

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 |
|--|---|

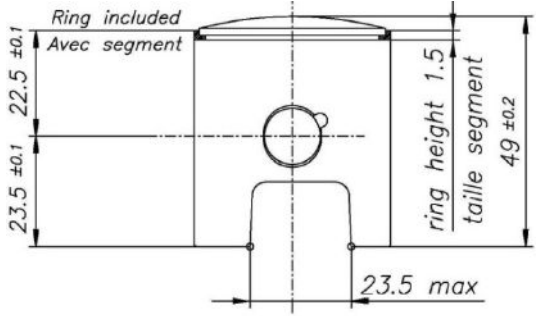
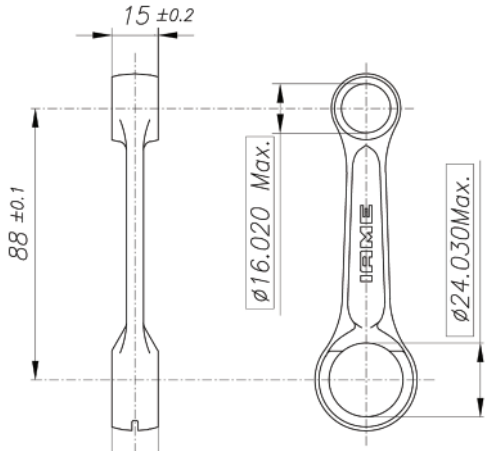
| | | | |
|---|--------|--|---|
| Tillotson Carburettor <i>Carburateur Tillotson</i> | HW-31A | Cylinder / crankcase transfers n° <i>N° de canaux cylindre / carter</i> | 2 |
|---|--------|--|---|

| | | | |
|---|---|---|-------|
| Number of piston rings <i>Nombre de segments</i> | 1 | Inlet / exhaust ports number <i>N° lumières admiss / échapp.</i> | 1 / 1 |
|---|---|---|-------|

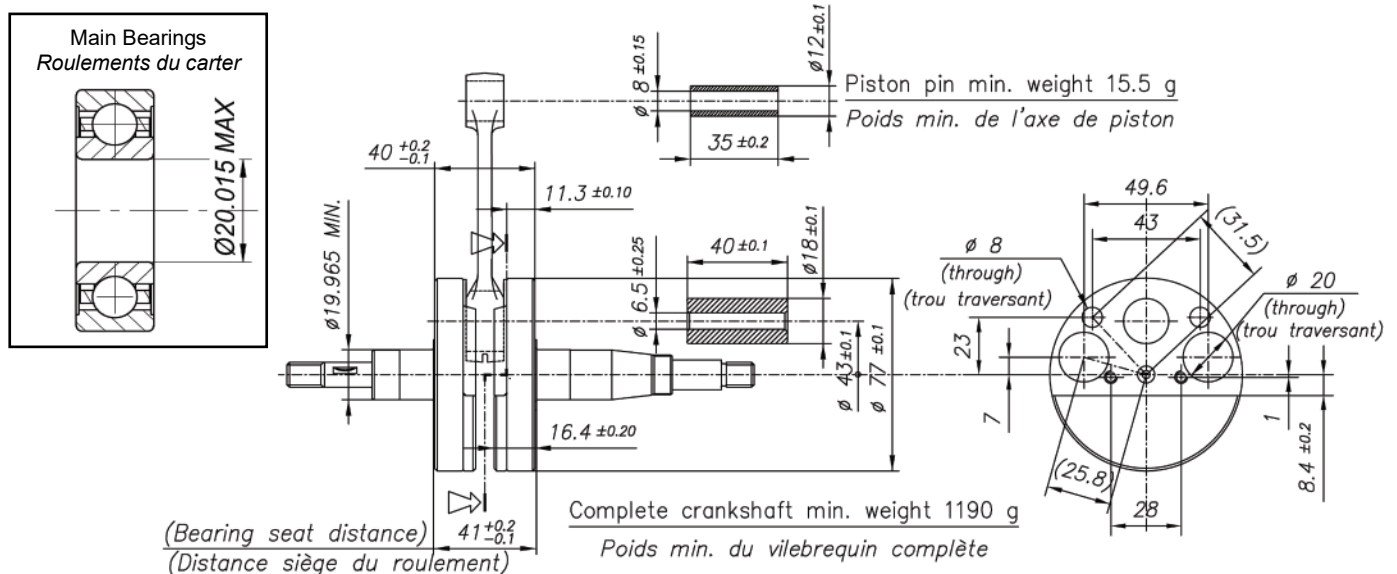
| | | | |
|---|----------|--|-------------------------------|
| Big end conrod bearing diam. <i>Diamètre palier tête de bielle</i> | 18x24x15 | Combustion chamber shape <i>Forme chambre de combustion</i> | Spherical <i>Sphérique</i> |
|---|----------|--|-------------------------------|

| | | | |
|--|----------|---|---------------------------|
| Crankshaft ball-bearing diam. <i>Diamètre palier du vilebrequin</i> | 20x47x14 | Selettra ignition (adjustable) <i>Allumage Selettra (réglable)</i> | 2 poles <i>2 pôles</i> |
|--|----------|---|---------------------------|

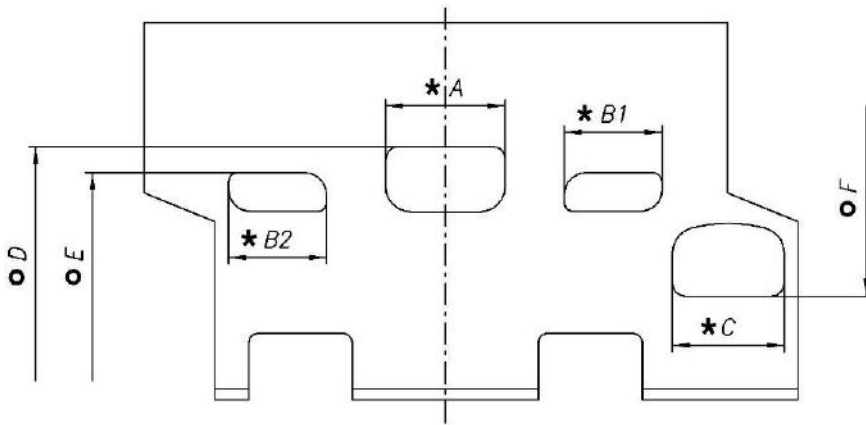
| | | | |
|--|----------|---|-------|
| Small end conr. bearing diam. <i>Diamètre palier pied de bielle</i> | 12x16x16 | Distance between Conrod centres <i>Longueur (entre axe) de la bielle</i> | 88 mm |
|--|----------|---|-------|

| DESCRIPTION OF THE MATERIAL DESCRIPTION DES MATERIAUX | | PISTON | |
|---|----------------------------------|---|--|
| Conrod material <i>Matériel de la bielle</i> | Steel <i>Acier</i> |  <p>Min. Weight Piston included ring = 60 g Poids Min. Piston avec segment = 60 g</p> | |
| 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 | |  <p>Min. Weight 80 g Poids min.</p> |
| 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



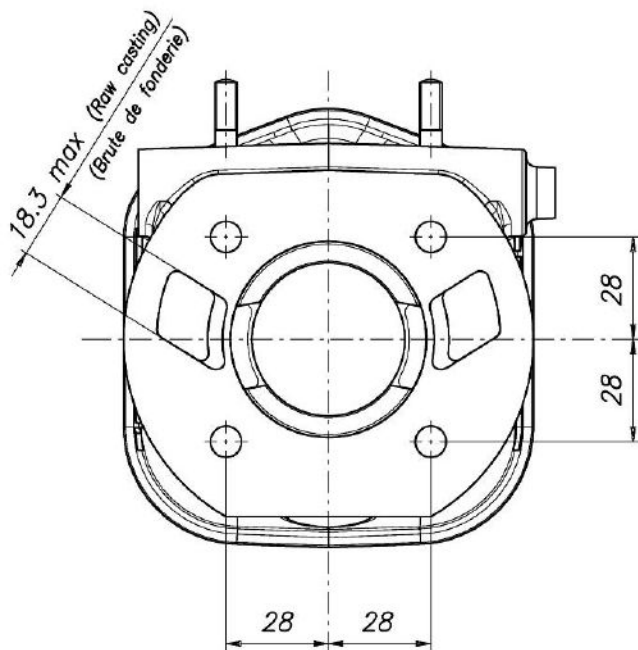
| | |
|---------|-------------|
| A | 28±0.2 mm |
| B1 = B2 | 21.8±0.2 mm |
| C | 26±0.2 mm |
| D | 157° max |
| E | 116° ±2° |
| F | 145° max |

CHORDAL READING – LECTURE CORDALE

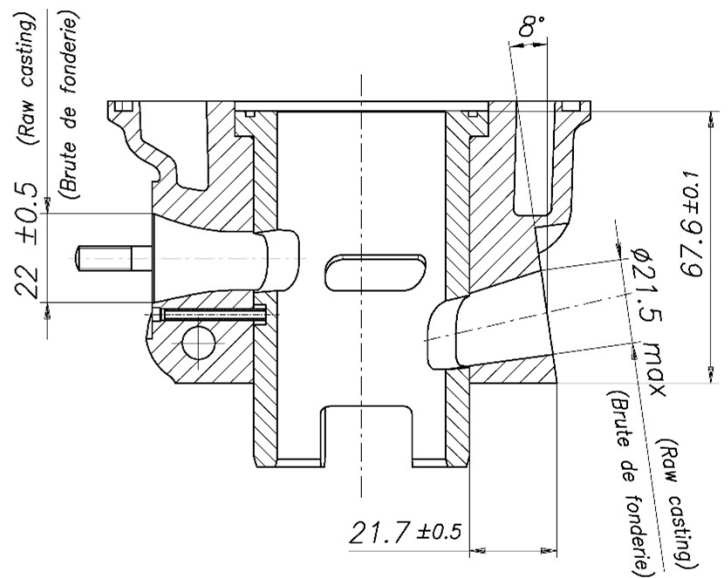
ANGULAR READING BY INSERT A 0.2 mm x 5 mm GAUGE –
LECTURE ANGULAIRE PAR INSERTION D'UNE CALE DE 0.2 mm x 5 mm

USING IAME TOOL Cod. 10194 – UTILISER OUTIL

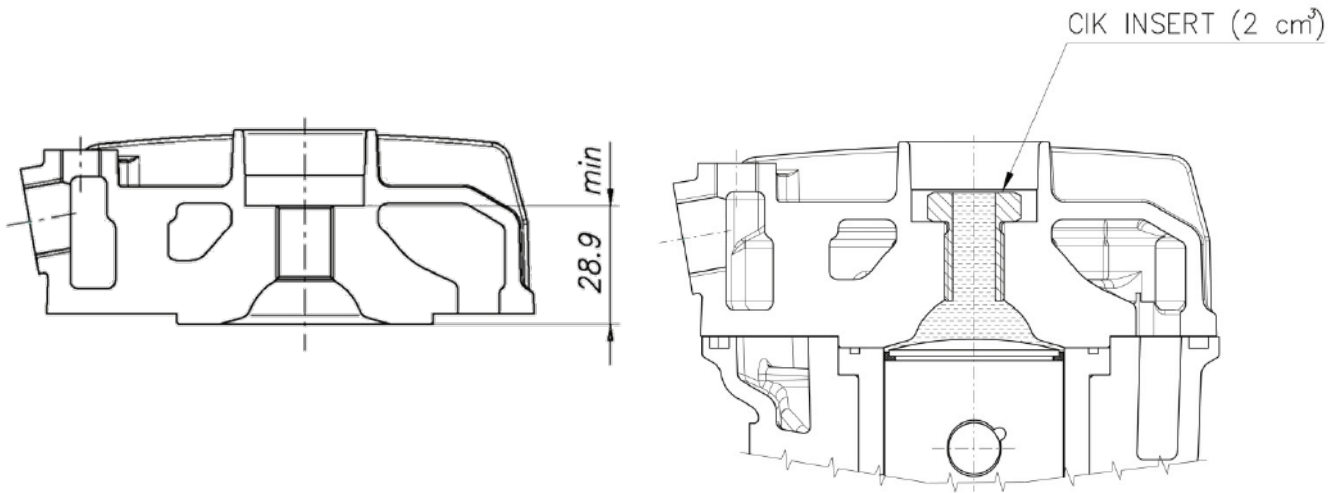
CYLINDER BASE VIEW
VUE DE LA BASE DU CYLINDRE



