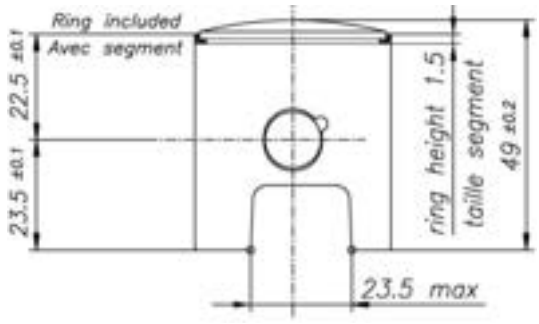
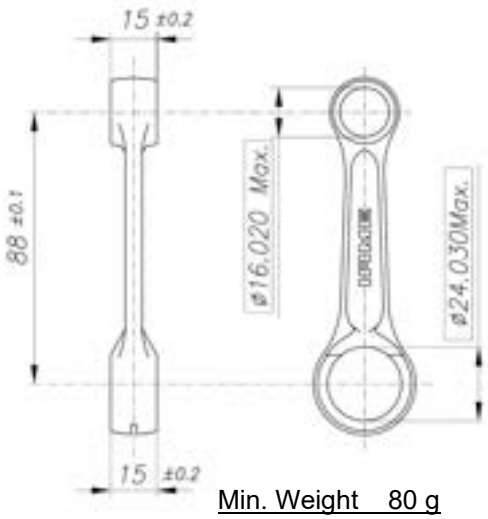
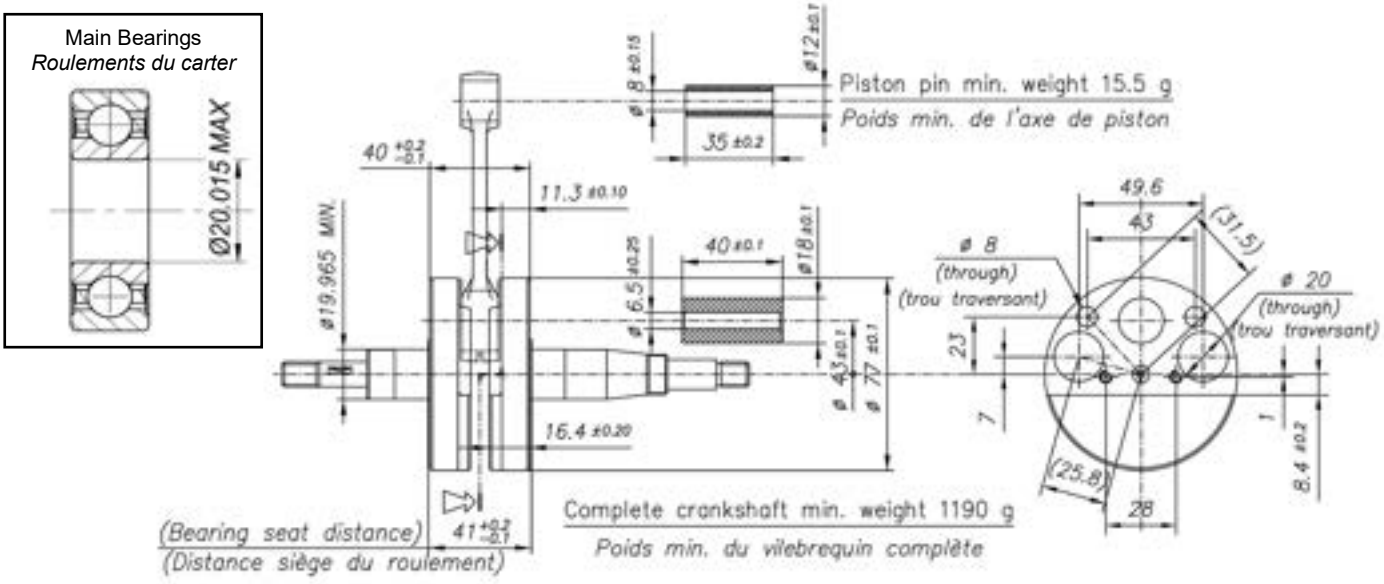
X30 WATERSWIFT 60CC TAG ENTRY LEVEL

FEATURES - *CARACTERISTIQUES*	
Cylinder volume *Volume du cylindre*	59.17 cm³ (60.00 cm³ max)
Bore *Alésage*	41.81 mm
Max. bore *Alésage max.*	42.10 mm
Stroke *Course*	43 mm
Cooling system *Système de refroidissement*	Water *Eau*
Inlet system *Système d'admission*	Piston valve *Jupe de piston*
Number of carbs *Nombre de carburateurs*	1

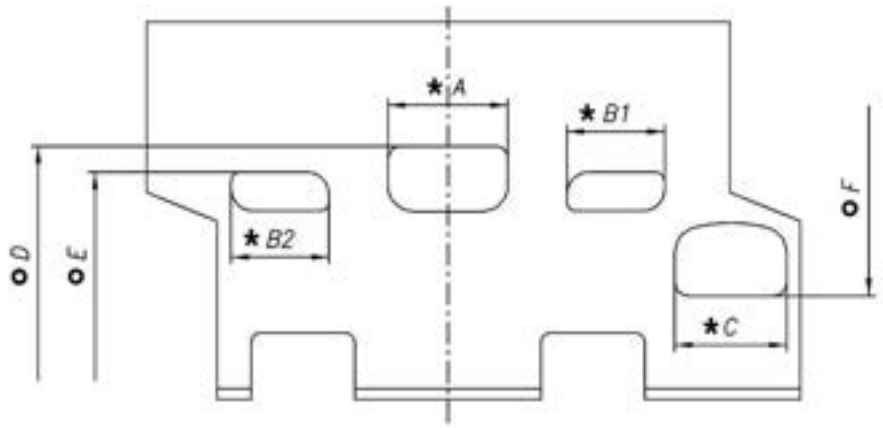
Tillotson Carburettor *Carburateur Tillotson*	HW-47A (15 mm)	Cylinder / crankcase transfers n° *N° de canaux cylindre / carter*	2
Number of piston rings *Nombre de segments*	1	Inlet / exhaust ports number *N° lumières admiss / échapp.*	1 / 1
Big end conrod bearing diam. *Diamètre palier tête de bielle*	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 *Matériel de la bielle*	Steel *Acier*	 Min. Weight Piston included ring = 60 g *Poids Min. Piston avec segment = 60 g*
Crankshaft material *Matériel du vilebrequin*	Steel *Acier*	
Head Material *Matériel de la culasse*	Aluminium	
Cylinder Material *Matériel du cylindre*	Aluminium	
Liner material *Matériel de la chemise*	Cast Iron *Fonte*	DISTANCE BETWEEN CONROD CENTERS *ENTRE AXE DE LA BIELLE*
Crankcase material *Matériel du carter*	Aluminium	 Min. Weight 80 g *Poids min.*
Piston material *Matériel du piston*	Aluminium	
Piston rings material *Matériel des segments*	Cast Iron *Fonte*	
Exhaust muffler material *Matériel du pot d'échappement*	Sheet-steel *Tôle acier*	
Ball-bearings *Roulements*	6204 type	

CRANKSHAFT - *VILEBREQUIN*



CYLINDER DEVELOPMENT – *DEVELOPPEMENT DU CYLINDRE*



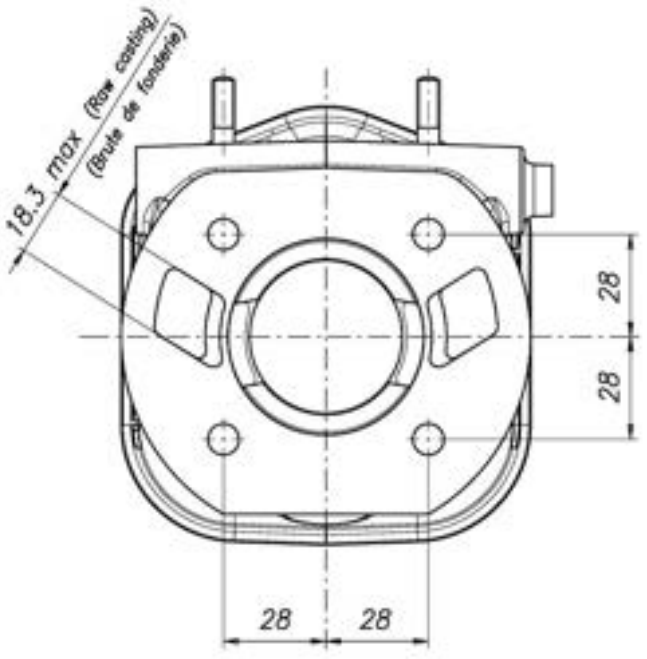
A	28±0.2 mm
B1 = B2	21.8±0.2 mm
C	26±0.2 mm
D	157° max
E	116° ±2°
F	145° max

CHORDAL READING - *LECTURE CORDALE*

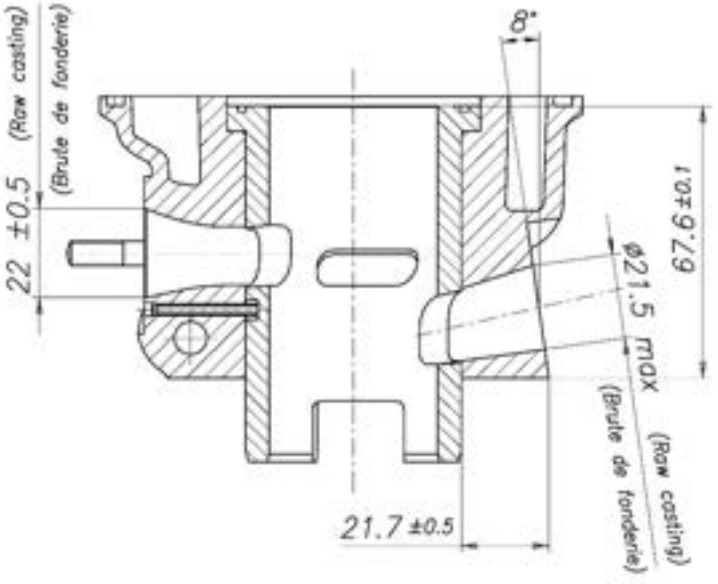
ANGULAR READING BY INSERT A 0.2 mm x 5 mm GAUGE -
LECTURE ANGULAIRE PAR INSERTION D'UNE CALE DE 0.2 mm x 5 mm

USING IAME TOOL Cod. 10194 – *UTILISER OUTIL*

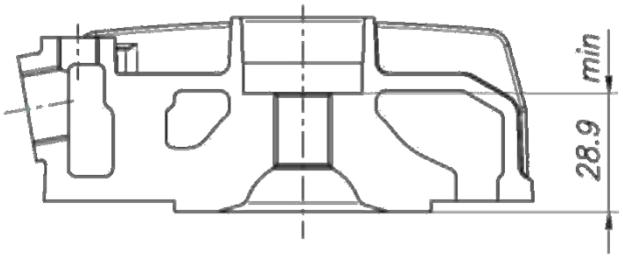
CYLINDER BASE VIEW
VUE DE LA BASE DU CYLINDRE

