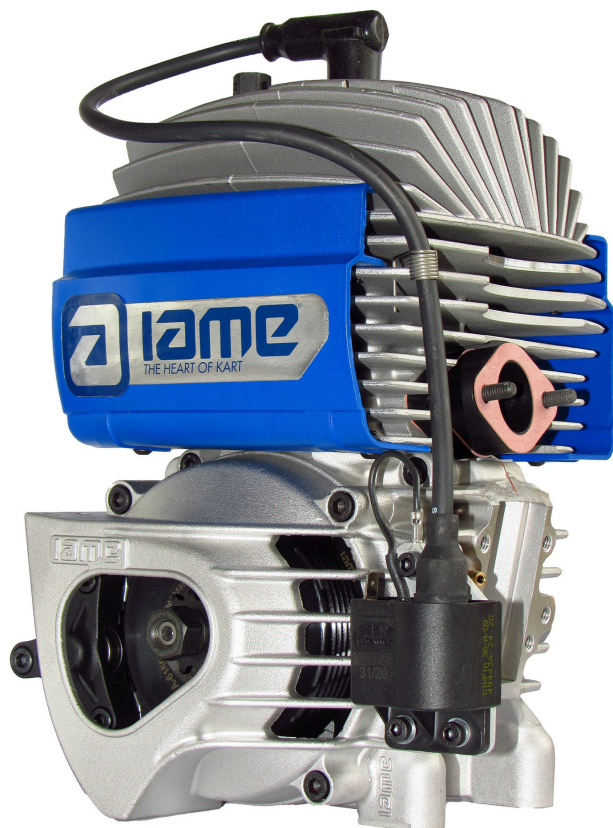




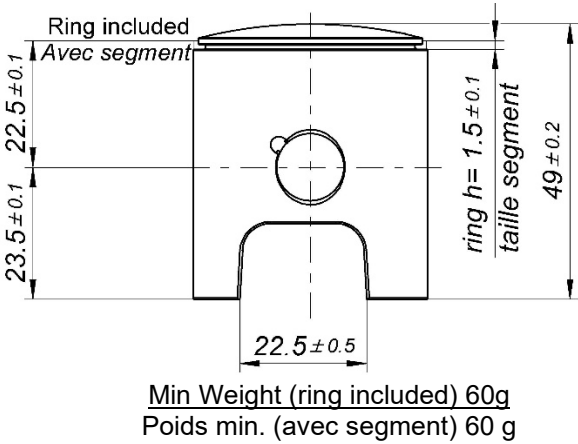
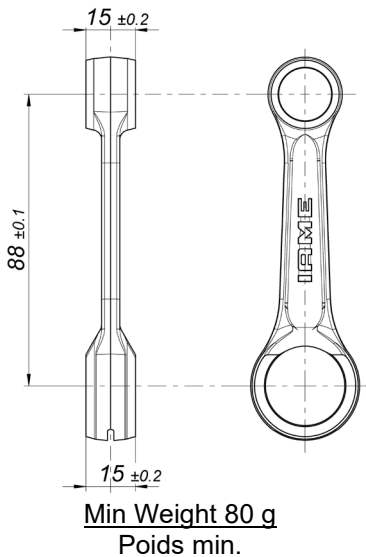
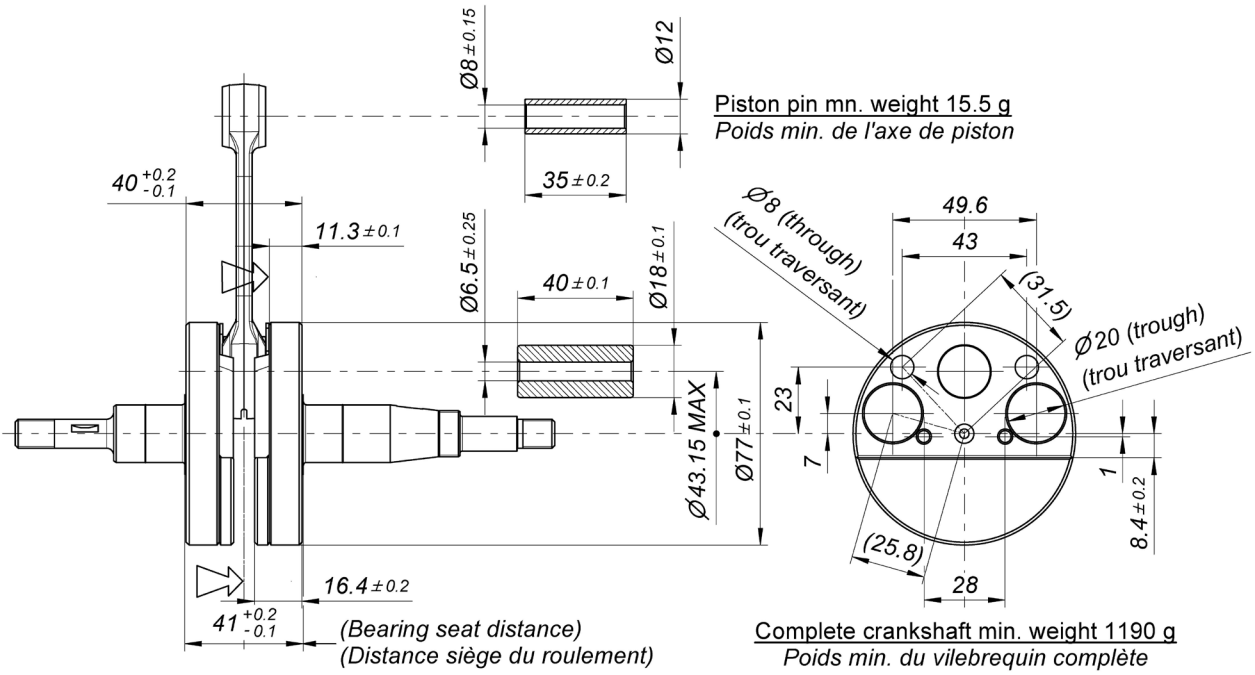
# 60cc MINISWIFT "PROMOTIONAL" – TAG (B)



## FEATURES - CARACTERISTIQUES

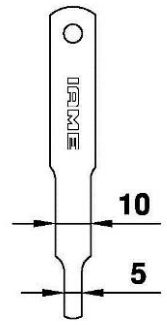
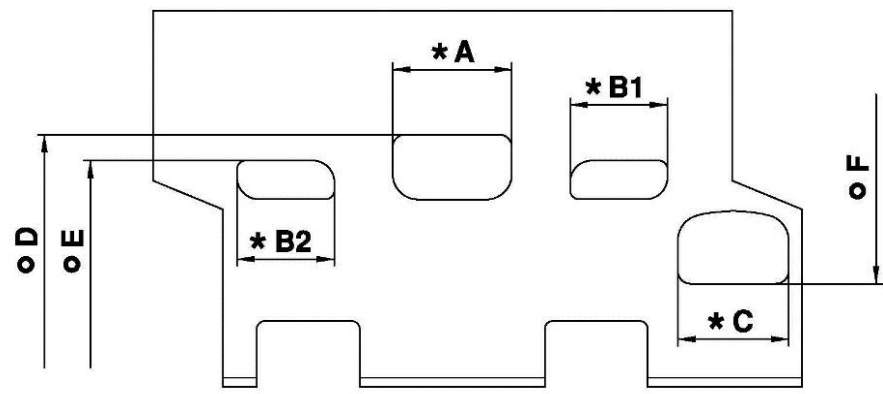
|                                                     |                                       |
|-----------------------------------------------------|---------------------------------------|
| Cylinder Volume<br><i>Volume du cylindre</i>        | 59.00 cm <sup>3</sup>                 |
| Bore<br><i>Alésage</i>                              | 41.80 mm                              |
| Max. bore<br><i>Alésage max.</i>                    | 42.10 mm                              |
| Max. Stroke<br><i>Course max.</i>                   | 43.15 mm                              |
| Cooling system<br><i>Système de refroidissement</i> | Air<br><i>Air</i>                     |
| Inlet system<br><i>Système d'admission</i>          | Piston valve<br><i>Jupe de piston</i> |
| Number of carbs<br><i>Nombre de carburateurs</i>    | 1                                     |

|                                                                                 |                                     |                                                                             |                               |
|---------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------|-------------------------------|
| Tillotson Carburettor<br><i>Carburateur Tillotson</i>                           | <b>HW-31A</b><br>(ØVenturi<br>17mm) | Cylinder / crankcase transfers n°<br><i>N° de canaux cylindre / carter</i>  | 2 / 2                         |
| Number of piston rings<br><i>Nombre de segments</i>                             | 1                                   | Inlet / exhaust ports number<br><i>N° lumières admiss / échapp.</i>         | 1 / 1                         |
| Big end conrod ball-bearing<br>diam.<br><i>Diamètre palier tête de bielle</i>   | 18x24x15                            | Combustion chamber shape<br><i>Forme chambre de combustion</i>              | Spherical<br><i>Sphérique</i> |
| Crankshaft ball-bearing diam.<br><i>Diamètre palier du vilebrequin</i>          | 20x47x14                            | Selettra ignition (adjustable)<br><i>Allumage Selettra (réglable)</i>       | Analogue<br>2 Poles           |
| Small end conrod ball-bearing<br>diam.<br><i>Diamètre palier pied de bielle</i> | 12x16x16                            | Distance between Conrod centers<br><i>Longueur (entre axe) de la bielle</i> | 88 mm                         |

| DESCRIPTION OF THE MATERIAL<br>DESCRIPTION DES MATERIAUX                             |                                  | PISTON                                                                              |
|--------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------|
| Conrod material<br><i>Matériel de la bielle</i>                                      | Steel<br><i>Acier</i>            |   |
| Crankshaft material<br><i>Matériel du vilebrequin</i>                                | Steel<br><i>Acier</i>            |                                                                                     |
| Head Material<br><i>Matériel de la culasse</i>                                       | Aluminium                        |                                                                                     |
| Cylinder Material<br><i>Matériel du cylindre</i>                                     | Aluminium                        |                                                                                     |
| Liner material<br><i>Matériel de la chemise</i>                                      | Iron<br><i>Fonte</i>             | DISTANCE BETWEEN CONROD CENTERS<br><i>ENTRE AXE DE LA BIELLE</i>                    |
| Crankcase material<br><i>Matériel du carter</i>                                      | Aluminium                        |  |
| Piston material<br><i>Matériel du piston</i>                                         | Aluminium                        |                                                                                     |
| Piston rings material<br><i>Matériel des segments</i>                                | Iron<br><i>Fonte</i>             |                                                                                     |
| Exhaust muffler material<br><i>Matériel du pot d'échappement</i>                     | Sheet-steel<br><i>Tôle acier</i> |                                                                                     |
| Ball-bearings<br><i>Roulements</i>                                                   | 6204 type                        |                                                                                     |
| CRANKSHAFT - VILEBREQUIN                                                             |                                  |                                                                                     |
|  |                                  |                                                                                     |