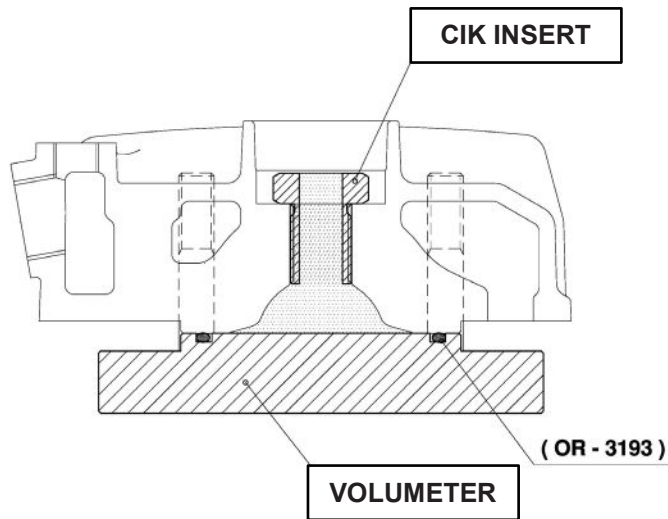
CYLINDER SECTION VIEW
VUE EN SECTION DU CYLINDRE



COMBUSTION CHAMBER VIEW
VUE DE LA CHAMBRE DE COMBUSTION



COMBUSTION CHAMBER VOLUME = 6.5 cm³ min.
VOLUME CHAMBRE COMBUSTION

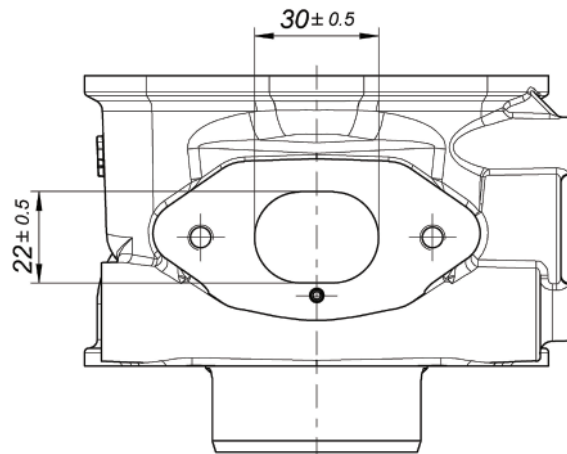


SQUISH MIN. = 0.75 mm

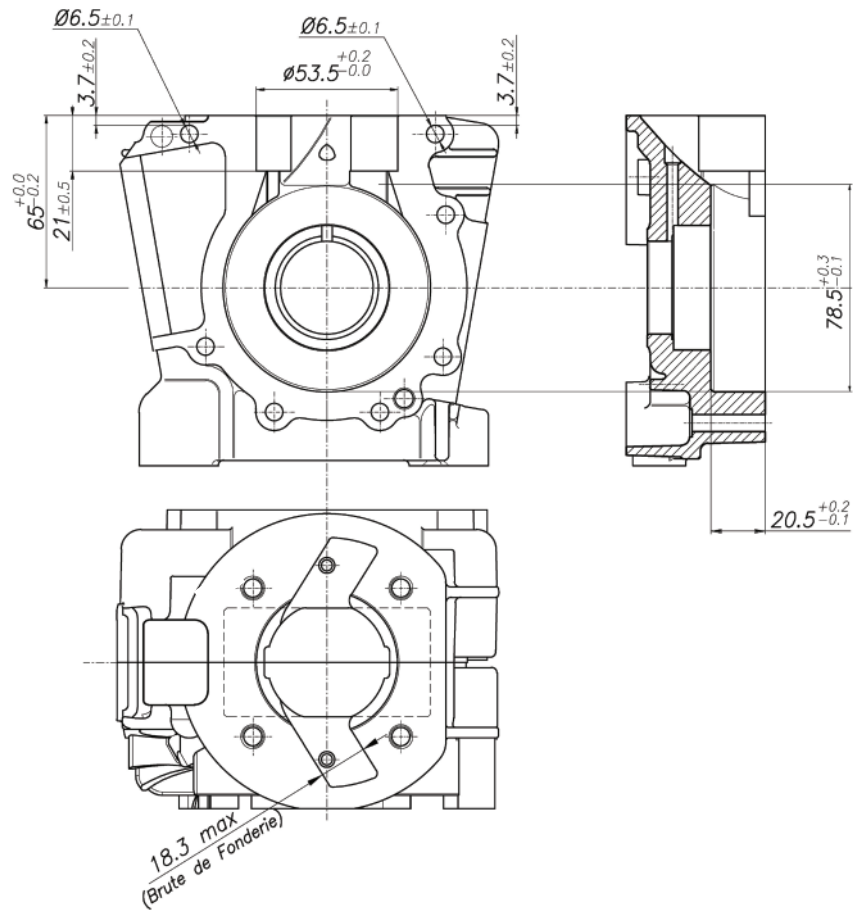
measured with Ø1.5mm TIN
mesurée avec de l'étain Ø1.5mm

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

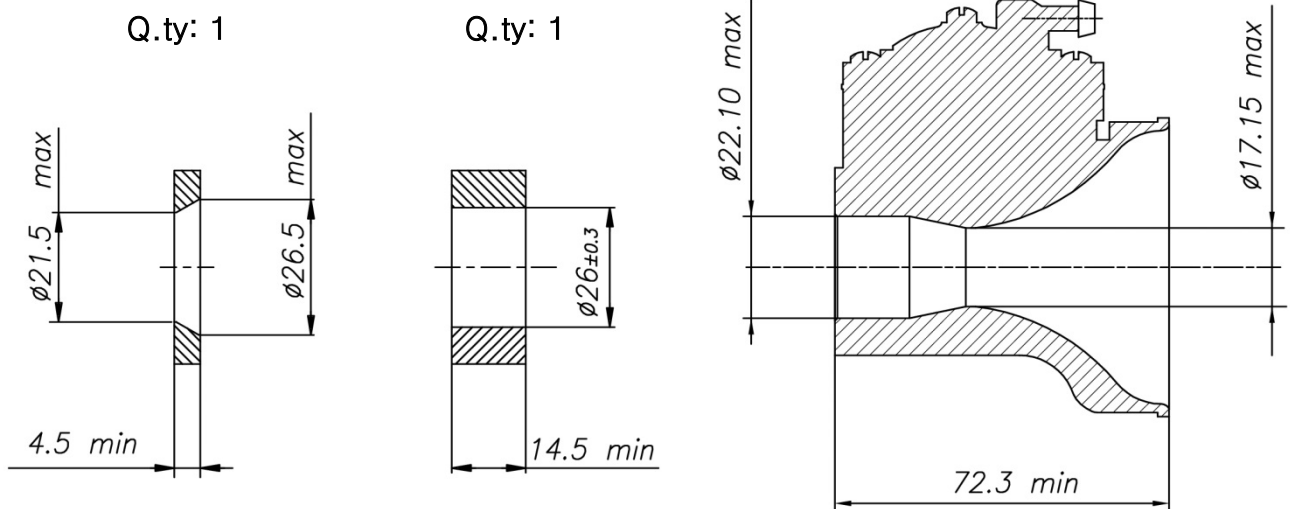
REAR VIEW AND DIMENSION
ARRIERE VUE ET DIMENSION