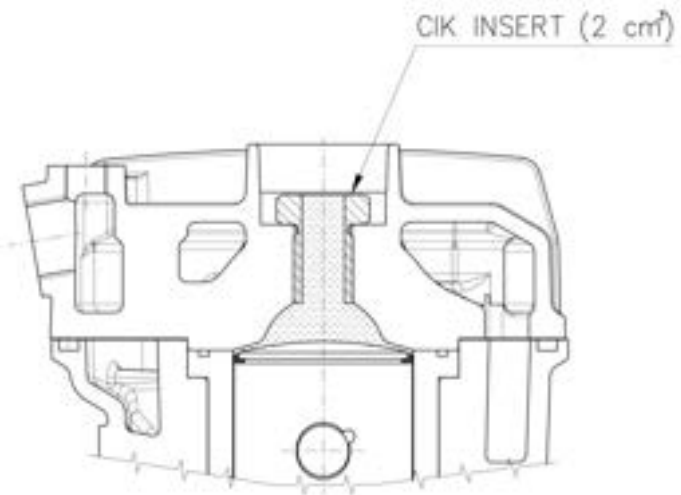


CYLINDER SECTION VIEW
VUE EN SECTION DU CYLINDRE

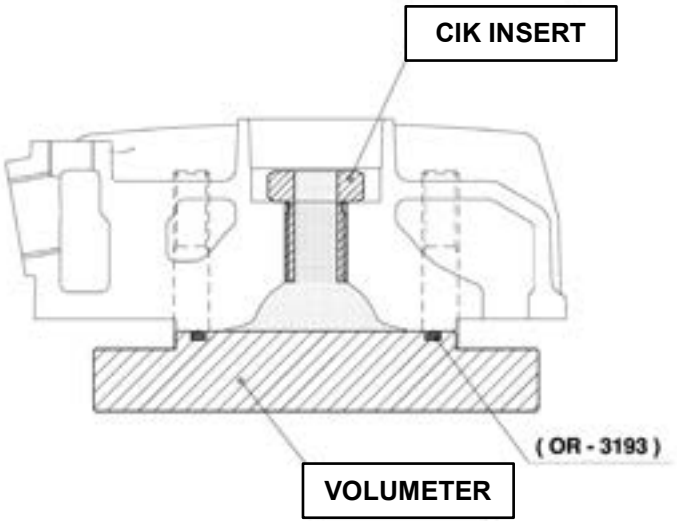


COMBUSTION CHAMBER VIEW
VUE DE LA CHAMBRE DE COMBUSTION





COMBUSTION CHAMBER VOLUME = 6.5 cm³ min.
VOLUME CHAMBRE COMBUSTION

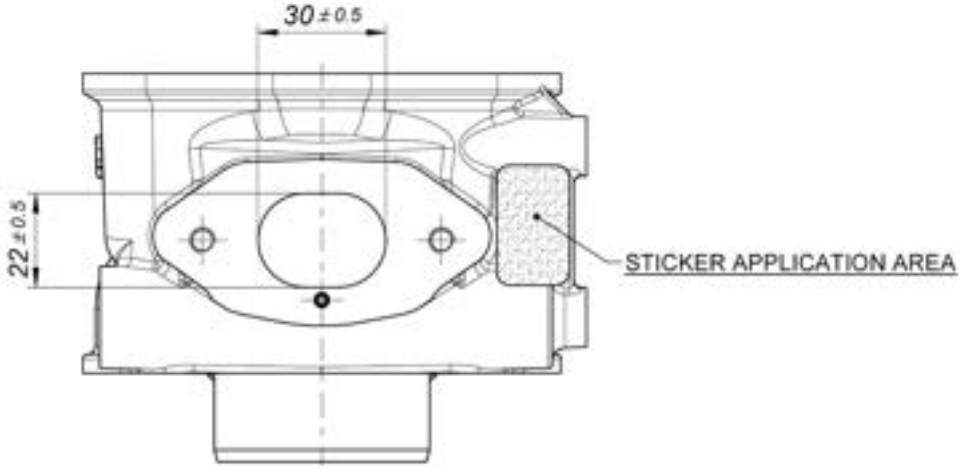


SQUISH MIN. = 0.75 mm

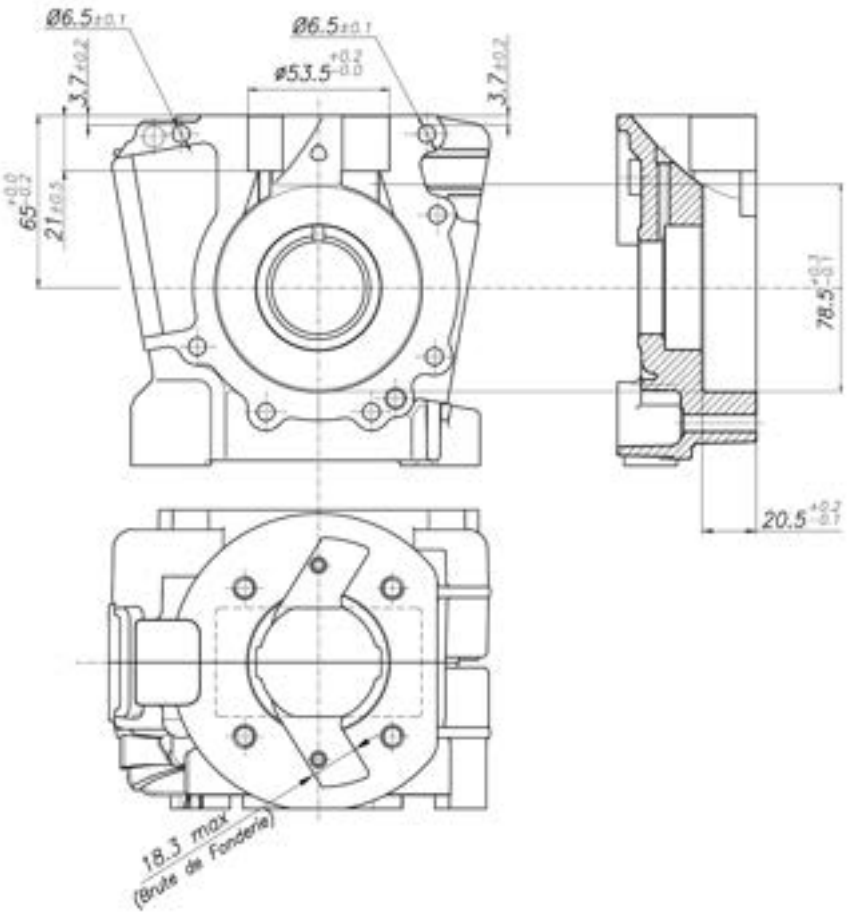
measured with Ø1.5mm TIN
mesurée avec de l'étain Ø1.5mm

