Homologation N°

W60/04

MOTOR SPORTS ASSOCIATION
UNITED KINGDOM

HOMOLOGATION OF ENGINE

Manufacturer	Comer SpA
UK Distributor	Zip Kart
Model	W60
Category	Formula Cadet
Validity of the homologation	9 *years*
Number of pages	9

This Homologation Form reproduces descriptions, illustrations and dimensions of the engine at the moment of the MSA homologation. The Manufacturer may modify them, but only within the limits set by the MSA regulations in force and with the written agreement of the MSA.



Signature and stamp of the MSA

MOTOR SPORTS ASSOCIATION
UNITED KINGDOM

Date: **1st December 2003**

Signed by: **John Ryan**

Position: **MSA Technical Executive**

For information purposes only

TECHNICAL INFORMATION

ENGINE SPECIFICATION			
Bore	47 mm	**Fuel**	- Mix 5%
Stroke	35mm	**Carburettor**	- Tillotson HL 166B
Capacity	61 cc.	**Ignition**	- Electronic "Bosch-Ducati"
Cylinder	- NICASIL	**Sprocket**	- Z12 P219
Clutch	- Centrifugal single piece		

IGNITION	
Electronic Ignition	Bosch – Ducati
Spark Plug	Bosch W2AS / Bosch W08 AS
Spark Plug Cap (Recommended)	Comer Original

IDENTIFICATION STAMP DETAILS	
New Engines	UKxxxx on crankcase
Conversion Engines (Kits)	GBxxxx on crankcase
All Cylinders	ZIPxxxx on cylinder to head clearance vertical face
Serial numbers used for new and kit units will not be duplicated	

SEALING

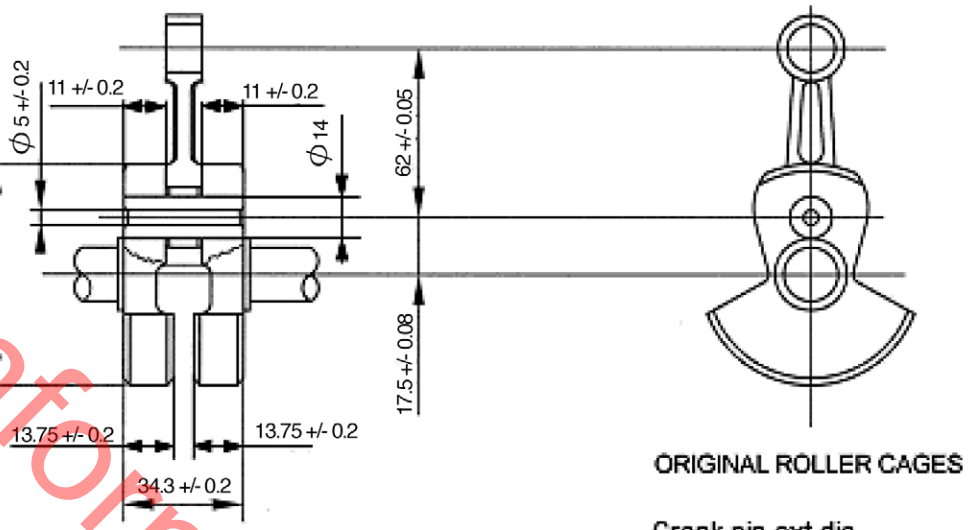
All engines will be sealed with an official ZIP seal from one special cylinder head nut to both of the engine cover side retaining bolts. Refer to class regulations for sealing procedures.

SPECIAL NOTES

1. Details of procedures and test equipment/tools/gauges are contained in the official Measurement Guidelines section.
2. The dimensions and physical details given in this homologation fiche used together with the procedures and equipment defined in the Measurement Guidelines will be deemed as definitive.
3. Rectification to fiche is not permitted. Any component including cylinder ports found to deviate from the data recorded by Zip will be deemed to be a deliberate act of tuning. Any port which has been damaged accidentally or otherwise will render the cylinder scrap even if minor dressing could be carried out within the allowed tolerance.
4. The photographic and other information given in Complementary Information is solely for information and in support of this fiche.
5. It is permitted to paint the engine cover, starter cover and clutch cover, colour free. It is also permitted to paint the muffler with matt black paint. It is not permitted to paint any other engine component.