CYLINDER DEVELOPMENT – DEVELOPPEMENT DU CYLINDRE

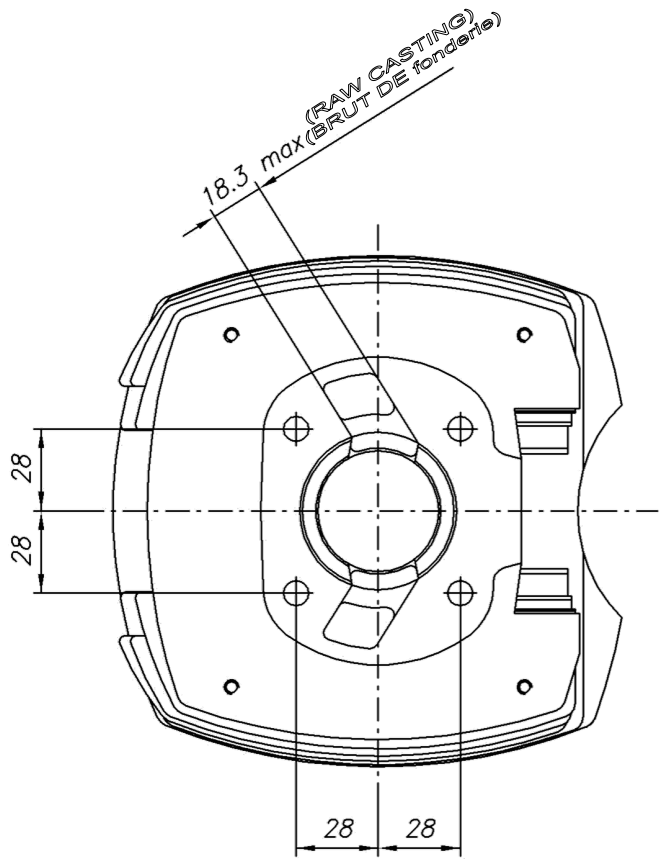
TOOL IAME Cod. 10194



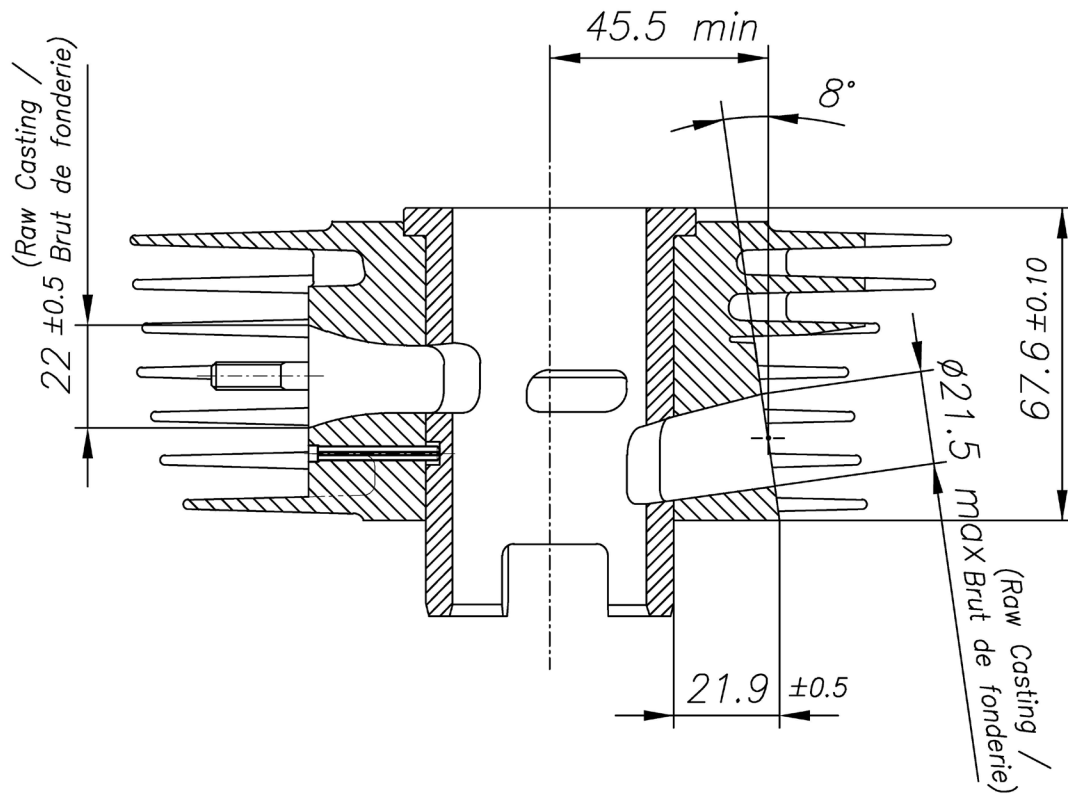
|         |            |
|---------|------------|
| A       | ≤ 28.5 mm  |
| B1 = B2 | ≤ 22.3 mm  |
| C       | ≤ 26.5 mm  |
| D       | 155.5° ±2° |
| E       | 115.5° ±2° |
| F       | 143.0° ±2° |

- \* CHORDAL READING – LECTURE CORDALE
- o ANGULAR READING BY INSERT A 0.2x5 mm GAUGE –  
LECTURE ANGULAIRE PAR INSERTION D'UNE CALE DE 0.2x5 mm  
USING IAME TOOL Cod. 10194 – UTILISER OUTIL

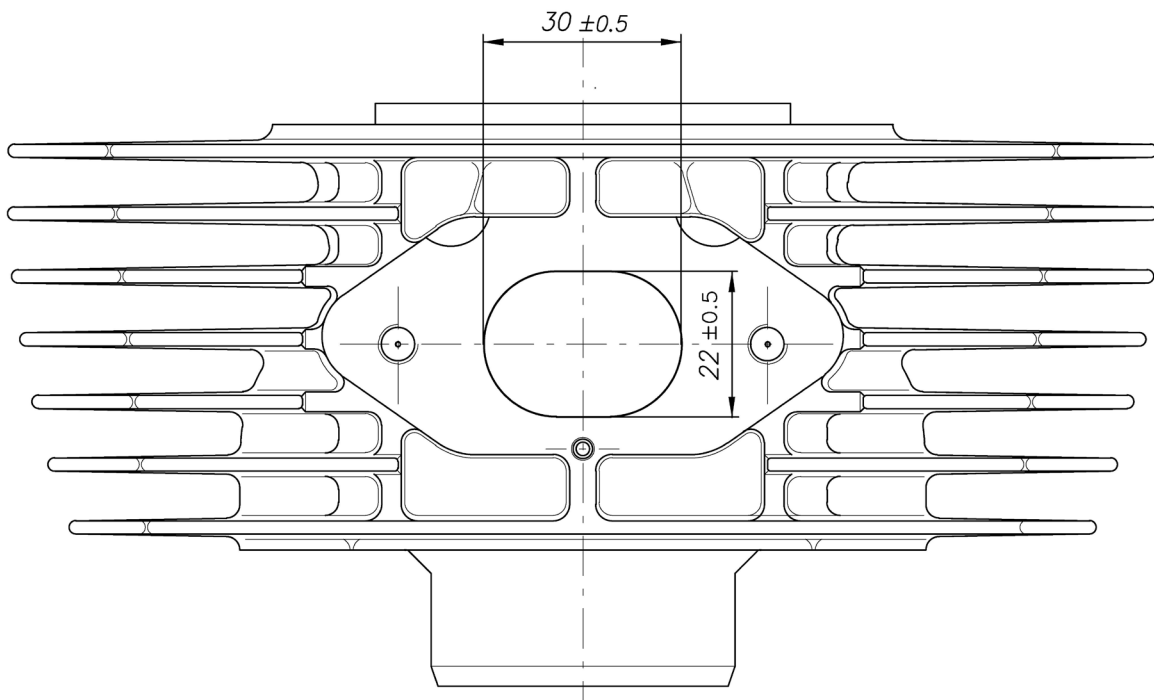
CYLINDER BASE VIEW  
VUE DE LA BASE DU CYLINDRE



CYLINDER SECTION VIEW  
VUE EN SECTION DU CYLINDRE

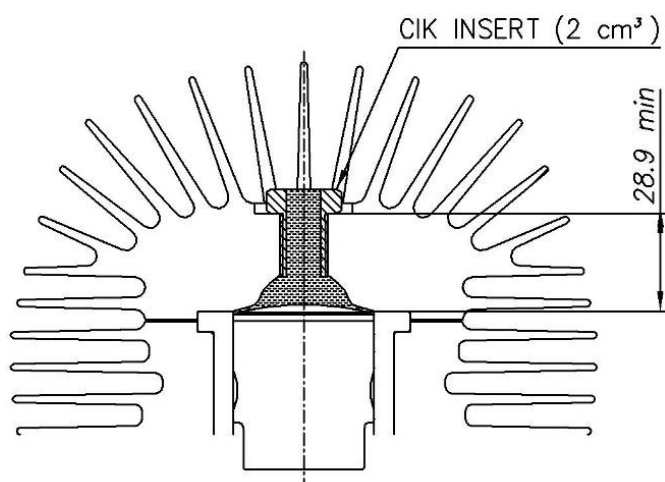


EXHAUST EXIT VIEW AND DIMENSION  
VEU ET DIMENSIONS DU SORTIE D'ÉCHAPPEMENT



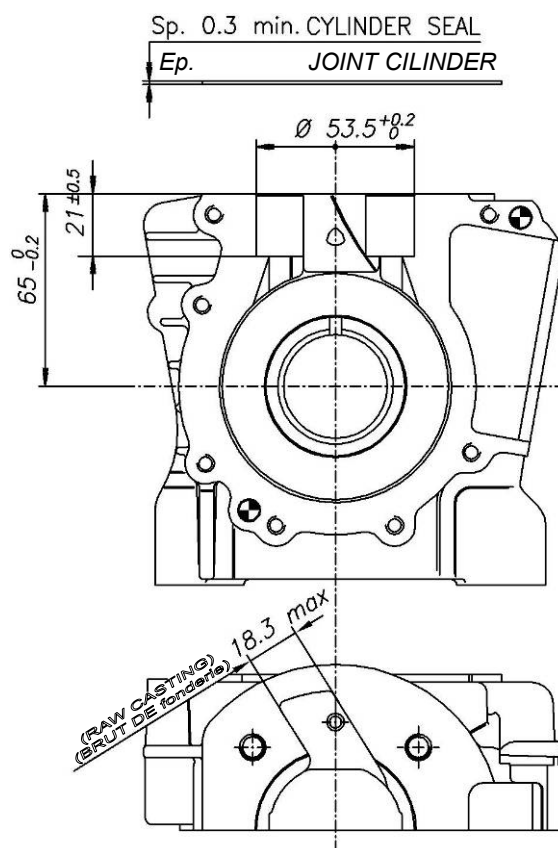


COMBUSTION CHAMBER VIEW  
VUE DE LA CHAMBRE DE COMPRESSION

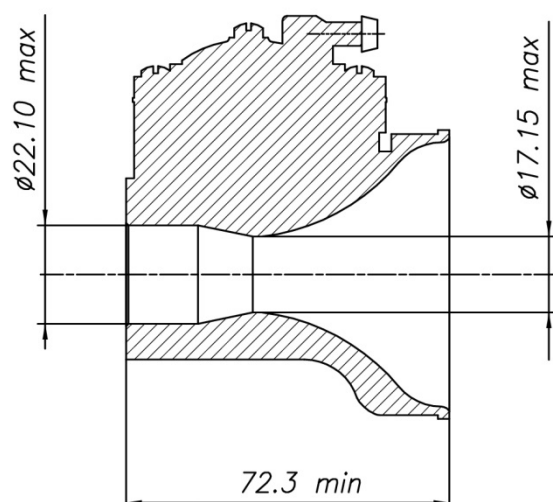
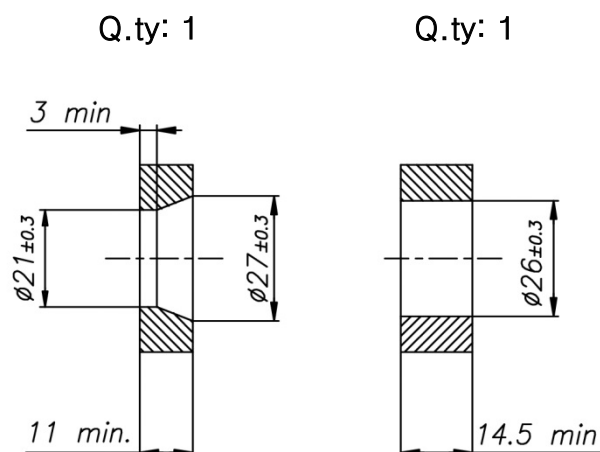