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

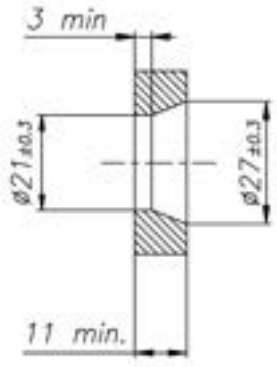


CRANKCASE INSIDE VIEW
VUE A' L'INTERIEUR DU CARTER

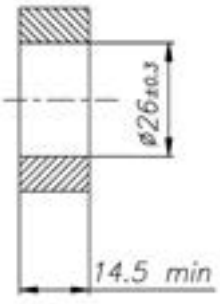


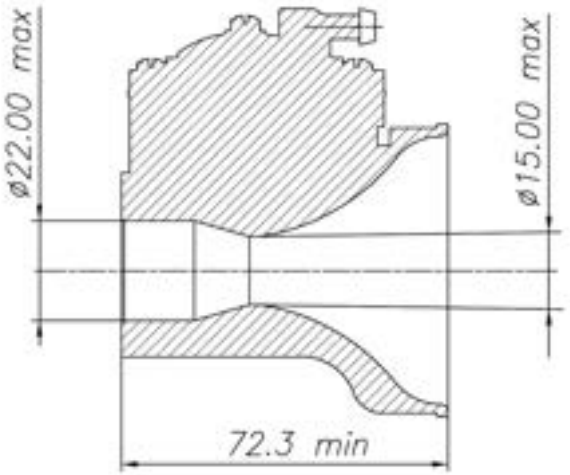
VENTURI CARB. DIMENSIONS and THERMAL SPACERS
CARBURATEUR ET SONS ENTRETOISES

Q.ty: 1



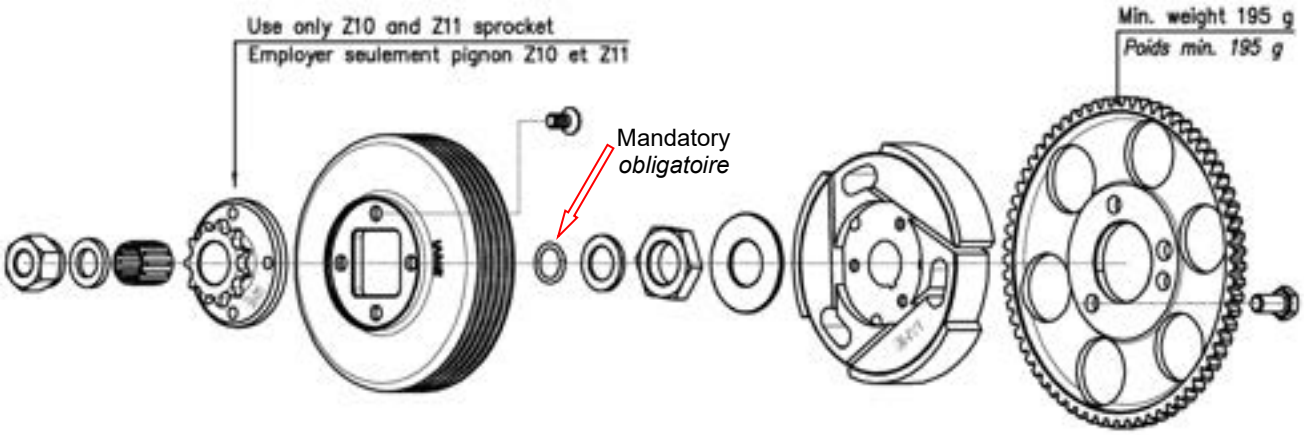
Q.ty: 1

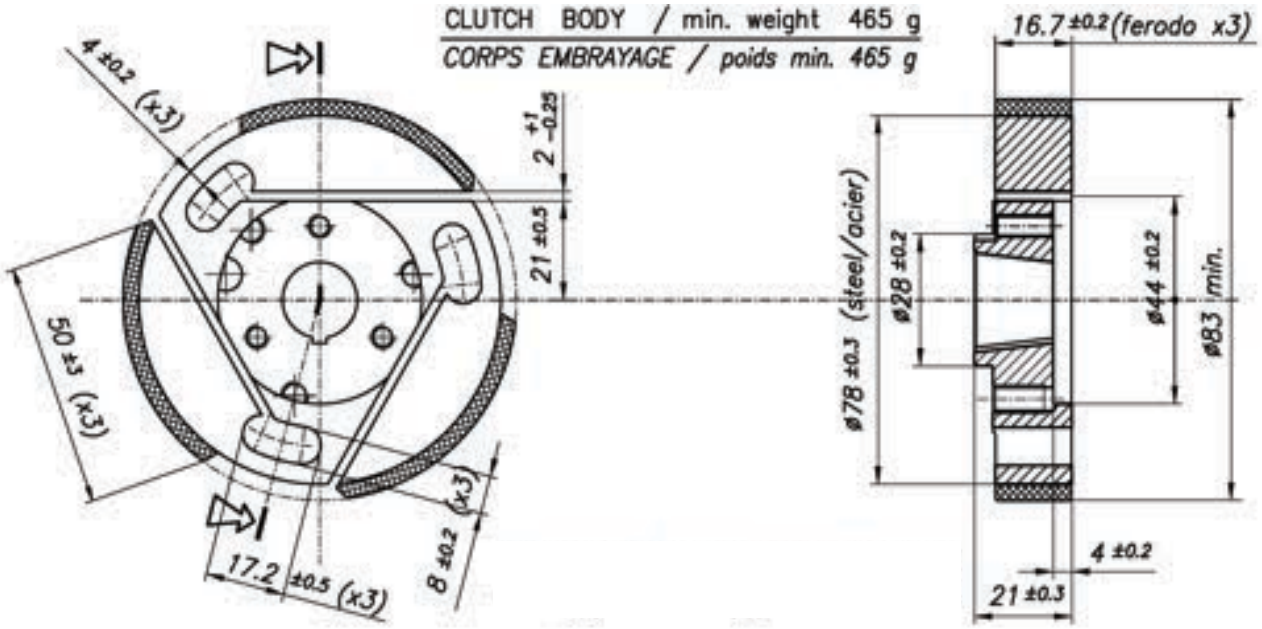


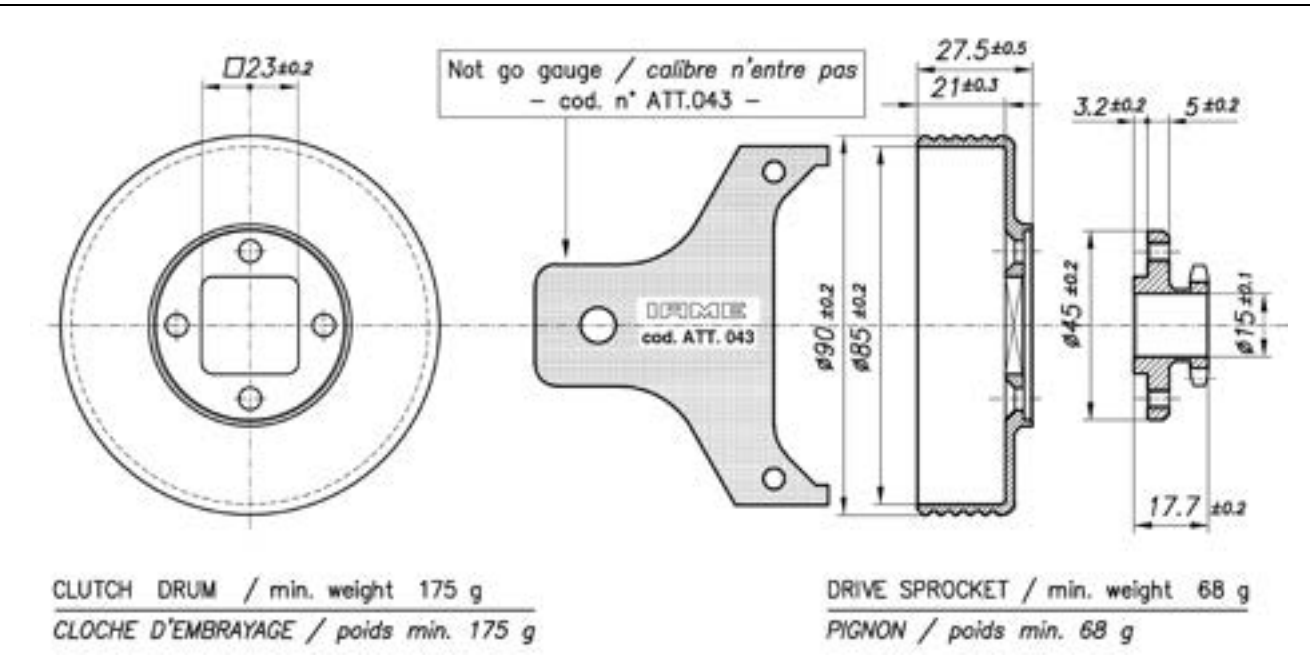


TILLOTSON MOD. HW-47A

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



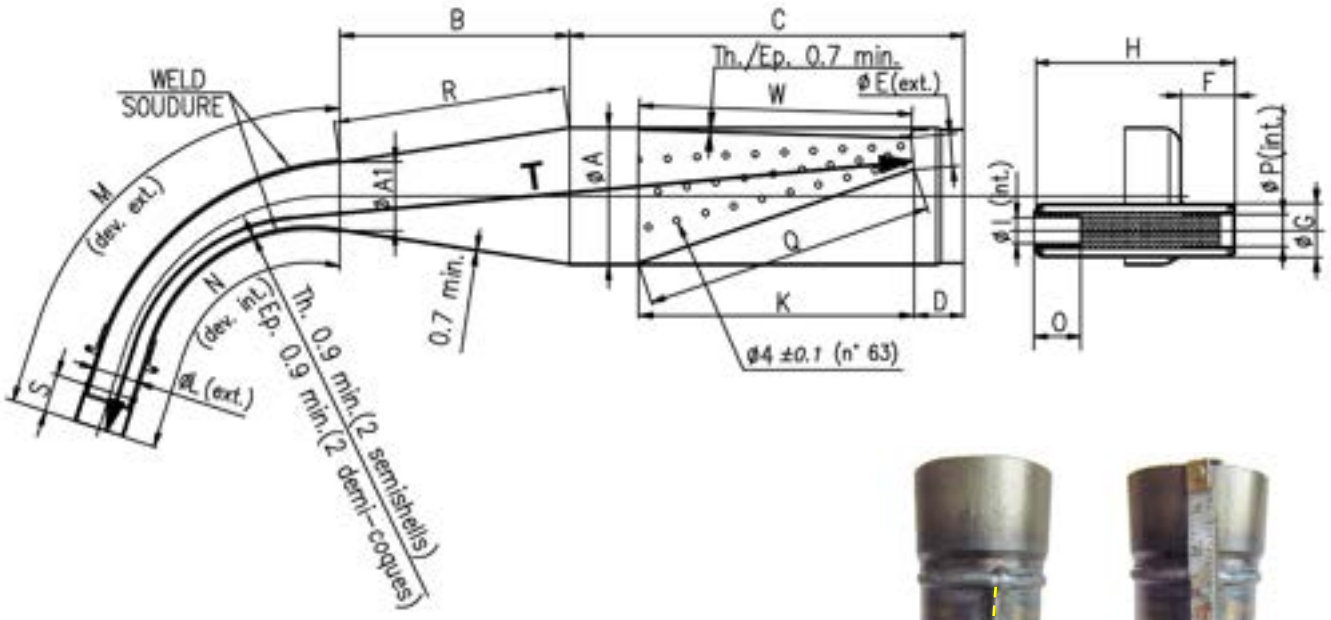


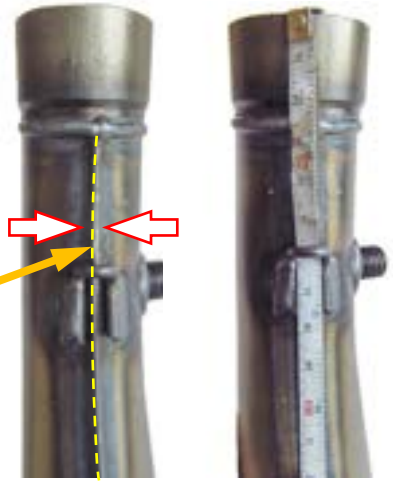


CLUTCH DRUM / min. weight 175 g
CLOCHE D'EMBRAYAGE / poids min. 175 g

DRIVE SPROCKET / min. weight 68 g
PIGNON / poids min. 68 g

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	

WARNING / ATTENTION:

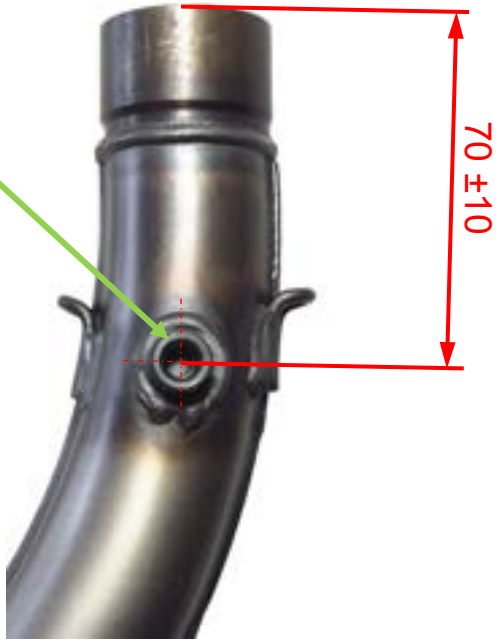
The dimensions "**M**", "**N**" and "**T**" must be taken by steel tape measure 6mm wide.
*Les dimensions « **M** », « **N** » et « **T** » doivent être à l'aide d'un ruban à mesurer en acier 6 mm de large.*

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.*

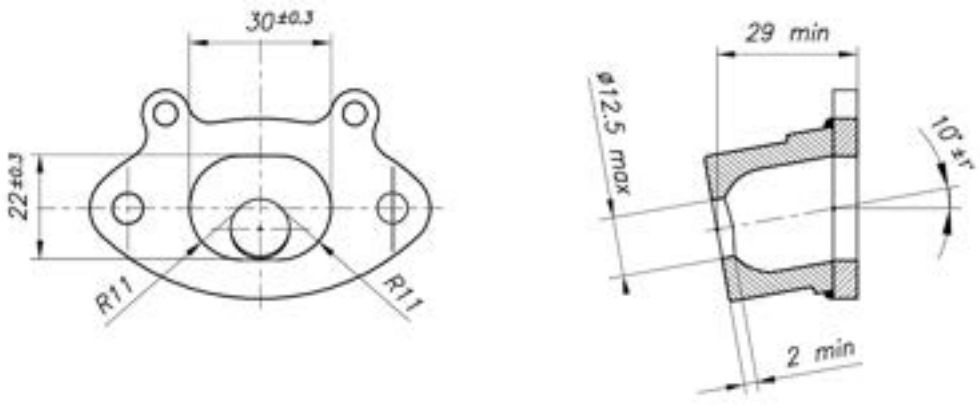
ALTERNATIVE EXHAUST MUFFLER with embossed logo
ECHAPPEMENT ALTERNATIVE avec logo en relief