CRANKCASE INSIDE VIEW
VUE A L'INTERIEUR DU CARTER

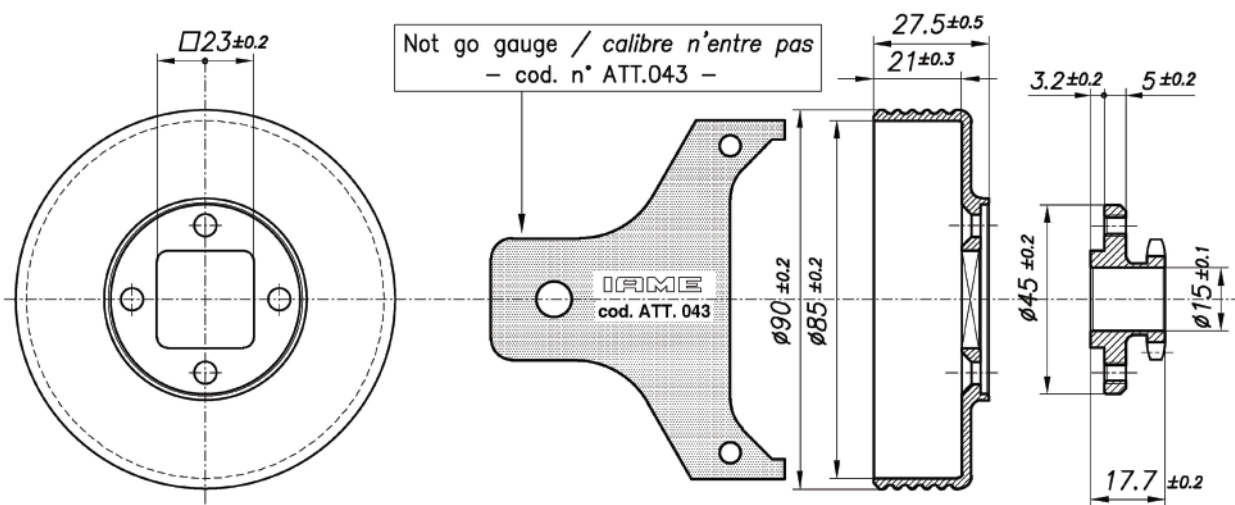
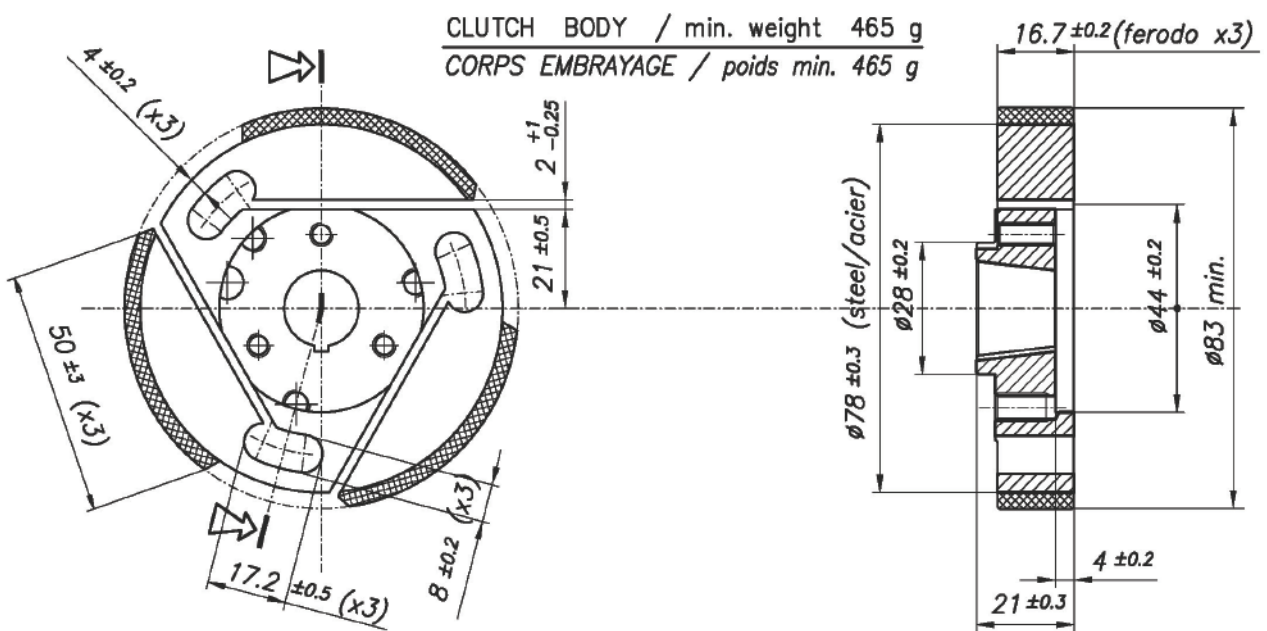
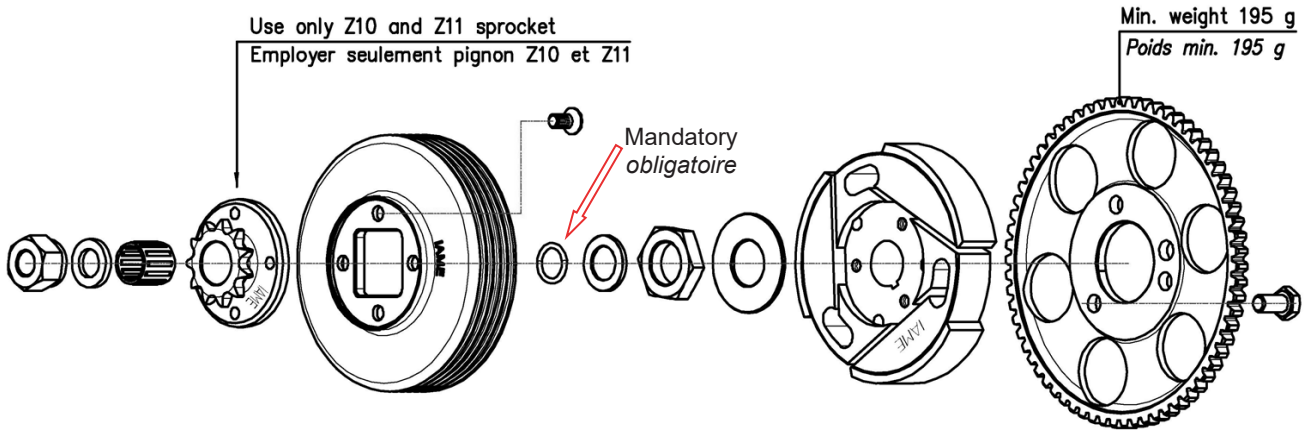


VENTURI CARB. DIMENSIONS and THERMAL SPACERS
CARBURATEUR ET SONS ENTRETOISES



TILLOTSON MOD. HW-31A

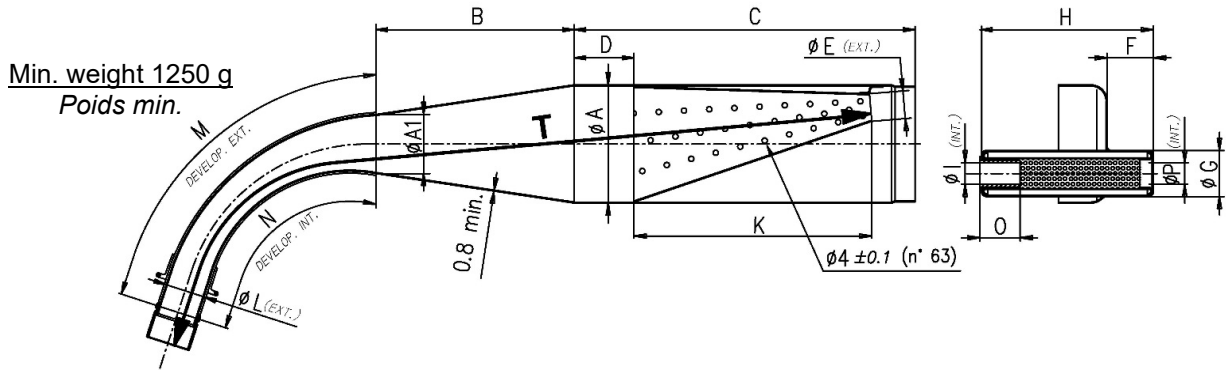
DESCRIPTION OF THE CLUTCH – DESCRIPTION DE L'EMBRAYAGE



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

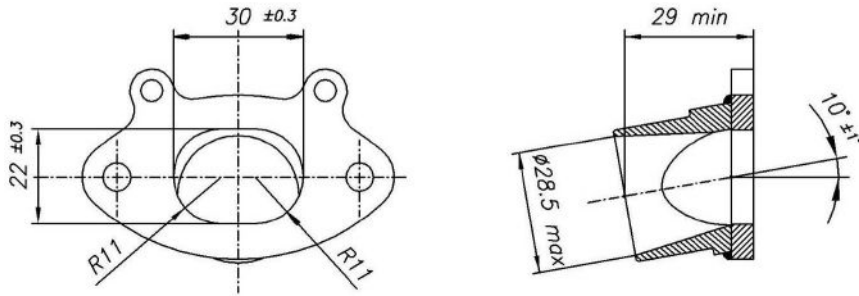
DRIVE SPROCKET / min. weight 68 g
PIGNON / poids min. 68 g

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

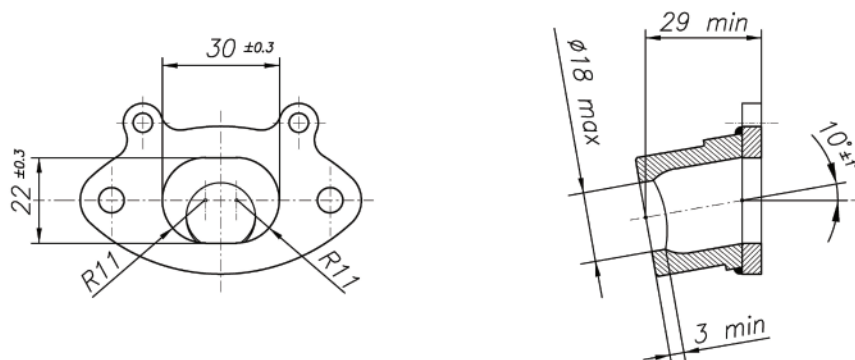
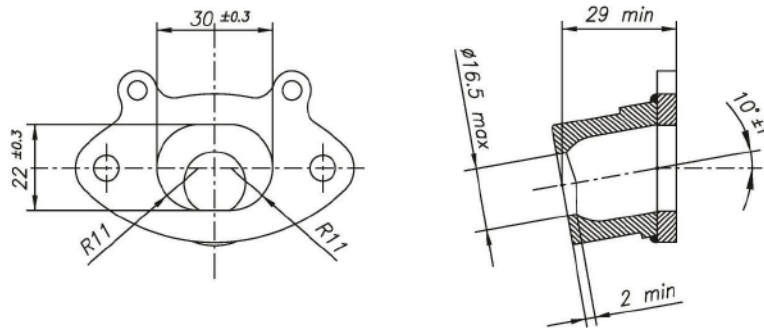


| | | | | | |
|------------------------|-----------------------|-----------------------|-----------------------------|-----------------------------|-----------------------|
| A: 90 ± 1.5 | C: 260 ± 3 | F: 35 ± 3 | I: 17 Max. | M: 240 ± 3 | P: 21 ± 1 |
| A1: 45 ± 1 | D: 47 ± 5 | G: 35 ± 1 | K: 181 ± 3 | 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**

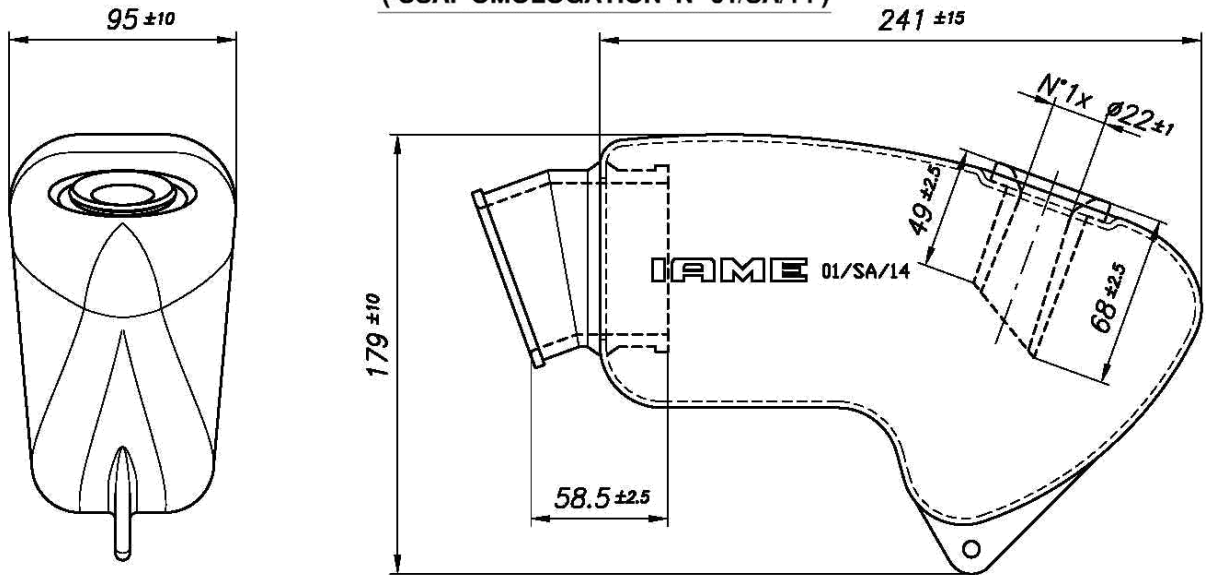


**EXHAUST MANIFOLDS WITH RESTRICTED
RACCORDS AVEC RECSTRICTEUR D'ÉCHAPPEMENT**



INLET SILENCER – SILENCIEUX D'ASPIRATION

(CSAI OMOLOGATION N° 01/SA/14)