**COMBUSTION CHAMBER VOLUME = 6.5 cm³ min.**  
**VOLUME CHAMBRE COMBUSTION**

CRANKCASE INSIDE VIEW  
VUE A' L'INTERIEUR DU CARTER



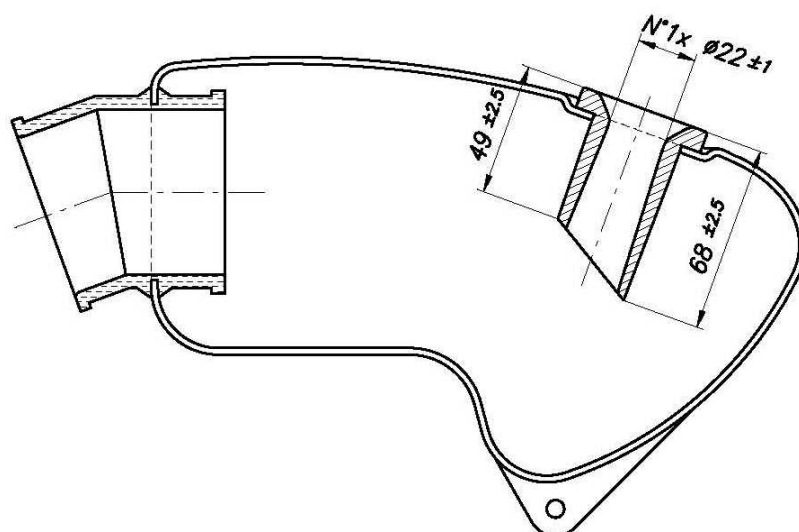
VENTURI CARB. DIMENSIONS AND THERMAL SPACERS  
DIMENSIONS DU VENTURI DU CARBURATEUR ET ESPACEURS THERMIQUE



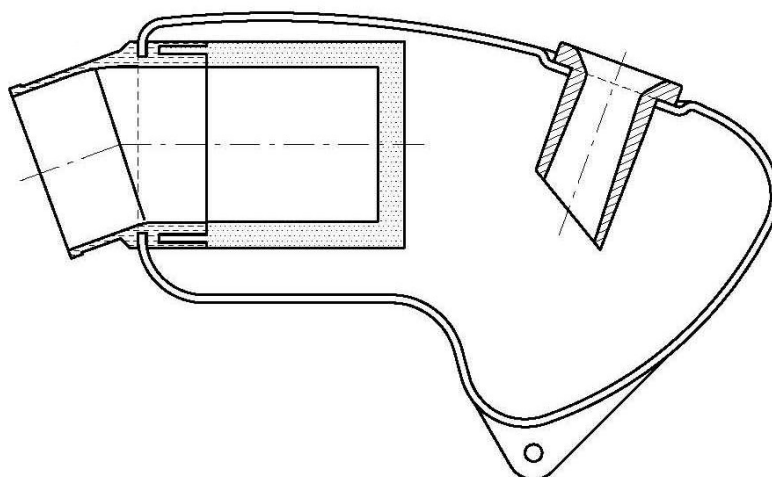
**TILLOTSON MOD. HW-31A**

INLET SILENCER  
SILENCIEUX D'ASPIRATION

( CSAI OMOLOGATION N° 01/SA/14 )



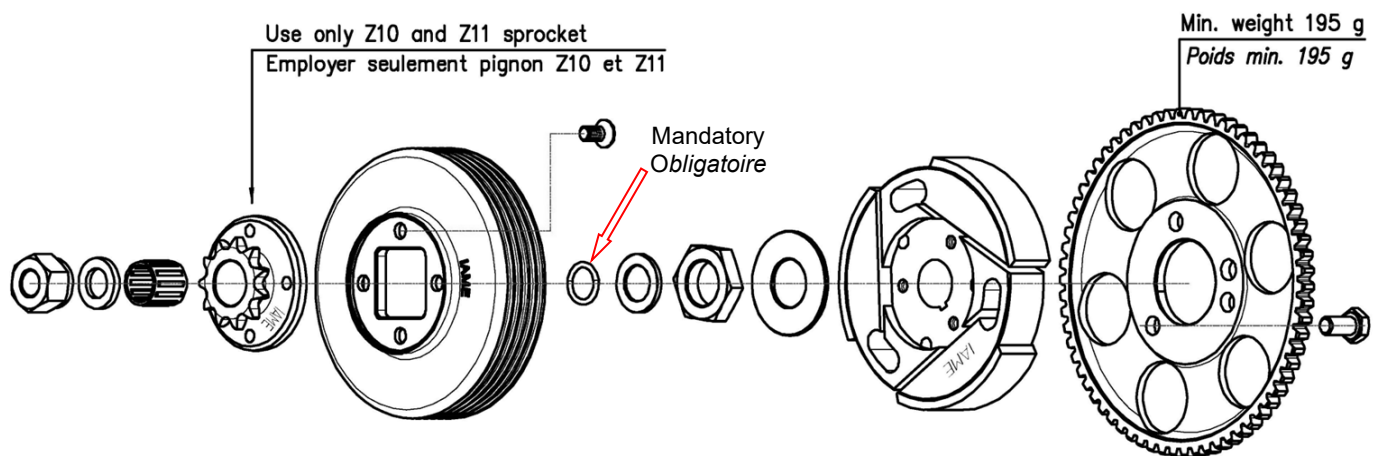
ALTERNATIVE INLET SILENCER  
ALTERNATIVE SILENCIEUX D'ASPIRATION



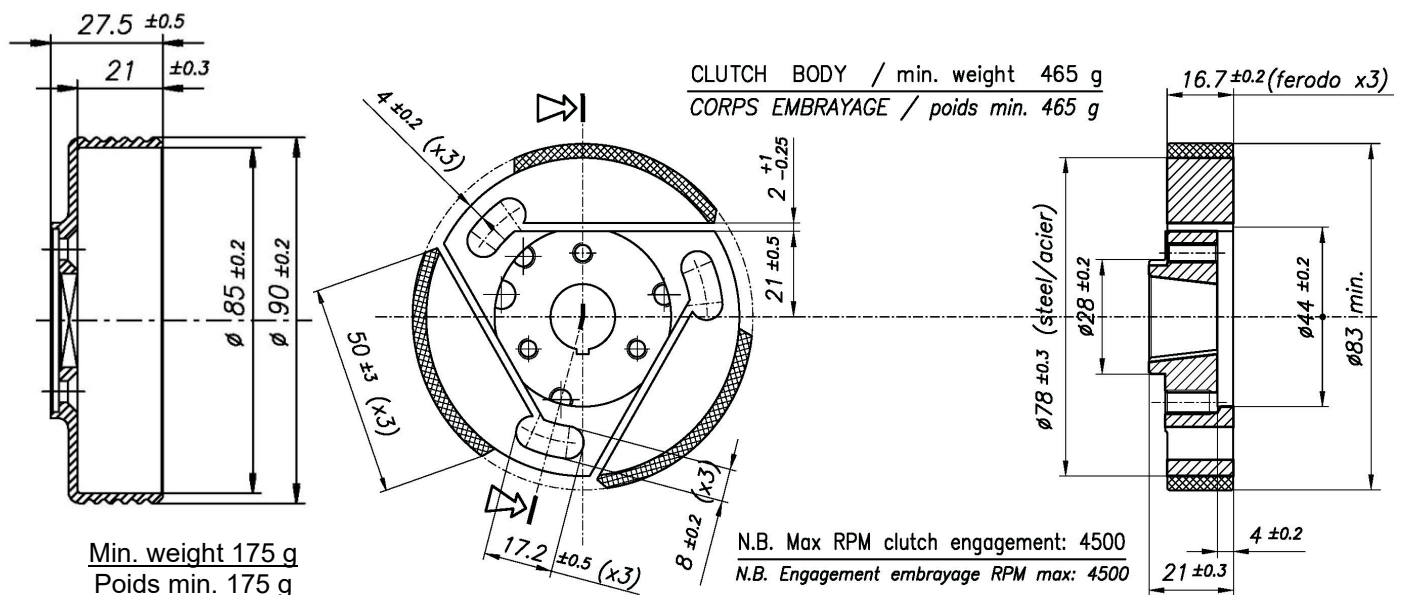
INLET SILENCER - PHOTO  
PHOTO - SILENCIEUX D'ASPIRATION



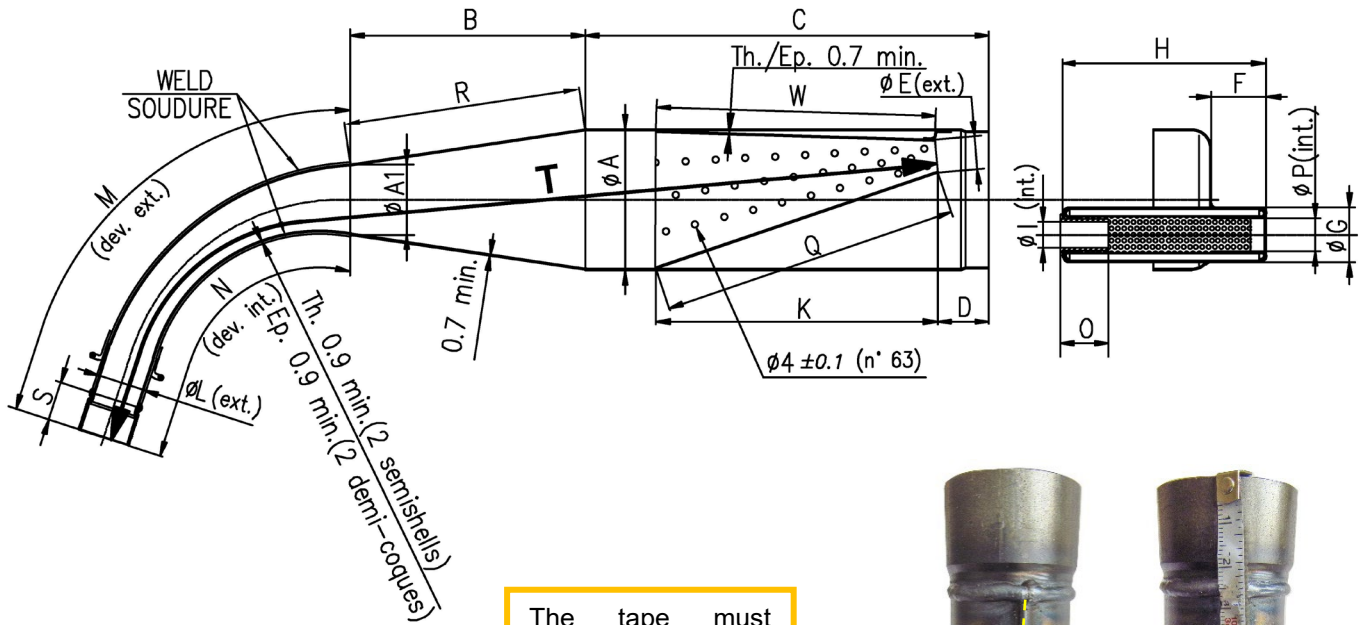
## DESCRIPTION OF THE CLUTCH DESCRIPTION DE L'EMBRAYAGE



## CLUTCH DRUM AND CLUTCH HUB DRAWING DESSIN DE LA CLOCHE D'EMBRAYAGE ET CORPS D'EMBRAYAGE

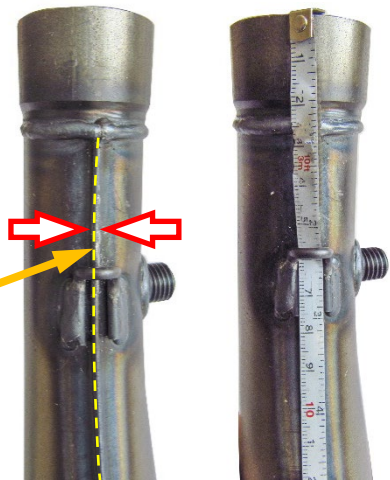


# EXHAUST VIEW AND DIMENSIONS VUE ET DIMENSIONS DE L'ÉCHAPPEMENT



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

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



Min. weight 1.250 g  
Poids min.