For information purposes only

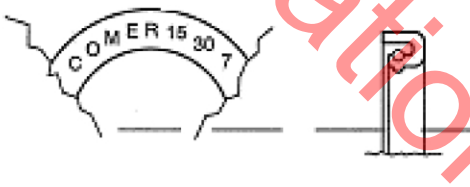
COMPLETE CRANKSHAFT



ORIGINAL ROLLER CAGES

Crank pin ext dia
14.0 +/- 0.1

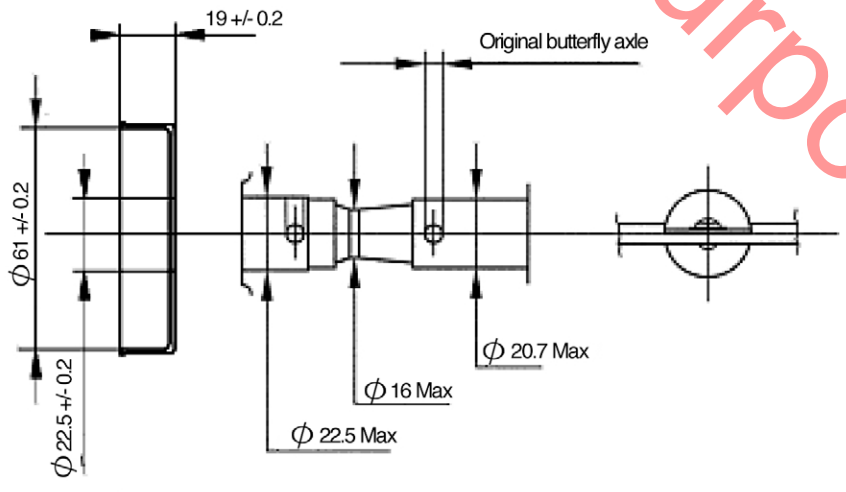
Crankshaft Weight complete with rod
Minimum 665g, Maximum 680g

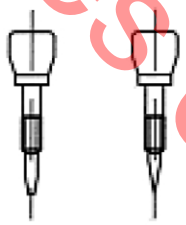


ORIGINAL OIL SEALS WITH SPRING
8 BALLS BEARING WITH IRON CAGE

ORIGINAL CARBURETTOR 'TILLOTSON HL 166'B

max Venturi ϕ 16mm





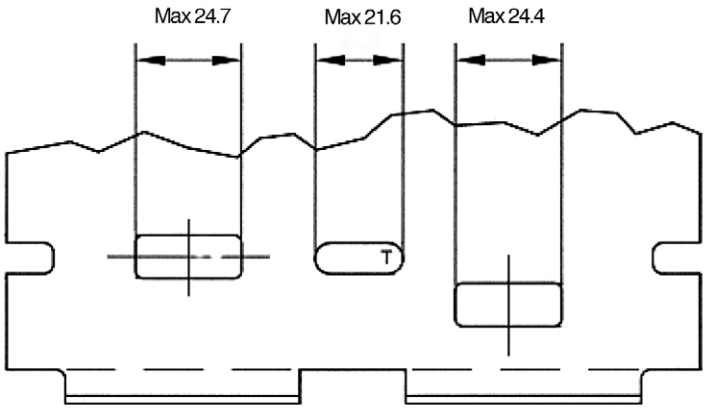
HL166B 2 Jet versions only, with or without choke. If choke fitted must remain as manufactured and retain end stop. Self locking screw or screw and washer assembly optional.

1 High and 1 Low jet must be used.

Notes:
1. The carburettor flange is retained by M5 cap head bolts and locking washers only.
2. If the choke shaft and butterfly is removed the end stop must remain unmodified.

For Information purposes only

CYLINDER

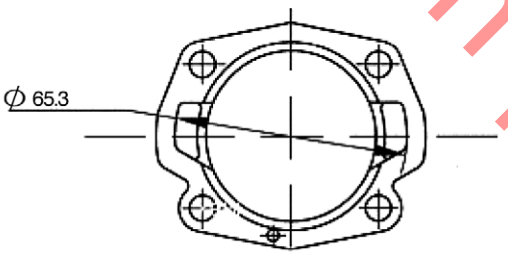


Max. INTAKE	109 deg
Max. EXHAUST	153 deg
Max. TRANSFER	120 deg

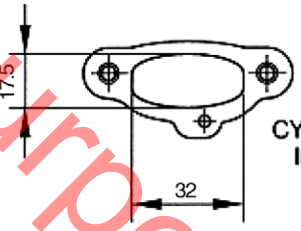
See Technical Information for details of official engine stamp identifications

All timing measurements carried out using approved gauges see Measurement Guidelines for details.

