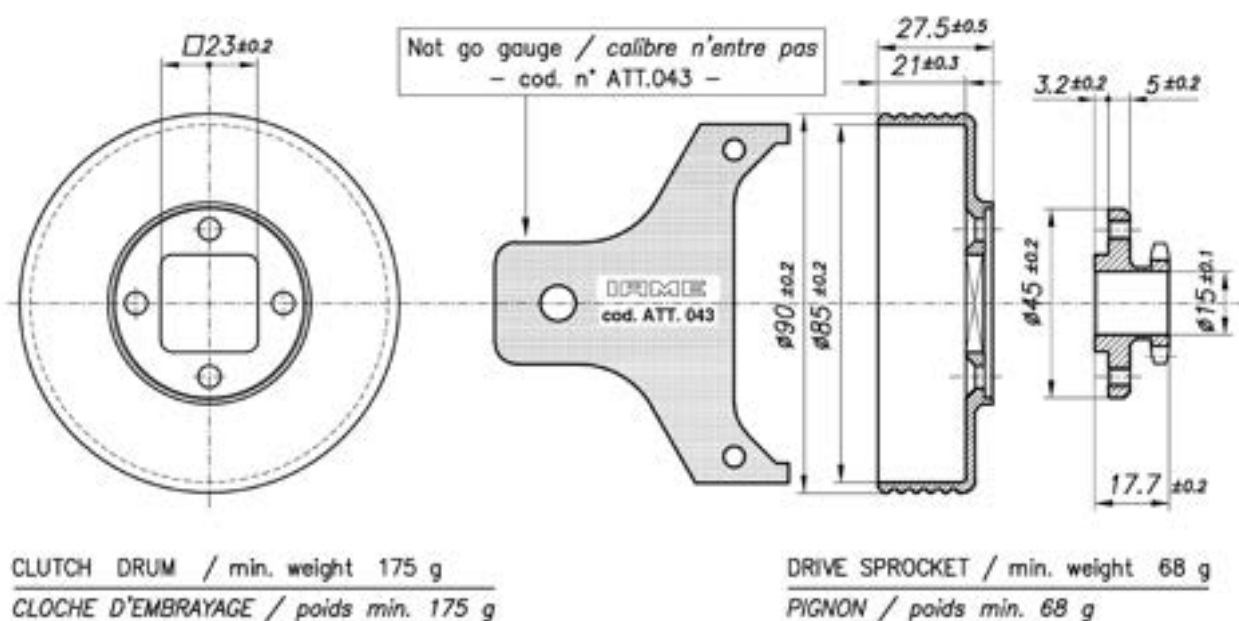
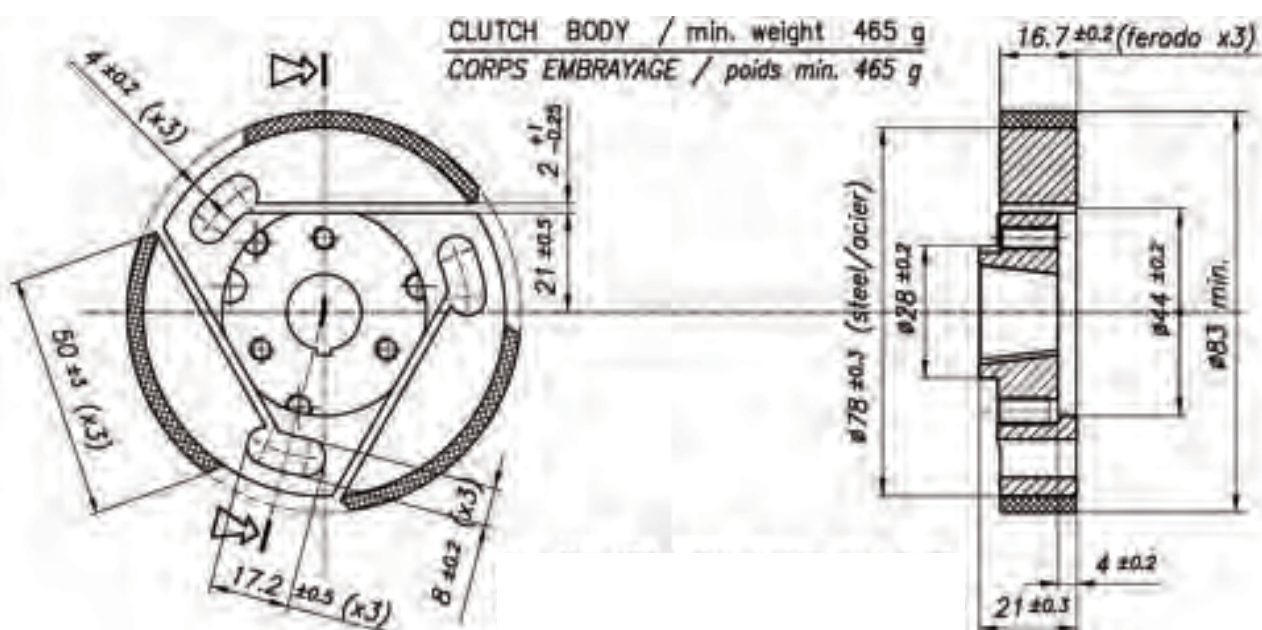
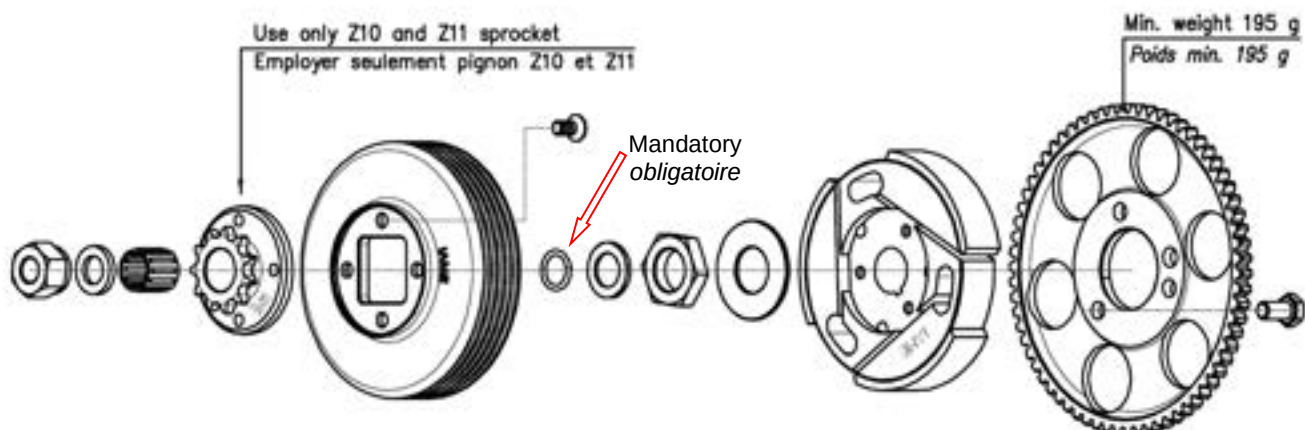


Q.ty: 1

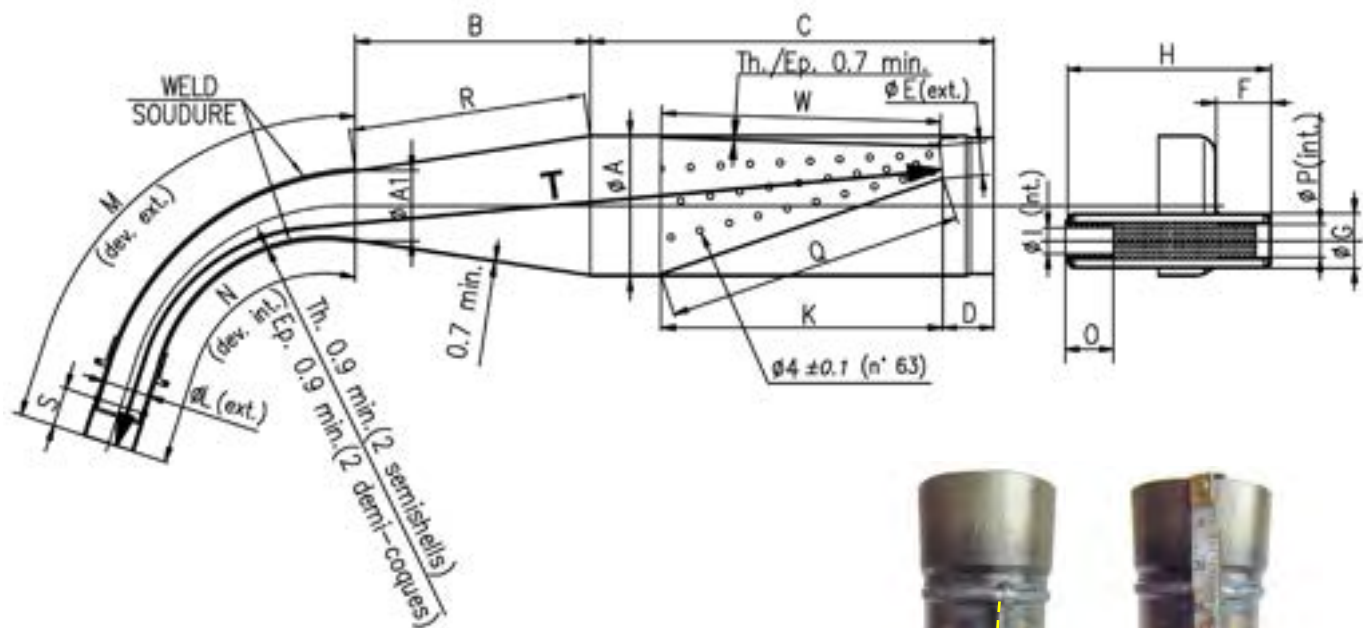


TILLOTSON MOD. HW-31A

DESCRIPTION OF THE CLUTCH – DESCRIPTION DE L'EMBRAYAGE



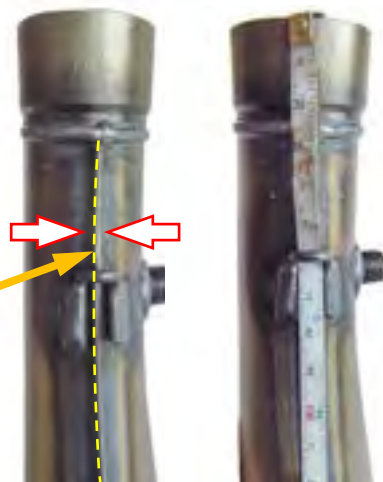
EXHAUST VIEW AND DIMENSIONS (with and without embossed logo)
VUE ET DIMENSIONS DE L'ECHAPPEMENT (avec et sans logo en relief)



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 1250 g
Poids min.