MARKING / MARQUAGE

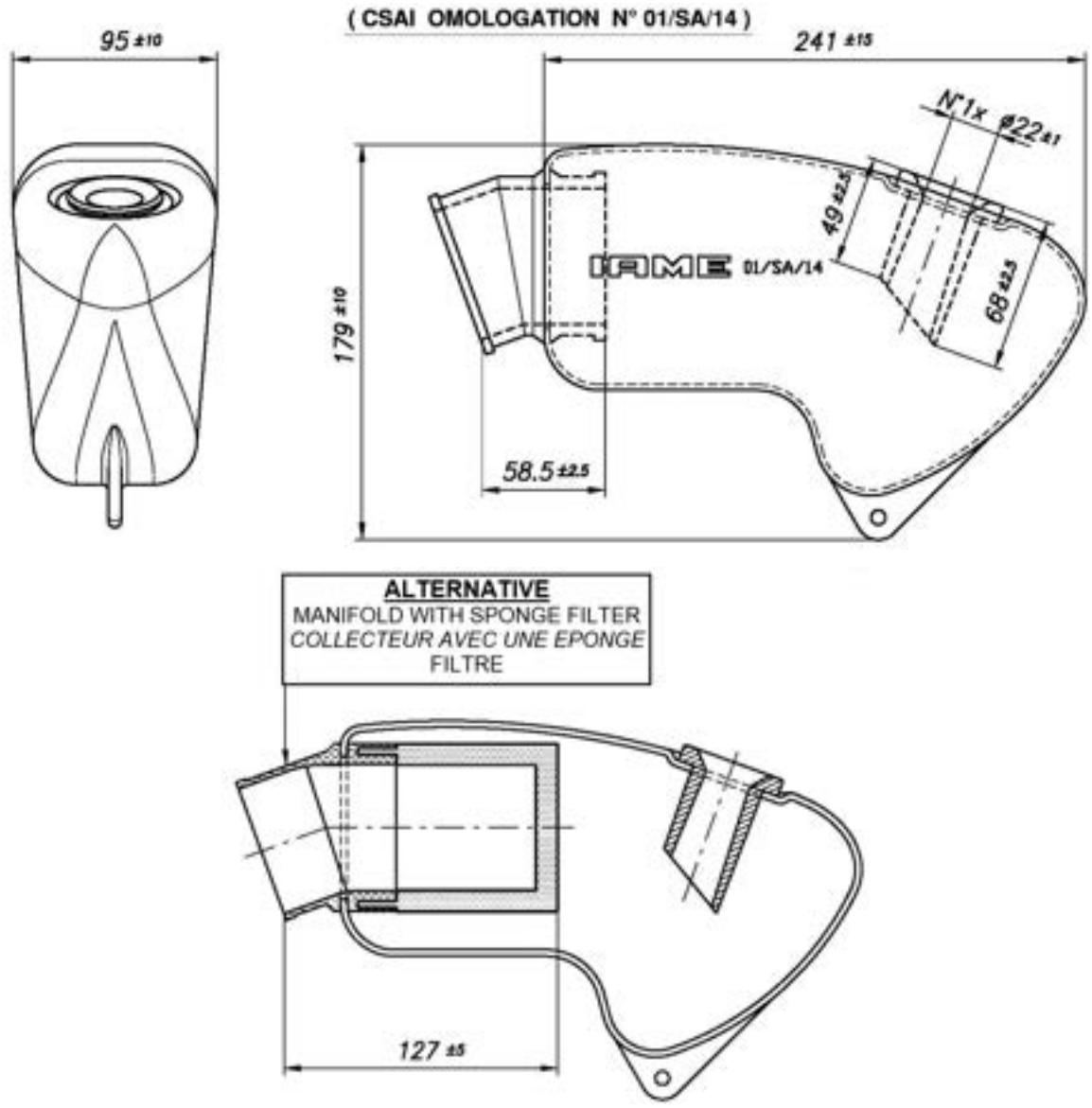


Plug for temperature probe
Connecteur pour sonde de température

EXHAUST MANIFOLD
RACCORD D'ÉCHAPPEMENT



INLET SILENCER – *SILENCIEUX D'ASPIRATION*



INLET SILENCER - PHOTO
PHOTO - SILENCIEUX D'ASPIRATION

WIRING DIAGRAM
SCHEMA CIRCUIT ELECTRIQUE

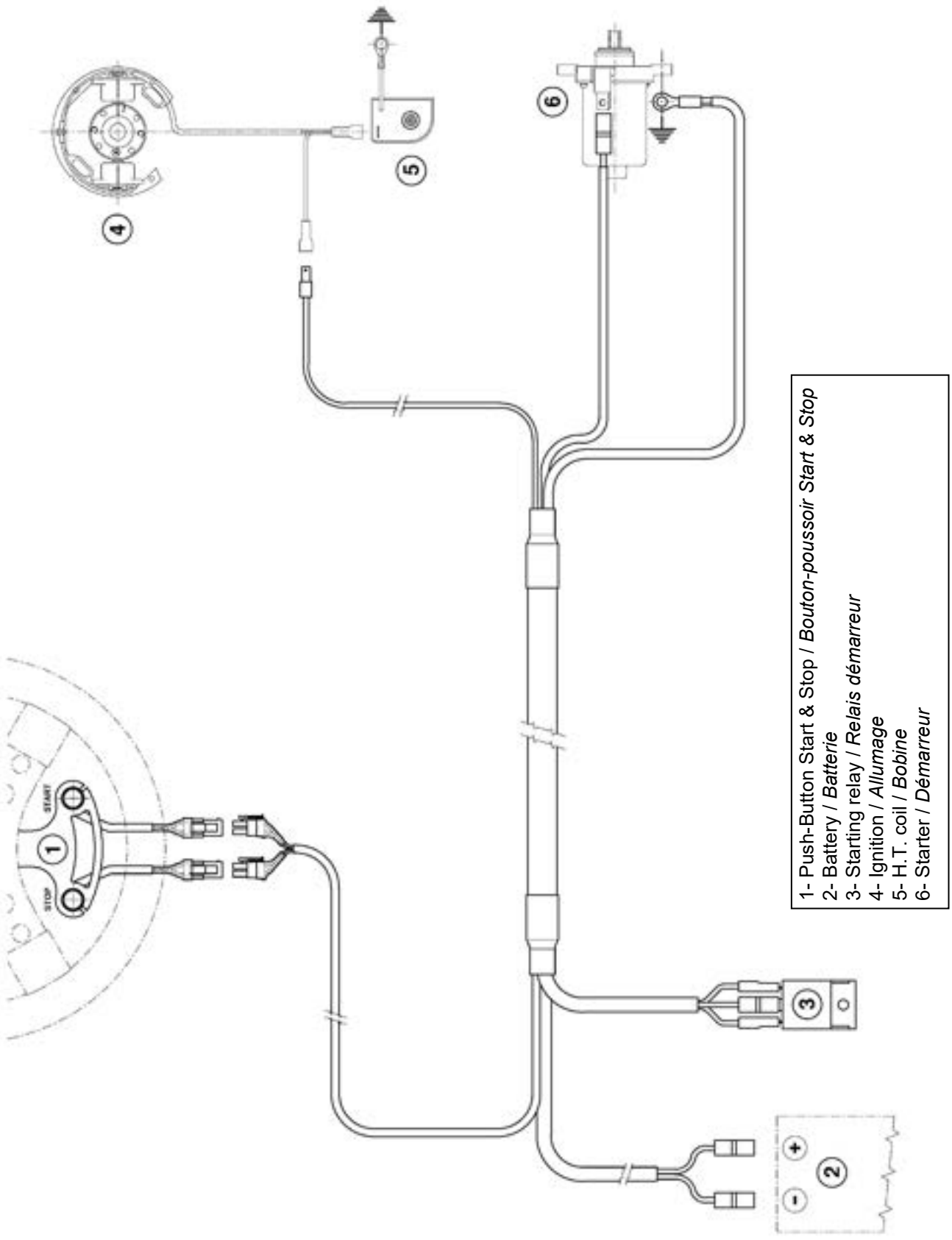


PHOTO COMPLETE WIRING
PHOTO DU CÂBLAGE ÉLECTRIQUE COMPLÈTE

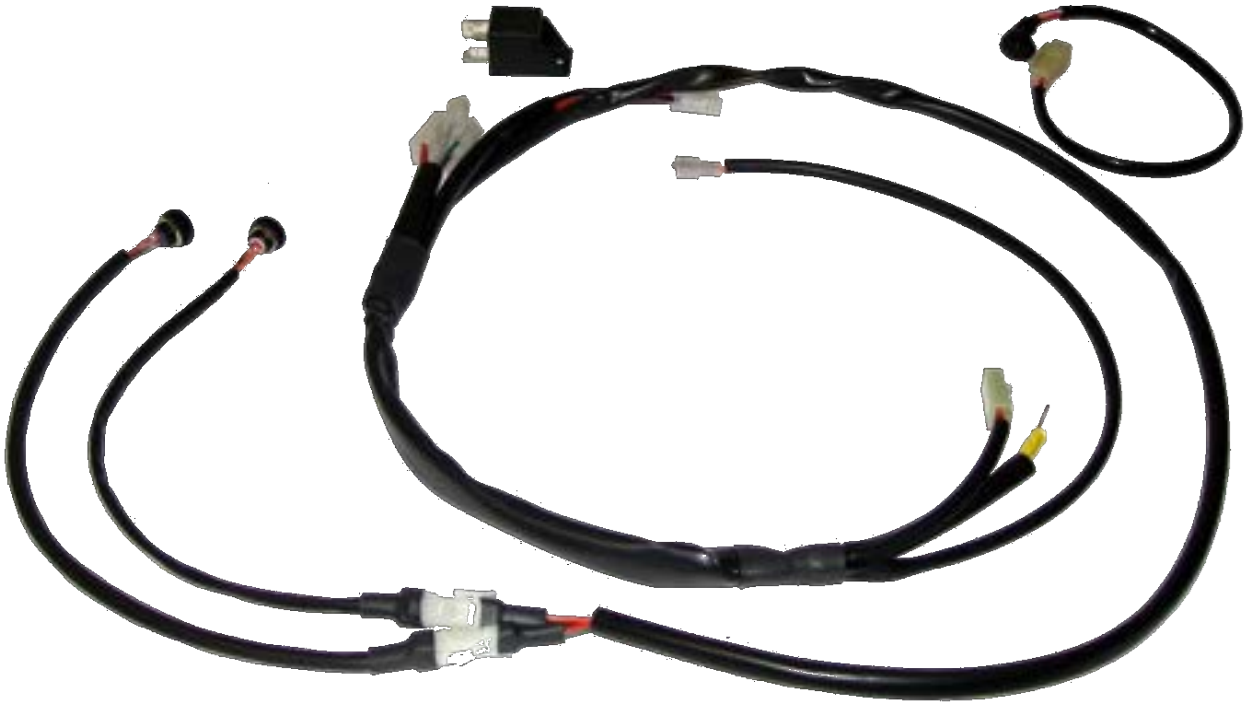
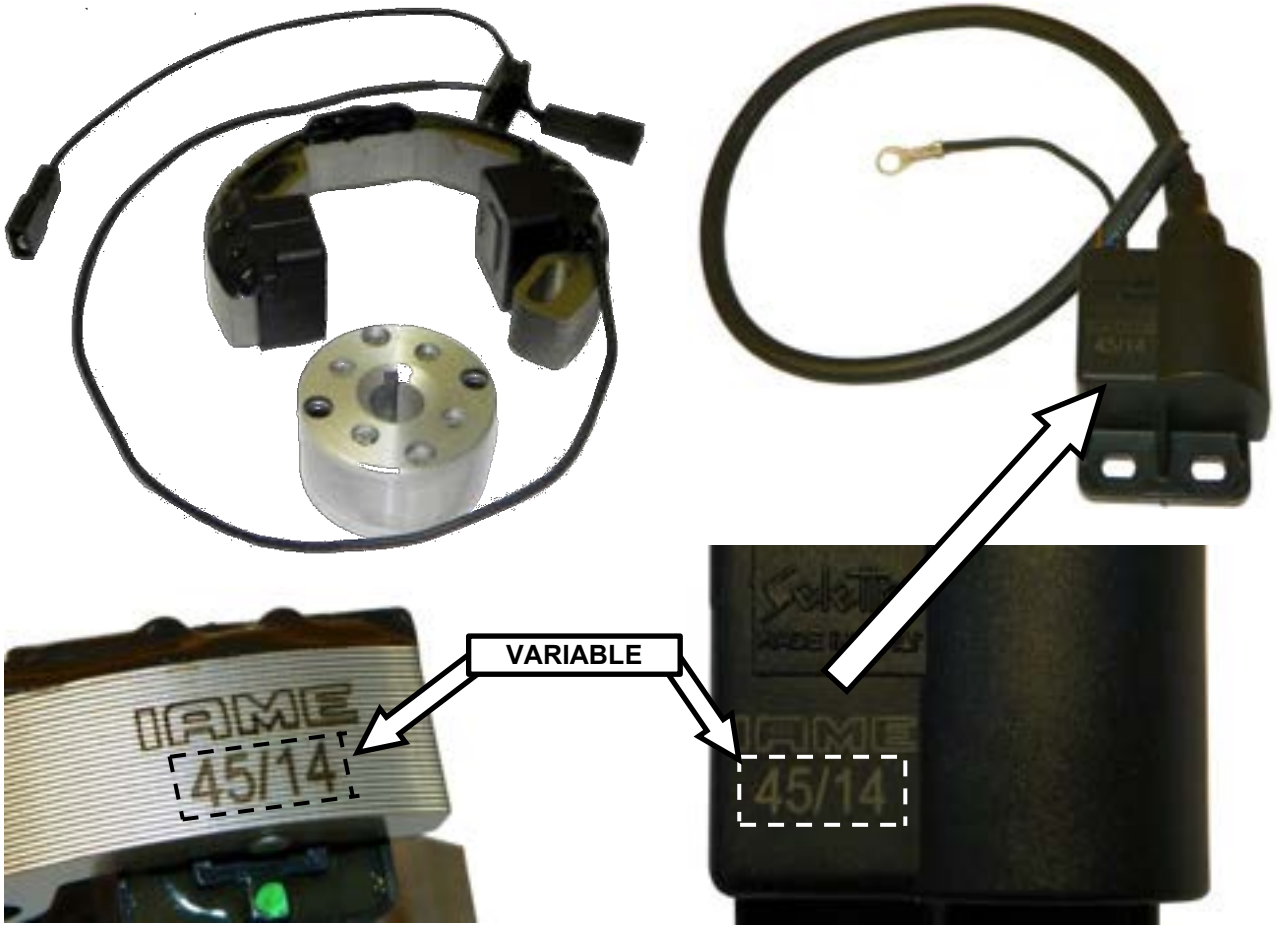


PHOTO IGNITION / PHOTO H.T. COIL (SELETTRA ANALOGUE 2 POLES)
PHOTO ALLUMAGE / PHOTO BOBINE (SELETTRA ANALOGIQUE 2 POLES)



ALTERNATIVE WIRING LOOM DIAGRAM
SCHÉMA CIRCUIT ÉLECTRIQUE ALTERNATIF

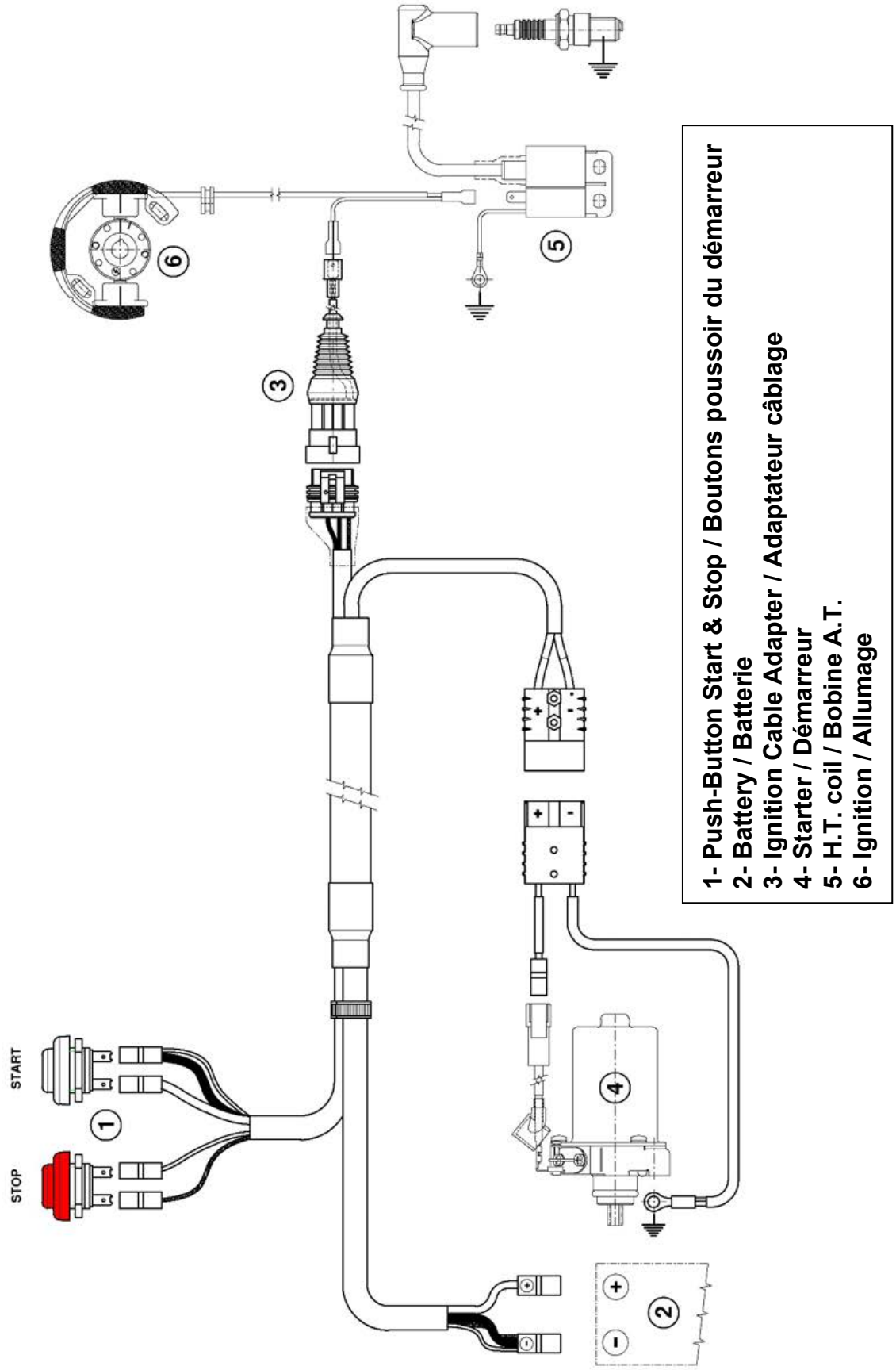
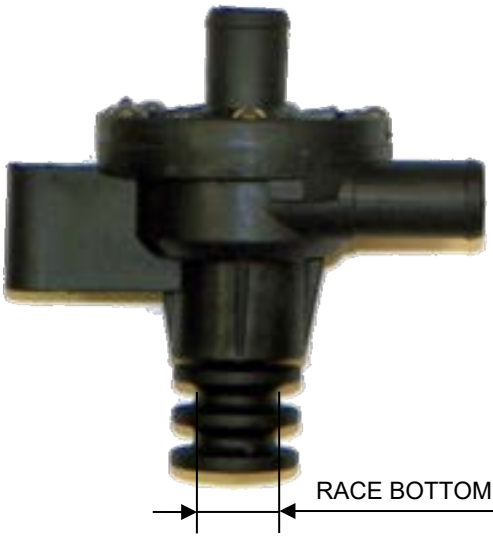