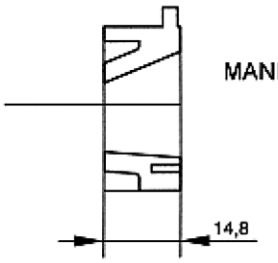
TOLERANCES +/- 0.30mm



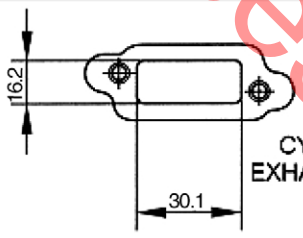
CYLINDER SURFACE



CYLINDER INTAKE FLANGE



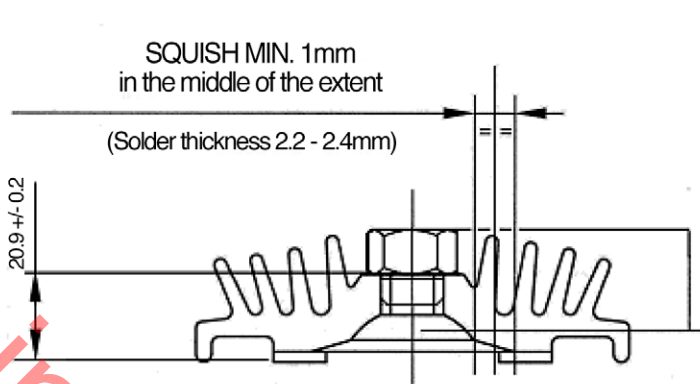
MANIFOLD

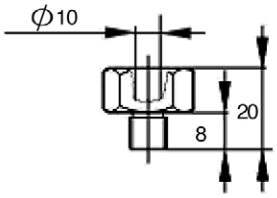


CYLINDER EXHAUST FLANGE

For information purposes only

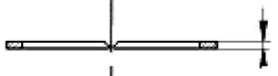
HEAD-PISTON-CYLINDER-CRANK CASE



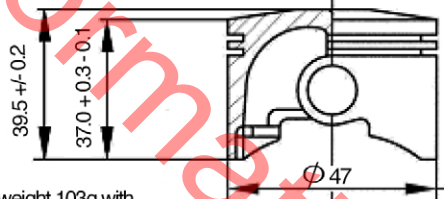


Combustion Chamber Minimum Volume
6.5cm3 with plug adapter

PISTON RING



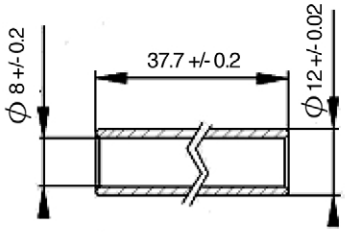
PISTON WITH
TWO RINGS



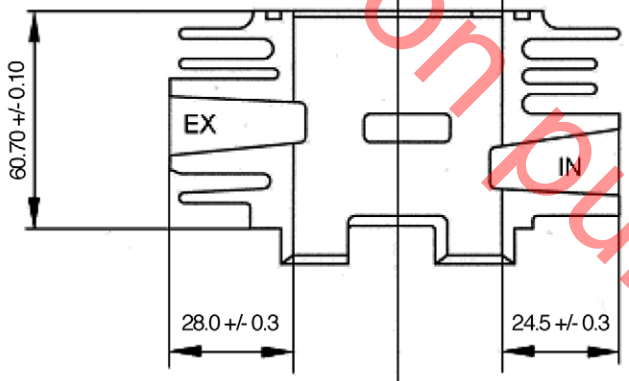
A - 0,005
B - 0,015
C - 0,025
D - 0,035
E - 0,045

Minimum piston weight 103g with
pin, small end bearing, rings & clips

PISTON PIN



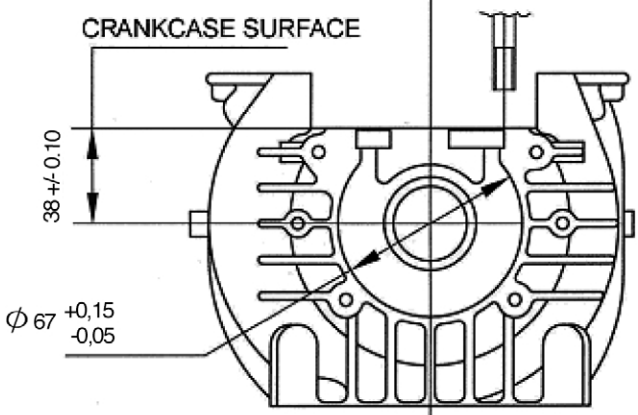
Original Comer "O" ring must be used



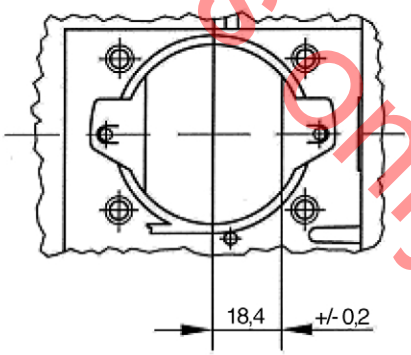
CYLINDER	
A	47,055 - 47,064
B	47,045 - 47,054
C	47,035 - 47,044

Cylinder base gaskets
Minimum thickness 0.2mm -
(0.12 mm compressed)
Maximum (combined) 0.85mm
Genuine Comer gaskets only.