ØA: 90 ±1.5 Øext.	D: 30 ±2	H: 132 ±2	M: 265 ±3	R: 152 ±3	T: 601 ±3
ØA1: 45 ±1 Øext.	ØE: 20 ±1 Øext.	ØI: 17 max Øint.	N: 215 ±3	S: 25 ±1	
B: 150 ±3	F: 35 ±2	K: 181 ±3	O: 30 min.	Q: 192 ±3	
C: 260 ±3	ØG: 35 ±1 Øext.	ØL: 31 ±1.5 Øext.	ØP: 21 ±1 Øint.	W: 181 ±3	

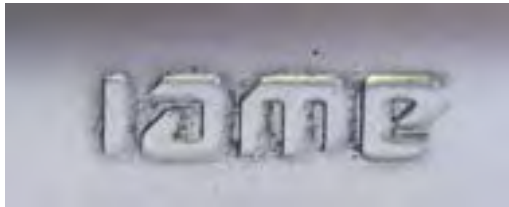
ATTENTION:

The dimensions "**M**", "**N**" and "**T**" must be taken by steel tape measure 6mm wide.
Les dimensions « **M** », « **N** » et « **T** » doivent être à l'aide d'un ruban à mesurer en acier 6 mm de large.

The dimensions "**M**" and "**N**" must be taken on the weld centerline.
Les dimensions « **M** », « **N** » doivent être prises sur l'axe de la soudure.

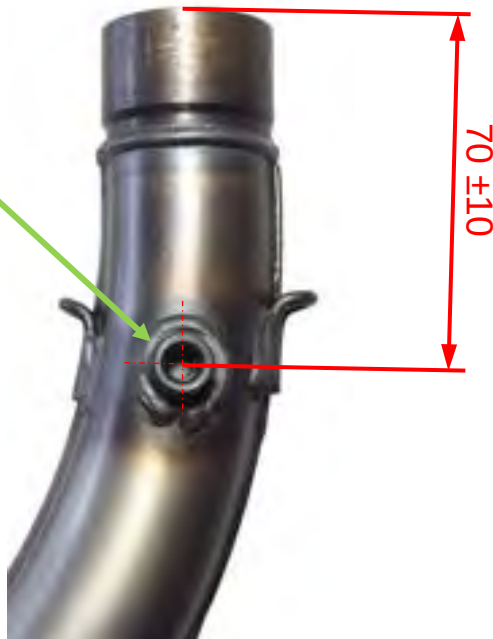
The dimensions "**Q**" and "**W**" must be taken by steel tape measure 12mm wide.
Les dimensions « **Q** » et « **W** » doivent être prises à l'aide d'un ruban à mesurer en acier 12 mm de large.

ALTERNATIVE EXHAUST MUFFLER with embossed logo
ECHAPPEMENT ALTERNATIVE avec logo en relief

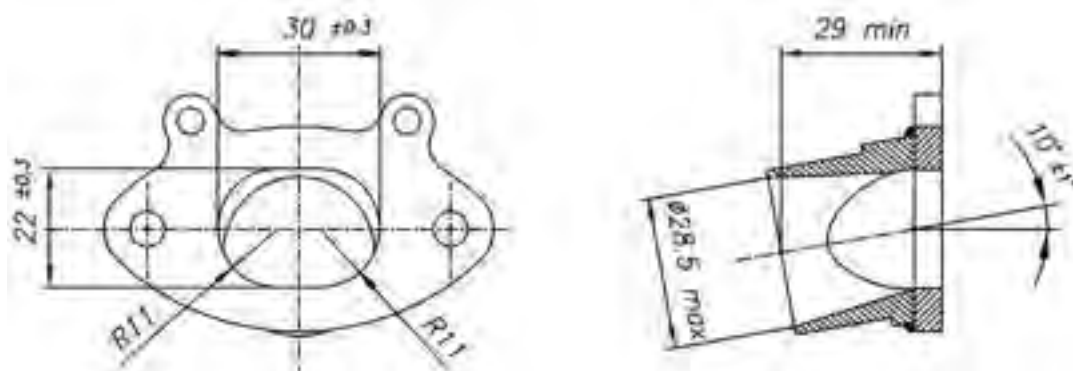


MARKING / MARQUAGE

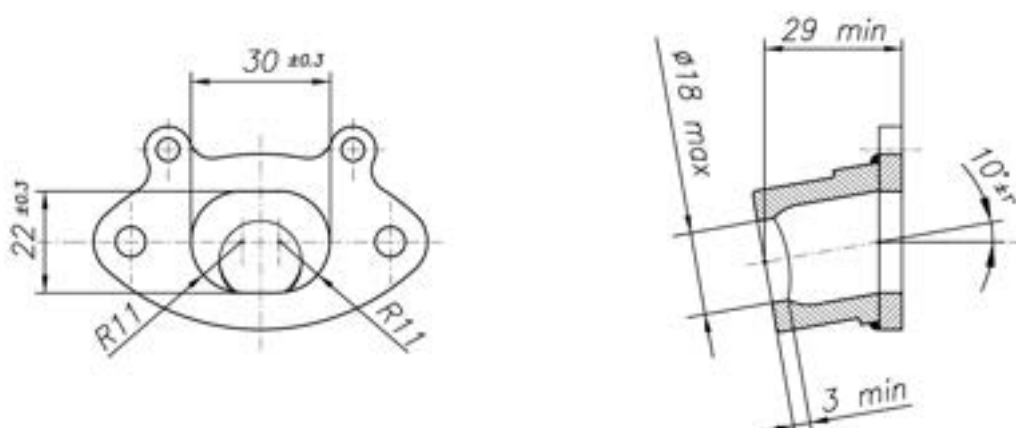
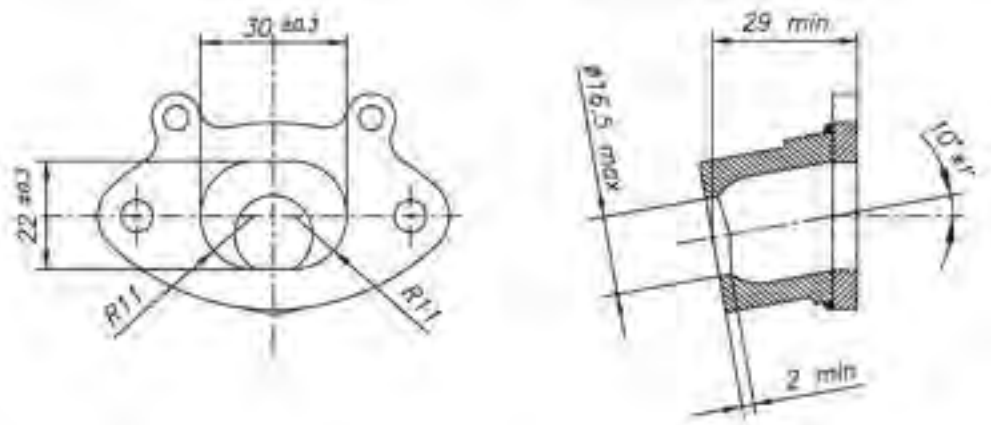
**Plug for
temperature
probe**
*Connecteur
pour sonde de
température*