PHOTO OF ALTERNATIVE COMPLETE WIRING LOOM
PHOTO DU CÂBLAGE ÉLECTRIQUE COMPLÈTE ALTERNATIF

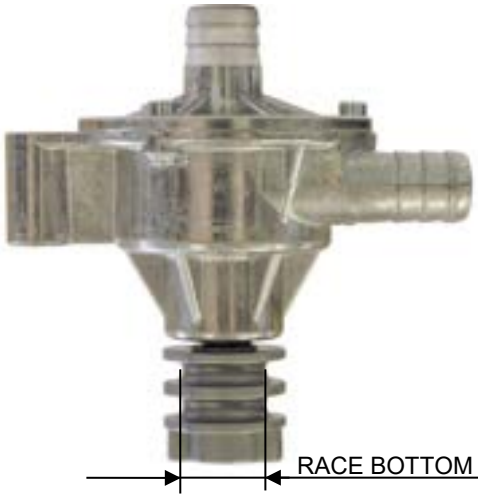
WATER PUMP ALTERNATIVES – ALTERNATIVES DU POMPE A' EAU



PLASTIC

RACE BOTTOM *FOND GORGE* Ø19 ±1

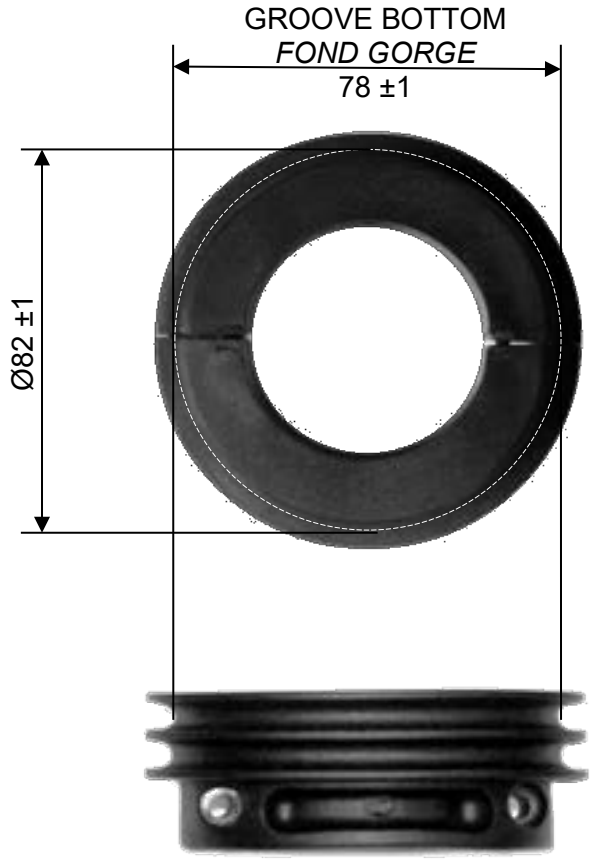
ALTERNATIVE



ALUMINUM

RACE BOTTOM - *FOND GORGE* Ø20 ±1

PULLEY ALTERNATIVE – ALTERNATIVE DU POULIE

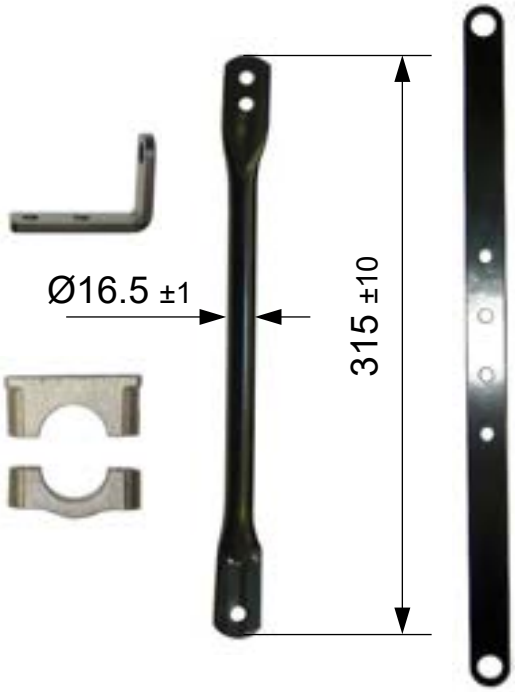


PLASTIC

ALTERNATIVE

ALUMINUM

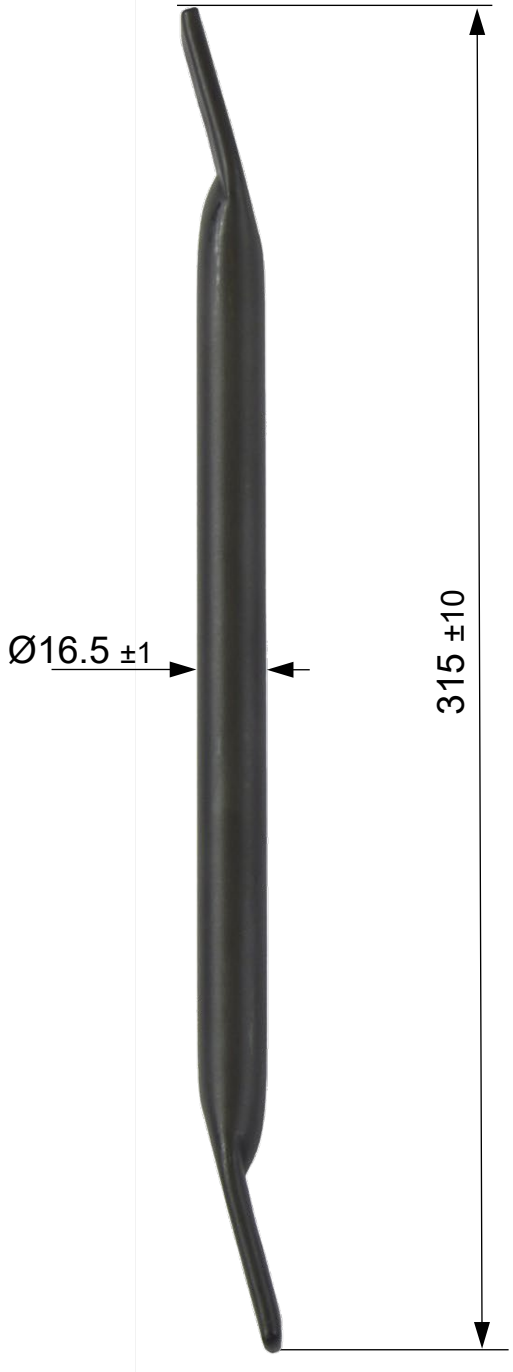
RADIATOR AND ITS SUPPORTS
RADIATEUR ET SES SUITIEN



PAINTED AND NOT PAINTED
PEINT ET PAS PEINT

ALTERNATIVE RADIATOR
RADIATEUR ALTERNATIF

ALTERNATIVE RADIATOR SUPPORT
ALTERNATIVE SUITIEN 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

OR

SEMICARTER IGNITION SIDE
SEMICARTER CÔTÉ ALLUMAGE

OR

PISTON IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION PISTON

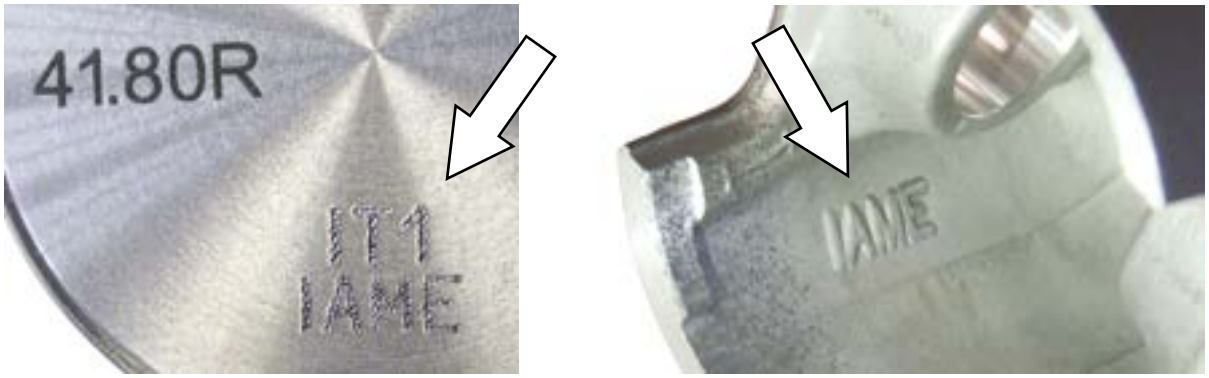


PHOTO IDENTIFICATION OF CONROD – TYPES ALTERNATIVE
PHOTO D' IDENTIFICATION DE LA BIELLE – TYPES ALTERNATIFS

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

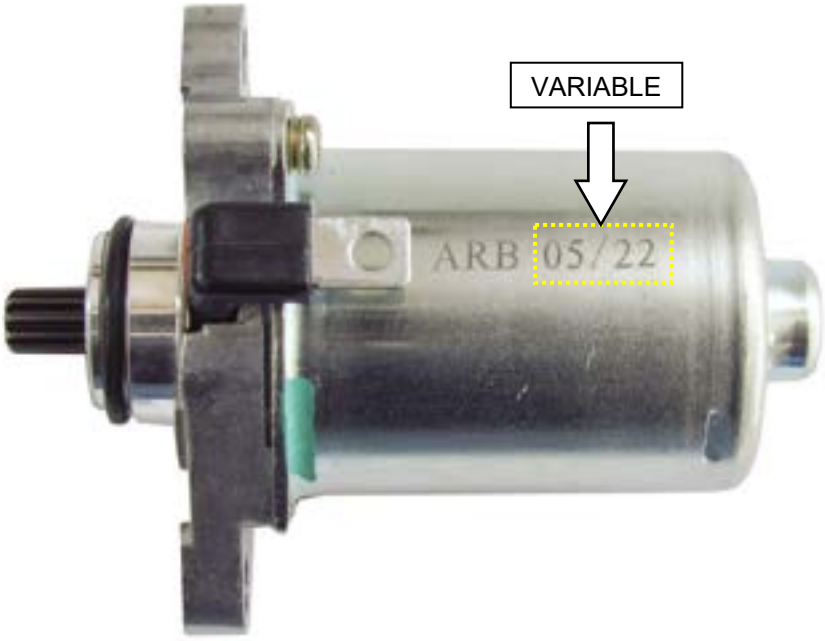
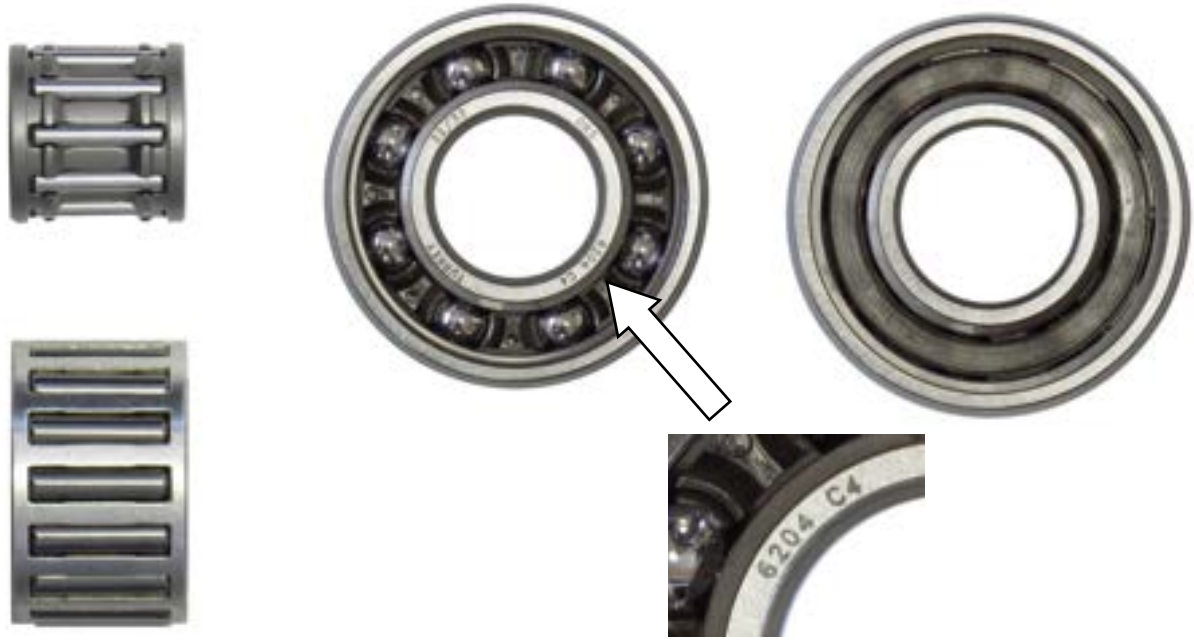


PHOTO IDENTIFICATION: SMALL & BIG END CONROD BEARING AND MAIN BEARING
PHOTO D'IDENTIFICATION DU ROULEMENT PIED/TÊTE DE BIELLE ET PRINCIPAUX



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

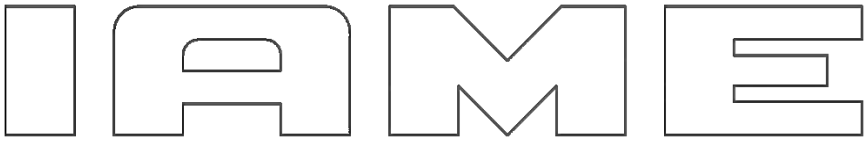
IGNITION COVER *COUVERCLE DU ALLUMAGE*	CLUTCH COVER *COUVERCLE D'EMBRAYAGE*
  OR 	 OR  