CRANKCASE SURFACE

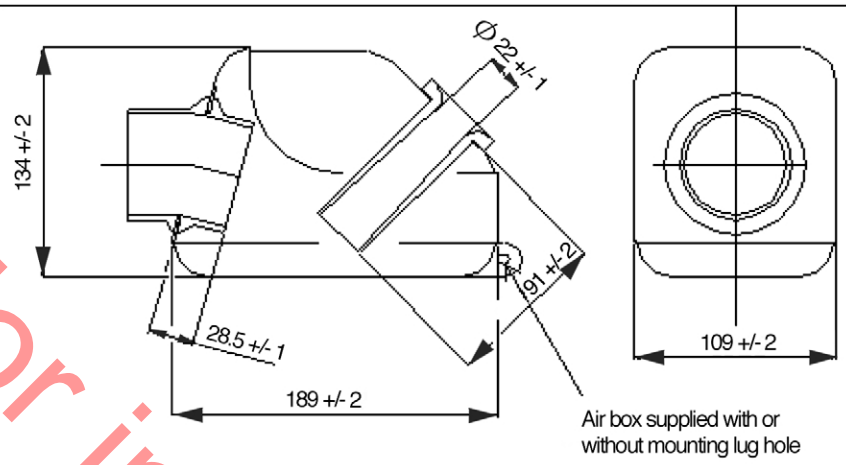


CRANKCASE SURFACE

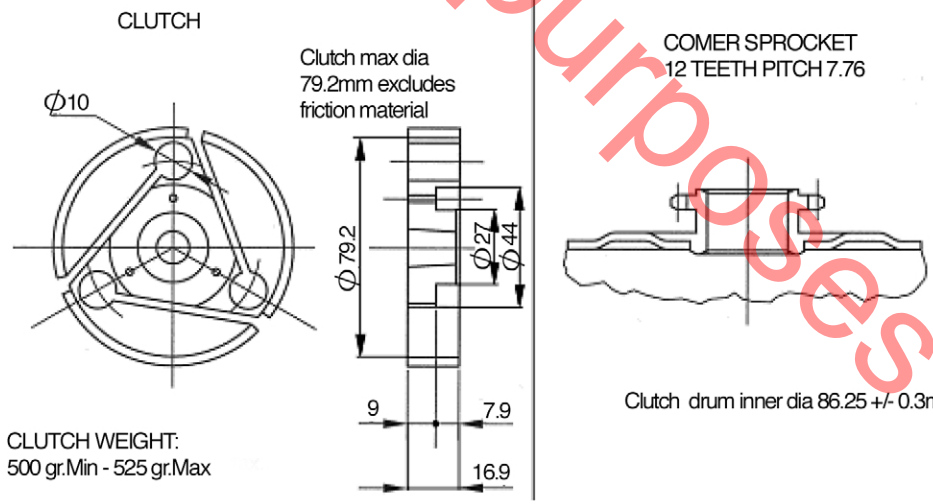


For information purposes only

AIRBOX

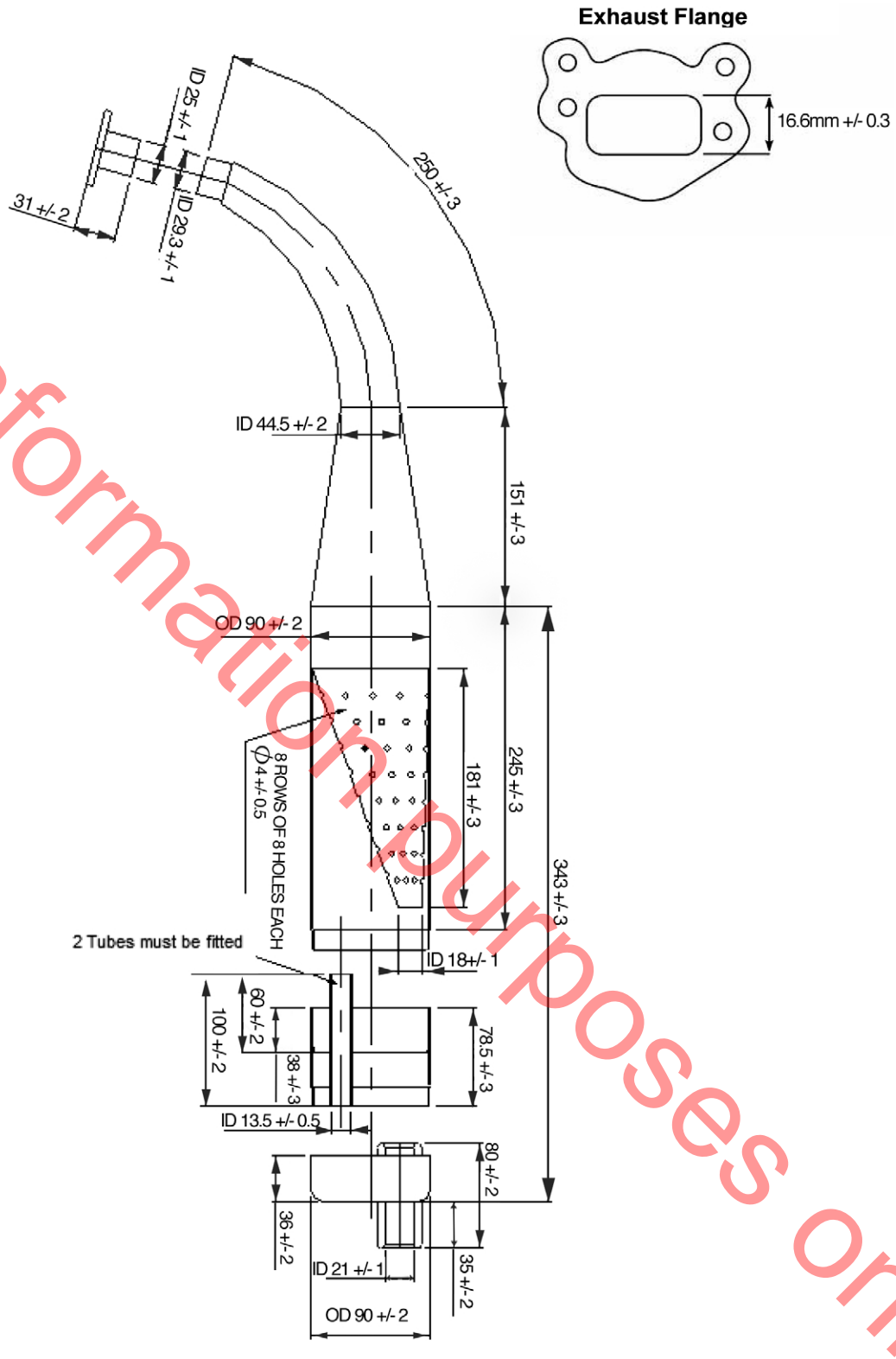


CLUTCH



For information purposes only

MUFFLER



For information purposes only

MSA No.

W	6	0	/	0	4

ADDITIONAL INFORMATION AND AMENDMENTS

Ref. No.	Date	Description of Amendment	Authorising Signature
01-04	01.05.04	There is no longer a maximum weight for the clutch	
02-04	01.10.04	The tolerance for the piston skirt has been changed to 37.0 +0.3/-0mm.	
03-07	09.01.07	Cylinder head shims of 0.1mm or 0.2mm are permitted.	
04-07	06.07.07	There is no longer a minimum and maximum base gasket tolerance.	
05-08	04.01.08	The Tryton ZC001 carburettor as shown in the additional carburettor fiche is now permitted.	
06-08	10.06.08	Production/specification changes made in respect of the Tryton ZC001 Technical characteristics sheet, as updated on the carburettor homologation fiche.	
07-08	16.07.08	Alternative jet adjustment screws permitted as updated on the carburettor homologation fiche.	