ALTERNATIVE
 MANIFOLD WITH SPONGE FILTER
 COLLECTEUR AVEC UNE EPONGE
 FILTRE

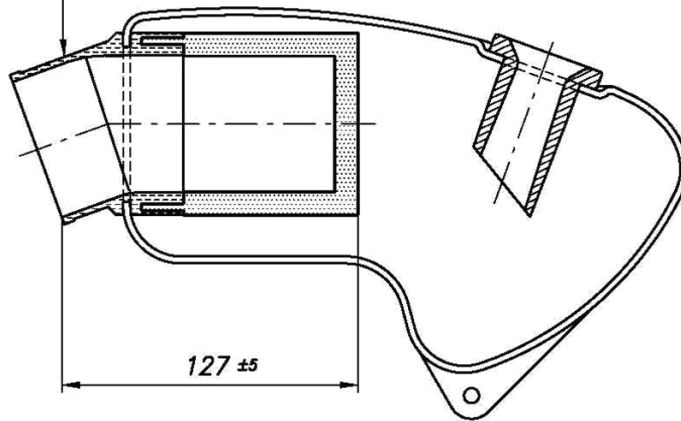
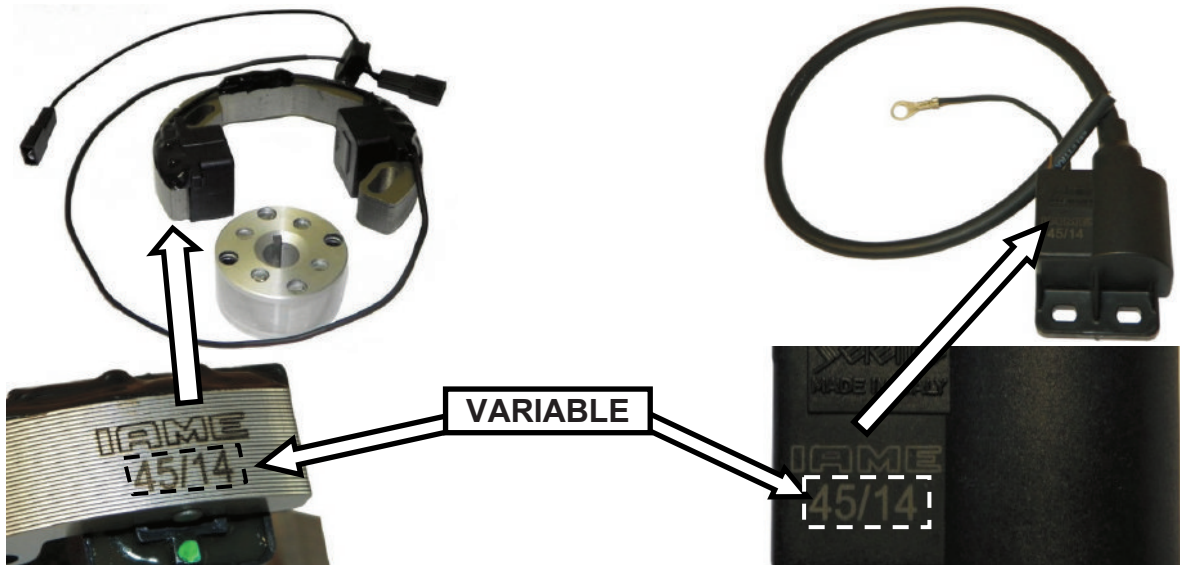
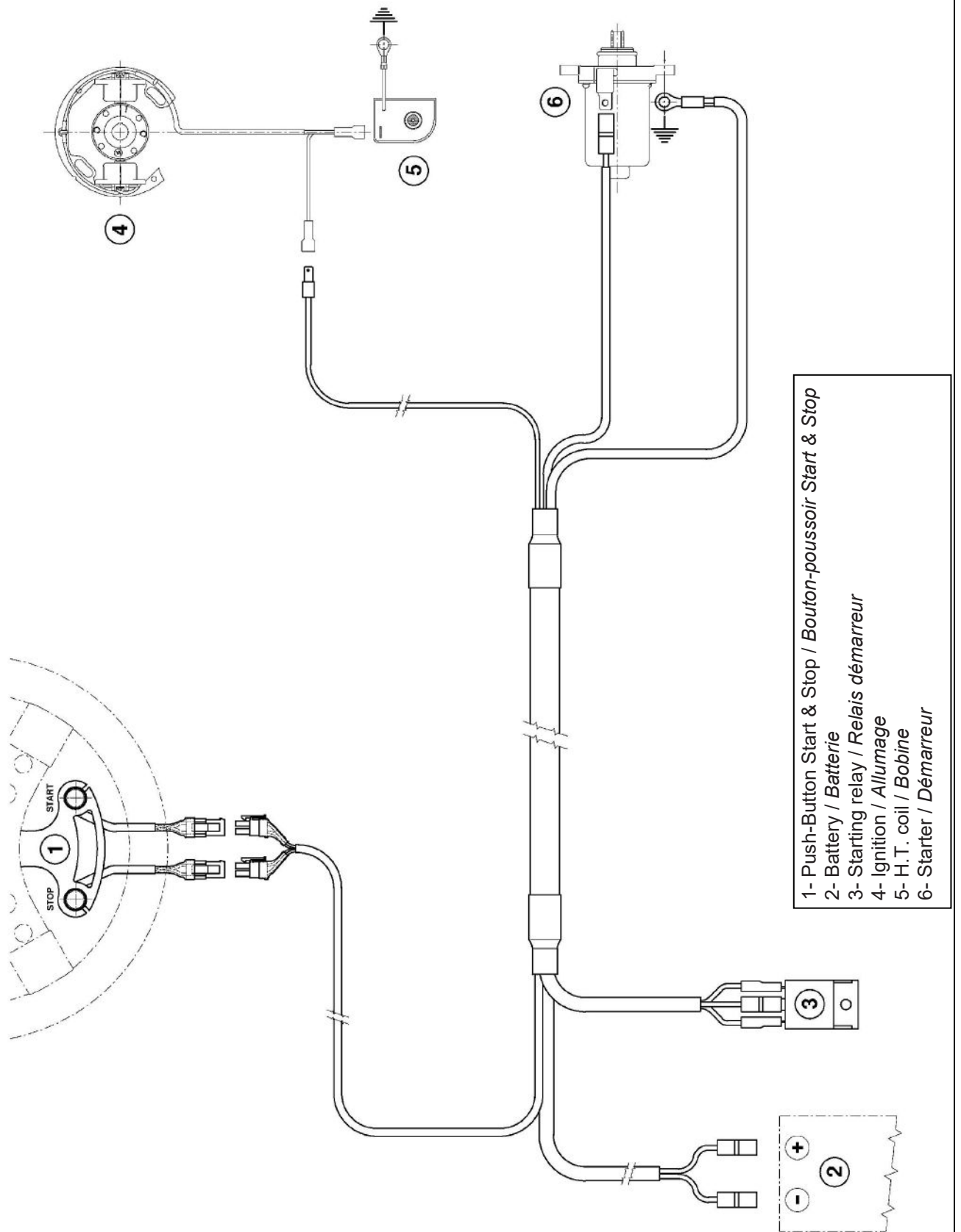


PHOTO IGNITION / PHOTO H.T. COIL (SELETTRA ANALOGUE 2 POLES)
 PHOTO ALLUMAGE / PHOTO BOBINE (SELETTRA ANALOGIQUE 2 POLES)

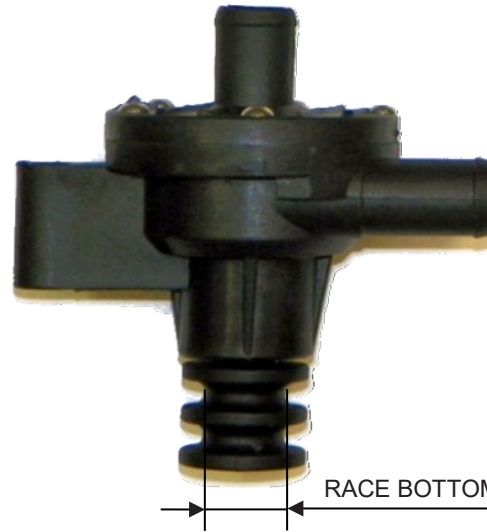


WIRING DIAGRAM
SCHEMA CIRCUIT ELECTRIQUE



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

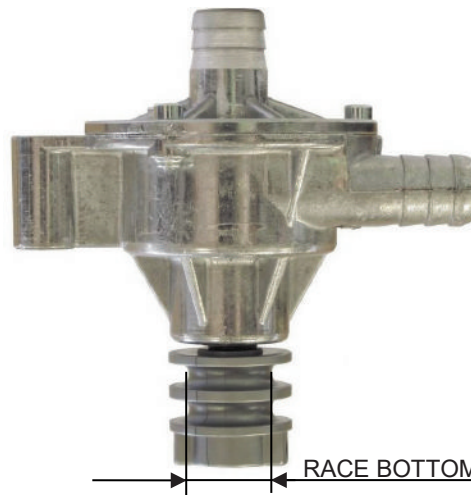
WATER PUMP ALTERNATIVES – ALTERNATIVES DU POMPE A' EAU



PLASTIC

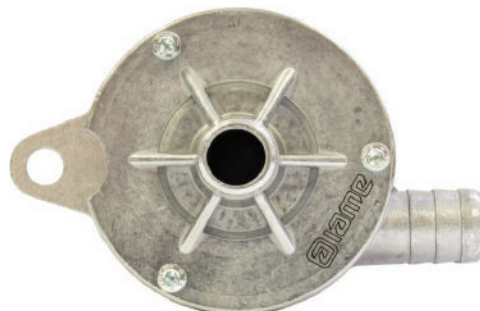
RACE BOTTOM FOND GORGE $\text{Ø}19 \pm 1$

ALTERNATIVE

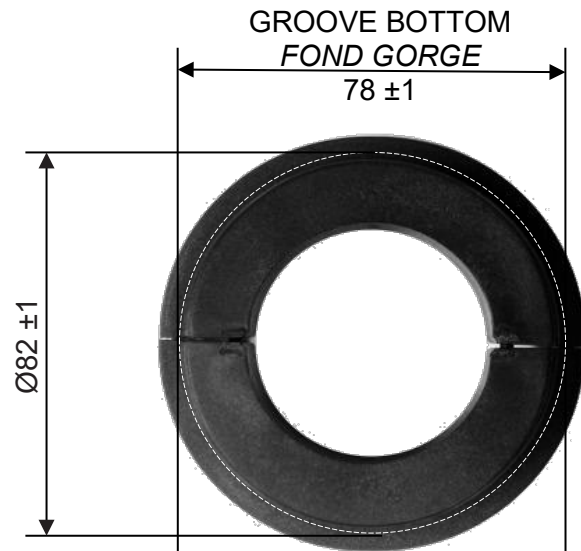


ALUMINUM

RACE BOTTOM - FOND GORGE $\text{Ø}20 \pm 1$



PULLEY ALTERNATIVE – ALTERNATIVE DU POULIE



PLASTIC



ALTERNATIVE



ALUMINUM

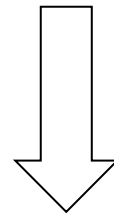
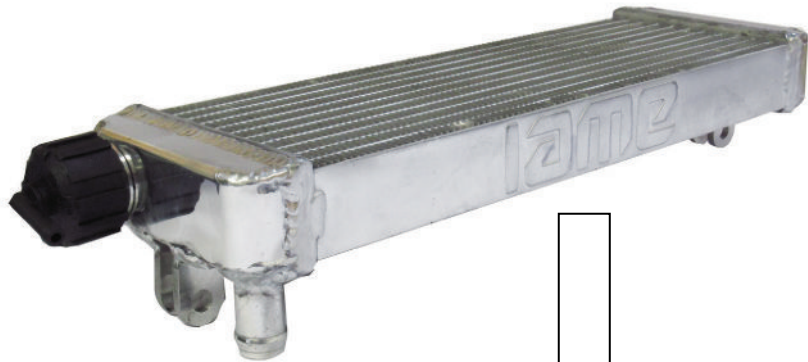
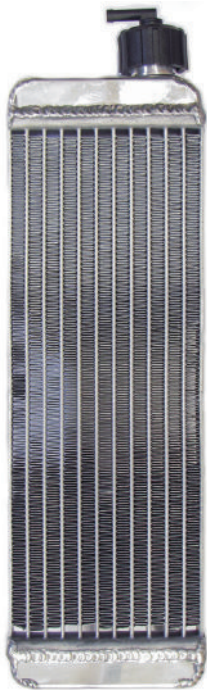
GROOVE BOTTOM
FOND GORGE Ø82 ± 1