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»



or

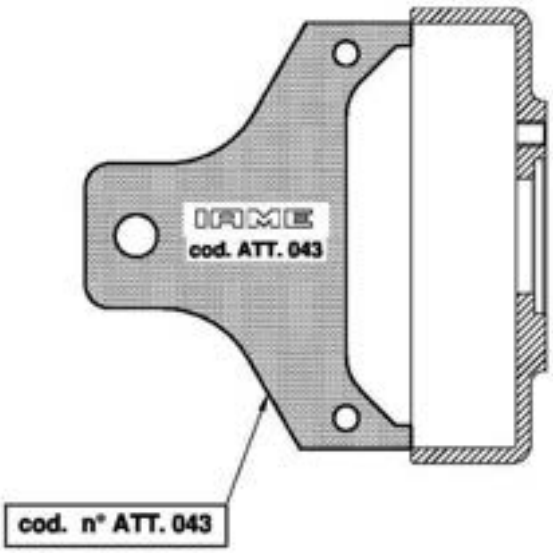
IAME

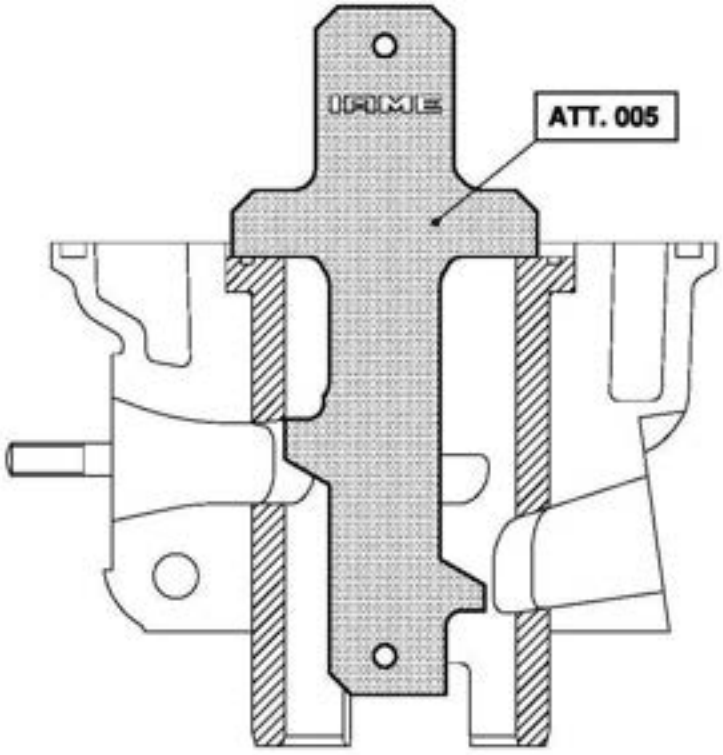
NOW COULD BE MARKED WITH NEW LOGO "IAME"
MAINTENANT POURRAIT EST MARQUAGE AVEC UN NOUVEAU LOGO "IAME"