For information purposes only

ZC001



CARBURETTOR MOD. ZC001 Ø18mm

For information purposes only

ZIP KART

Zipkart, Pindar Road, Hoddesdon,
Hertfordshire, EN10 6Nx

Carburettor Homologation Fiche

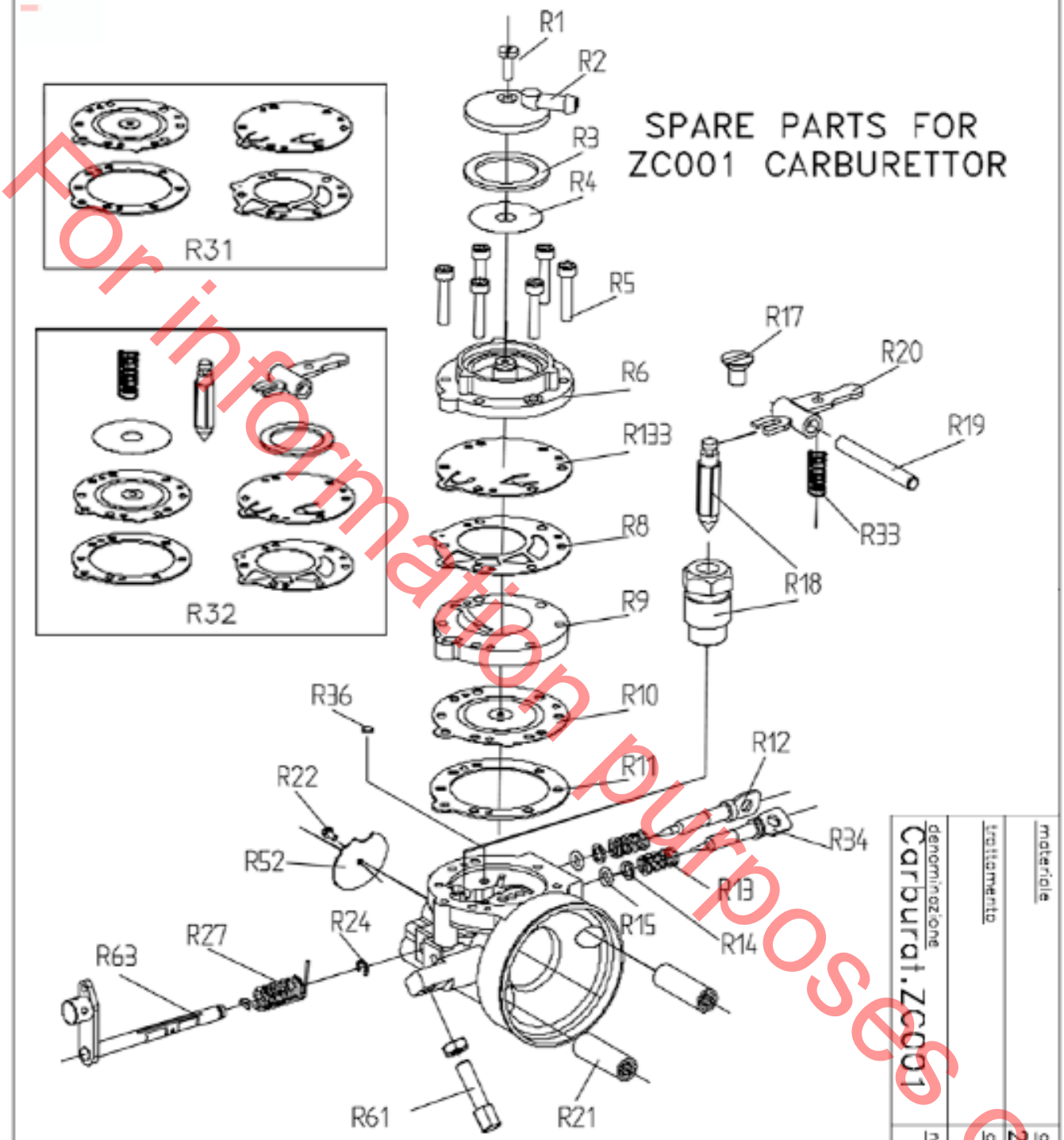
TECHNICAL CHARACTERISTICS	
MANUFACTURER	VA.MEC SRL - ITALY
MAKE	TRYTON
MODEL	ZC001
CATEGORY	CADET
TYPE OF CARBURETTOR	THROTTLE
DIAMETER OF THE VENTURI	Ø 18mm
TOTAL No. OF PAGES DOSSIER ZC001	7 including this page
FICHE UPDATED	16th JULY 2008