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



EXHAUST IDENTIFICATION MARKING
MARQUAGE D'IDENTIFICATION ECHAPPEMENT



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

TYPE 1

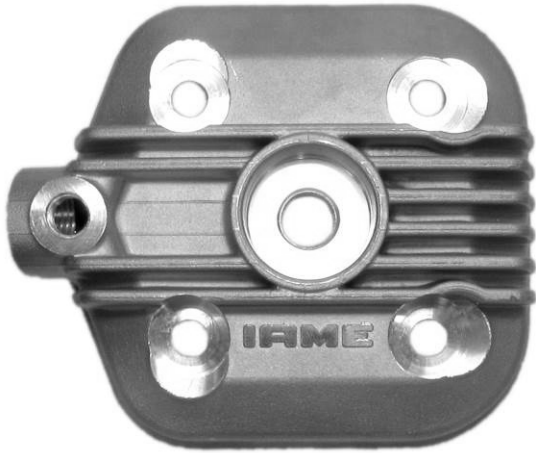


TYPE 2



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



NEW / NOUVEAU LOGO



CLUTCH COVER
 COUVERCLE D'EMBRAYAGE



NEW / NOUVEAU LOGO



INLET SILENCER
 SILENCIEUX D'ASPIRATION



NEW / NOUVEAU LOGO



EXHAUST
 ECHAPPEMENT



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

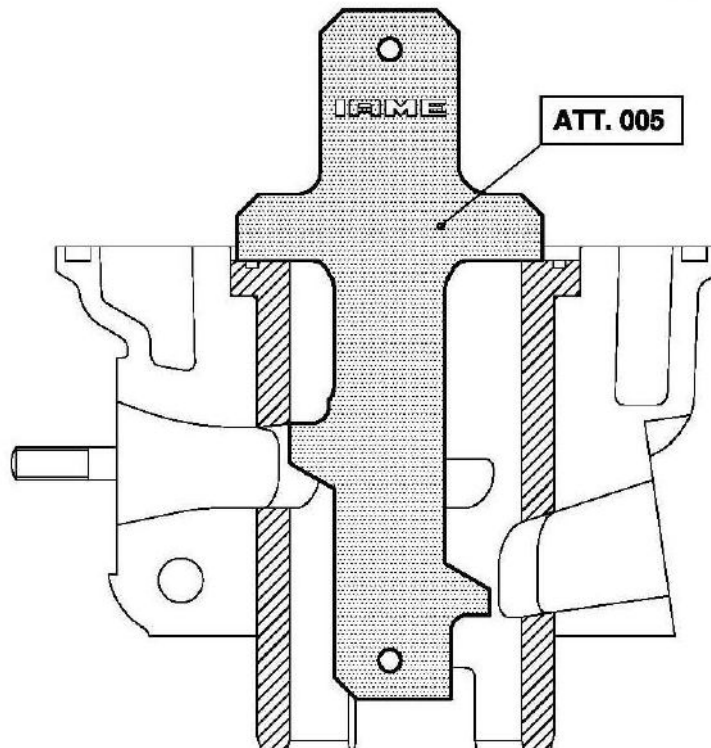
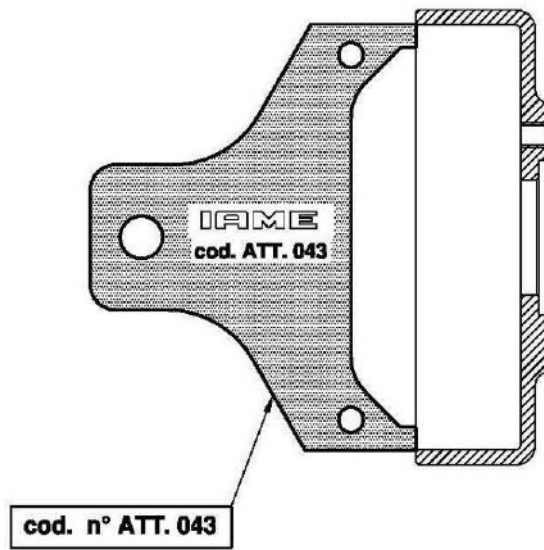
or

ⓐ I a m e

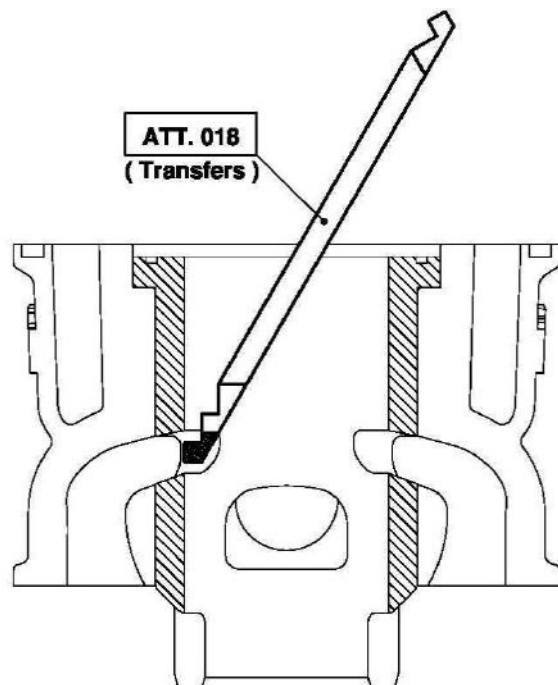
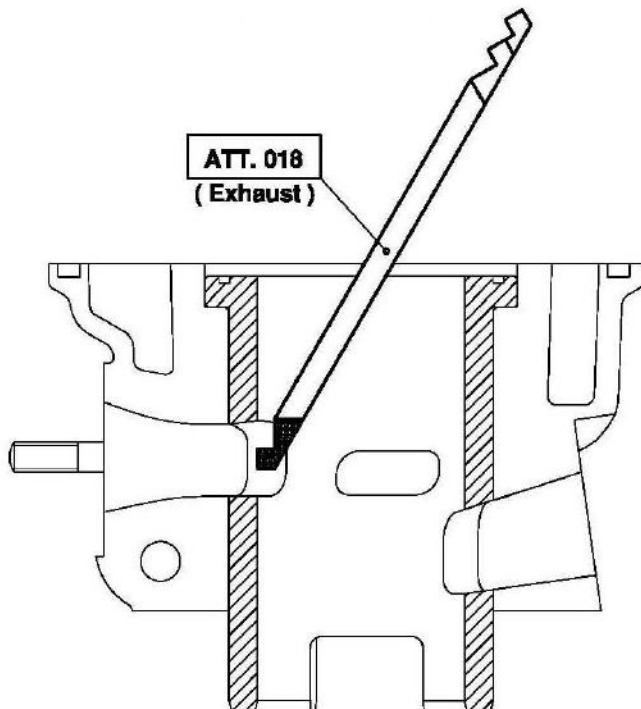
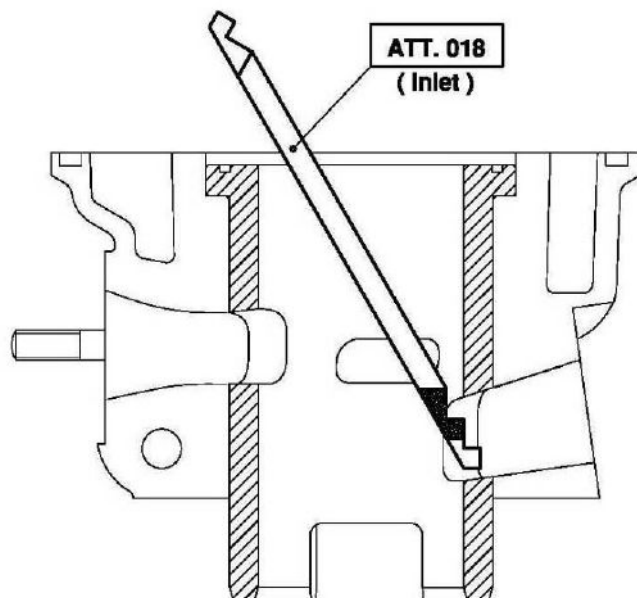
or

ⓐ

NO GO GAUGES
OUTILS N'ENTRE PAS DANS

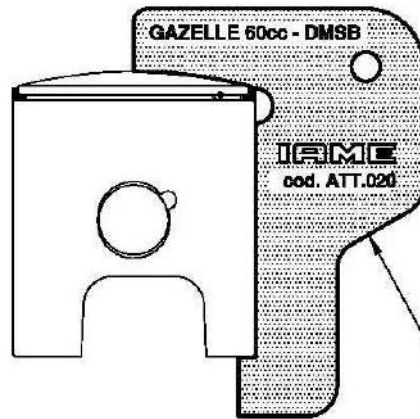
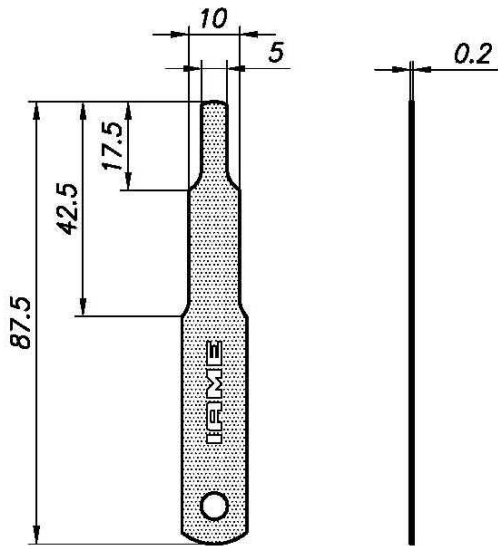