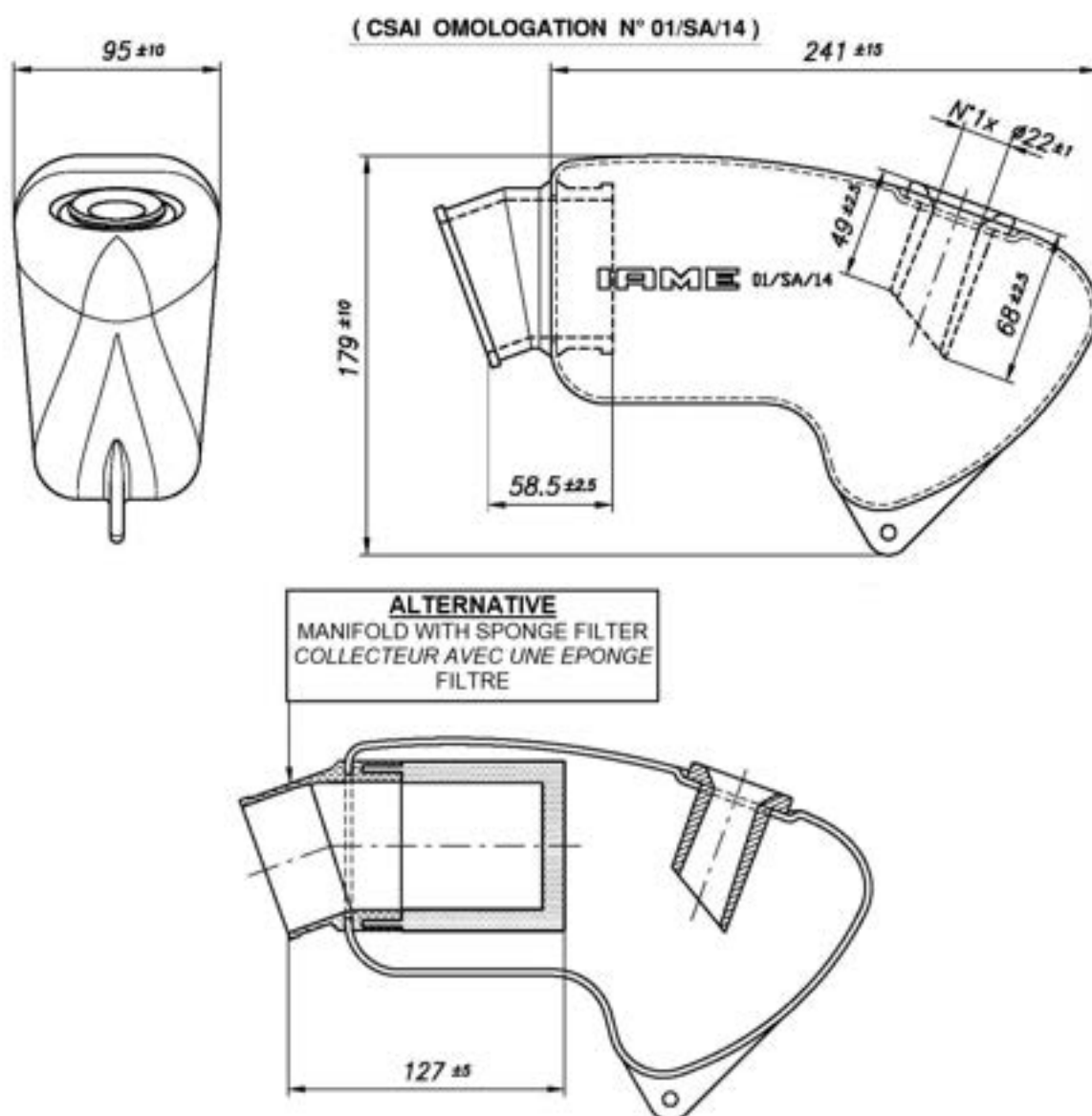
EXHAUST MANIFOLD
RACCORD D'ÉCHAPPEMENT



EXHAUST MANIFOLDS WITH RESTRICTED
RACCORDS AVEC RECSTRICTEUR D'ÉCHAPPEMENT



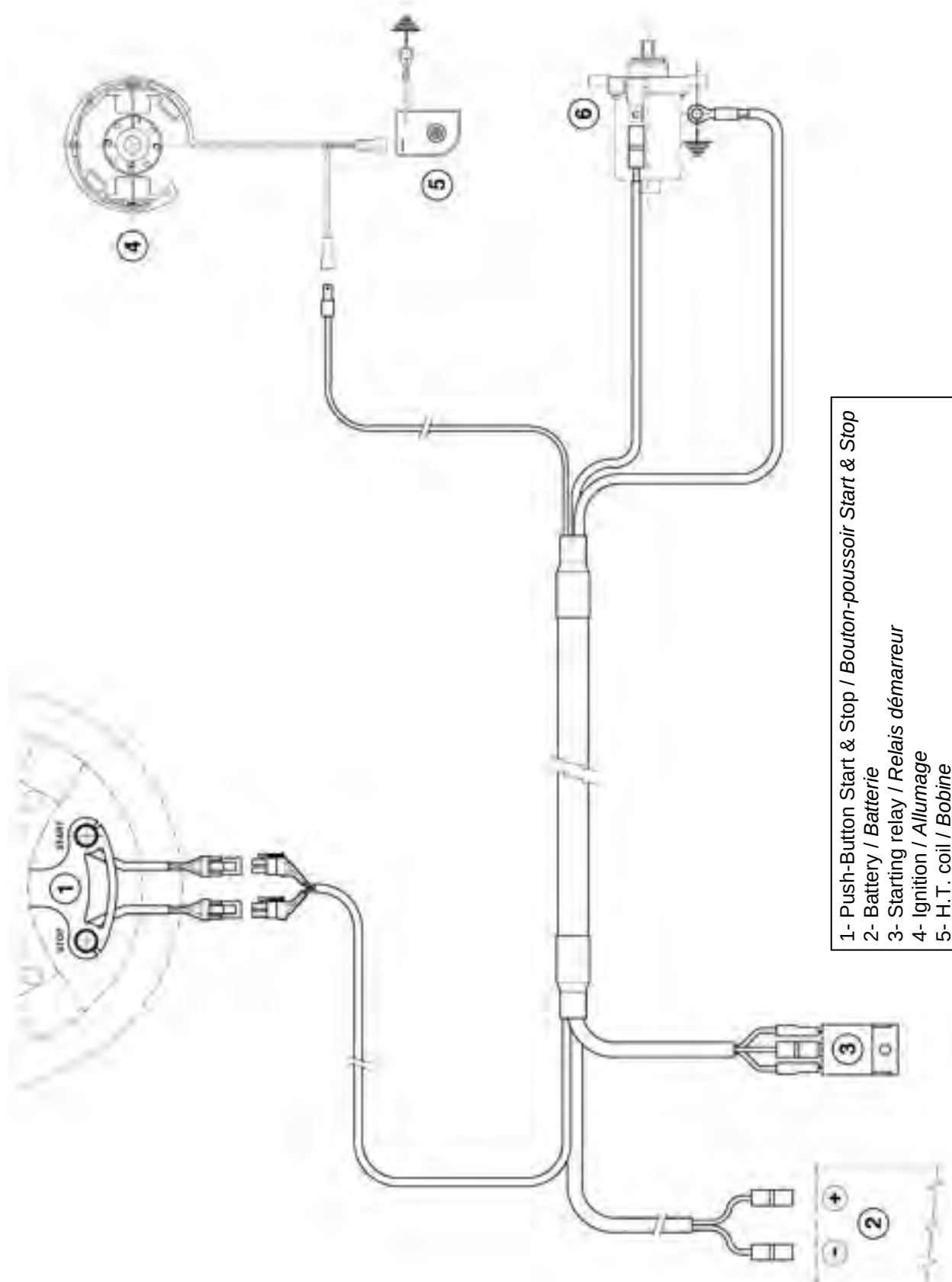
INLET SILENCER – SILENCIEUX D'ASPIRATION



INLET SILENCER - PHOTO
PHOTO - SILENCIEUX D'ASPIRATION



WIRING DIAGRAM
SCHÉMA CIRCUIT ÉLECTRIQUE



- 1- Push-Button Start & Stop / *Bouton-poussoir Start & Stop*
- 2- Battery / *Batterie*
- 3- Starting relay / *Relais démarreur*
- 4- Ignition / *Allumage*
- 5- H.T. coil / *Bobine*
- 6- Starter / *Démarrreur*

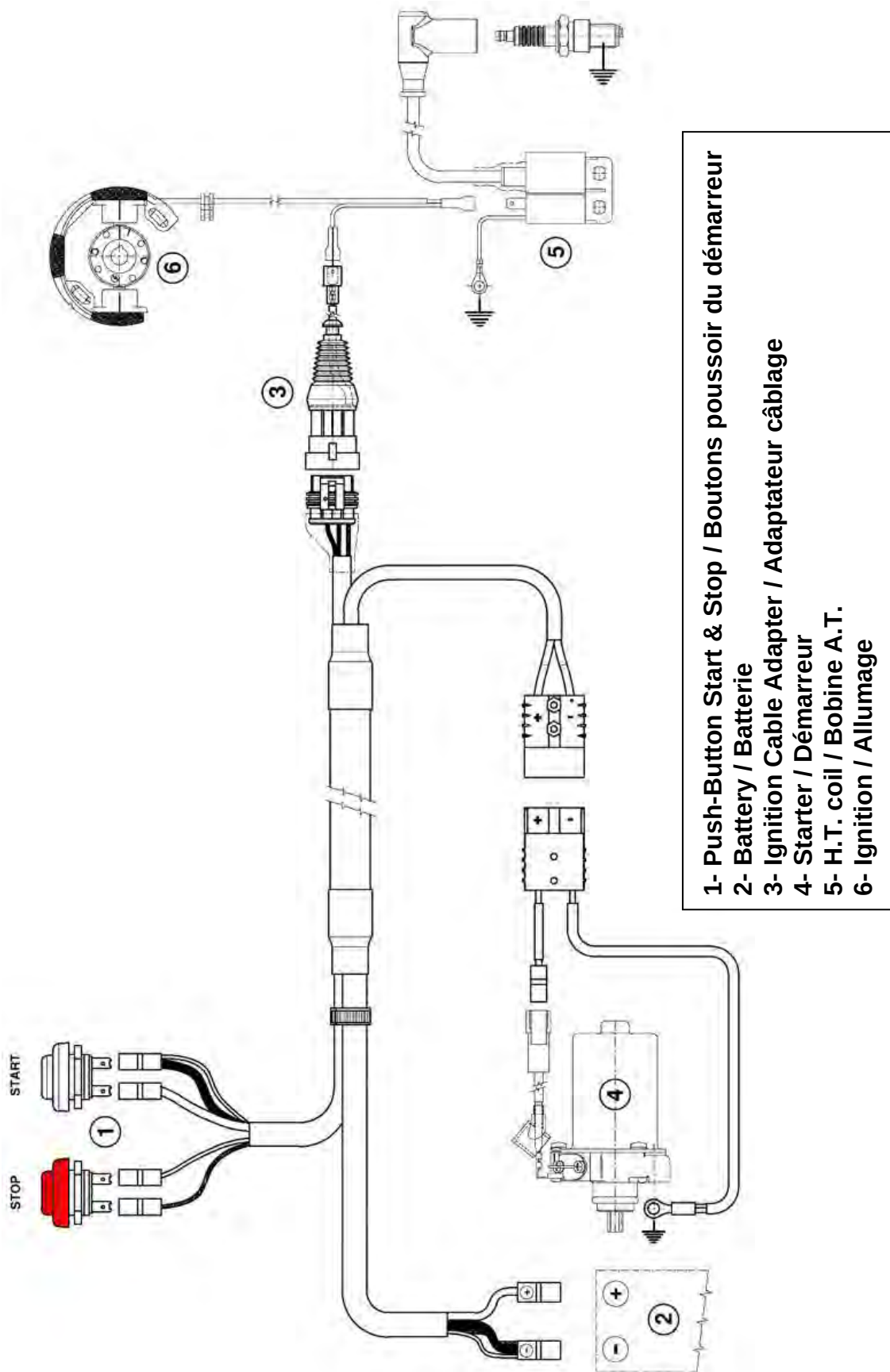
PHOTO COMPLETE WIRING
 PHOTO DU CÂBLAGE ÉLECTRIQUE COMPLÈTE



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



ALTERNATIVE WIRING LOOM DIAGRAM
SCHÉMA CIRCUIT ÉLECTRIQUE ALTERNATIF



- 1- Push-Button Start & Stop / Boutons poussoir du démarreur
- 2- Battery / Batterie
- 3- Ignition Cable Adapter / Adaptateur câblage
- 4- Starter / Démarreur
- 5- H.T. coil / Bobine A.T.
- 6- Ignition / Allumage