ZC001 Carburettor

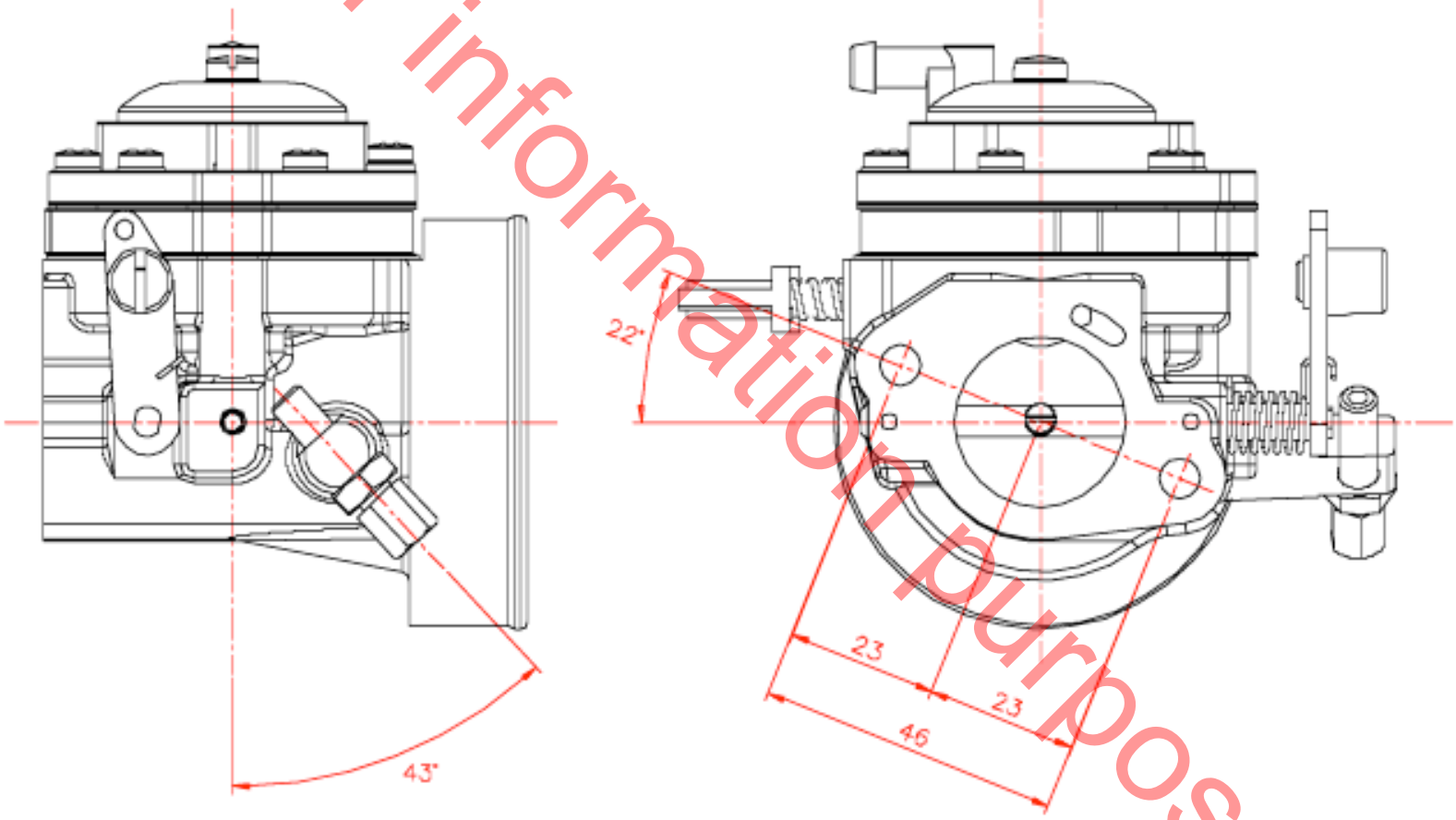
1. This carburettor may not be modified in any way.
2. A fixture may be fixed to the carburettor adjusting screw to facilitate fine adjustments under load. No cable operated mechanisms.
3. The carburettor must be fixed to the engine in a upward or downward facing position. i.e. Fuel pipe fitting at the top or bottom.
4. It is permitted to clean the manufacturer supplied coating off the rubber tip of needle part R18.
5. The use of the Tillotson needle and seat 233-665 is permitted.
6. There are 2 types of pressure spring. Part R33 available for use. One with 8 coils, one with 10 coils. Alternative springs including multiple springs may be used.
7. Holes in pump body part R9 and valve body R6 may be of either a drilled or cast finish.
8. Tillotson DG-1HL or DG-5HL diaphragm kit may be used in addition to the standard Tryton diaphragm kit.
9. Bolts R5 may be of any commercial supply.
10. Production modification made by the insertion of a 7mm x 2mm ‘O ring’ between the items R2 & R4 is permitted to upgrade existing carburettors.
11. BEWARE of Ultra Sonic Cleaner. These can remove anodizing from carburettor body. This will deem carburettor to be illegal.
12. If required carburettor gaskets can be trimmed to facilitate perfect alignment.
13. Alternative jet adjustment screws (part numbers ZC001R12A & ZC001R34A) are permitted as an alternative and are identified by a larger adjustment spade (13mm in width) without a hole in the paddle.