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

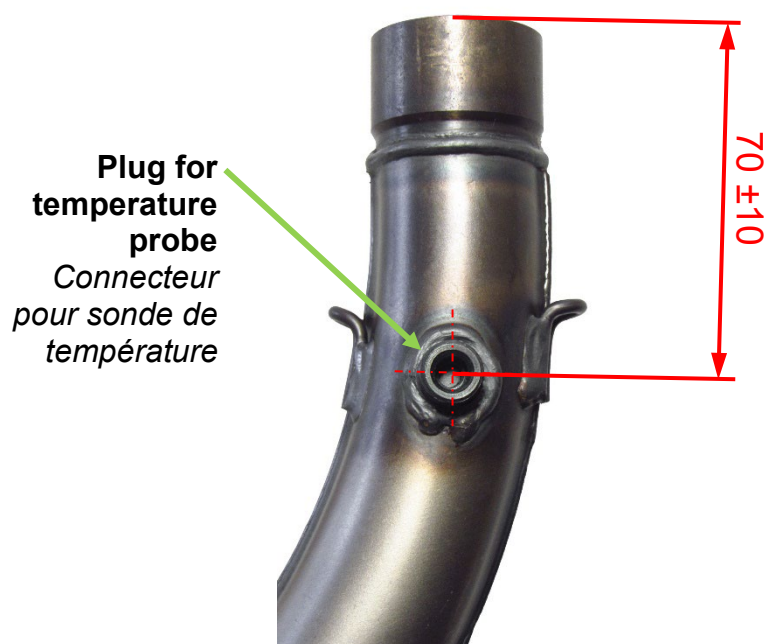
The dimensions “**Q**” and “**W**” must be taken by steel tape measure 12mm wide.

Les dimensions « **Q** » et « **W** » doivent être prises à l'aide d'un ruban à mesurer en acier 12 mm de large.