PHOTO OF ALTERNATIVE COMPLETE WIRING LOOM
PHOTO DU CÂBLAGE ÉLECTRIQUE COMPLÈTE ALTERNATIF





PLASTIC

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

ALTERNATIVE

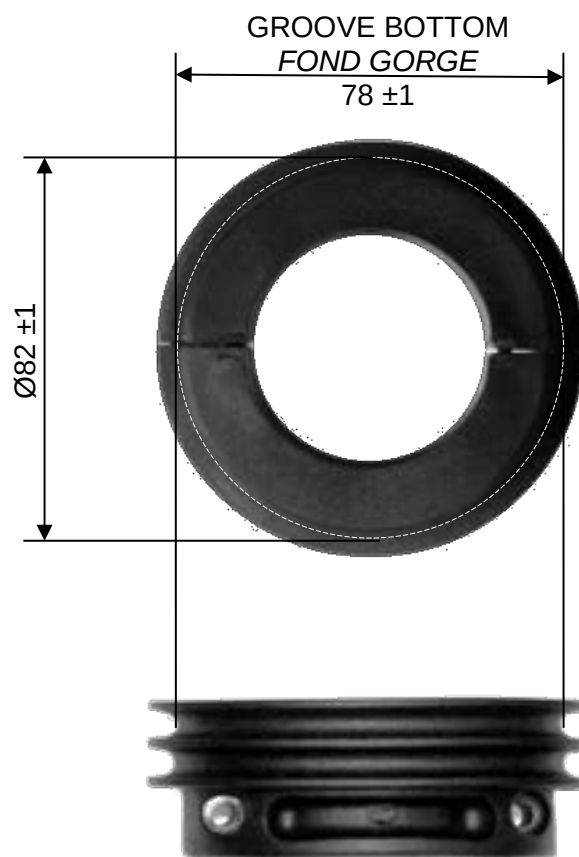


ALUMINUM

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



PULLEY ALTERNATIVE – ALTERNATIVE DU POULIE



PLASTIC

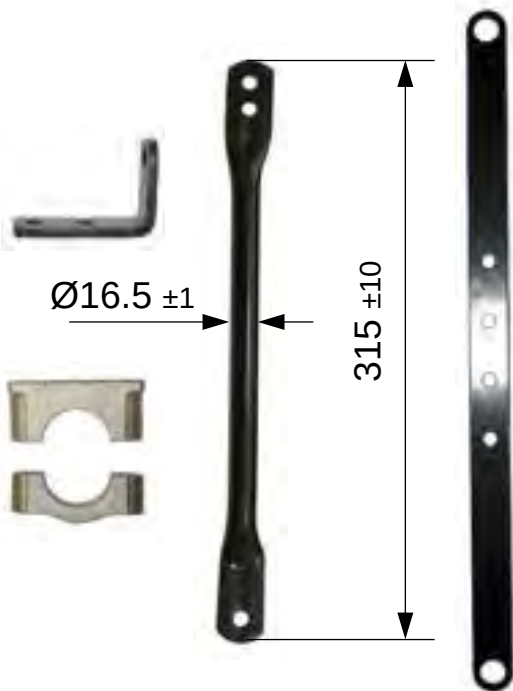
ALTERNATIVE



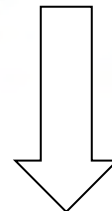
ALUMINUM

RADIATOR AND ITS SUPPORTS
RADIATEUR ET SES SUI TIEN

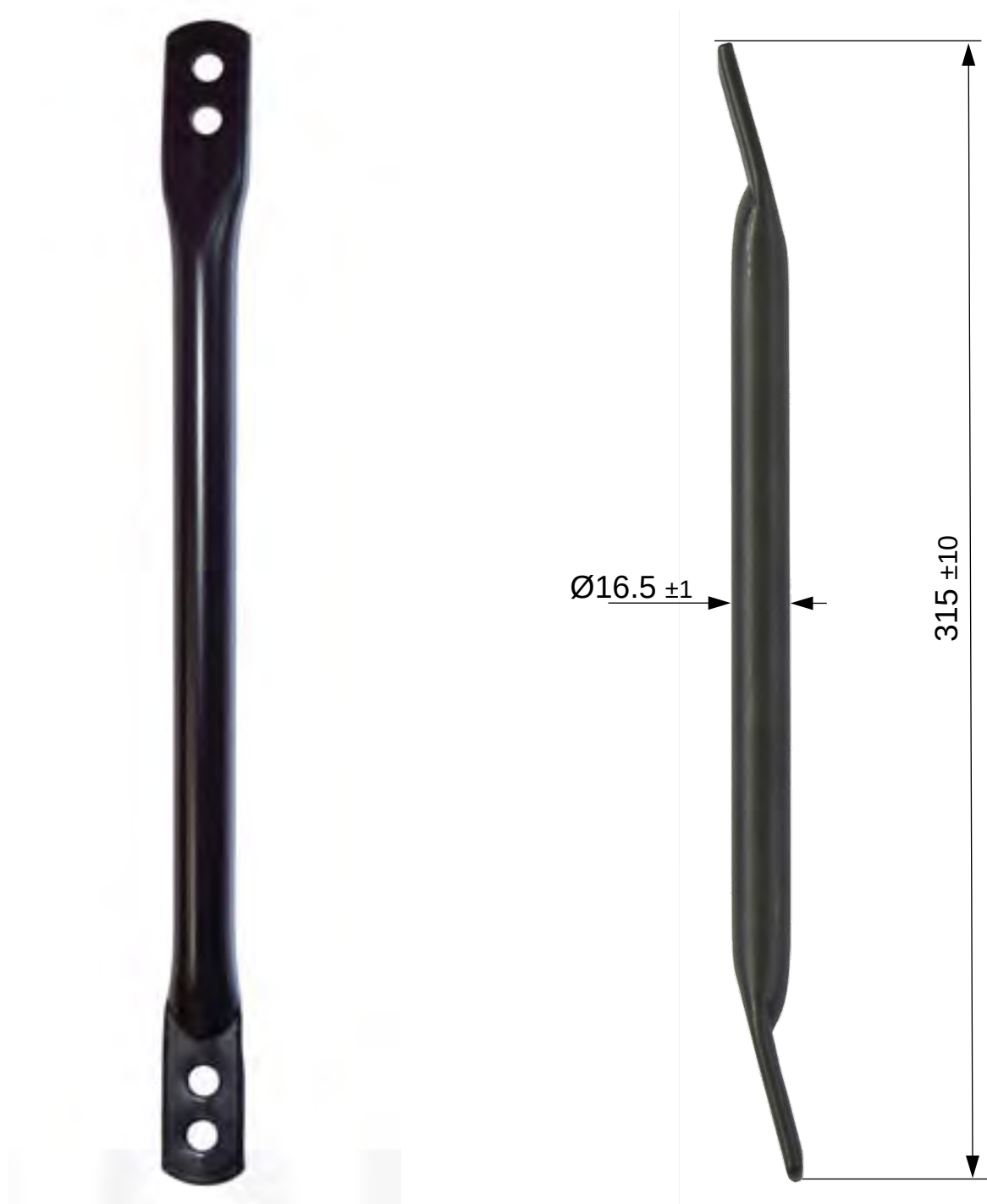
PAINTED AND NOT PAINTED
PEINT ET PAS PEINT



ALTERNATIVE RADIATOR
RADIATEUR ALTERNATIF



ALTERNATIVE RADIATOR SUPPORT
ALTERNATIVE SUI TIEN DU RADIATEUR



CYLINDER IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU CYLINDRE



* Compulsory from engine n. 011150
* Obligatoire à partir du moteur no. 011150

CYLINDER HEAD MARKING
MARQUAGE D'IDENTIFICATION DU CULASSE



OR



SEMICARTER TRANSMISSION SIDE
SEMICARTER CÔTÉ PIGNON

SEMICARTER IGNITION SIDE
SEMICARTER CÔTÉ ALLUMAGE



OR



OR



PISTON IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION PISTON



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

TYPE 1



TYPE 2



SPROCKET IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU PIGNON



CLUTCH DRUM IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DE LA
CALOTTE



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



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



CRANKSHAFT AND HIS COMPONENTS IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU VILEBREQUIN ET SES COMPOSANTS



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



STARTER IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION DU DEMARREUR

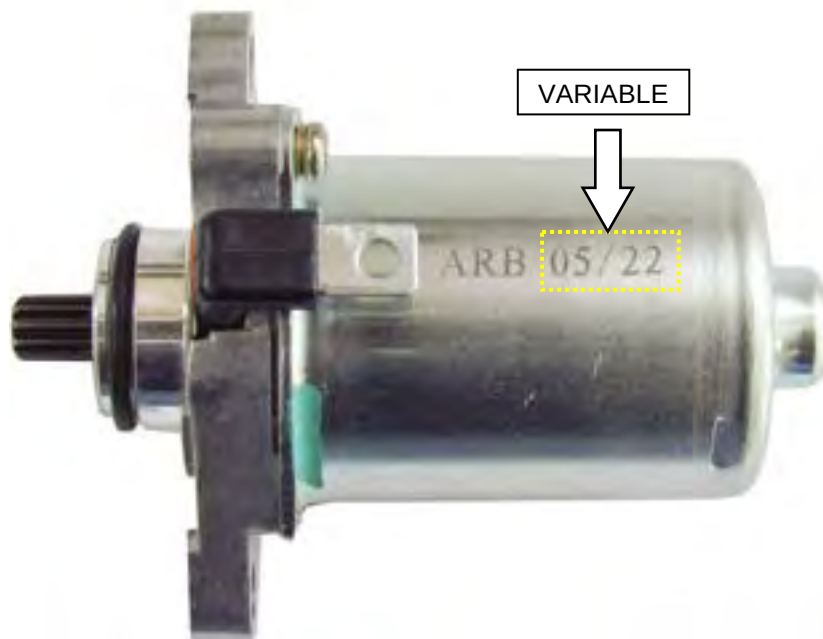


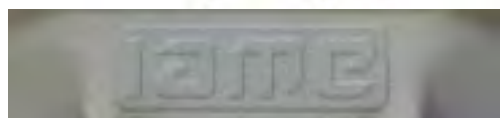
PHOTO IDENTIFICATION: SMALL & BIG END CONROD BEARING AND MAIN BEARING
 PHOTO D'IDENTIFICATION DU ROULEMENT PIED/TÊTE DE BIELLE ET PRINCIPAUX



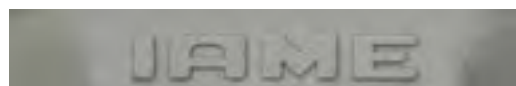
EXHAUST IDENTIFICATION MARKING without embossed logo
 MARQUAGE D'IDENTIFICATION ECHAPPEMENT sans logo en relief



IGNITION COVER
COUVERCLE DU ALLUMAGE



OR



CLUTCH COVER
COUVERCLE D'EMBRAYAGE



OR



INLET FILTER
SILENCIEUX D'ASPIRATION



OR



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"

IAME

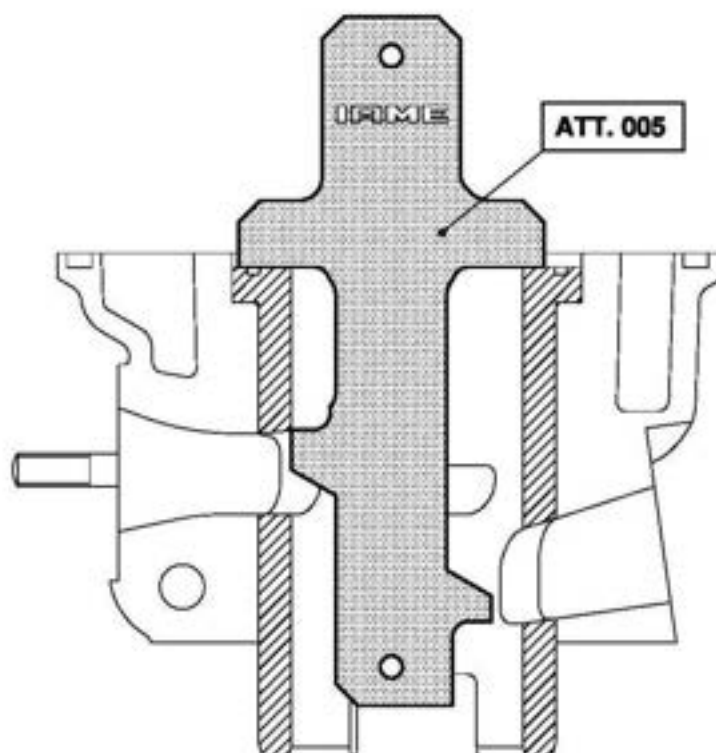
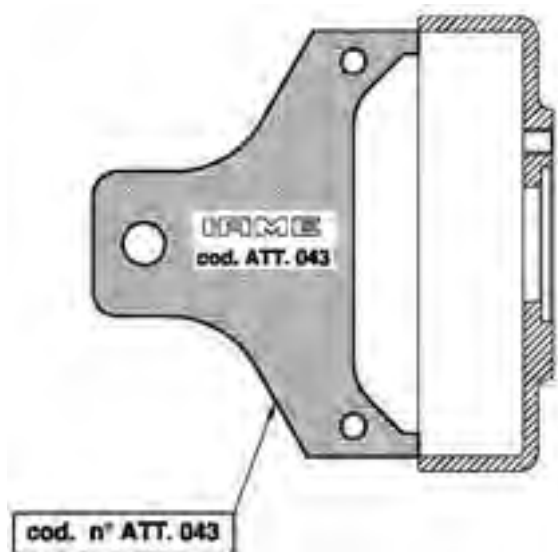
or