NO GO GAUGES
OUTILS N'ENTRE PAS DANS

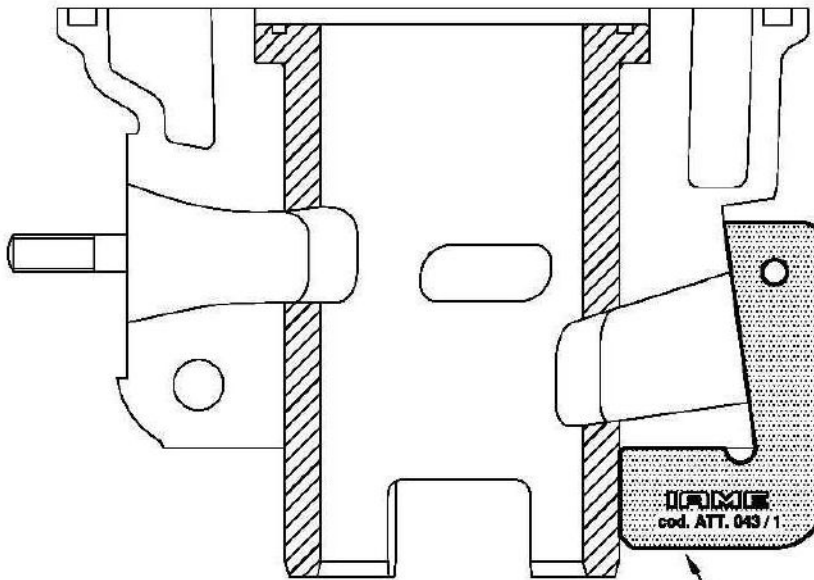


**CONTROL GAUGES
OUTILS DE CONTROLL**

TOOL IAME Cod. 10194

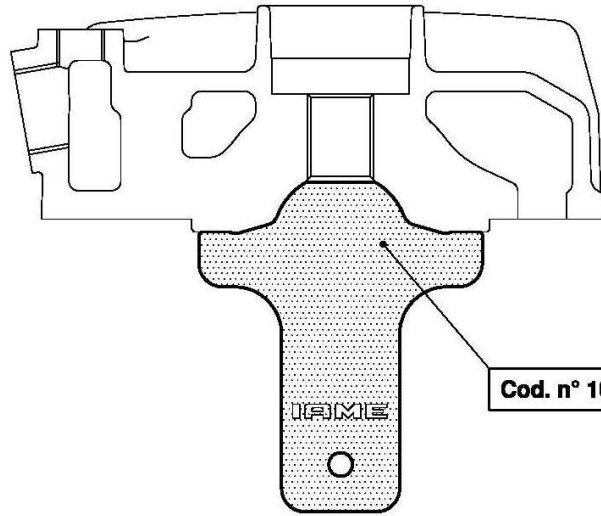


cod. n° ATT. 020

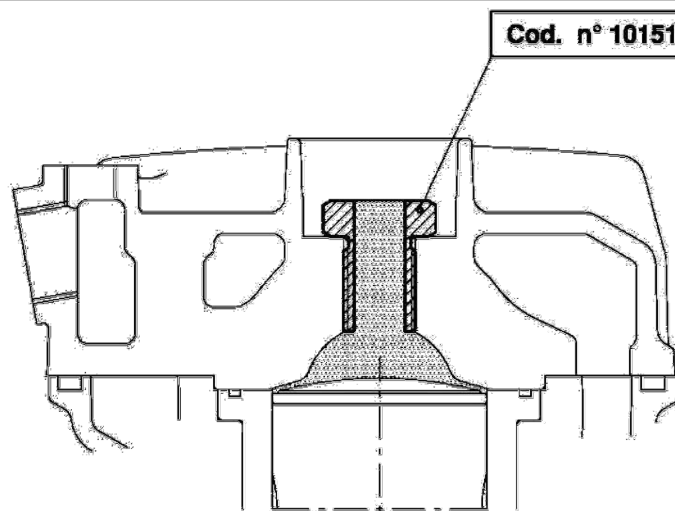


cod. n° ATT. 043 / 1

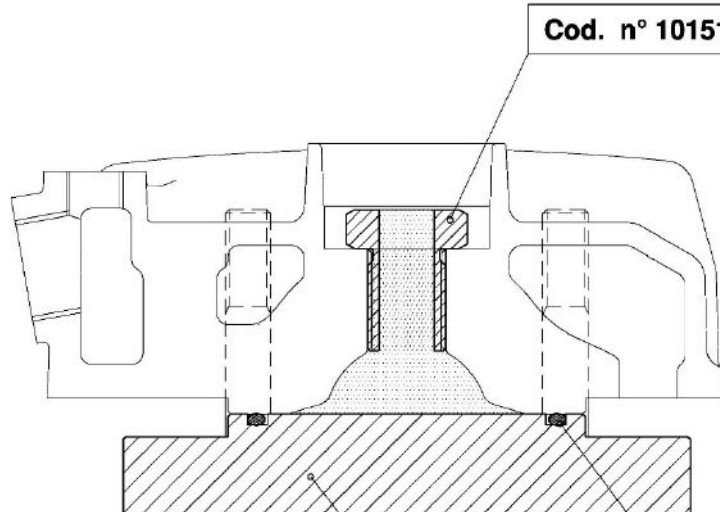
**CONTROL GAUGES
OUTILS DE CONTROLL**



Cod. n° 10215



Cod. n° 10151

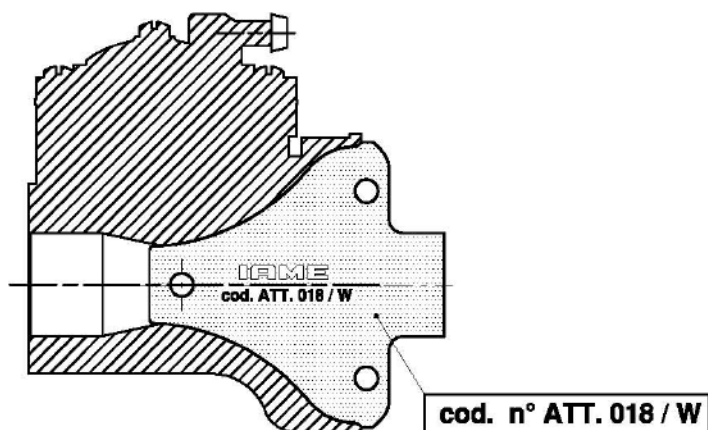


Cod. n° 10151

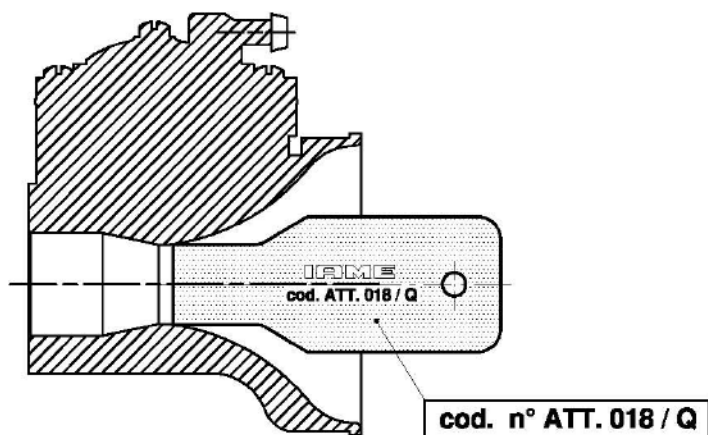
(OR - 3193)

Cod. n° 10276

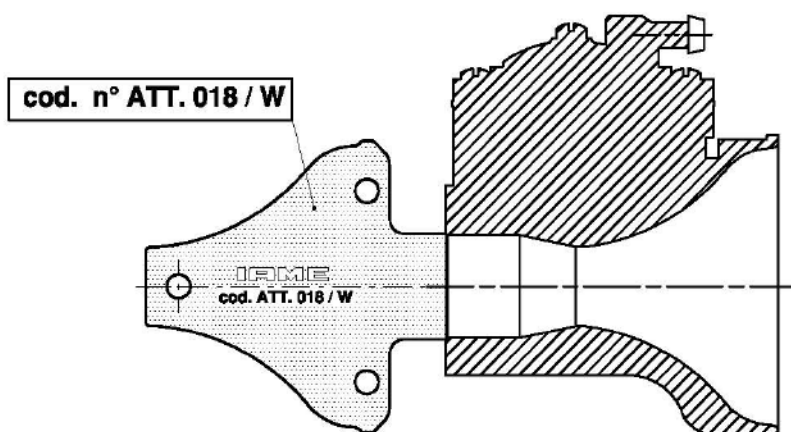
**CONTROL GAUGES
OUTILS DE CONTROLL**



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.

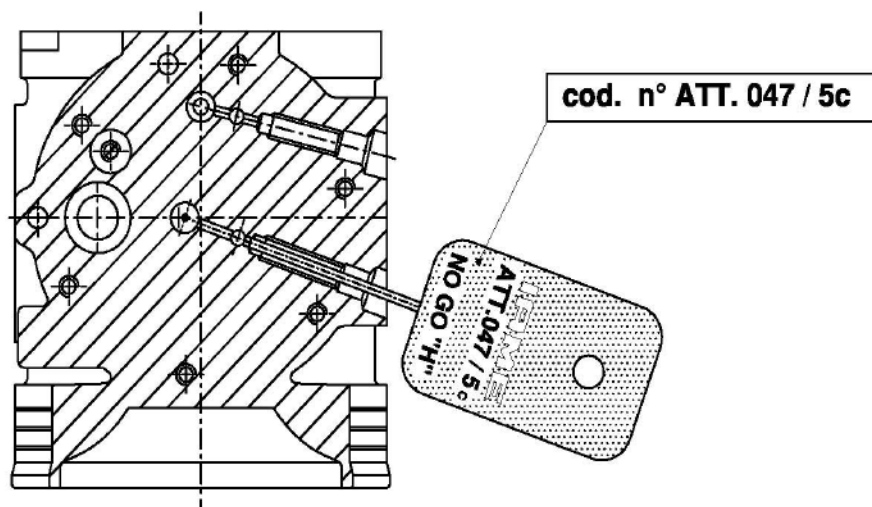
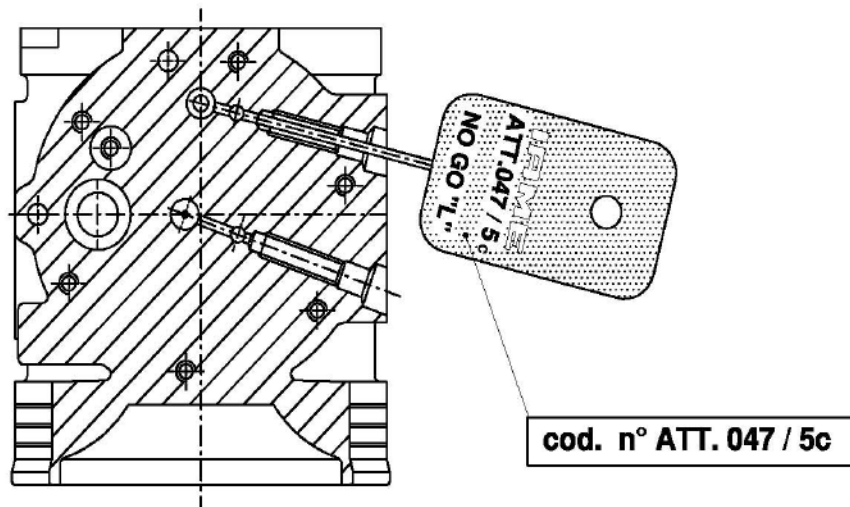


Check that the tool does not enter into the venturi duct inlet of carburettor.
Vérifier que l'outil n'entre pas dans l'entrée du conduit Venturi du carburateur.