EXHAUST IDENTIFICATION PHOTO  
PHOTO D'IDENTIFICATION D'ÉCHAPPEMENT

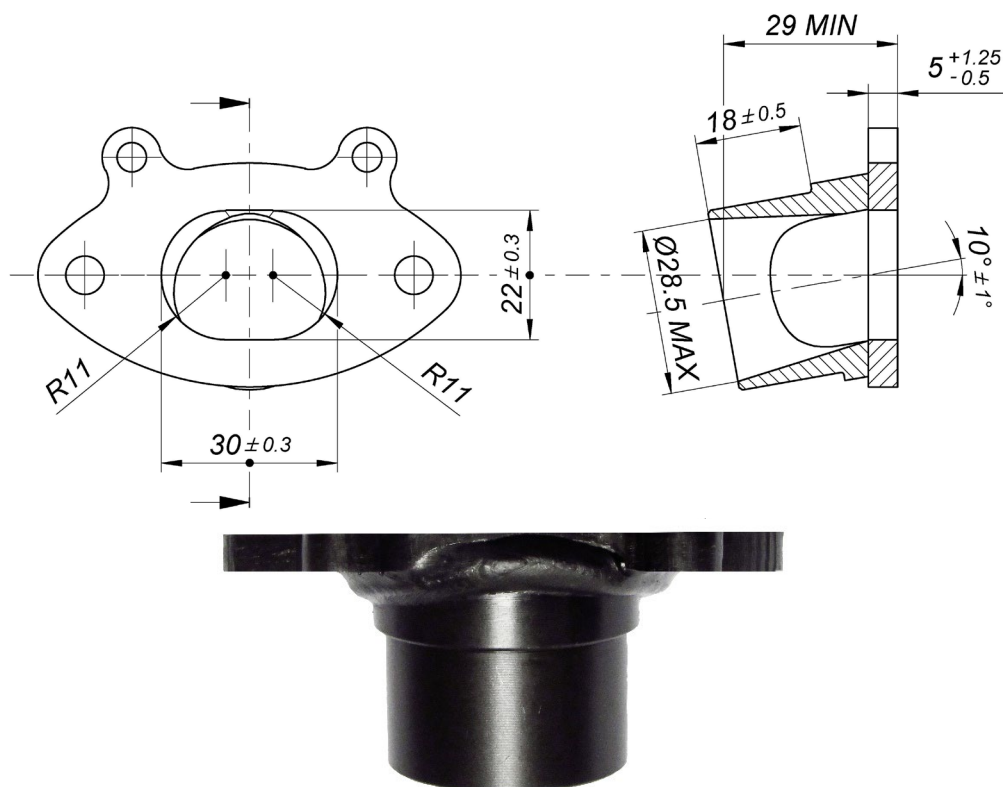


MARKING / MARQUAGE



EXHAUST FITTING TYPES  
RACCORD D'ÉCHAPPEMENT

Unrestricted



Restricted  $\phi 18 \text{ MAX}$



# WIRING DIAGRAM SCHEMA CIRCUIT ELECTRIQUE

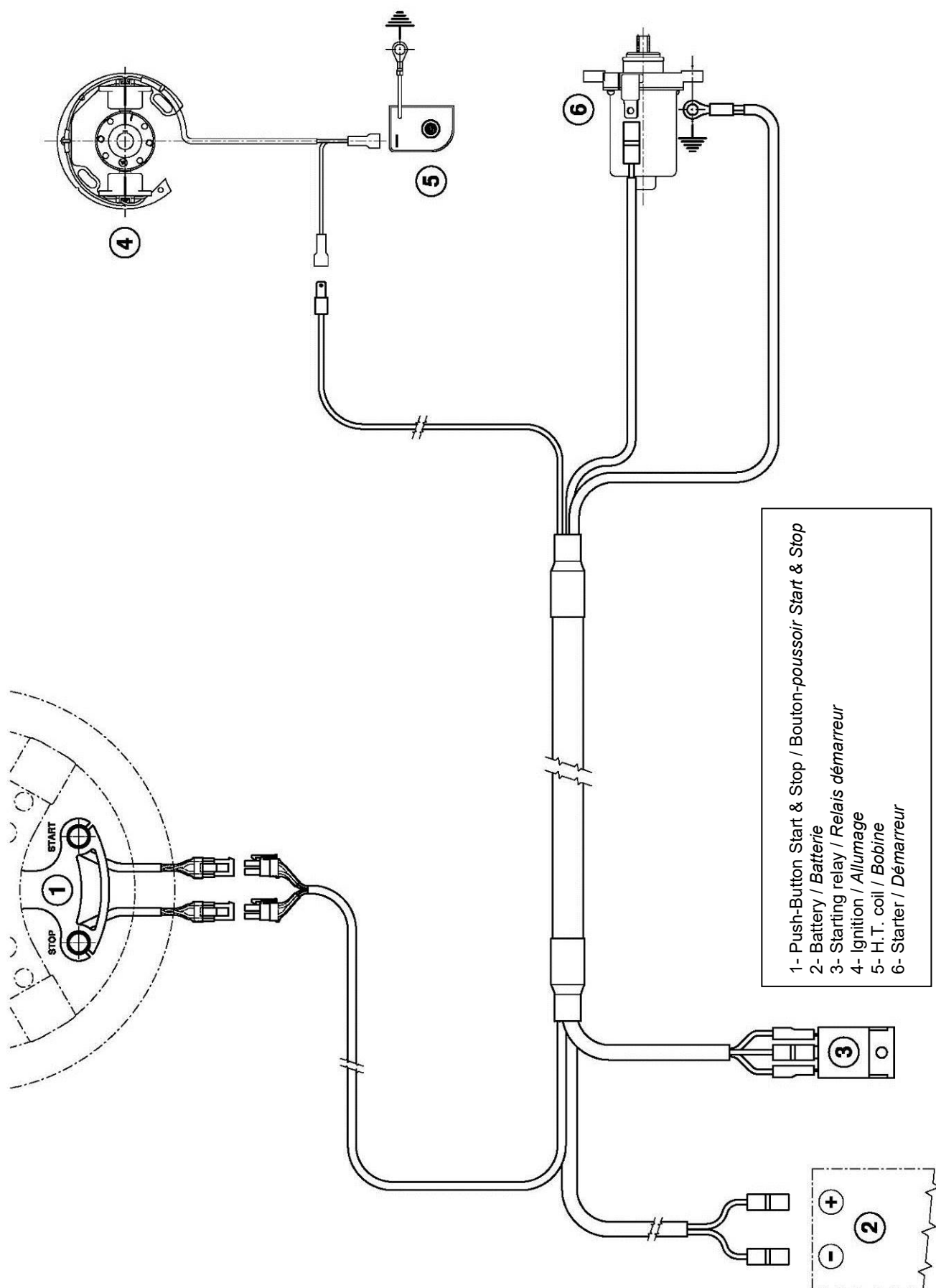




PHOTO COMPLETE WIRING  
*PHOTO DU CÂBLAGE ÉLECTRIQUE COMPLÈTE*

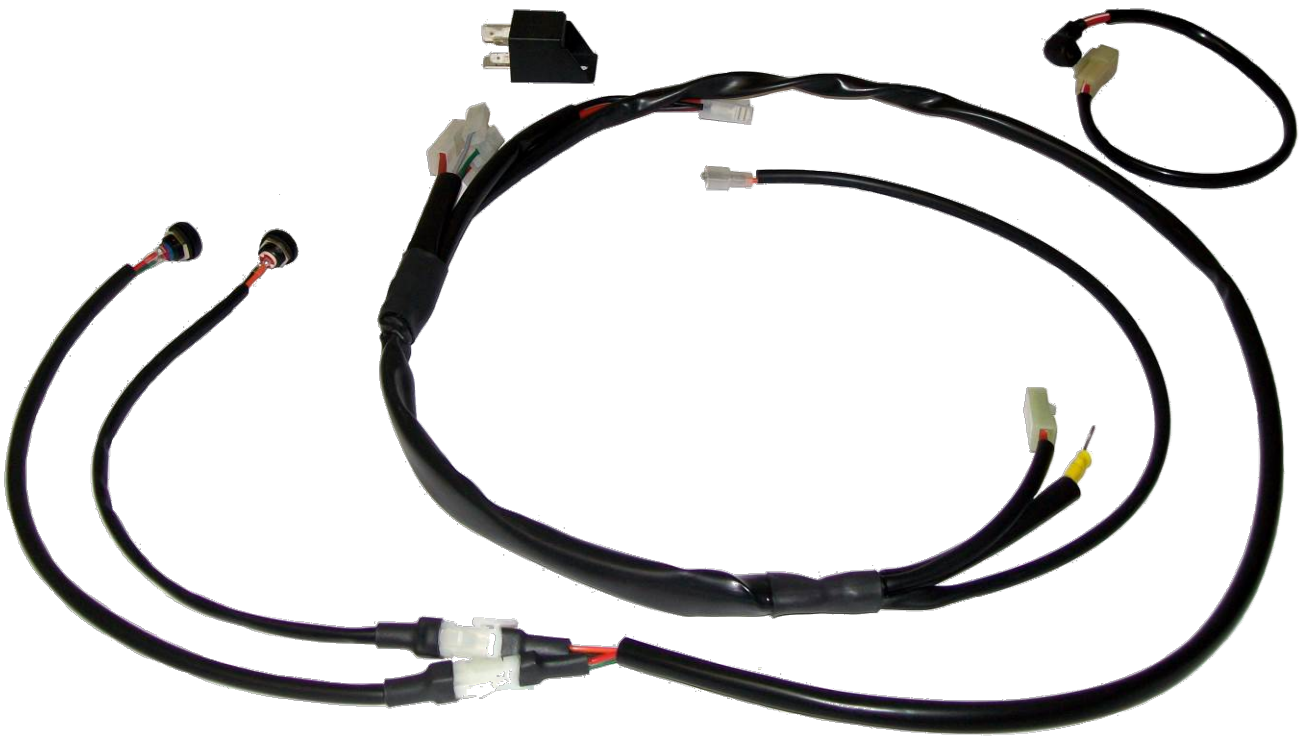
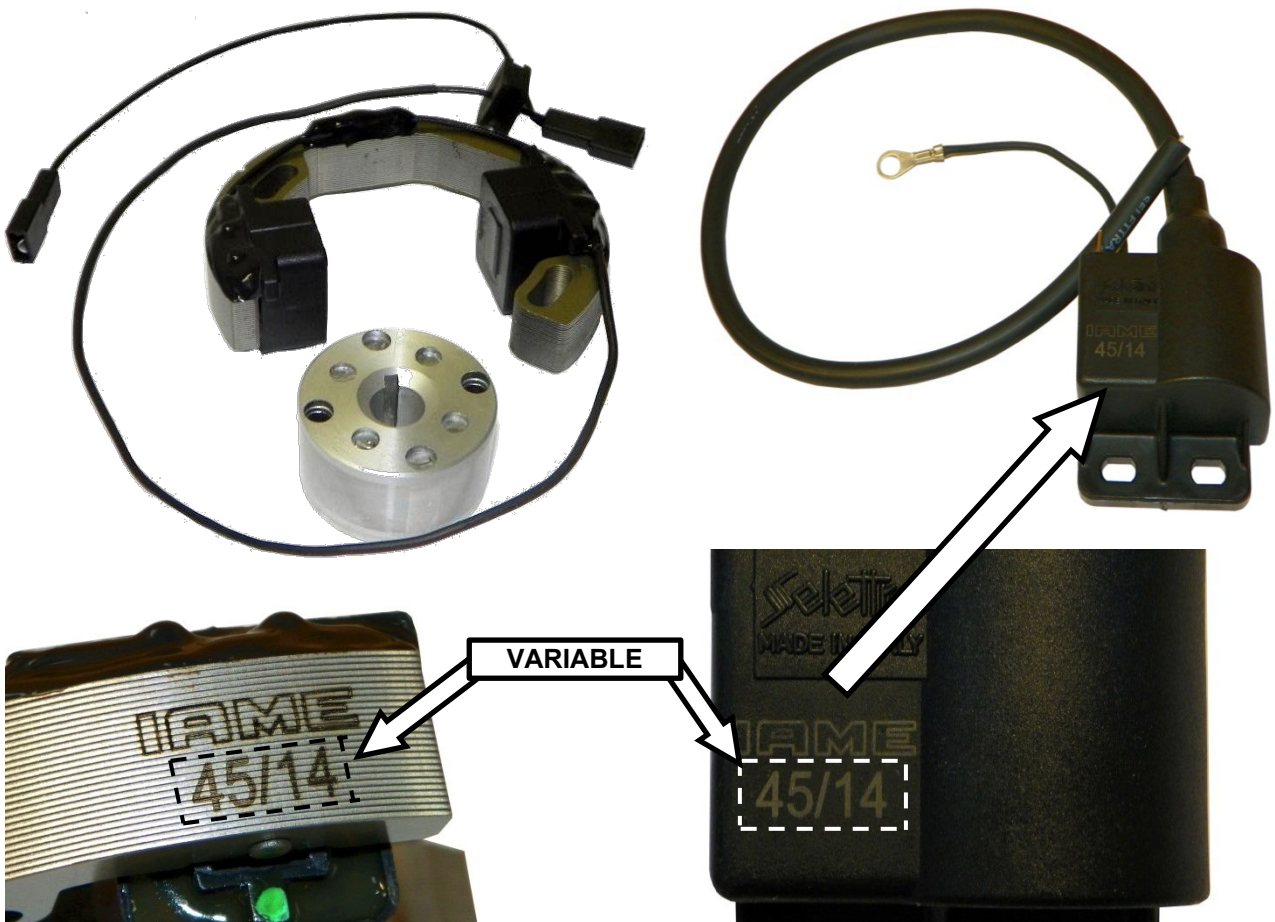
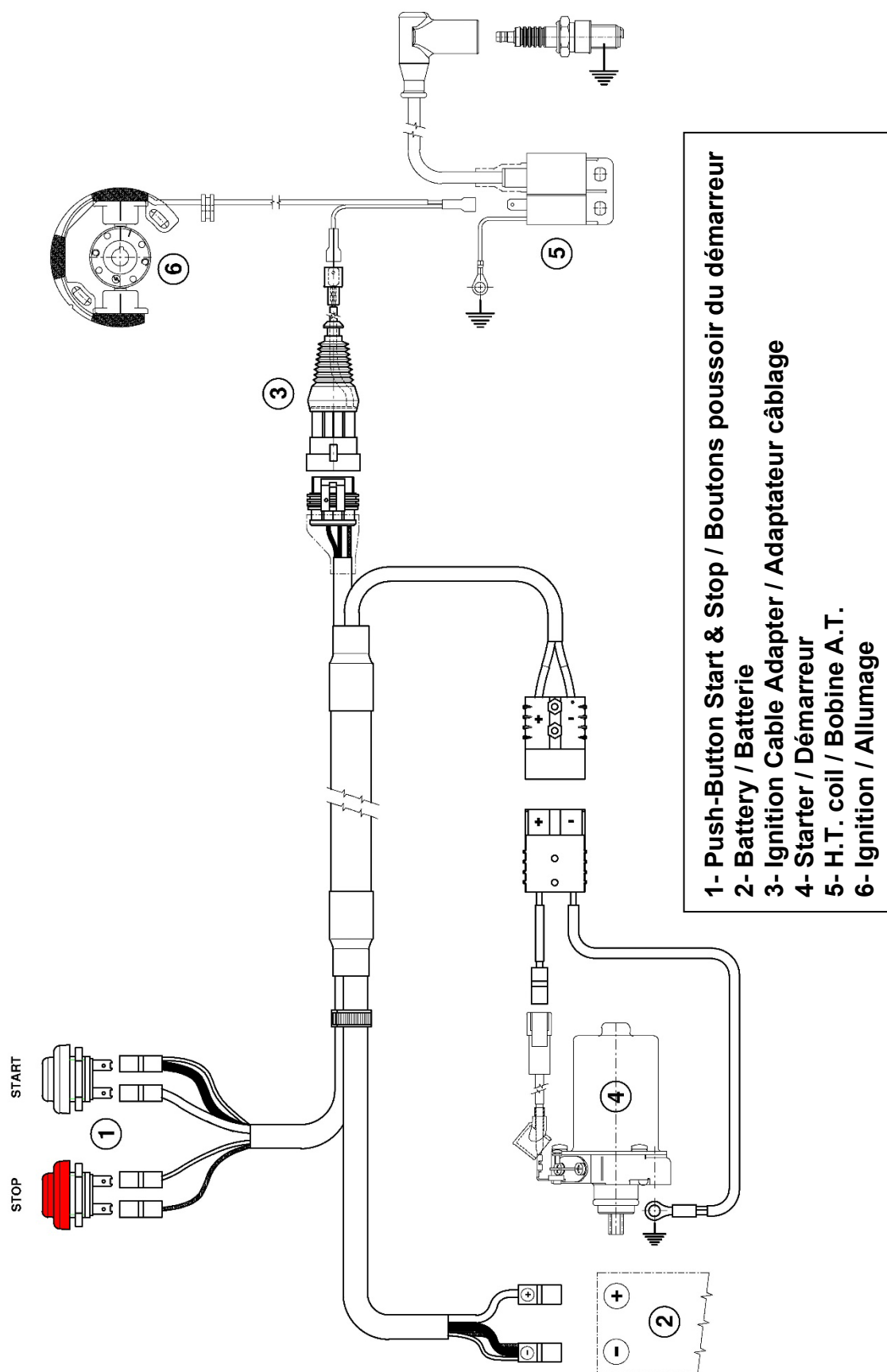


PHOTO OF IGNITION / PHOTO OF H.T. COIL (SELETTA ANALOGUE 2 POLES)  
*PHOTO DU ALLUMAGE ET BOBINE*





# 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

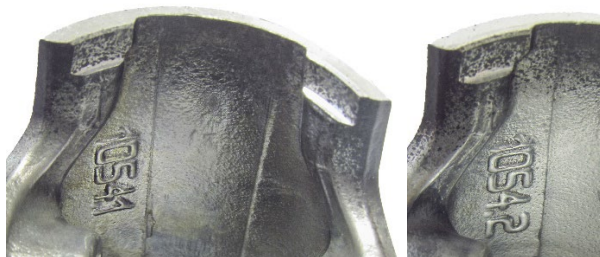
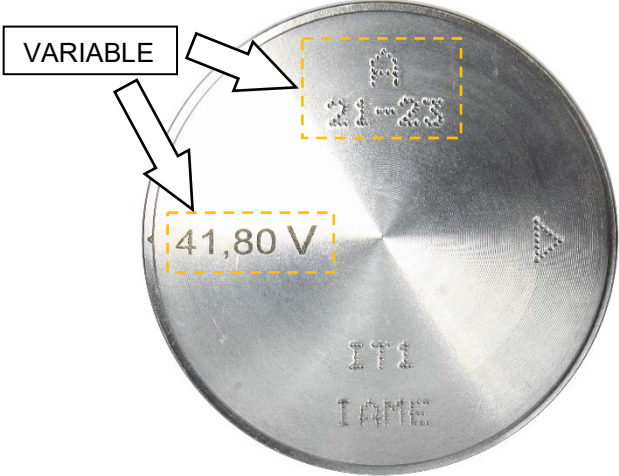
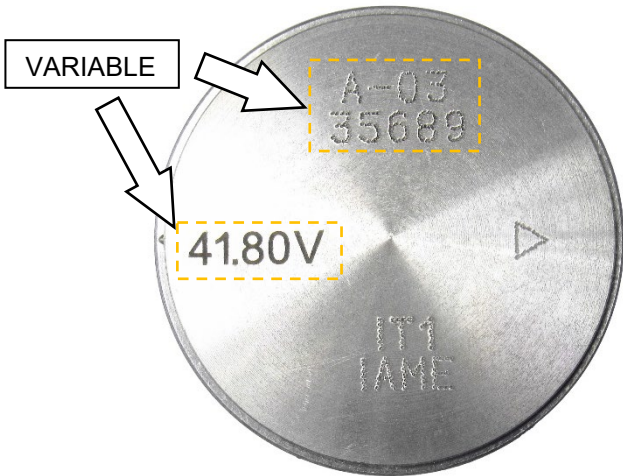
PHOTO OF ALTERNATIVE COMPLETE WIRING LOOM  
*PHOTO DU CÂBLAGE ÉLECTRIQUE COMPLÈTE ALTERNATIF*



IDENTIFICATION OF PISTON IT1 TYPES  
 IDENTIFICATION DE LES TYPES DU PISTON IT1  
 (Dimensions and weight are the same for both types /  
 les dimensions et le poids sont les mêmes pour les deux types)