IAME

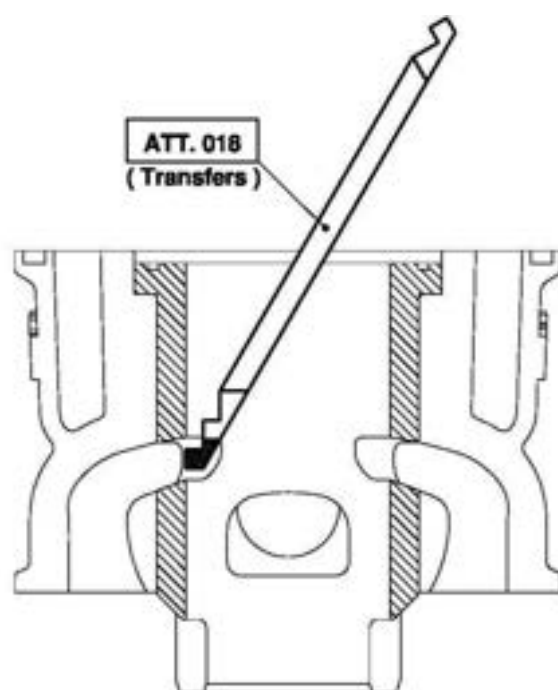
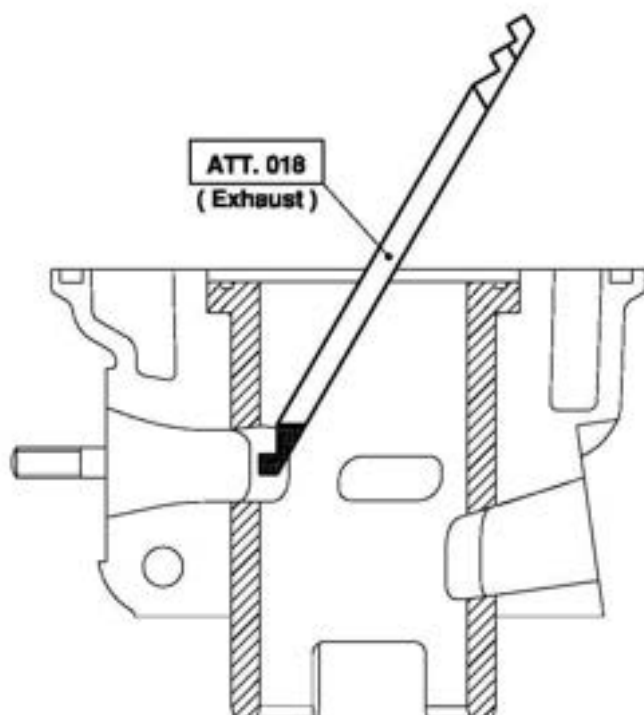
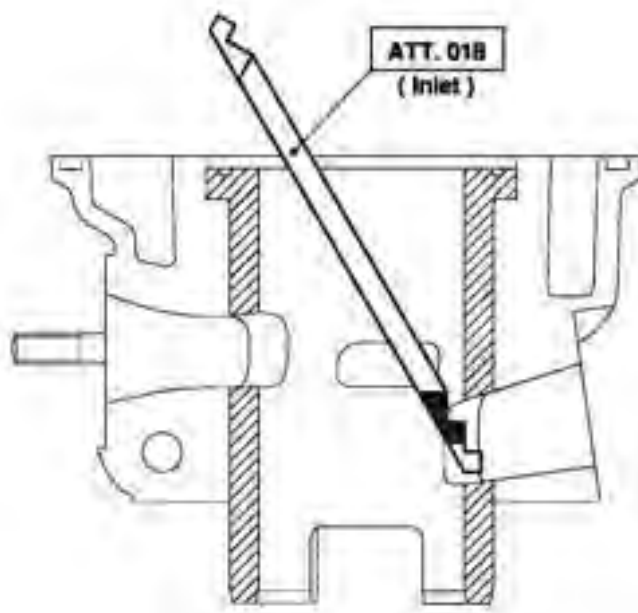
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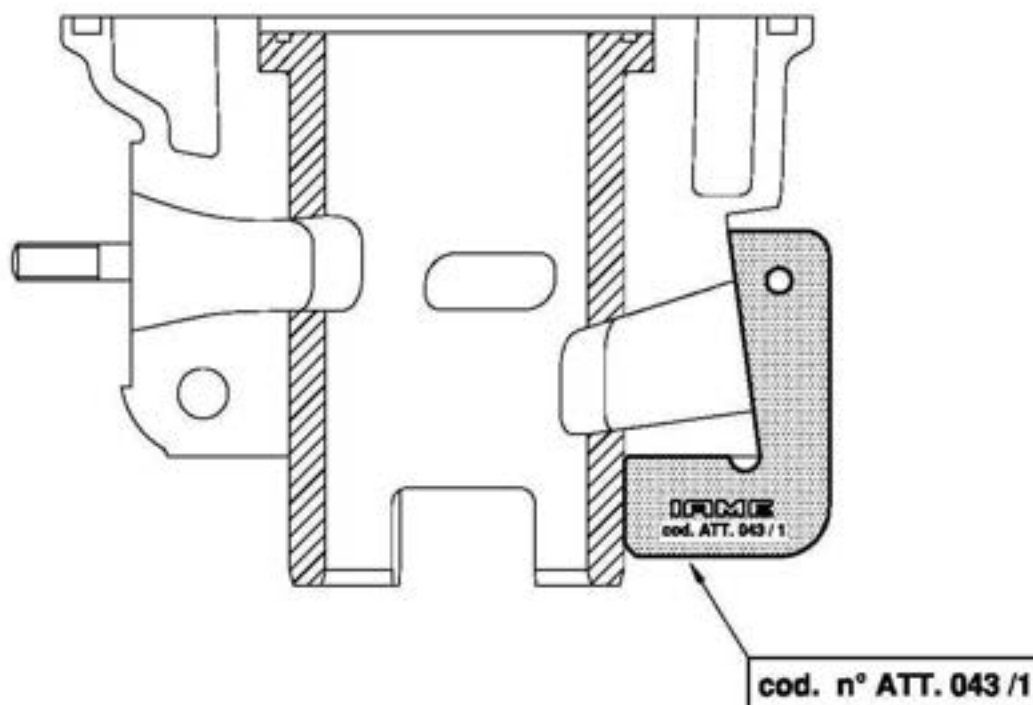
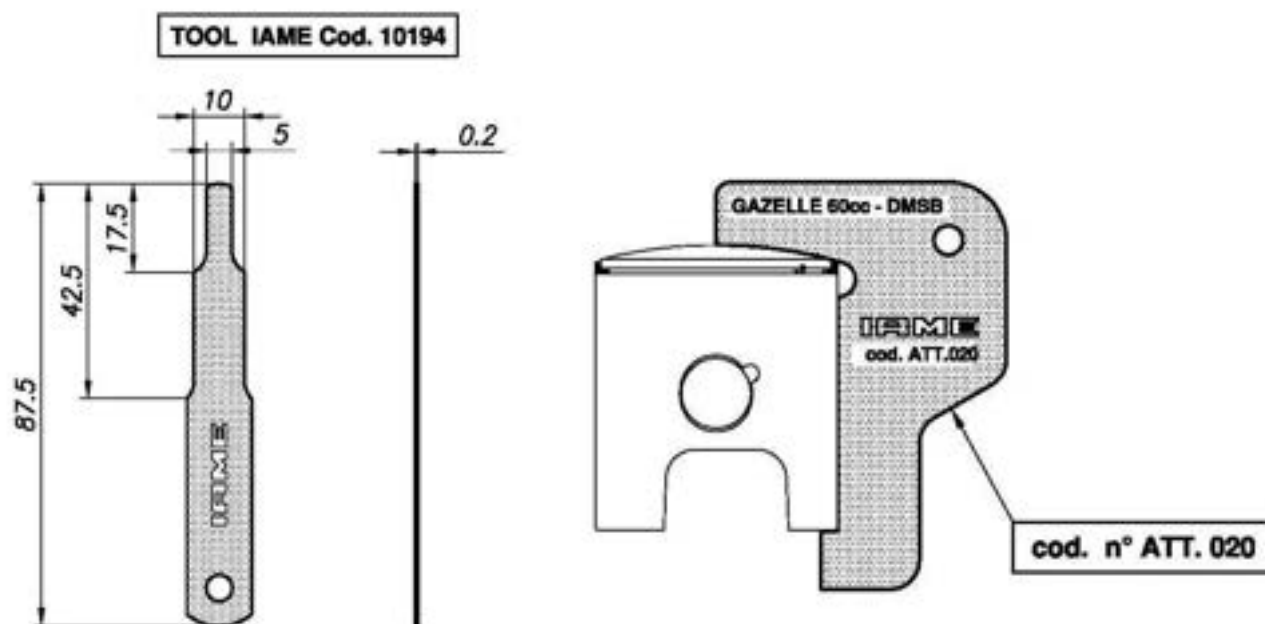
NO GO GAUGES
OUTILS N'ENTRE PAS DANS