or

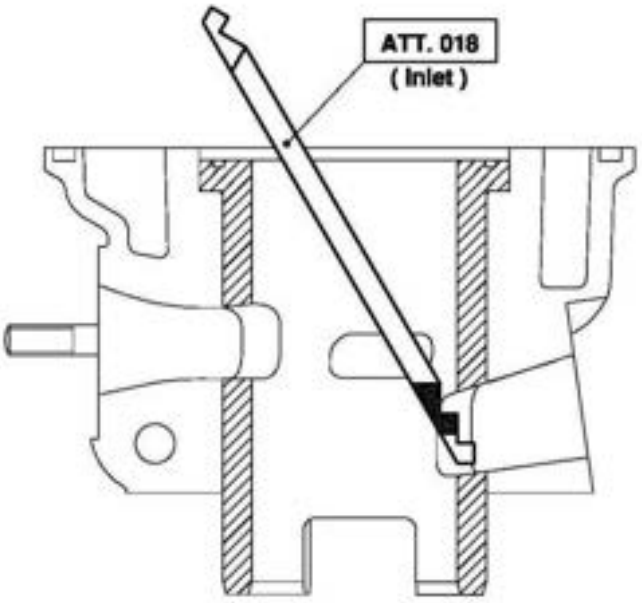
or

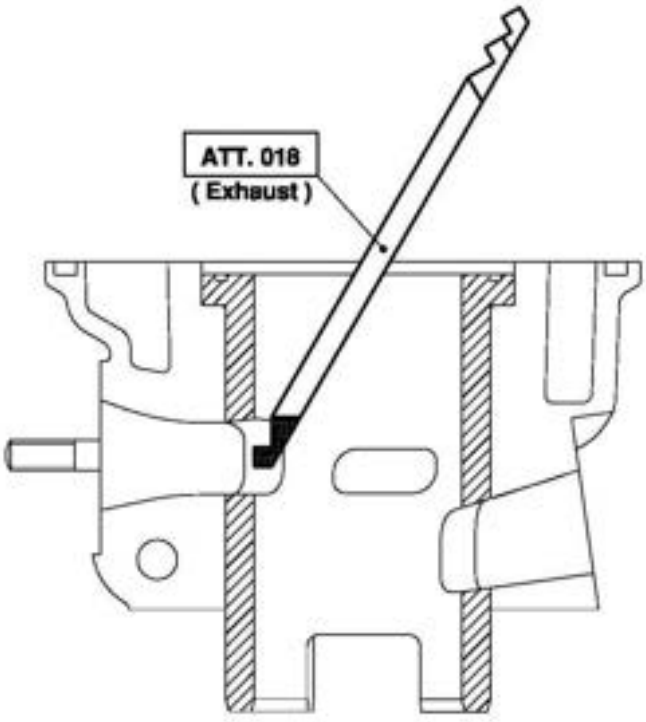
NO GO GAUGES
OUTILS N'ENTRE PAS DANS

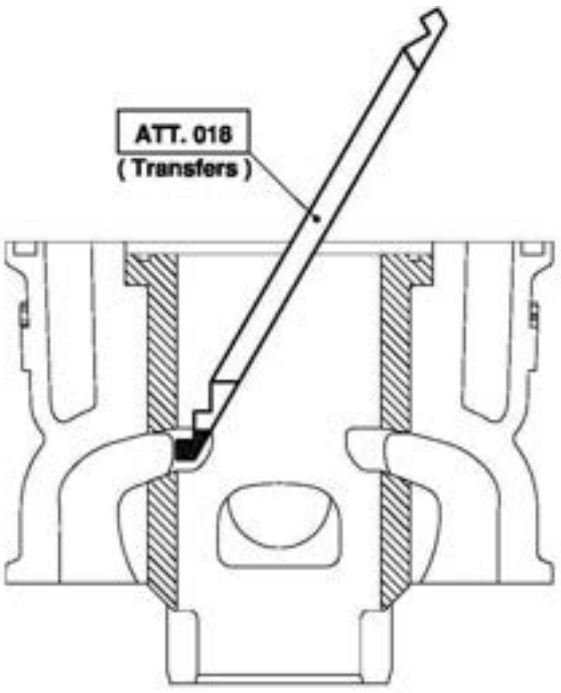




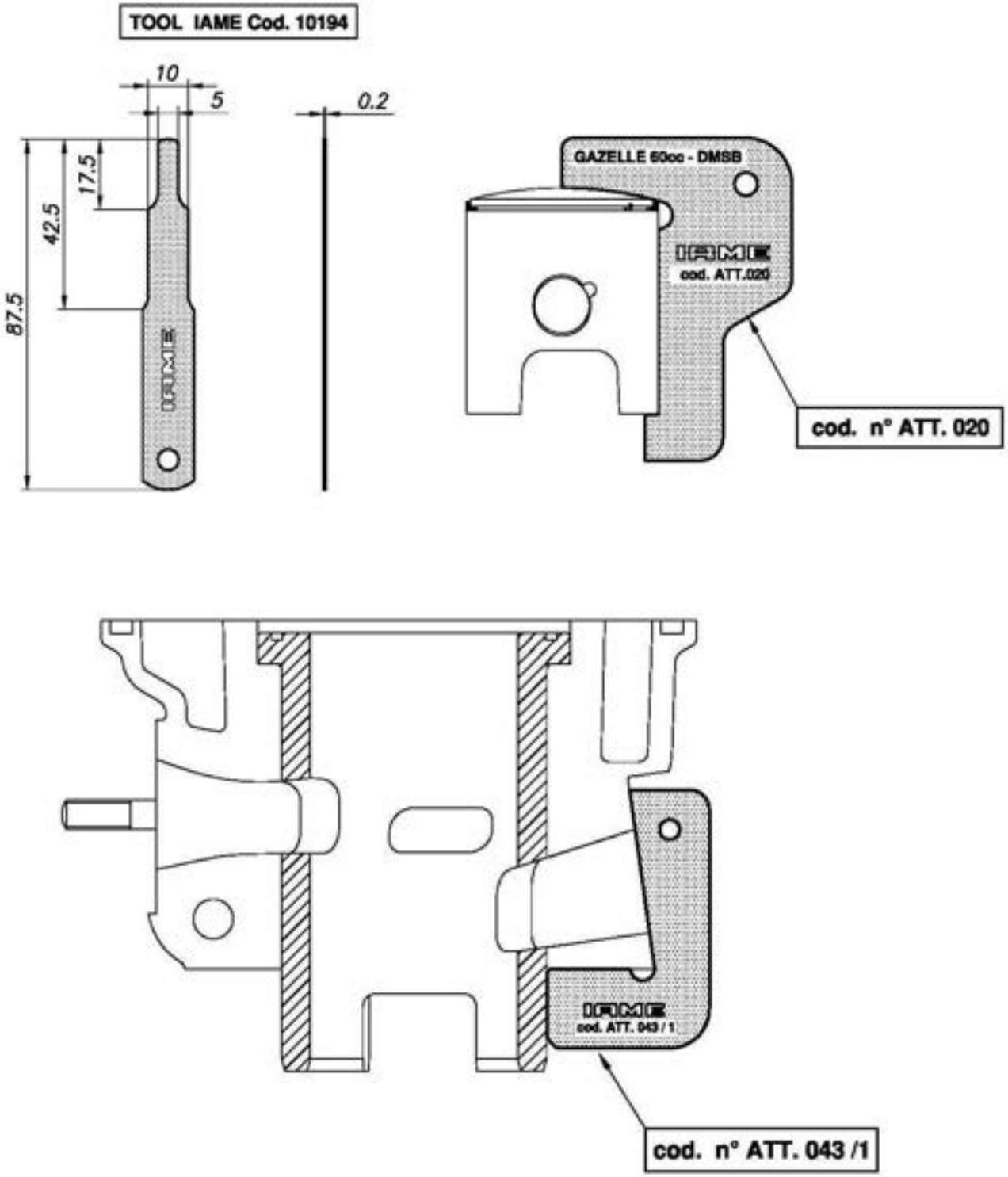
NO GO GAUGES
OUTILS N'ENTRE PAS DANS



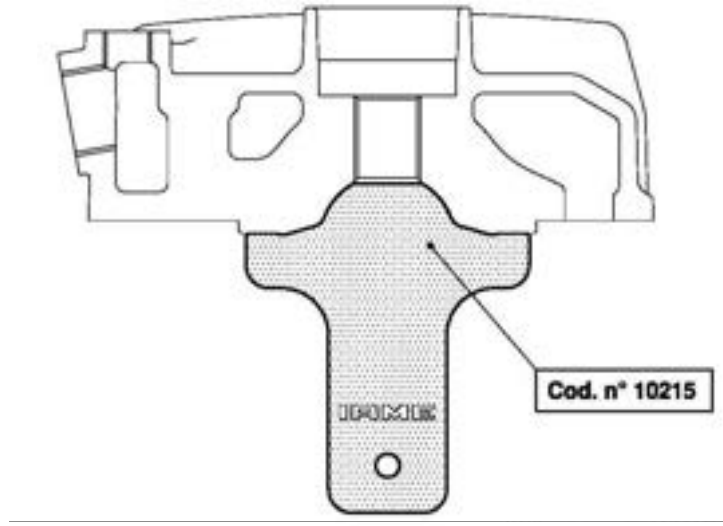


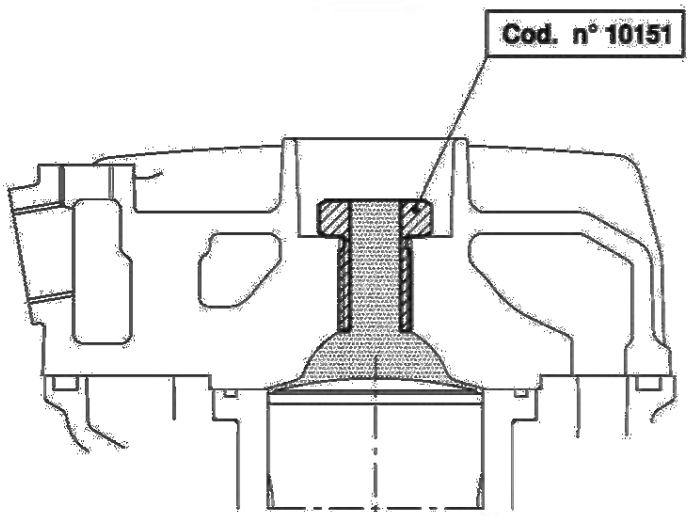


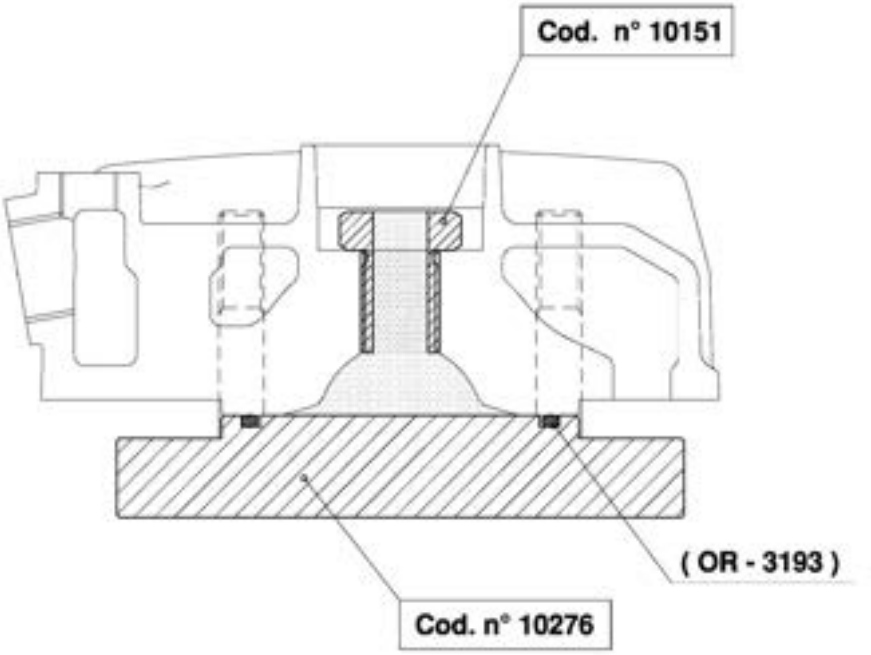
CONTROL GAUGES
OUTILS DE CONTROLL



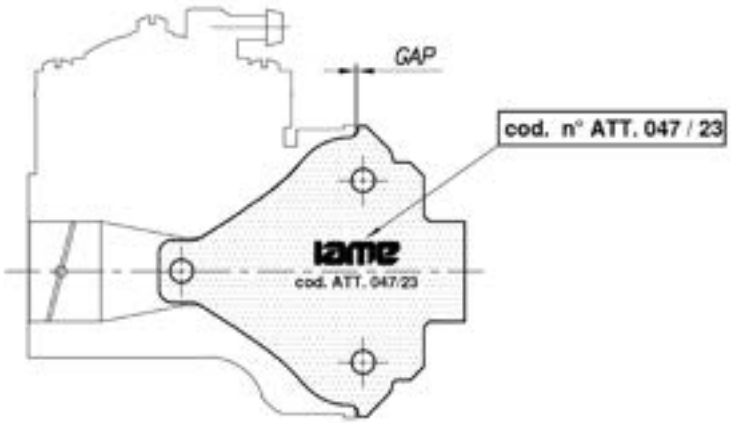
CONTROL GAUGES
OUTILS DE CONTROLL



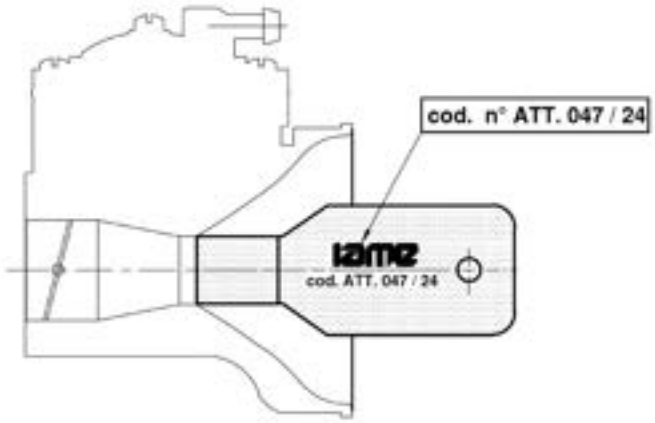




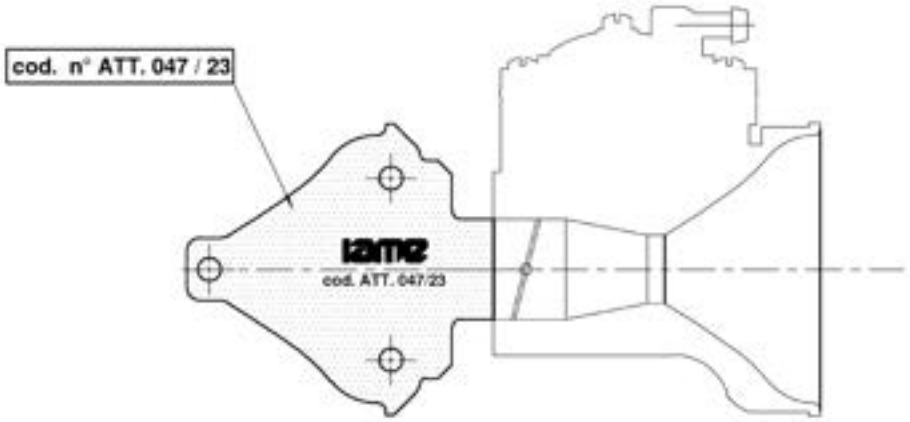
CONTROL GAUGES
OUTILS DE CONTROLL



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.

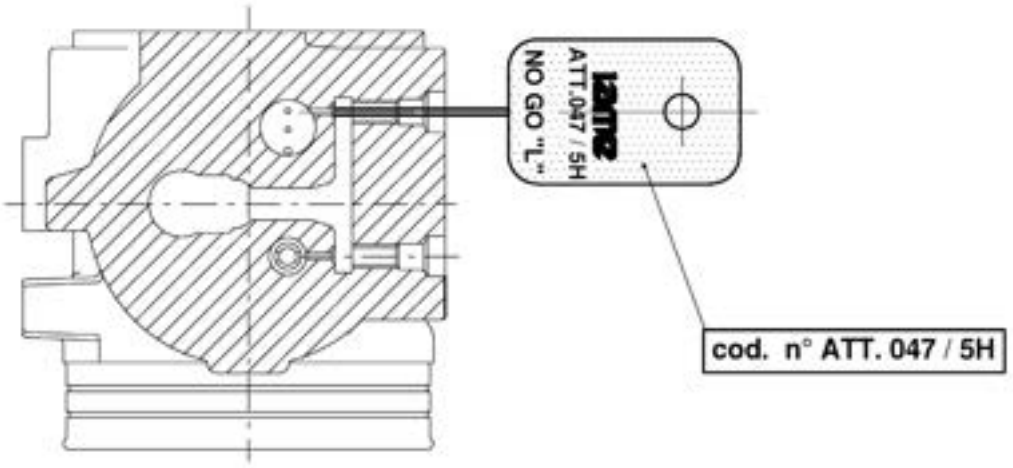


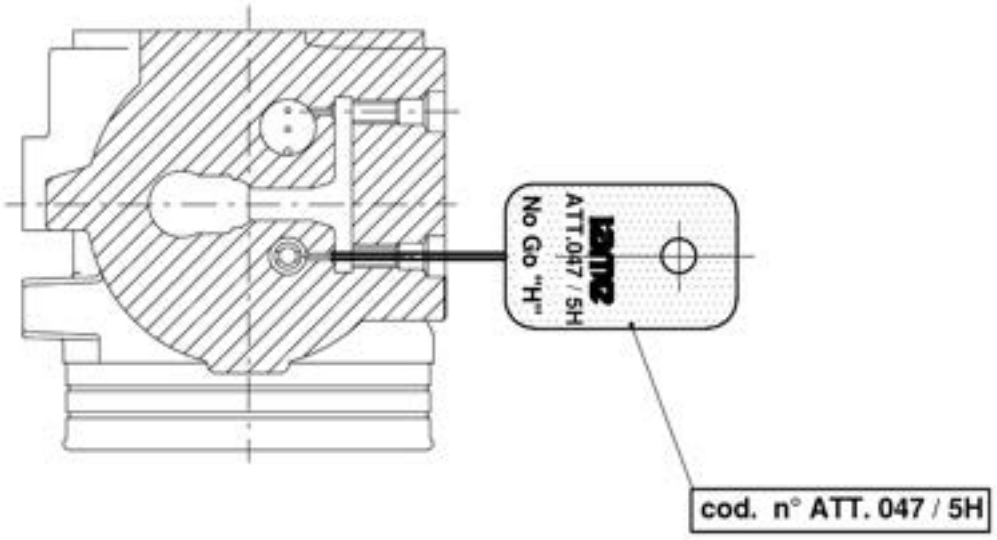
Check that the tool does not enter into the venture duct inlet of carburettor.
Vérifier que l'outil n'entre pas dans l'entrée du conduit Venturi du carburateur.



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

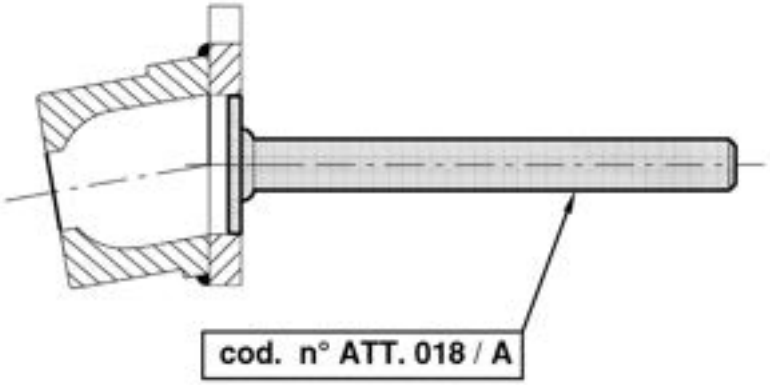
CONTROL GAUGES
OUTILS DE CONTROLL

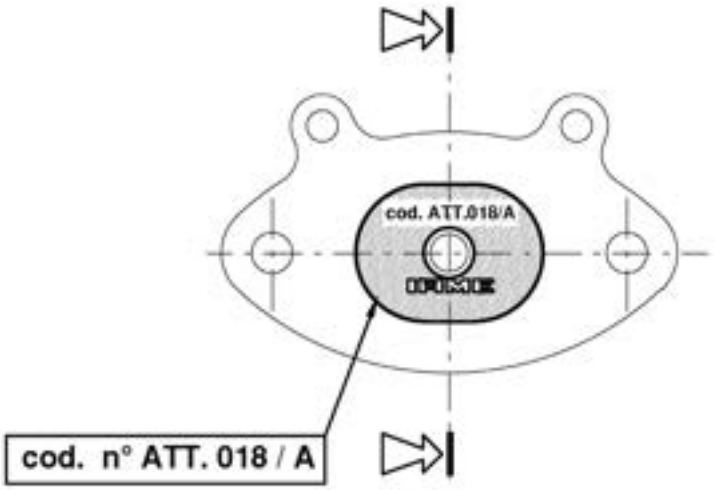




Check that the spikes does not enter into the holes.
Vérifiez que les pointes n'entrent pas dans les trous.

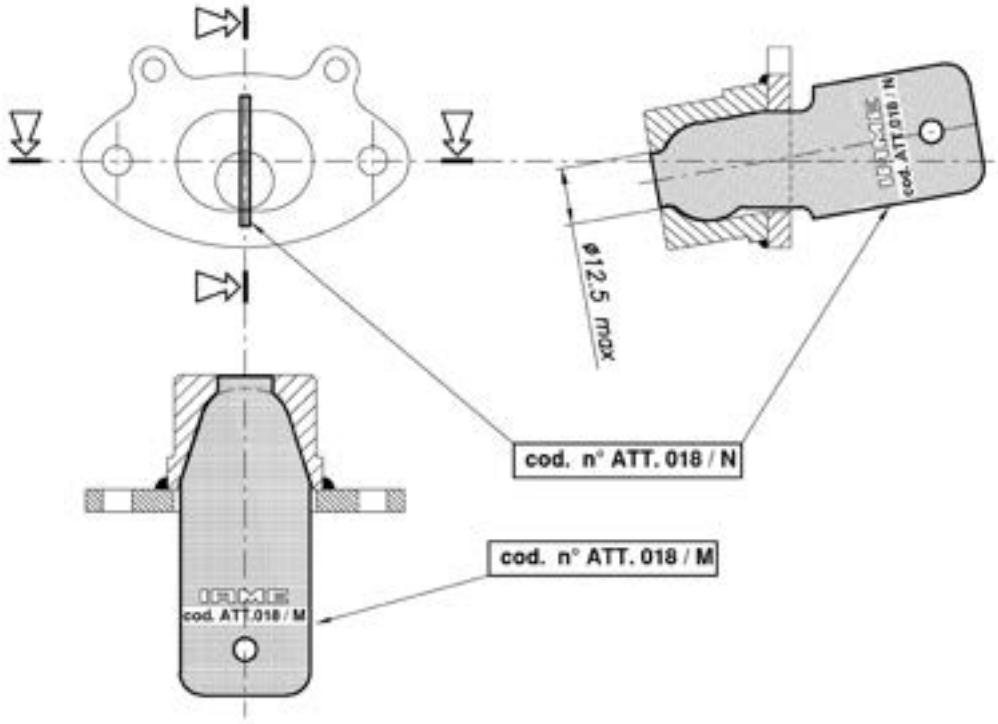
CONTROL GAUGES
OUTILS DE CONTROLL



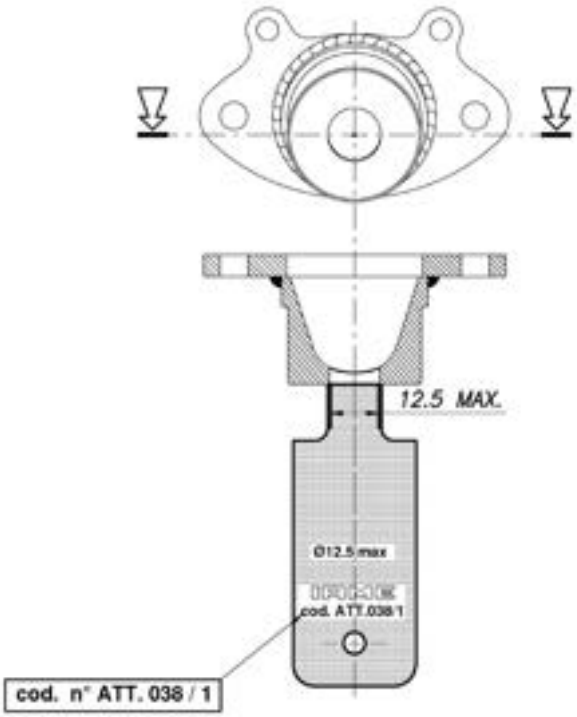


Check that the tool must be the same shape of the exhaust manifold.
Vérifiez que l'outil doit être de la même forme du collecteur d'échappement

CONTROL GUGES
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 exhaust restrictor.
Vérifier que l'outil n'entre pas dans le restricteur d'échappement