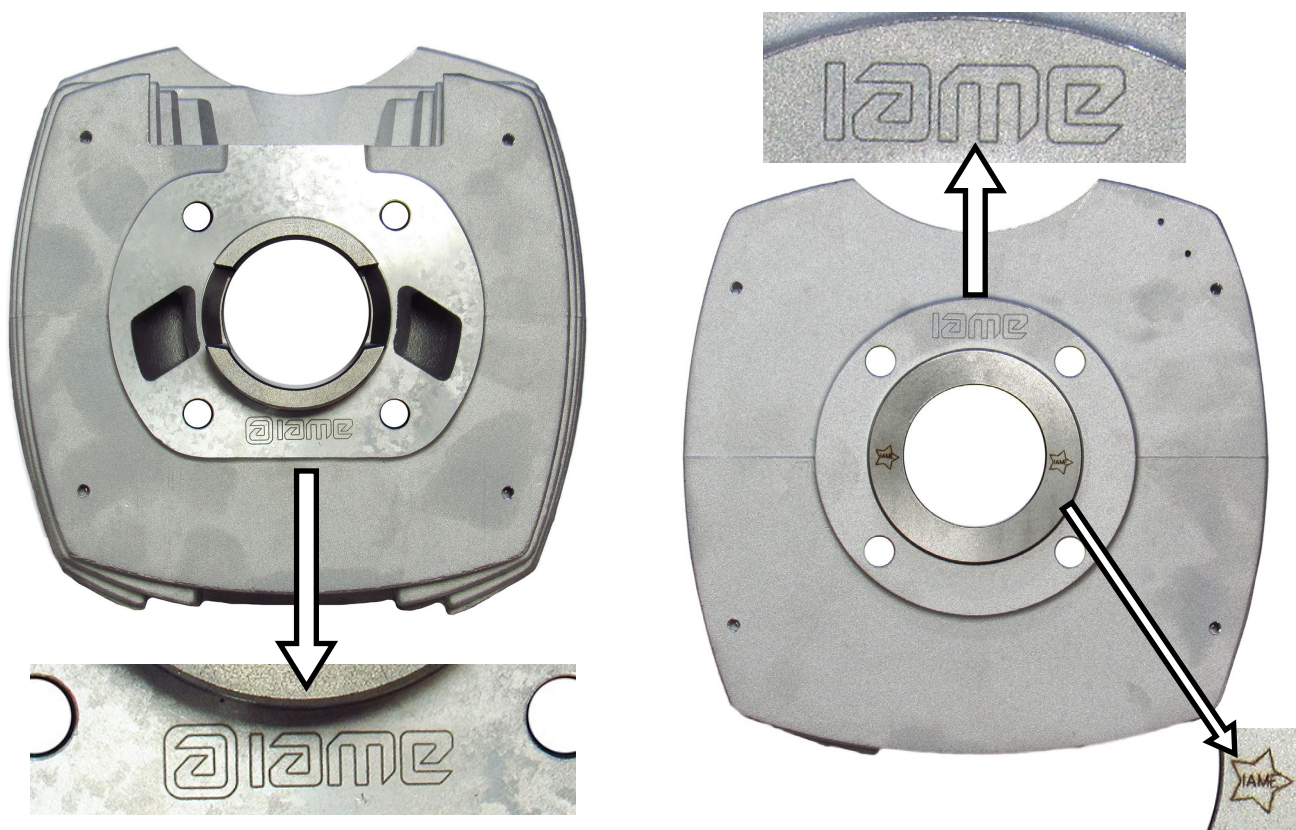
CURRENT / COURANT

ALTERNATIVE / ALTERNATIF

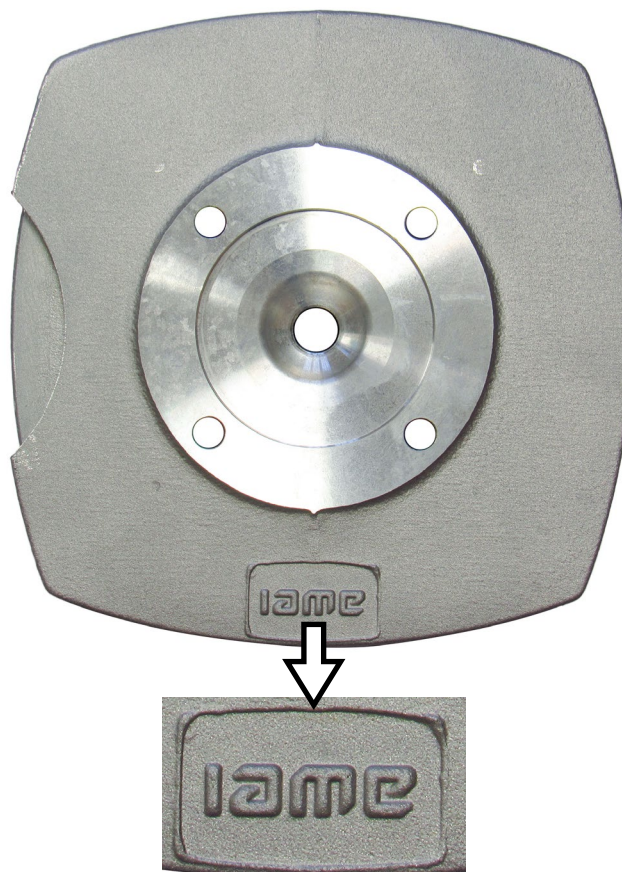




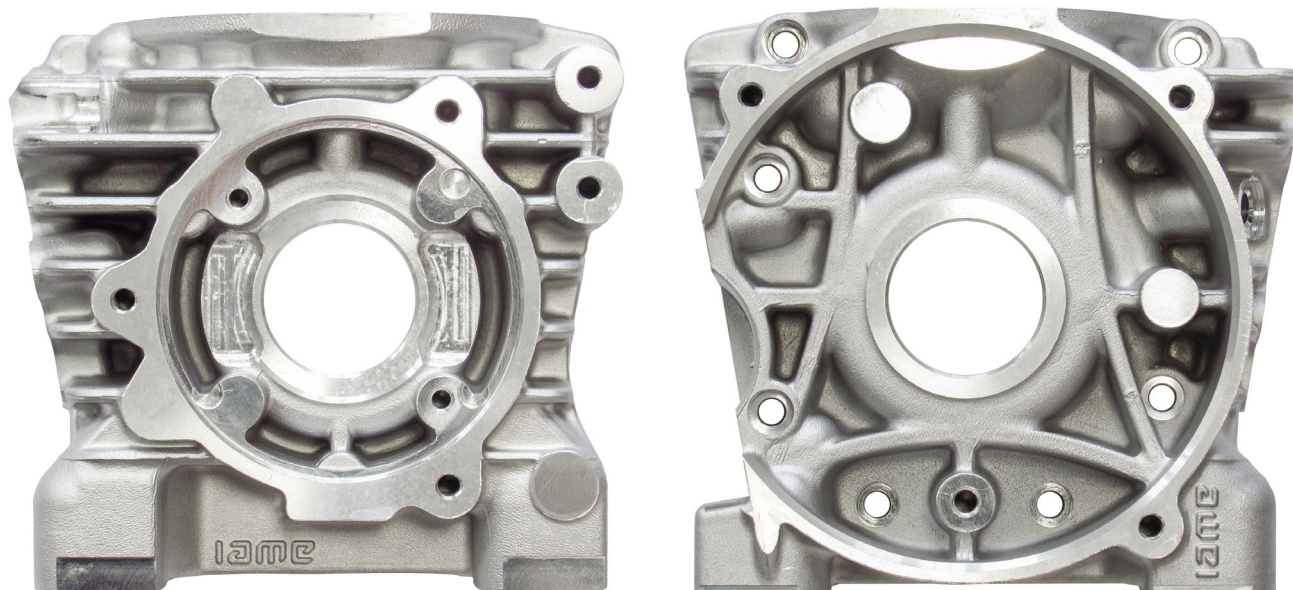
CYLINDER IDENTIFICATION MARKING  
MARQUAGE D'IDENTIFICATION DU CYLINDRE



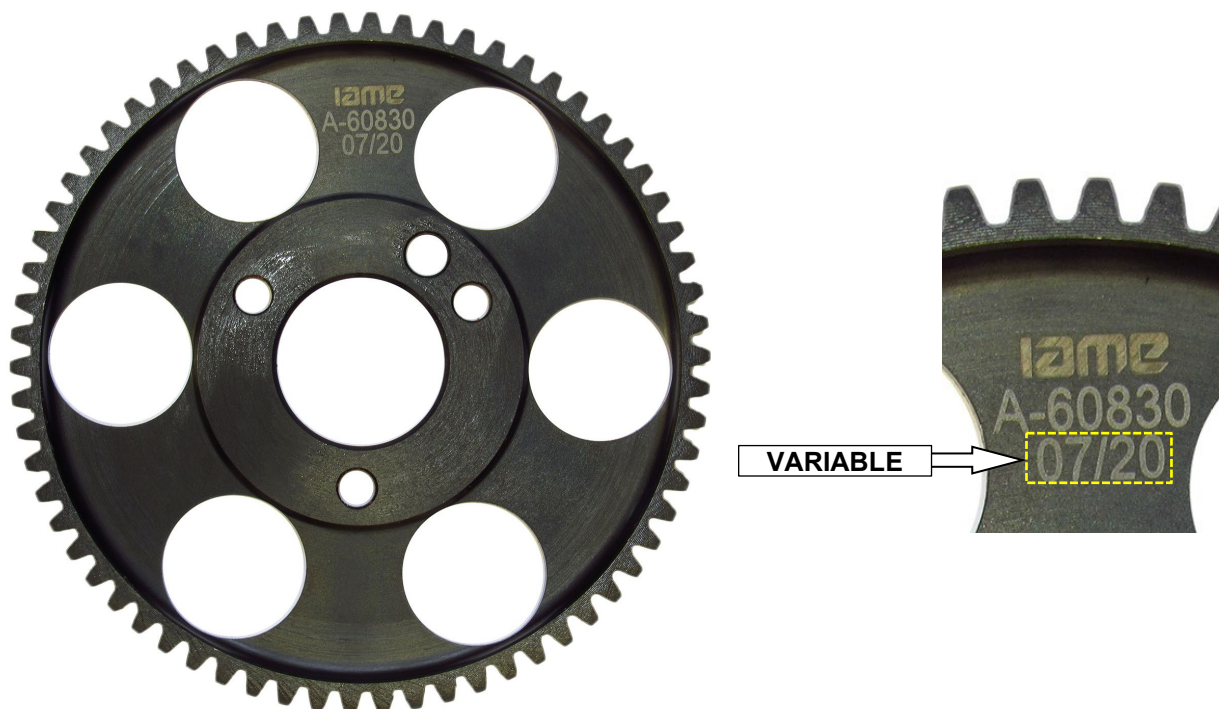
HEAD IDENTIFICATION MARKING  
MARQUAGE D'IDENTIFICATION DE LA CULASSE



SEMICARTER IGNITION SIDE AND TRANSMISSION SIDE IDENTIFICATION MARKING  
MARQUAGE D'IDENTIFICATION DU SEMICARTER CÔTÉ ALLUMAGE ET PIGNON