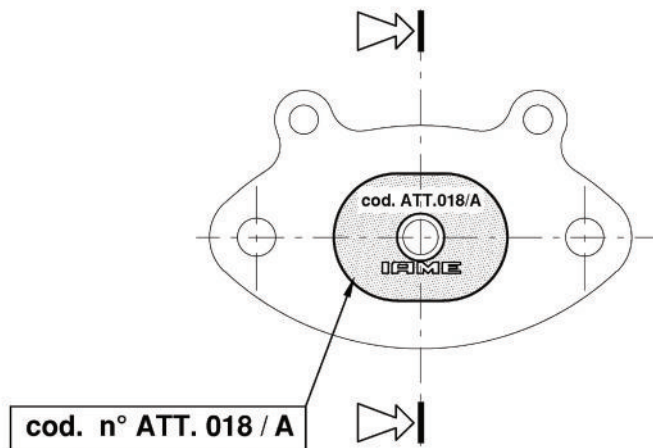
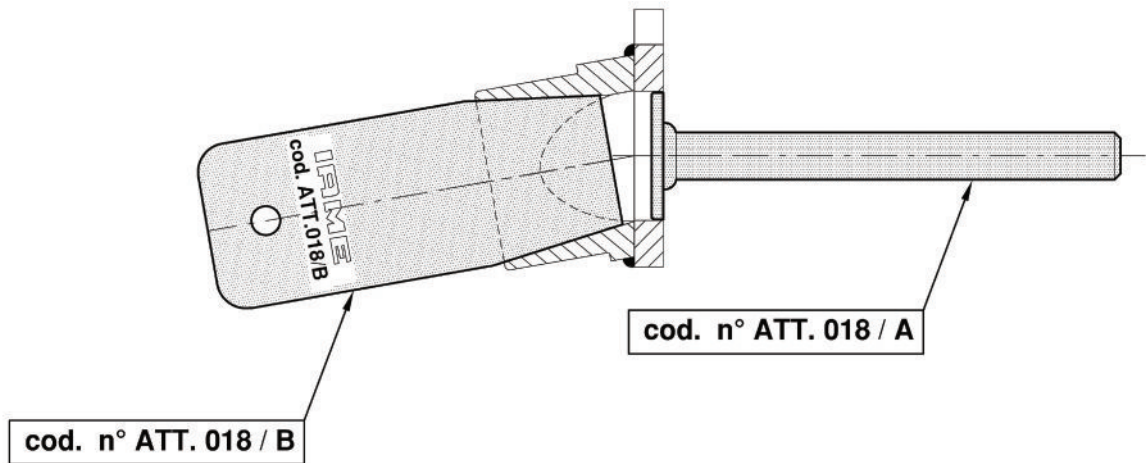
Check that the tool does not enter into the venturi duct outlet of carburettor.
Vérifier que l'outil n'entre pas dans la sortie du conduit Venturi du carburateur.

**CONTROL GAUGES
OUTILS DE CONTROLL**



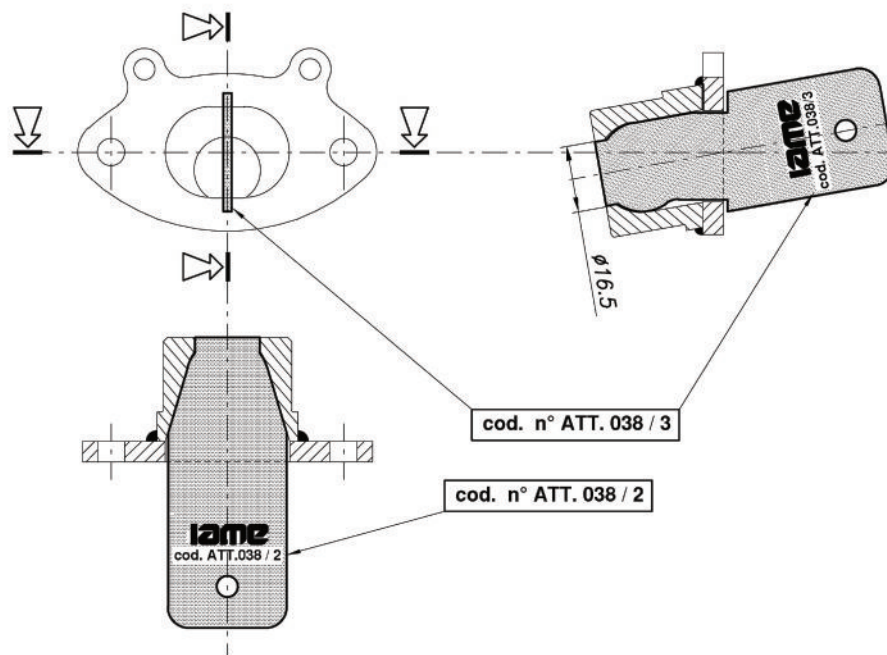
Check that the spikes does not enter into the holes.
Vérifiez que les pointes n'entrent pas dans les trous.

**CONTROL GAUGES
OUTILS DE CONTROL**

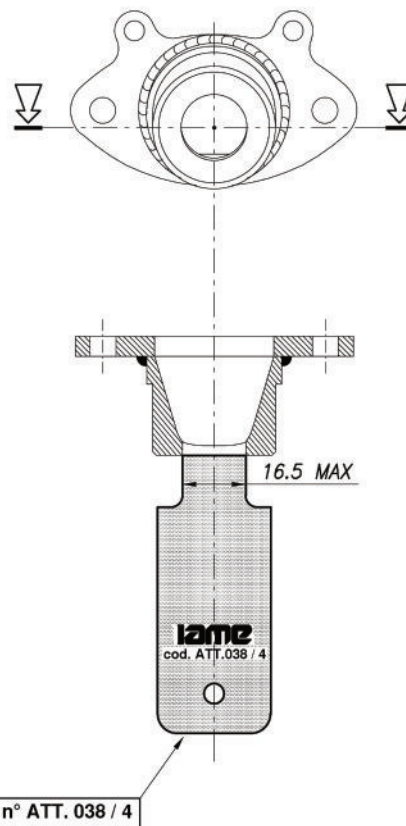


Check that the tool must be the same shape of the exhaust manifold.
Vérifiez que l'outil doit être de la même forme du collecteur d'échappement

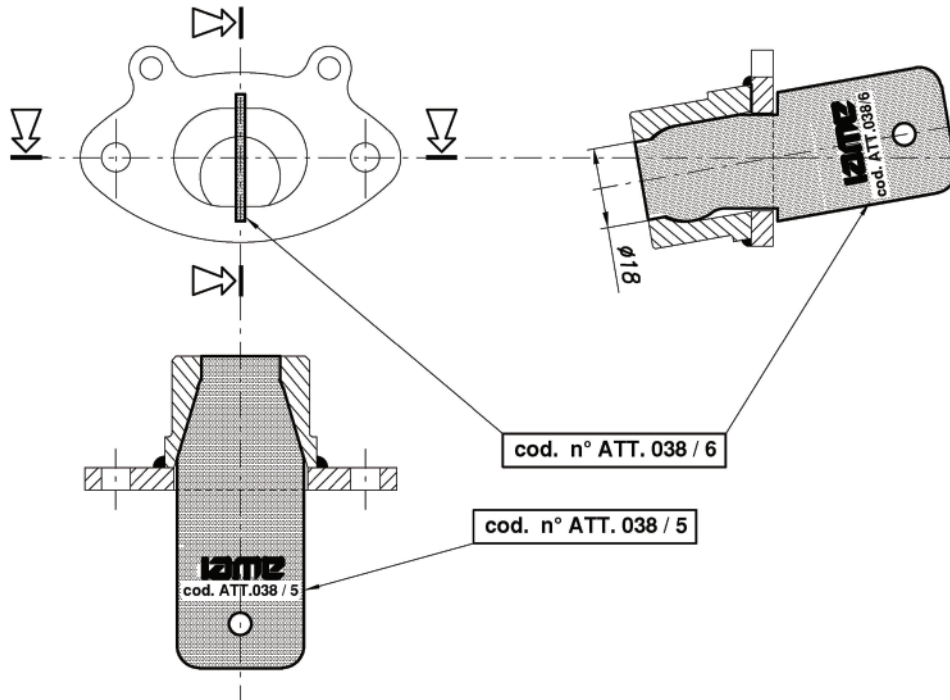
IAME TOOLS – GABARIT DE CONTROL IAME



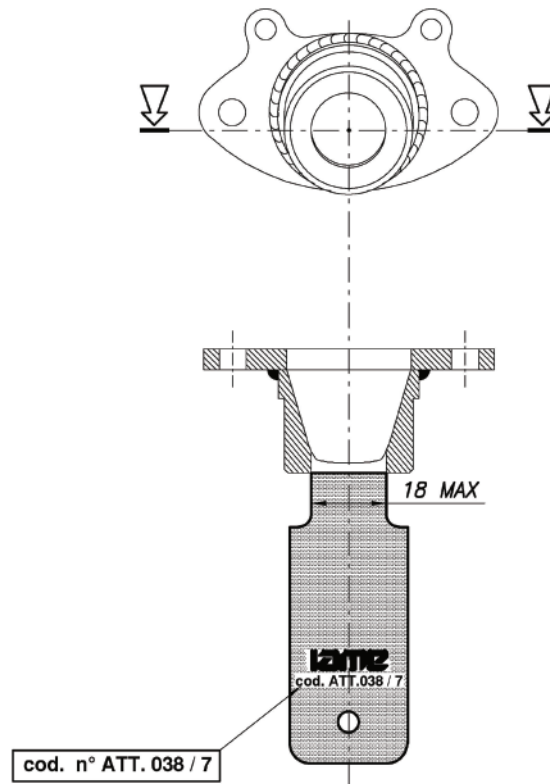
Check that the tool must be the same shape of the inlet carburettor.
Vérifier que l'outil doit avoir la même forme que l'admission du carburateur.