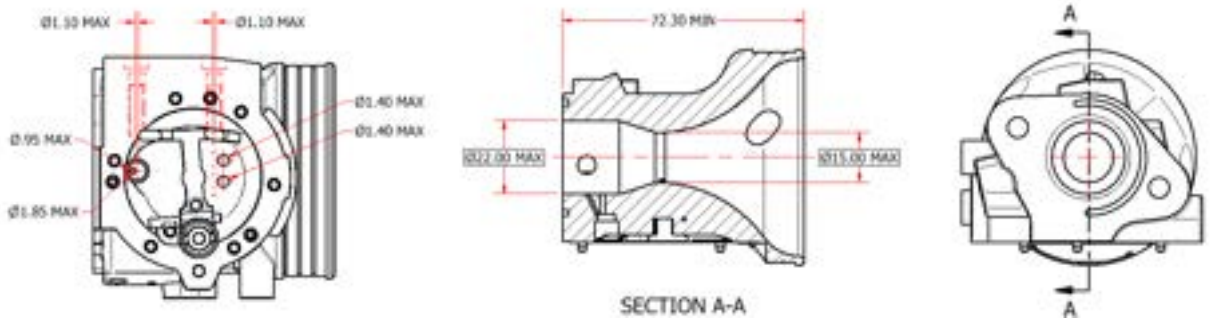
CARBURETTOR / *CARBURATEUR*

Tillotson HW-47A

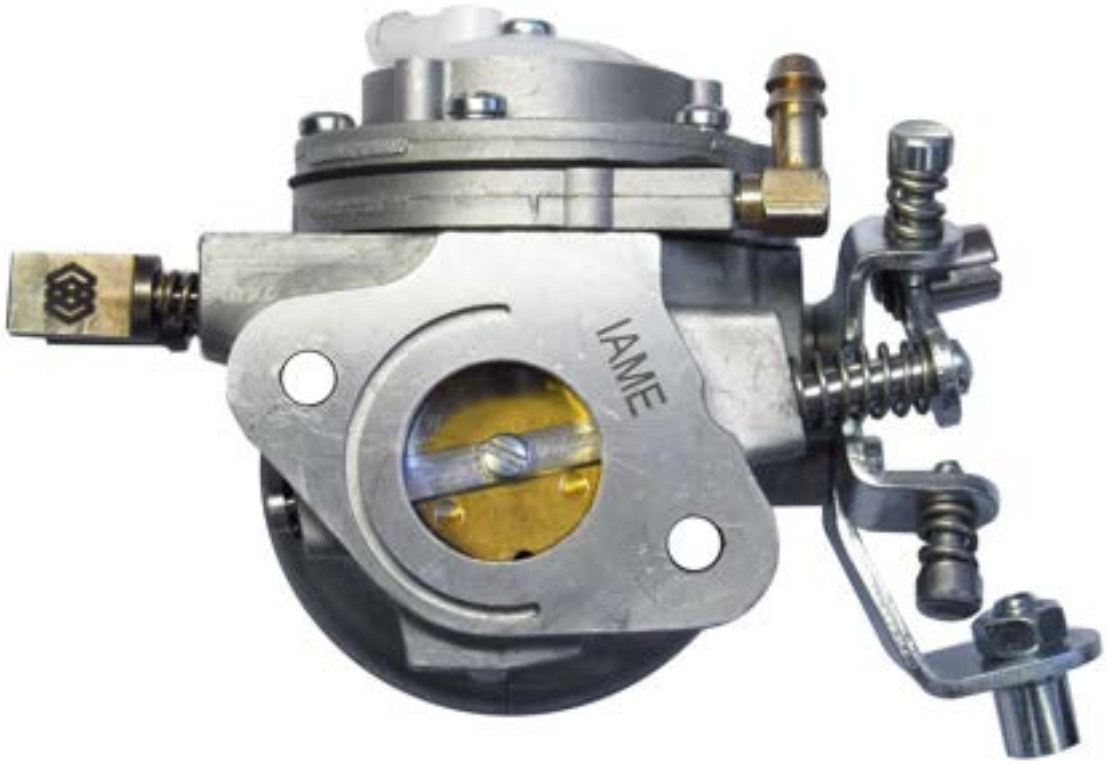
	
PHOTO OF ADJUSTING SIDE *PHOTO CÔTÉ RÉGLAGE*	PHOTO OF INLET SIDE *PHOTO CÔTÉ ASPIRATION*

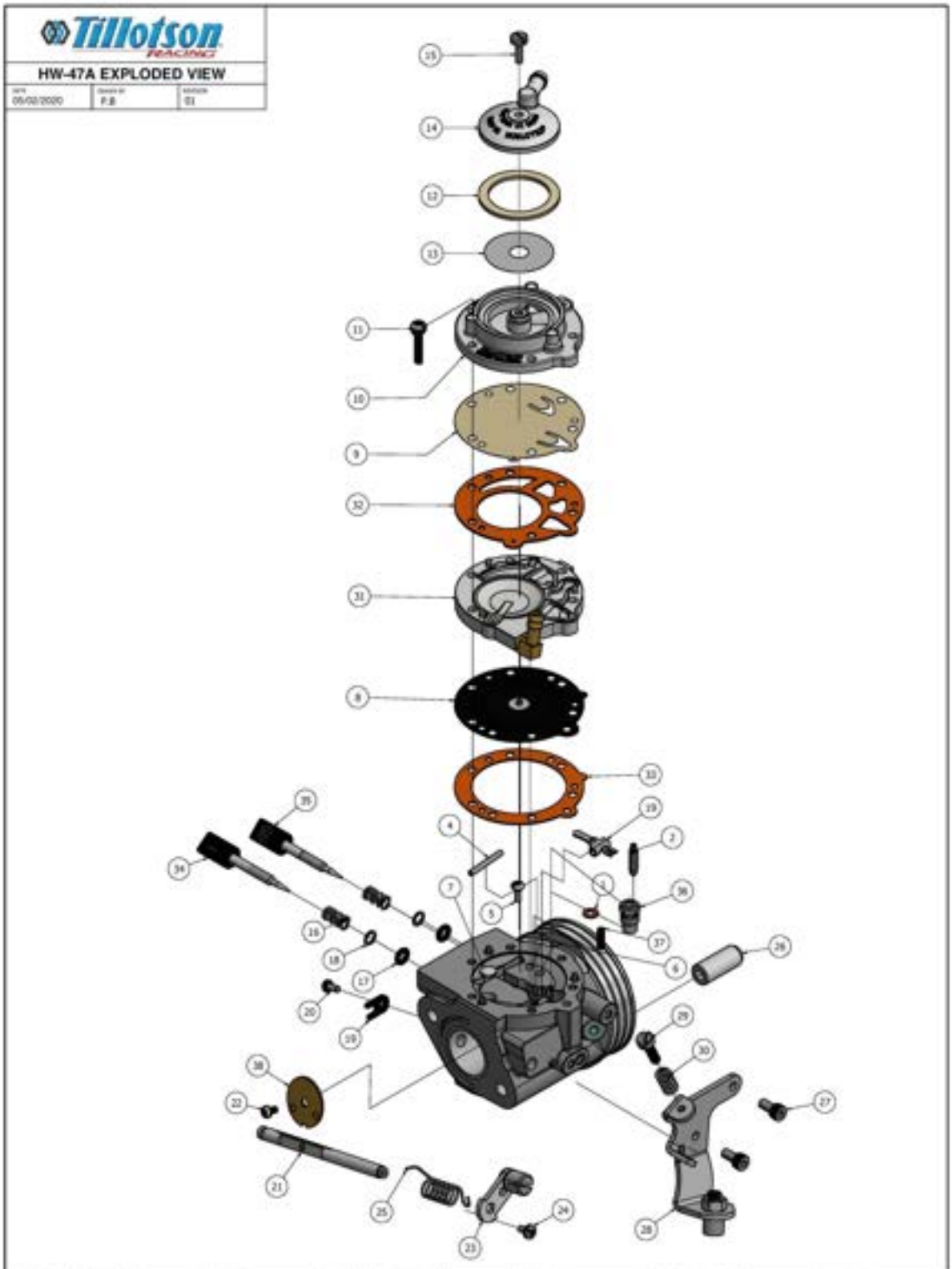
Manufacturer - *Constructeur*	**TILLOTSON LTD.**
Make - *Marque*	**TILLOTSON**
Model - Modèle	**HW-47A**

SECTION VIEW – *VUE DE SECTION AVEC DIMENSIONS*



“IAME” MARKING – *MARQUAGE “IAME”*





ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	16-B199	+* INLET SEAT GASKET
2	1	34-215	+ INLET NEEDLE
3	1	155-427	+ INLET CONTROL LEVER
4	1	33-79	FULCRUM LEVER PIN
5	1	15-B128	FULCRUM LEVER SCREW
6	2	80-160	BRASS PLUG
7	1	179-62	WELCH PLUG
8	1	237-600	+* DIAPHRAGM ASSEMBLY
9	1	237-162	+* FUEL PUMP DIAPHRAGM
10	1	141-89	FUEL PUMP BODY
11	6	15-C51	6 - 32 UNC SCREW WITH L/W
12	1	16-B206	+* FUEL STRAINER COVER GASKET
13	1	95 - 170	FUEL STRAINER SCREEN
14	1	95-A251	FUEL STRAINER COVER
15	1	15-B151	5-40 UNC SCREW
16	2	24-B449	ADJUSTMENT SCREW SPRING
17	2	44-361	ADJUSTMENT SCREW O-RING
18	2	TBA-256	ADJUSTMENT SCREW WASHER
19	1	29-224	THROTTLE SHAFT CLIP
20	1	15-C19	4-40 UNC SCREW
21	1	13-B215	THROTTLE SHAFT
22	1	12-1218	THROTTLE LEVER ASSEMBLY
24	1	15-C52	4-40 UNC SCREW
25	1	24-B381	THROTTLE RETURN SPRING
26	2	80-177	CARBURETTOR MOUNTING NUT
27	2	15-C67	M4 X 0.7 SOCKET CAP SCREW
28	1	136-A51	CABLE BRACKET
29	1	15-C9	LIMITER SCREW
30	1	24-B131	SPEED DROP SPRING
31	1	95-1031	METERING COVER ASSEMBLY
32	1	16-B407	+* FUEL PUMP GASKET (ORANGE)
33	1	16-B408	+* DIAPHRAGM GASKET (ORANGE)
34	1	43-1046	B-32 UNC ADJUSTMENT SCREW L
35	1	43-1045	M4 X 0.5 ADJUSTMENT SCREW H
36	1	36-A42	+ INLET SEAT
37	1	24-C287	INLET TENSION SPRING 46g
38	1	14-A131	THROTTLE SHUTTER
		*	REPAIR KIT CONTENTS
		+	DIAPHRAGM & GASKET KIT CONTENTS
		RK-6HW	REPAIR KIT
		DG-3HW	DG KIT

PARTS OF CARBURETTOR

REF.33 - P. N°16-B406
DIAPHRAGM GASKET (ORANGE COLOR)
JOINT DE DIAPHRAGME (COULEUR ORANGE)

Thickness / *Epaisseur* = 0.5 ±0.1 mm

REF.32 - P. N° 16-B407
PUMP DIAPHRAGM GASKET (ORANGE COLOR)
JOINT DE POMPE A ESSENCE (COULEUR ORANGE)

Thickness / *Epaisseur* = 0.8 ±0.1 mm

REF.8 - P. N°237-600
DIAPHRAGM
DIAPHRAGME ASSEMBLE

Thickness / *Epaisseur* = 0.13 ±0.07 mm

REF.9 - P . N°237-162
PUMP DIAPHRAGM
MEMBRANE DE POMPE A ESSENCE

ALTERNATIVE

Thickness / *Epaisseur* = 0.10 ±0.063 mm

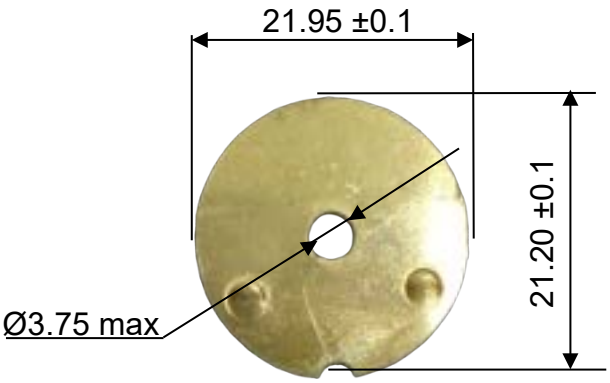
REF.31 - P. N° 91-1031
DIAPHRAG M COVER
COUVERCLE DE DIAPHRAGME

Thickness / *Epaisseur* = 6.75 ±0.15 mm

REF.10 - P. N° 141-89
PUMP COVER
CORPS DE POMPE A ESSENCE

Thickness / *Epaisseur* = 12.5 ±0.15 mm

REF.33 - P . N° 14-A96
THROTTLE SHUTTER
PAPILLON



Thickness / *Epaisseur* = 0.81 ±0.1 mm

REF.36 / 2 - P. N° 36-A42 / 34-216
SEAT + NEEDLE
SIEGE + POINTEAU

REF.34 - P. N° 43-1046
NEEDLE LOW SPEED
VIS DE RAGLAGE BAS-REGIME

REF.35 - P. N° 43-1045
NEEDLE HIGH SPEED
VIS DE RAGLAGE HAUT-REGIME

THE CARBURETTOR CAN HAVE THIS HOLE FOR SEALING.
LE CARBURATEUR PEUT AVOIR CE TROU POUR LE PLOMBAGE