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





CRANKSHAFT PHOTOS  
*PHOTO D'IDENTIFICATION DU VILEBREQUIN*

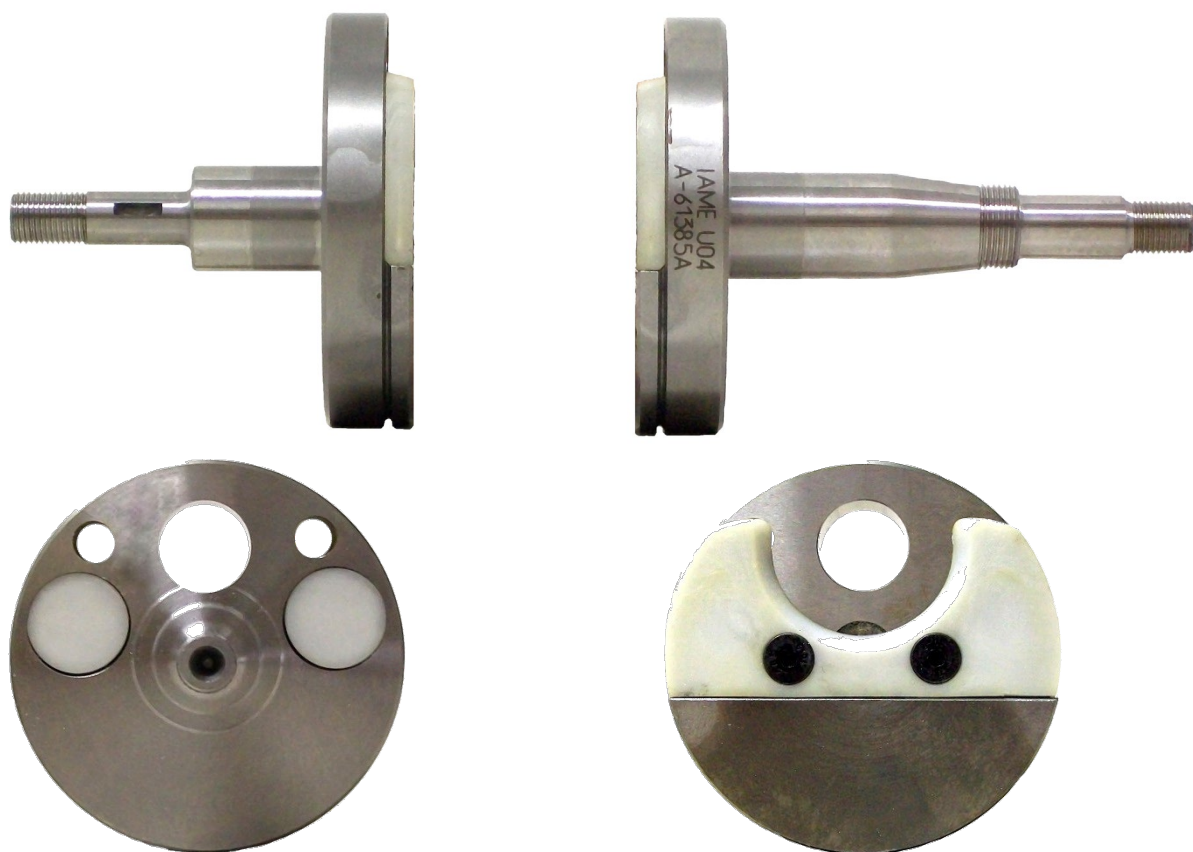
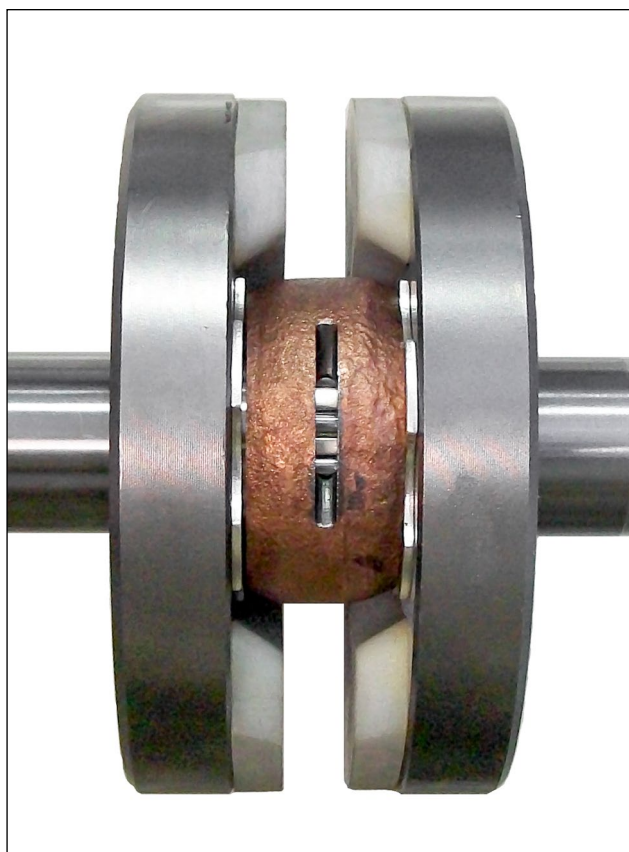
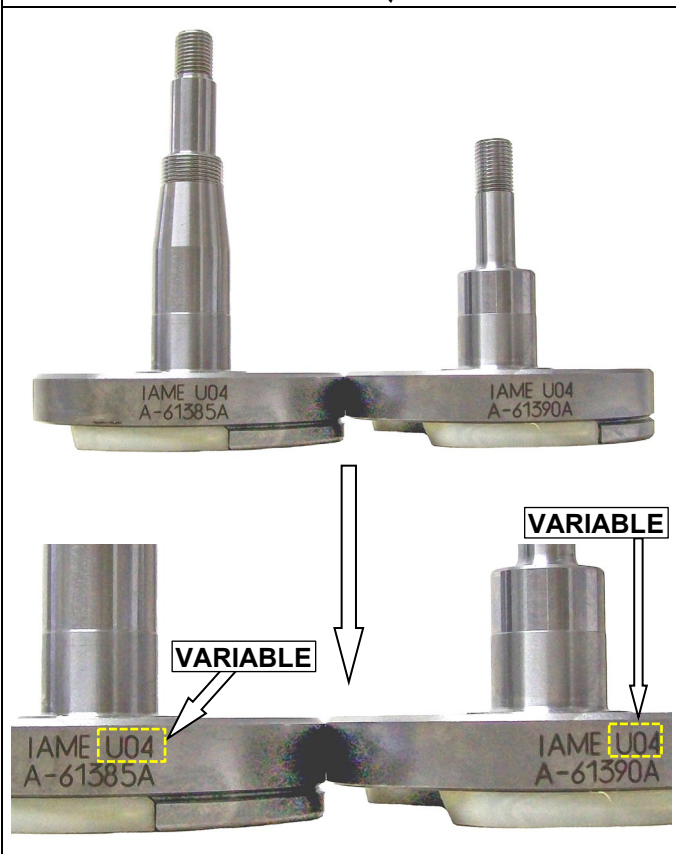


PHOTO OF COMPLETE CRANKSHAFT  
*PHOTO DU VILEBREQUIN COMPLETE*

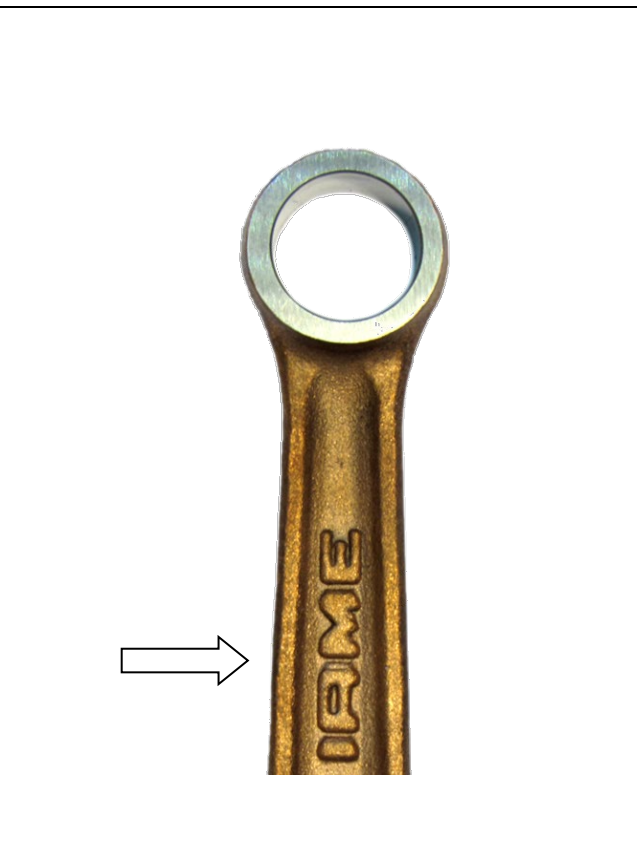




CRANKSHAFT IDENTIFICATION MARKINGS  
MARQUAGE D'IDENTIFICATION DU  
VILEBREQUIN



CONROD IDENTIFICATION MARKINGS  
MARQUAGE D'IDENTIFICATION BIELLE



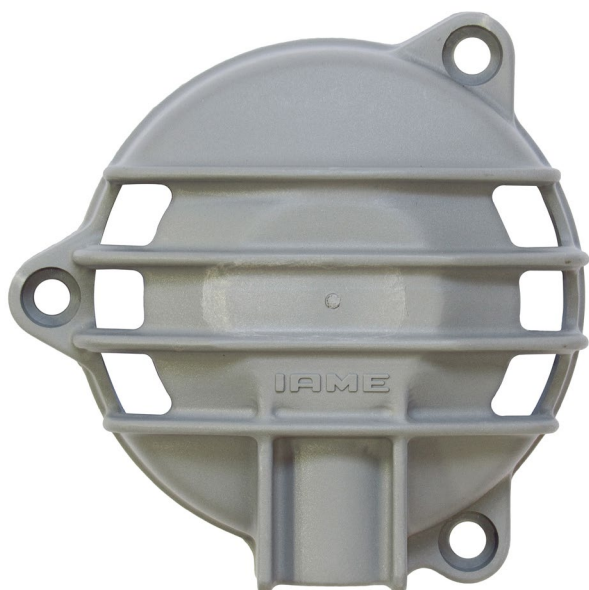
CLUTCH HUB IDENTIFICATION MARKING  
MARQUAGE D'IDENTIFICATION CORPS DE  
EMBAYAGE



CLUTCH DRUM IDENTIFICATION  
MARKING  
MARQUAGE D'IDENTIFICATION DE LA  
CALOTTE



IGNITION COVER IDENTIFICATION  
MARKING  
*MARQUAGE D'IDENTIFICATION  
COUVERCLE DU ALLUMAGE*



**ALTERNATIVE NEW LOGO**



CLUTCH COVER IDENTIFICATION  
MARKING  
*MARQUAGE D'IDENTIFICATION  
COUVERCLE D'EMBRAYAGE*



INLET FILTER IDENTIFICATION MARKING  
*MARQUAGE D'IDENTIFICATION SILENCIEUX D'ASPIRATION*



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

TYPE 1



TYPE 2



**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»**

IAME

or

IAME

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

IAME

or

IAME

or







## CARBURETTOR / CARBURATEUR

### Tillotson HW-31A

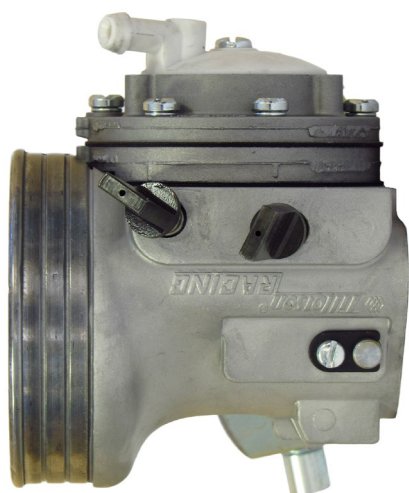


PHOTO OF ADJUSTING SIDE  
PHOTO CÔTÉ RÉGLAGE

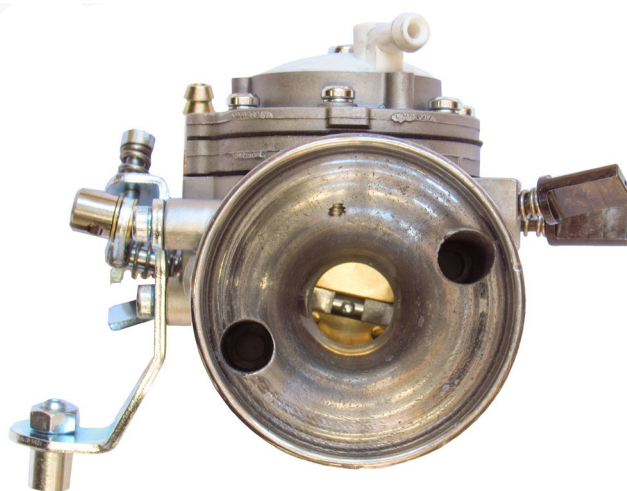
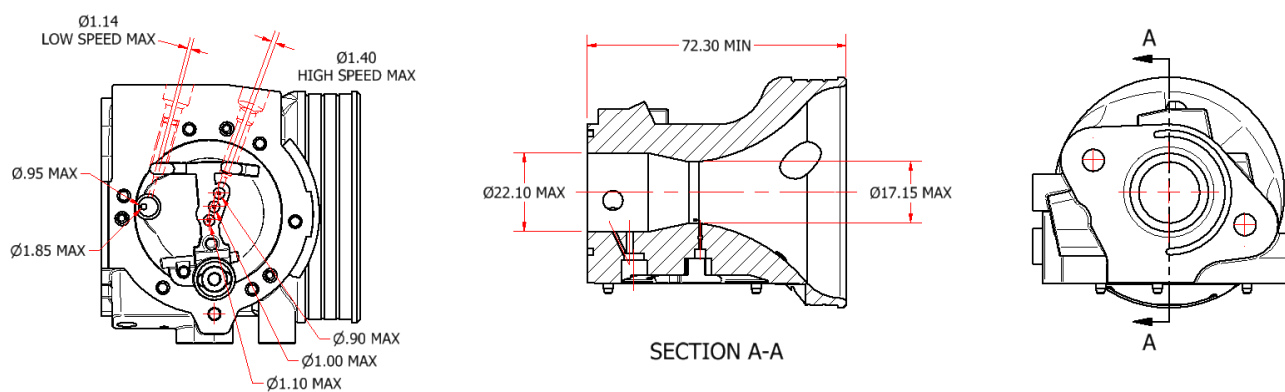