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



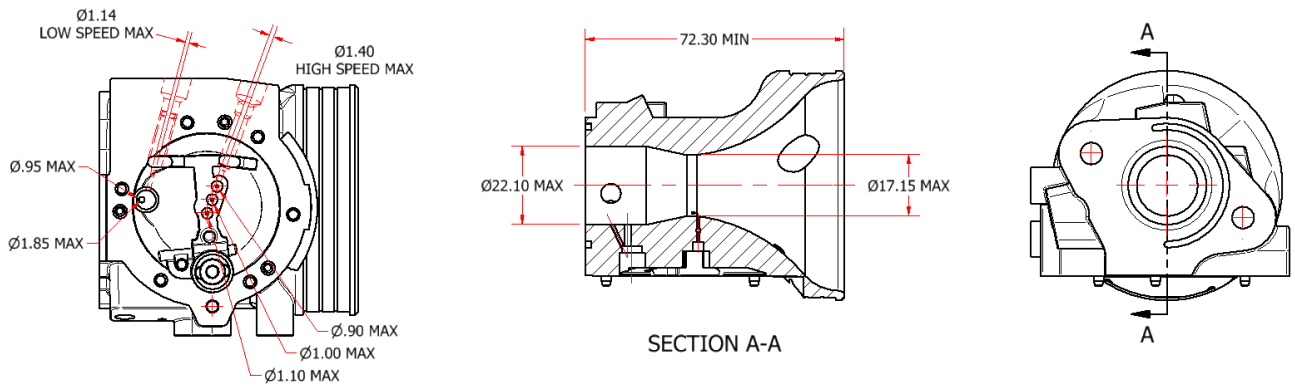
PHOTO OF ADJUSTING SIDE



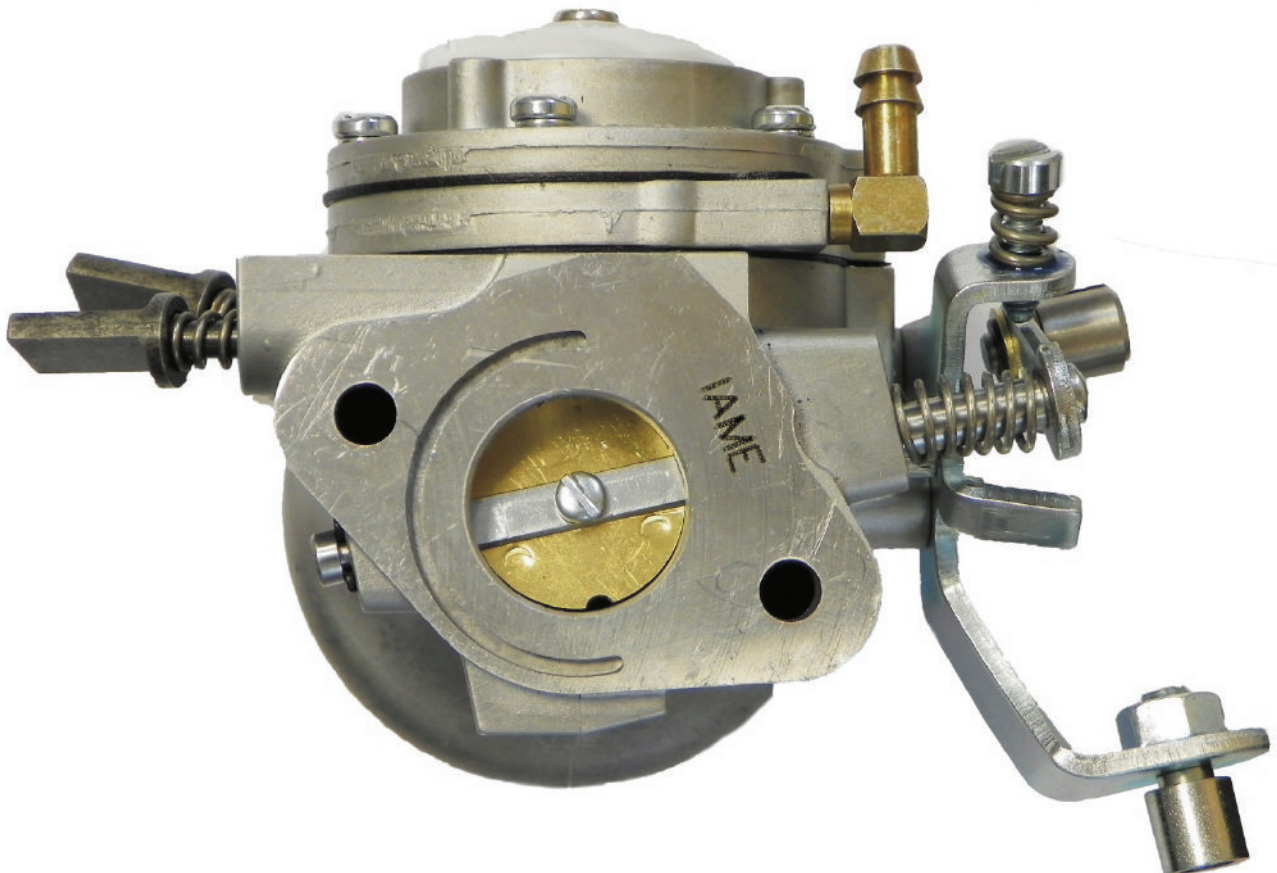
PHOTO OF INLET SIDE

| | |
|--------------|-----------------------|
| Manufacturer | TILLOTSON LTD. |
| Make | TILLOTSON |
| Model | HW-31A |

SECTION VIEW

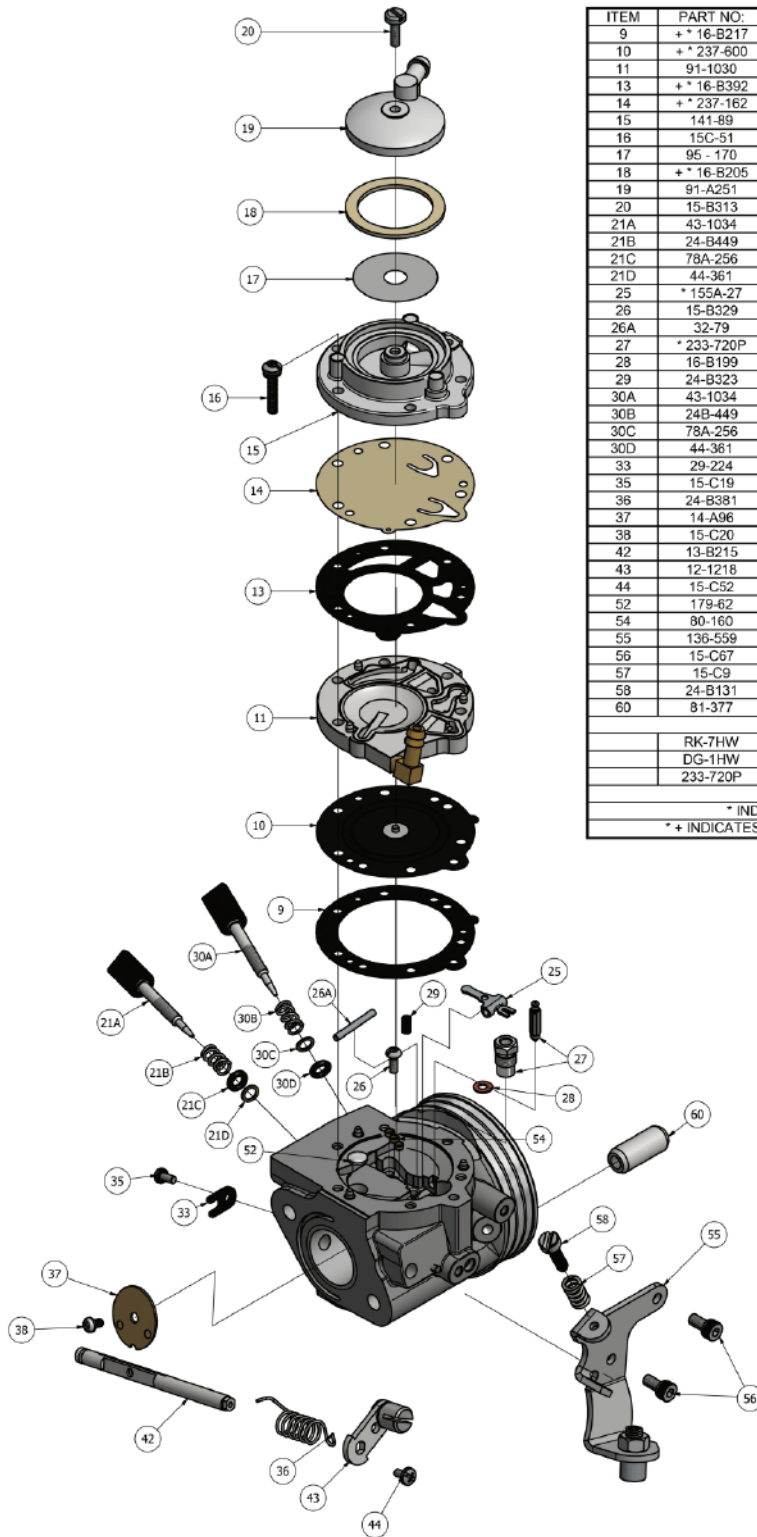


"IAME" MARKING



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 | | | |

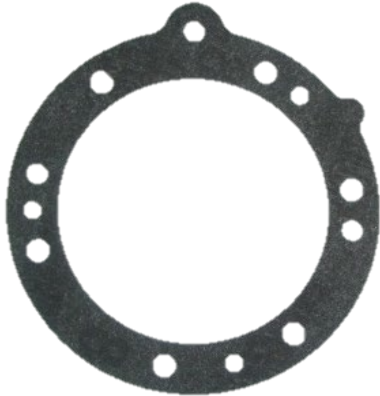


Clash Industrial Estate - Tralee - Ireland
www.tillotson-racing.com



PARTS OF CARBURETTOR

REF.9 - P. N°16-B217
DIAPHRAGM GASKET



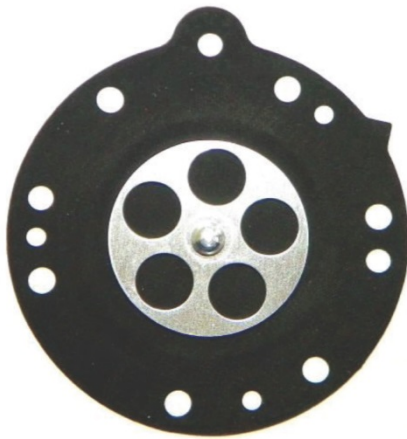
Thickness = 0.5 ± 0.1 mm

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



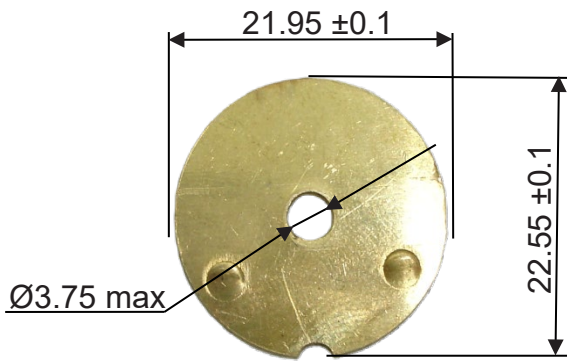
Thickness = 6.75 ± 0.15 mm

REF.15 - P. N° 141-89
PUMP COVER



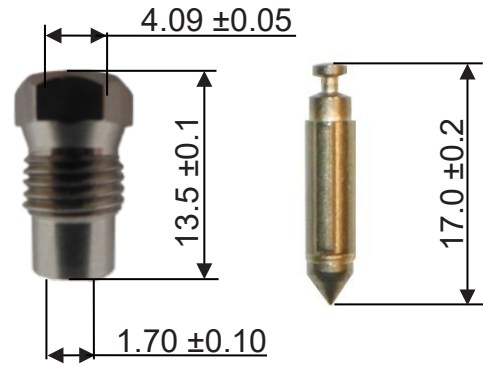
Thickness = 12.5 ± 0.15 mm

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

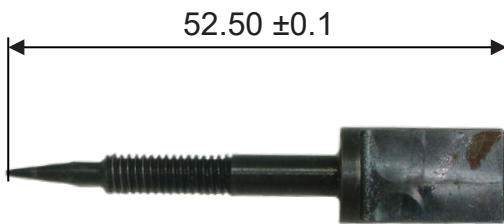


Thickness = 0.81 ±0.1 mm

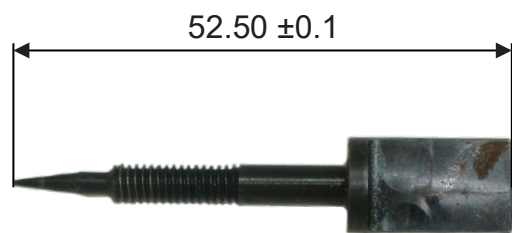
REF.27 - P. N° 233-720P
SEAT + NEEDLE



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



HOLE FOR CARBURETTOR SEALING
TROU POUR LE PLOMBAGE

The carburettor can have this hole for sealing.

Le carburateur peut avoir ce trou pour le plombage.