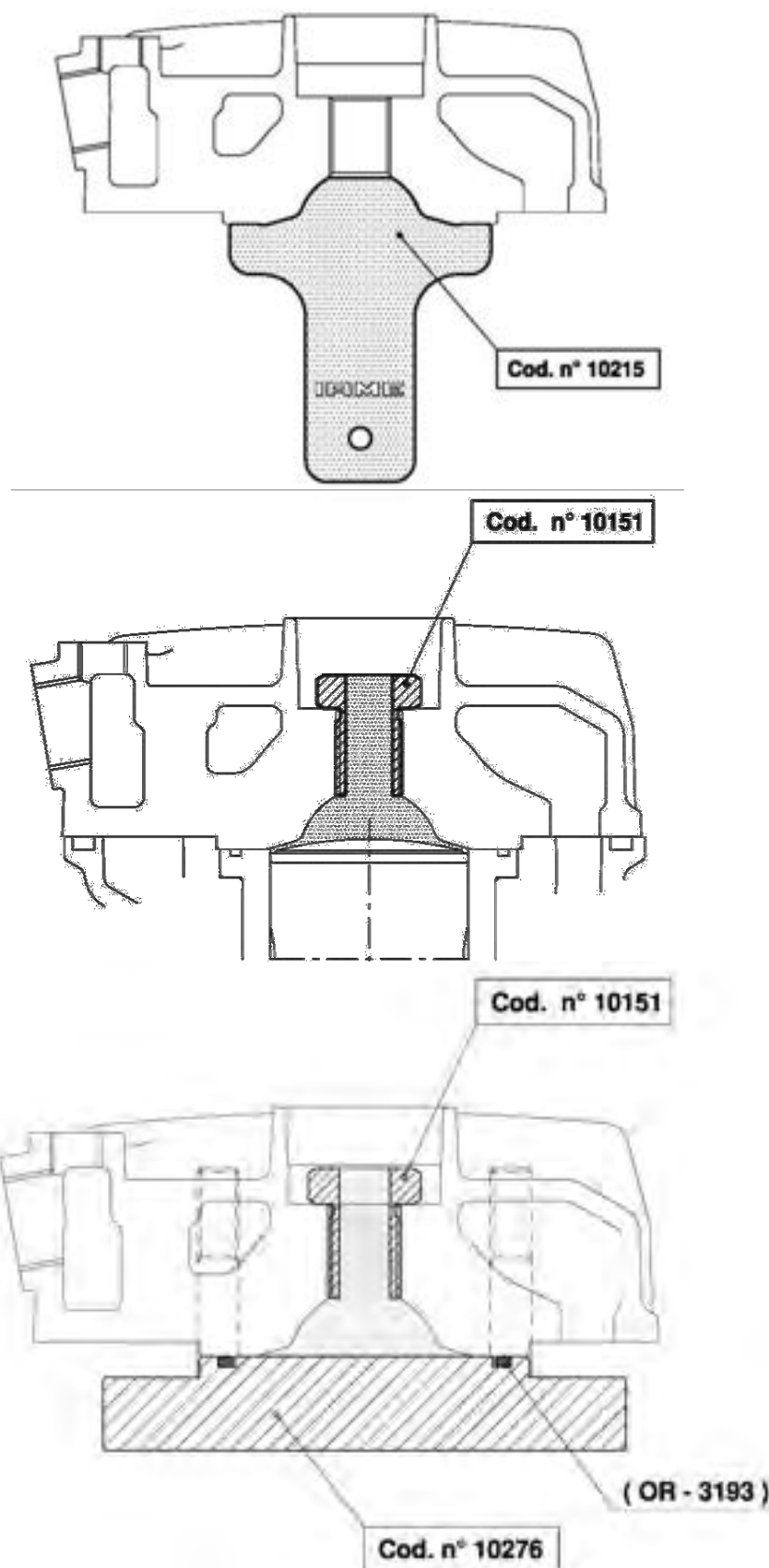
NO GO GAUGES
OUTILS N'ENTRE PAS DANS



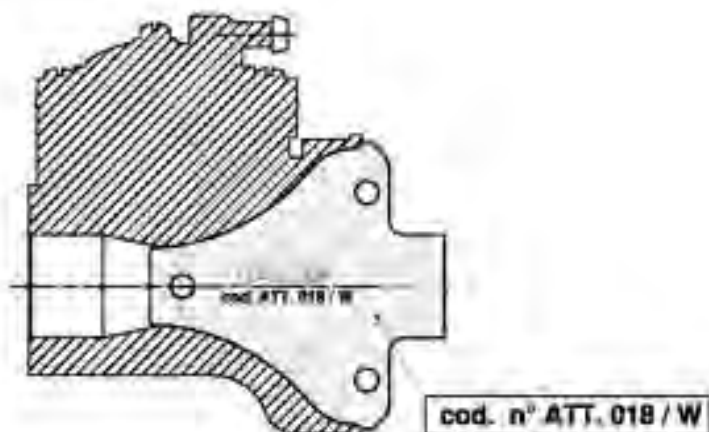
CONTROL GAUGES
OUTILS DE CONTROLL



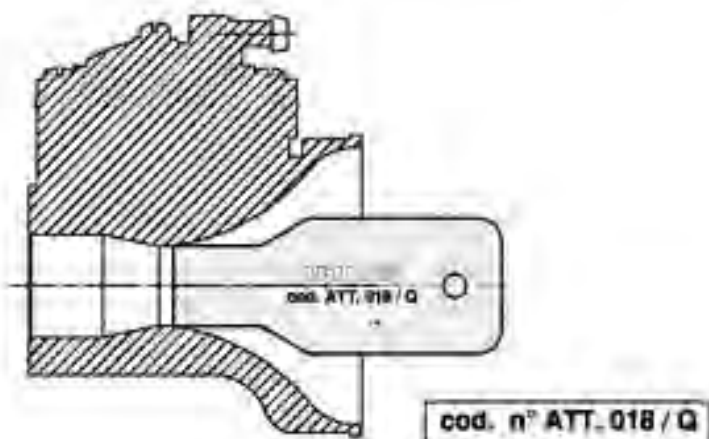
**CONTROL GAUGES
OUTILS DE CONTROLL**



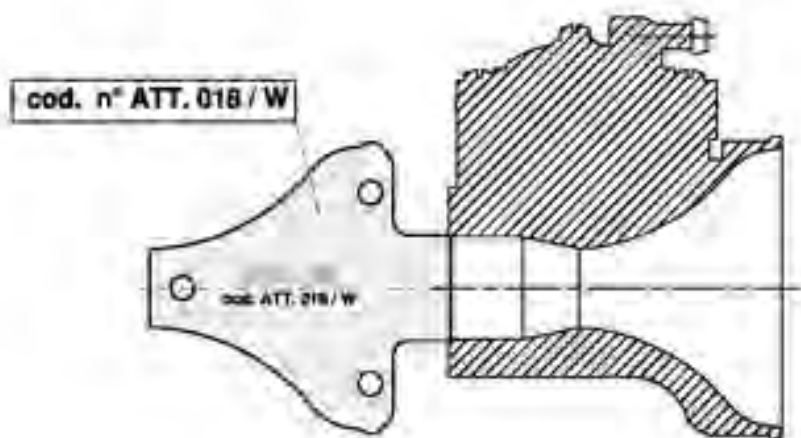
**CONTROL GAUGES
OUTILS DE CONTROLL**



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.

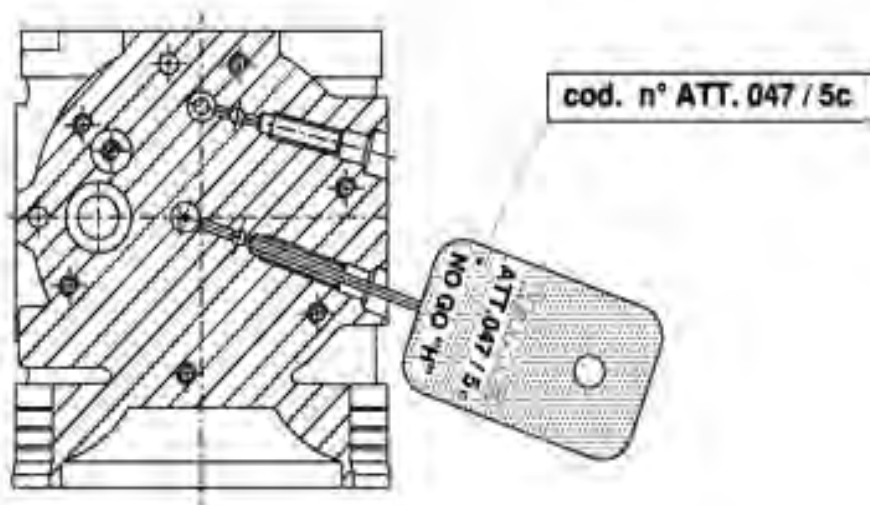
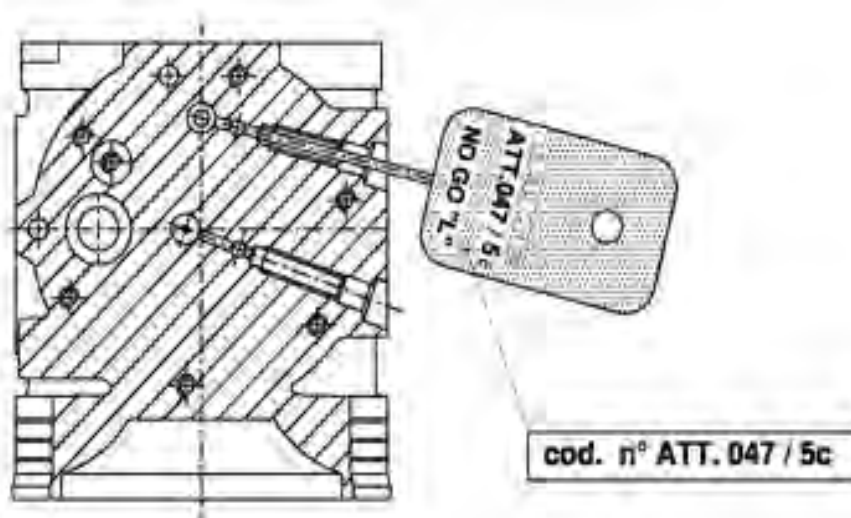


Check that the tool does not enter into the venturi duct inlet of carburettor.
Vérifier que l'outil n'entre pas dans l'entrée du conduit Venturi du carburateur.