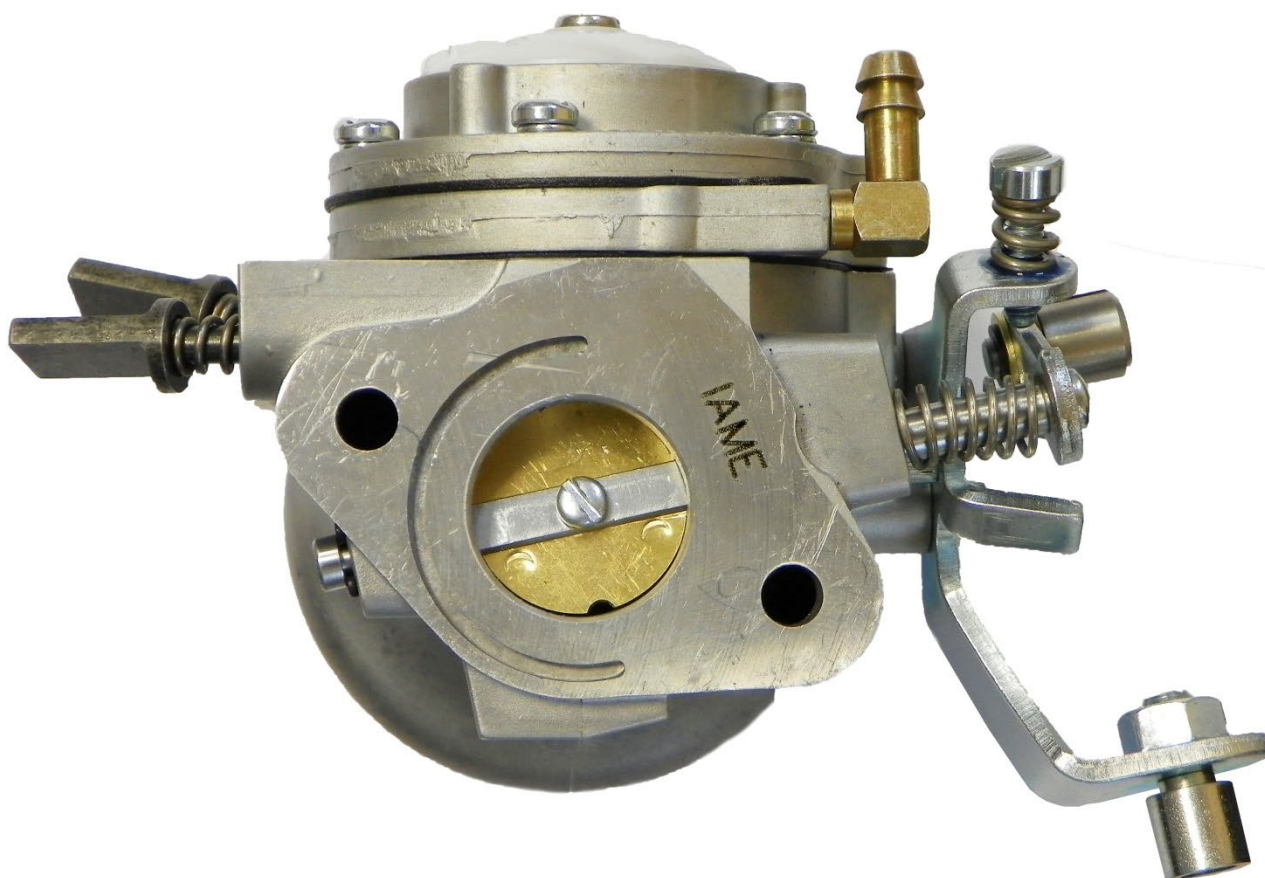
PHOTO OF INLET SIDE  
PHOTO CÔTÉ ASPIRATION

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

## SECTION VIEW – VUE DE SECTION AVEC DIMENSIONS

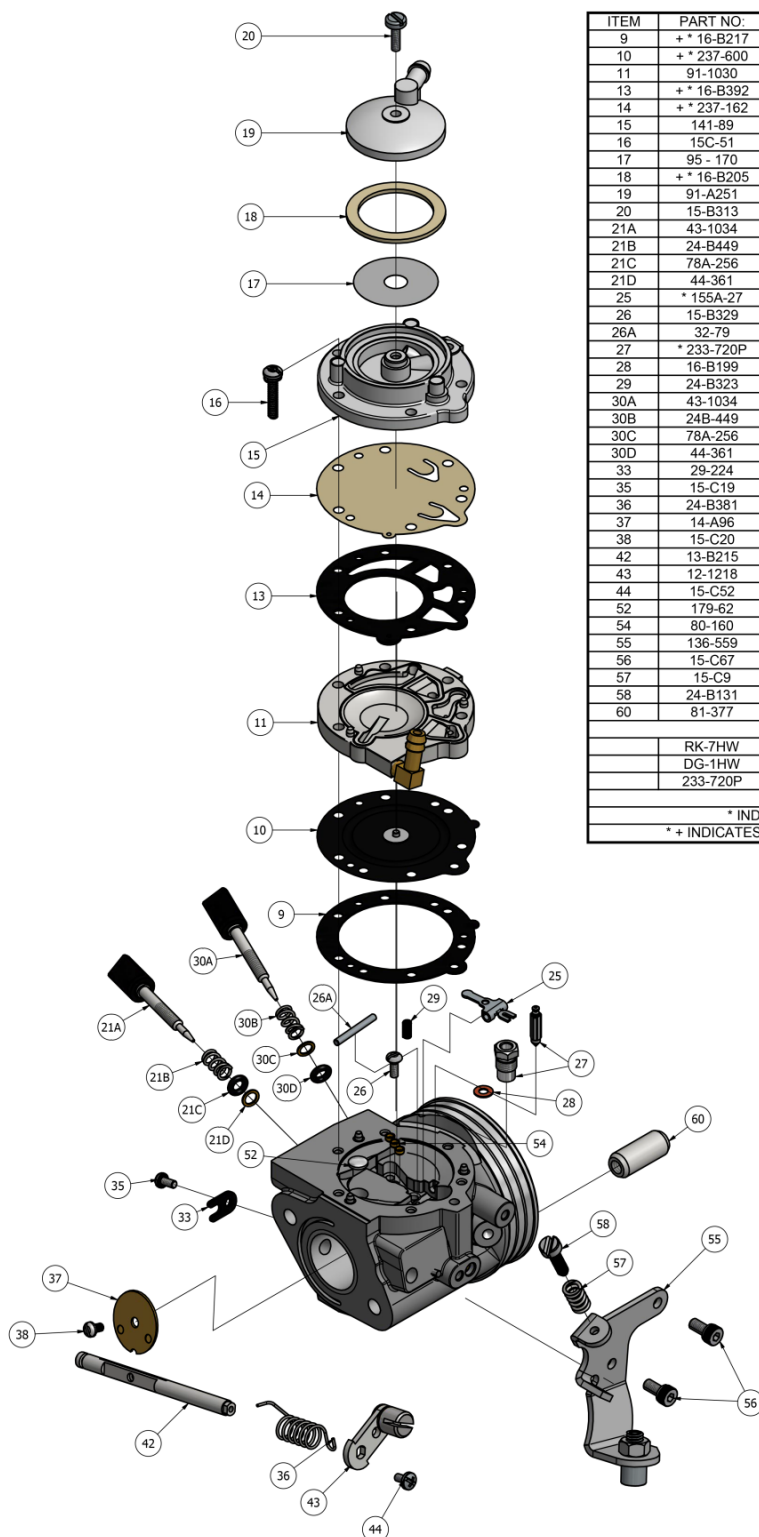


## “IAME” MARKING – MARQUAGE “IAME”



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

HW-31A



| ITEM                                             | PART NO.    | DESCRIPTION                         | QTY |
|--------------------------------------------------|-------------|-------------------------------------|-----|
| 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 |             |                                     |     |

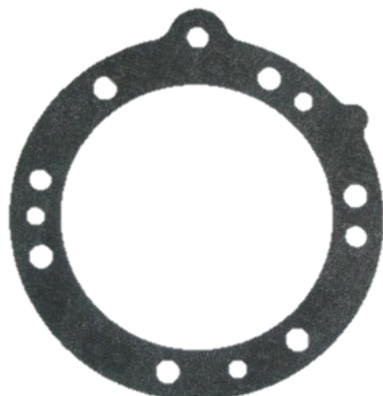
**Tillotson**  
RACING

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

**iame**

## PARTS OF CARBURETTOR – PIÈCES DU CARBURATEUR

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



Thickness / *Epaisseur* =  $0.5 \pm 0.1$  mm

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



Thickness / *Epaisseur* =  $0.8 \pm 0.1$  mm

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



Thickness / *Epaisseur* =  $0.13 \pm 0.07$  mm

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



ALTERNATIVE

Thickness / *Epaisseur* =  $0.10 \pm 0.063$  mm

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



Thickness / *Epaisseur* =  $6.75 \pm 0.15$  mm

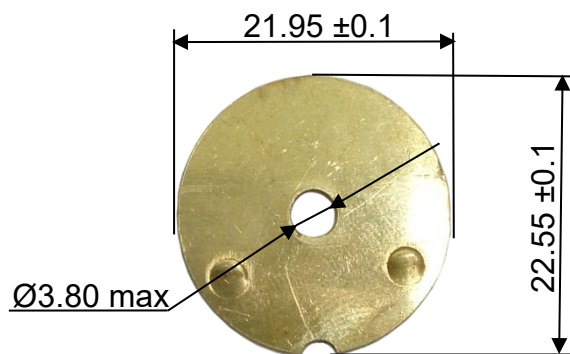
**REF.15 - P. N° 141-89**  
**PUMP COVER**  
**CORPS DE POMPE A ESSENCE**



Thickness / *Epaisseur* =  $12.5 \pm 0.15$  mm

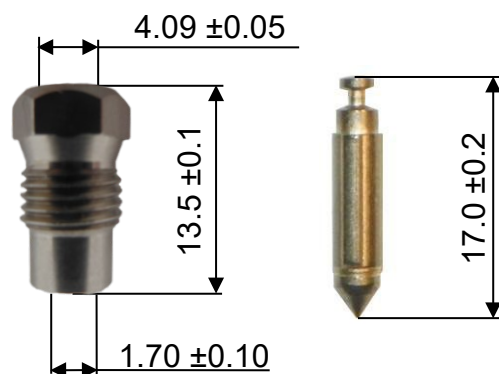


REF.37 - P. N° 14-A96  
THROTTLE SHUTTER  
PAPILLON

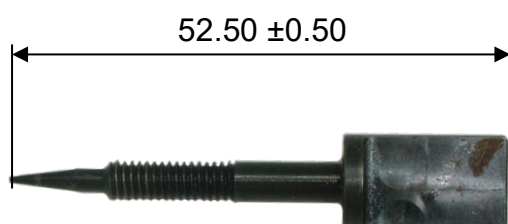


Thickness / *Epaisseur* =  $0.81 \pm 0.1$  mm

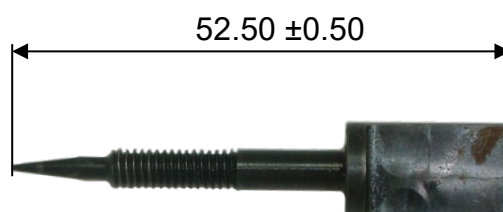
REF.27 - P. N° 233-720P  
SEAT + NEEDLE  
SIEGE + POINTEAU



REF.21A - P. N° 43-1034  
NEEDLE LOW SPEED  
VIS DE RAGLAGE BAS-REGIME

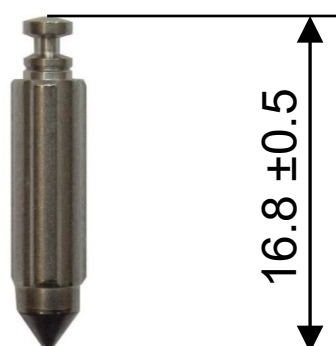


REF.30A - P. N° 43-1034  
NEEDLE HIGH SPEED  
VIS DE RAGLAGE HAUT-REGIME



NEEDLE FUEL ALTERNATIVE  
POINTEAU ALTERNATIVE

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*