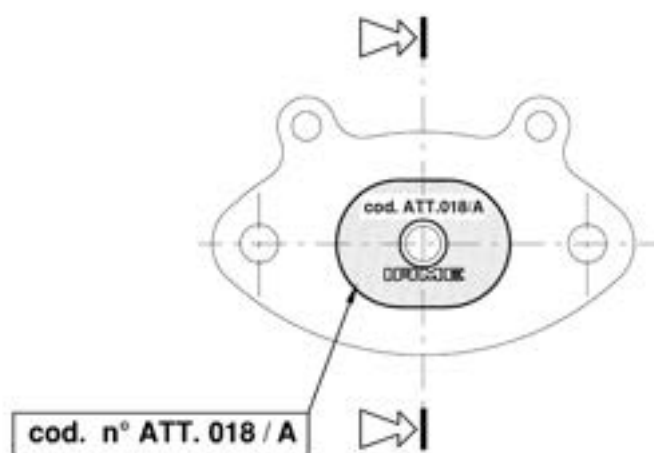
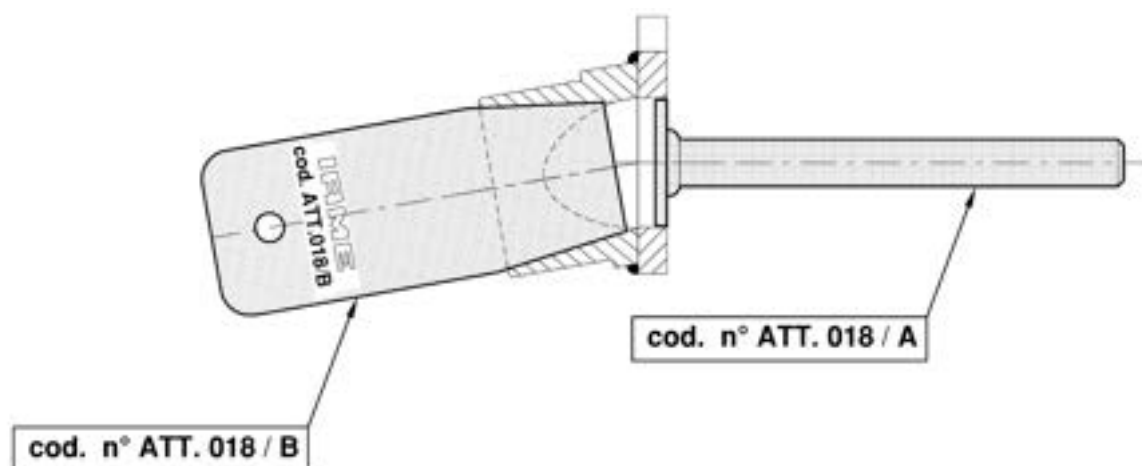
Check that the tool does not enter into the venturi duct outlet of carburettor.
Vérifier que l'outil n'entre pas dans la sortie du conduit Venturi du carburateur.

**CONTROL GAUGES
OUTILS DE CONTROLL**

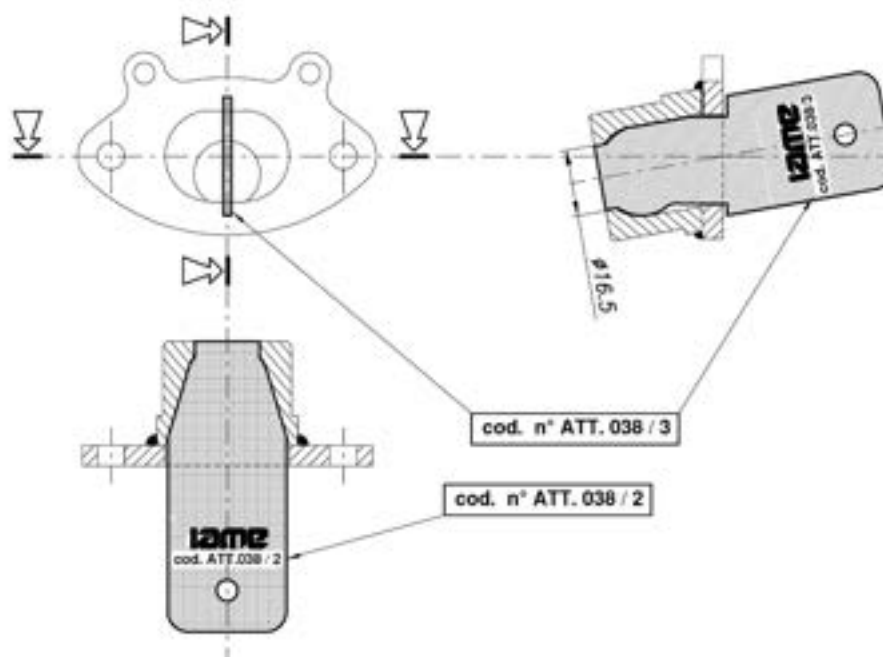


Check that the spikes does not enter into the holes.
Vérifiez que les pointes n'entrent pas dans les trous.

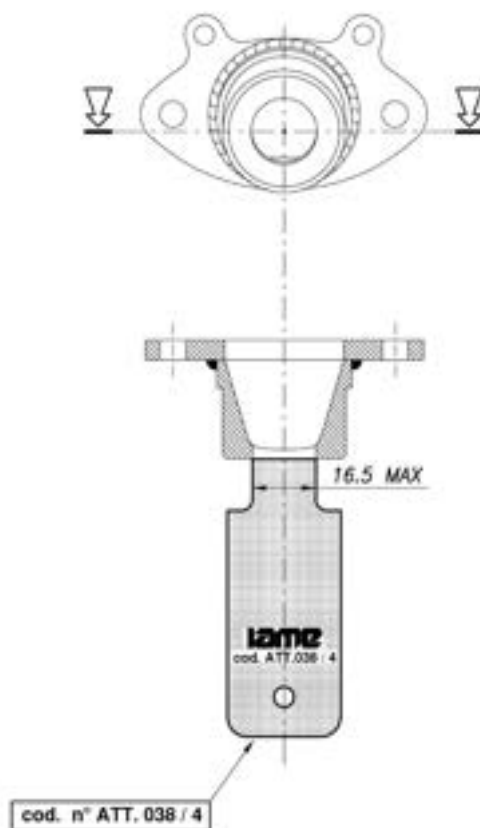
CONTROL GAUGES
OUTILS DE CONTROLL



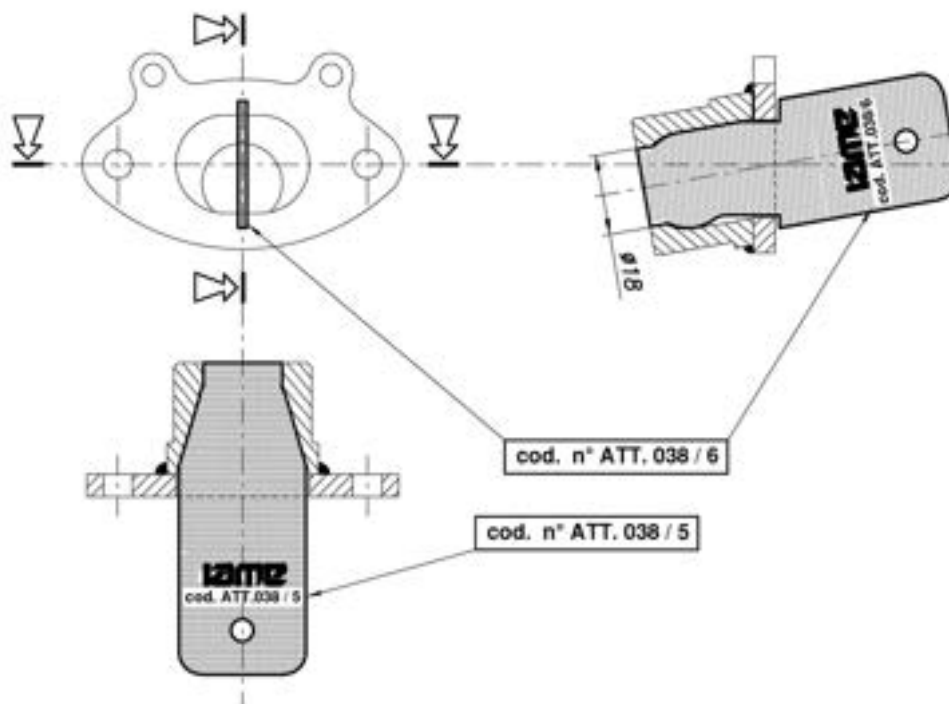
Check that the tool must be the same shape of the exhaust manifold.
Vérifiez que l'outil doit être de la même forme du collecteur d'échappement



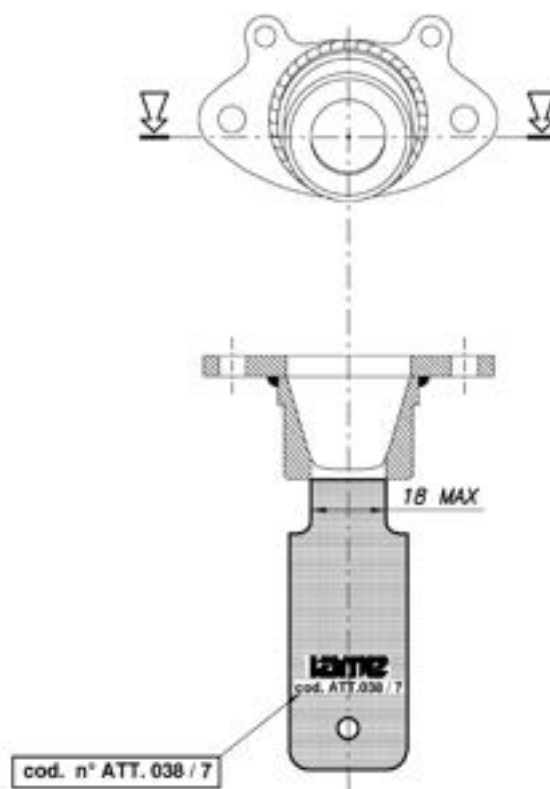
Check that the tool must be the same shape of the inlet carburettor.
Vérifier que l'outil doit avoir la même forme que l'admission du carburateur.



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 / CARBURATEUR

Tillotson HW-31A



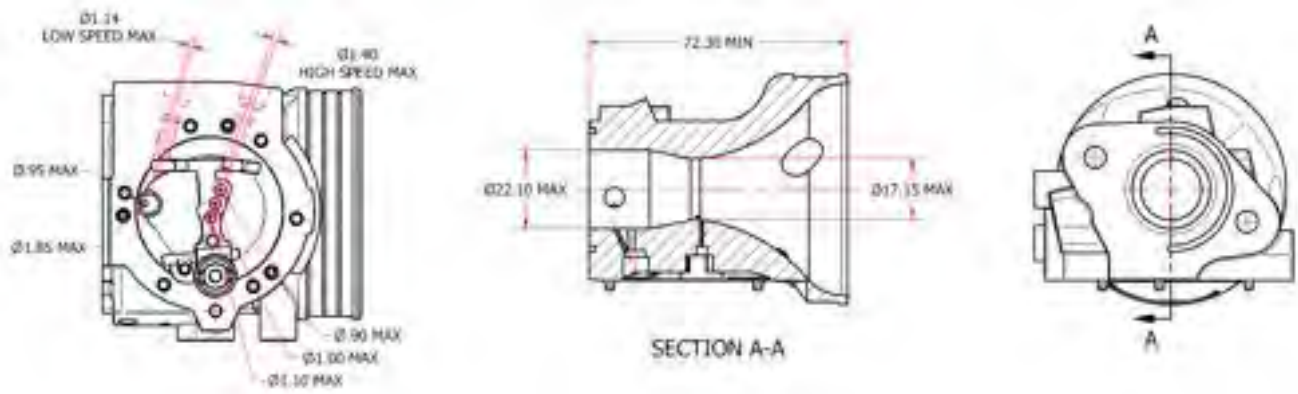
PHOTO OF ADJUSTING SIDE
PHOTO CÔTÉ RÉGLAGE



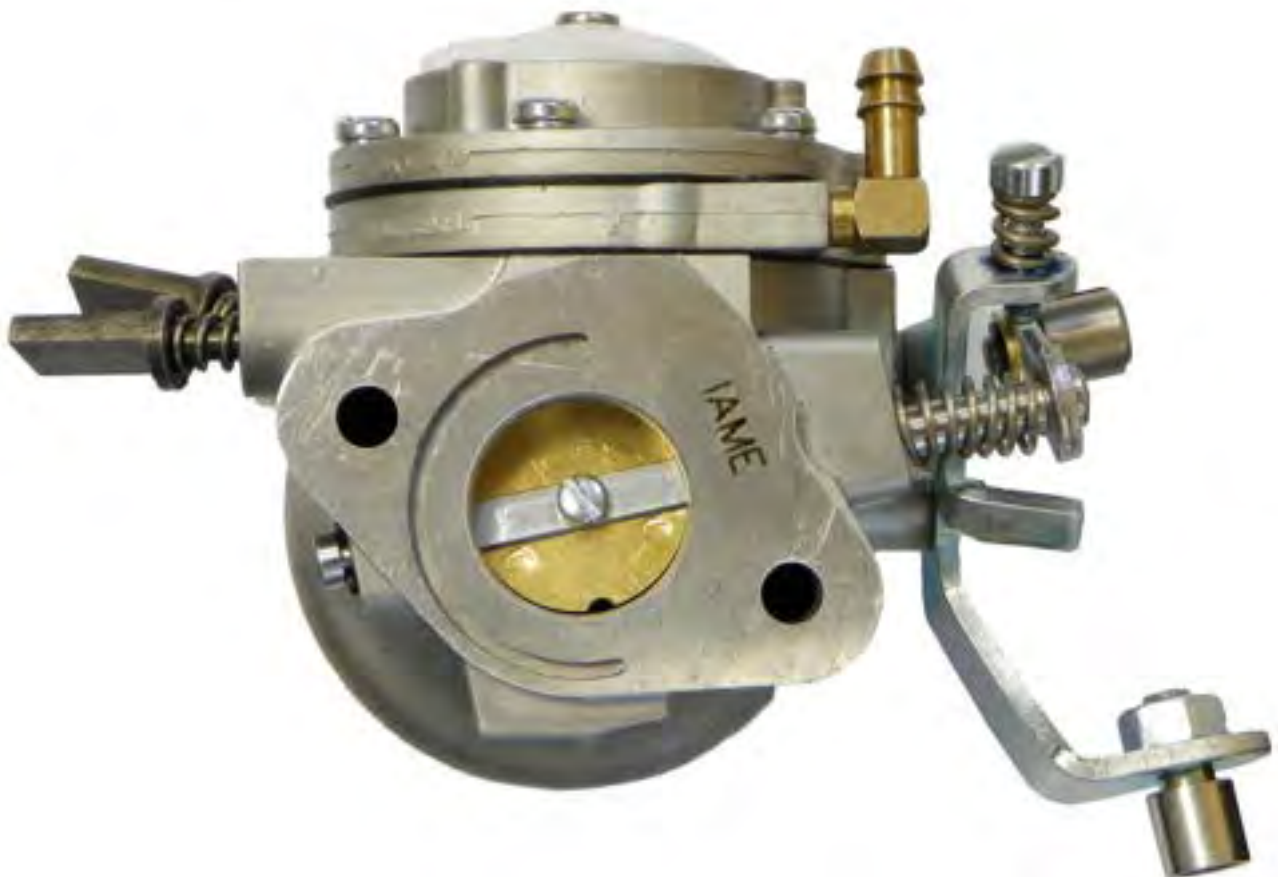
PHOTO OF INLET SIDE
PHOTO CÔTÉ ASPIRATION

Manufacturer - <i>Constructeur</i>	TILLOTSON LTD.
Make - <i>Marque</i>	TILLOTSON
Model - <i>Modèle</i>	HW-31A

SECTION VIEW – VUE DE SECTION AVEC DIMENSIONS



“IAME” MARKING – MARQUAGE “IAME”



CARBURETTOR - DESCRIPTION AND SKETCH OF PARTS CARBURATEUR - DESCRIPTION ET DESSIN DES PIÈCES

HW-31A



ITEM	PART NO.	DESCRIPTION	QTY
1	* 16-8137	DIAPHRAGM GASKET	1
2	* 237-463	DIAPHRAGM	1
11	91-100	DIAPHRAGM COVER	1
13	* 16-8139	FUEL PUMP GASKET	1
14	* 237-762	FUEL PUMP DISCHARGE	1
15	141-86	FUEL PUMP BODY	1
16	15C-51	FUEL PUMP BODY SCREW	2
17	36-170	FUEL STRAINER SCREEN	1
18	* 16-8206	FUEL STRAINER COVER GASKET	1
19	91-421	FUEL STRAINER COVER	1
20	16-8113	FUEL STRAINER COVER RETAINING SCREW	1
21A	43-104	SOLE MIXTURE SCREW	1
21B	24-449	SOLE MIXTURE SCREW SPRING	1
21C	76A-136	SOLE MIXTURE SCREW WASHER	1
21D	44-361	SOLE MIXTURE SCREW PACKING	1
25	115A-27	INLET CONTROL LEVER	1
26	16-8124	PULVERIZER LEVER SCREW	1
26A	32-72	PULVERIZER LEVER PIN	1
27	* 238-720P	INLET NEEDLE & SEAT SET	1
28	16-8136	INLET SEAT GASKET	1
29	24-633	INLET TENSION SPRING	1
30A	43-104	HIGH SPEED MIXTURE SCREW	1
30B	24-449	HIGH SPEED MIXTURE SCREW SPRING	1
30C	76A-136	HIGH SPEED MIXTURE SCREW WASHER	1
31D	44-361	HIGH SPEED MIXTURE SCREW PACKING	1
33	26-224	THROTTLE SHUT CLIP	1
35	71-079	THROTTLE SHUT CLIP RETAINING SCREW	1
36	24-5381	THROTTLE RETURN SPRING	1
37	16-406	THROTTLE SHUTTER	1
38	15-420	THROTTLE SHUTTER SCREW	1
42	13-6215	THROTTLE GRASP	1
43	13-1218	THROTTLE LEVER ASSEMBLY	1
44	15-032	THROTTLE LEVER RETAINING SCREW	1
52	179-62	WASHER PLUG	1
54	80-196	MAIN PLUG	1
55	130-520	CABLE BRACKET	1
56	15-037	CABLE BRACKET RETAINING SCREW	1
57	71-079	BARBER SCREW	2
58	24-6113	BARBER SPRING	2
60	81-077	CARBURETTOR MOUNTING BRACKET	1
* INDICATES CONTENTS OF REPAIR KIT			
* INDICATES CONTENTS OF DIAPHRAGM & GASKET SET			
90-14W	REPAIR KIT		
100-14W	DIAPHRAGM & GASKET (STANDARD)		
238-720P	INLET NEEDLE & SEAT SET		

PARTS OF CARBURETTOR – PIÈCES DU CARBURATEUR

REF.9 - P. N°16-B217
DIAPHRAGM GASKET
JOINT DE DIAPHRAGME



Thickness / *Epaisseur* = 0.5 ± 0.1 mm

REF.13 - P. N° 16-B392
PUMP DIAPHRAGM GASKET
JOINT DE POMPE A ESSENCE



Thickness / *Epaisseur* = 0.8 ± 0.1 mm

REF.10 - P. N°237-600
DIAPHRAGM
DIAPHRAGME ASSEMBLE



Thickness / *Epaisseur* = 0.13 ± 0.07 mm

REF.14 - P. N°237-162
PUMP DIAPHRAGM
MEMBRANE DE POMPE A ESSENCE



Thickness / *Epaisseur* = 0.10 ± 0.063 mm

REF.11 - P. N° 91-1031
DIAPHRAGM COVER
COUVERCLE DE DIAPHRAGME

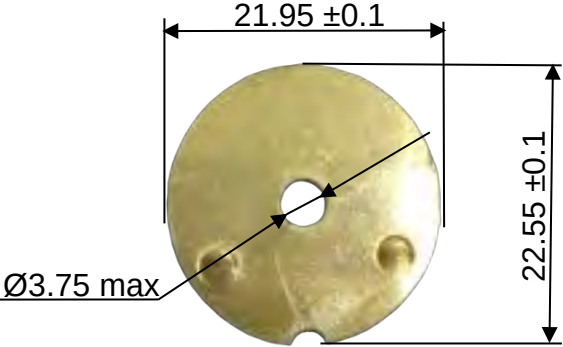
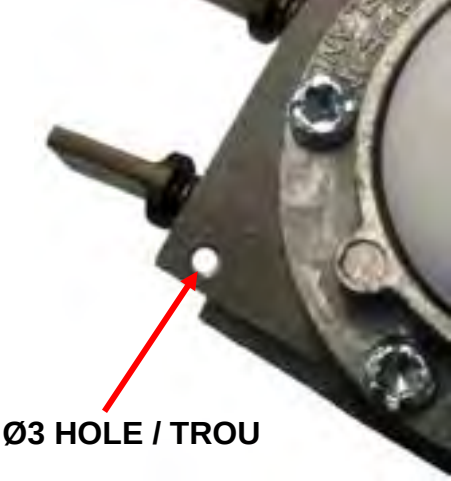


Thickness / *Epaisseur* = 6.75 ± 0.15 mm

REF.15 - P. N° 141-89
PUMP COVER
CORPS DE POMPE A ESSENCE



Thickness / *Epaisseur* = 12.5 ± 0.15 mm

REF.37 - P. N° 14-A96 THROTTLE SHUTTER PAPILLON  Thickness / <i>Epaisseur</i> = 0.81 ±0.1 mm	REF.27 - P. N° 233-720P SEAT + NEEDLE SIEGE + POINTEAU 
REF.21A - P. N° 43-1034 NEEDLE LOW SPEED VIS DE RAGLAGE BAS-REGIME 	REF.30A - P. N° 43-1034 NEEDLE HIGH SPEED VIS DE RAGLAGE HAUT-REGIME 
NEEDLE FUEL ALTERNATIVE POINTEAU ALTERNATIVE	HOLE FOR CARBURETTOR SEALING TROU POUR LE PLOMBAGE
REF.27 - P. N° 233-720P 	The carburettor can have this hole for sealing. <i>Le carburateur peut avoir ce trou pour le plombage</i>  Ø3 HOLE / TROU