For information purposes only

SPARE PARTS FOR ZC001 CARBURETTOR

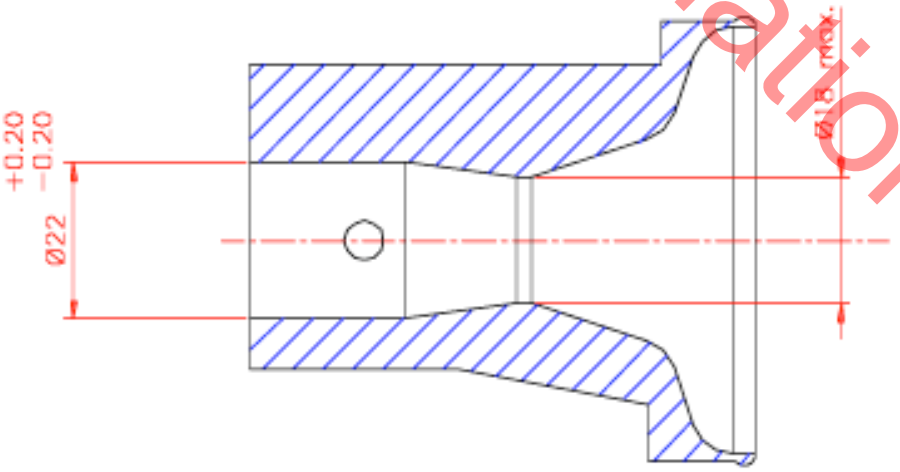


For information purposes only

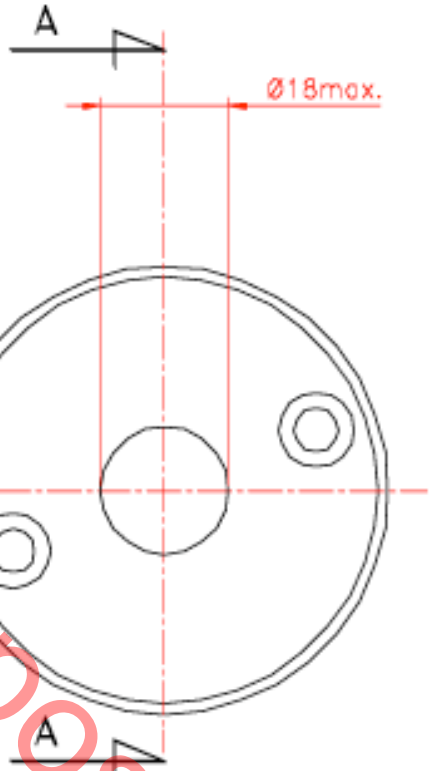


materiale	data 24/11/06
trattamento	q.tà
denominazione CARBURATORE MOD.ZC001 Ø18	n.disegno 18003

For information purposes only

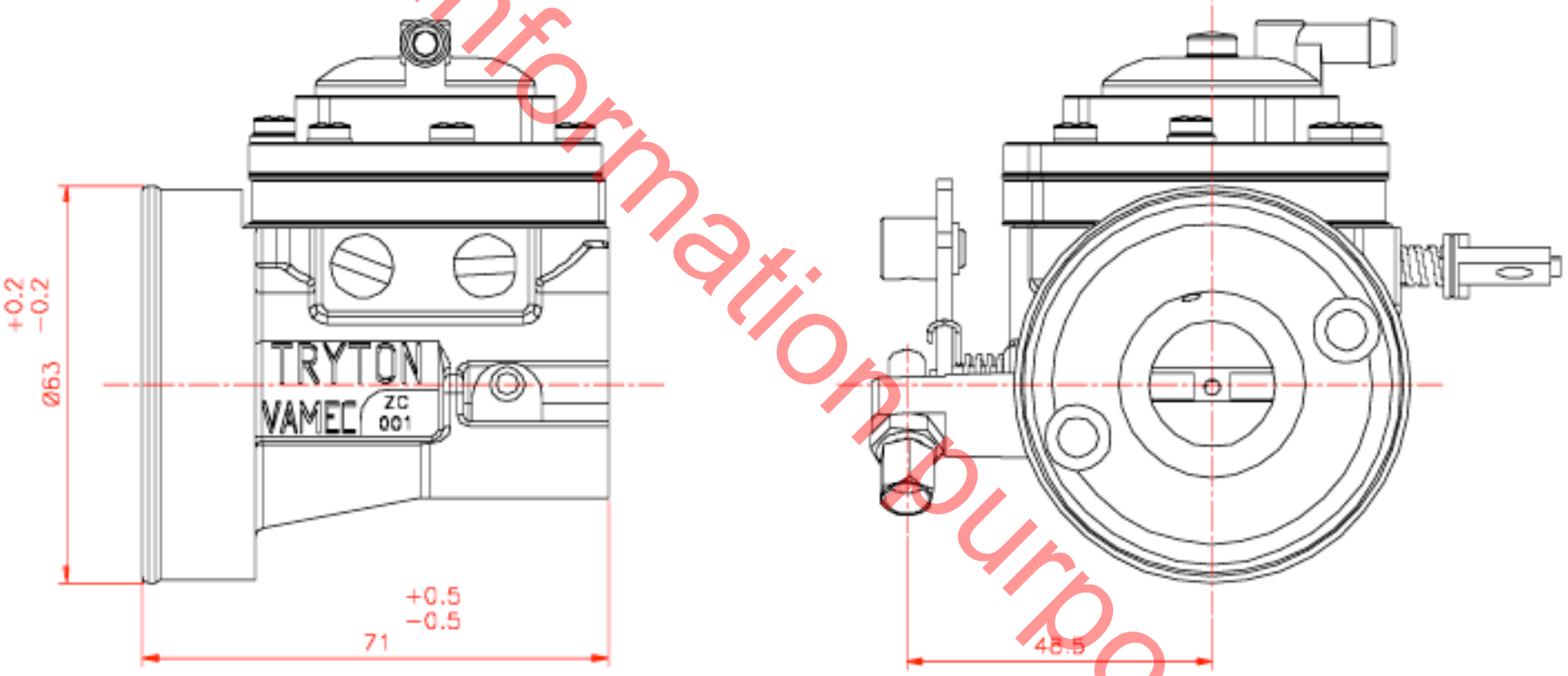


SECTION A.A



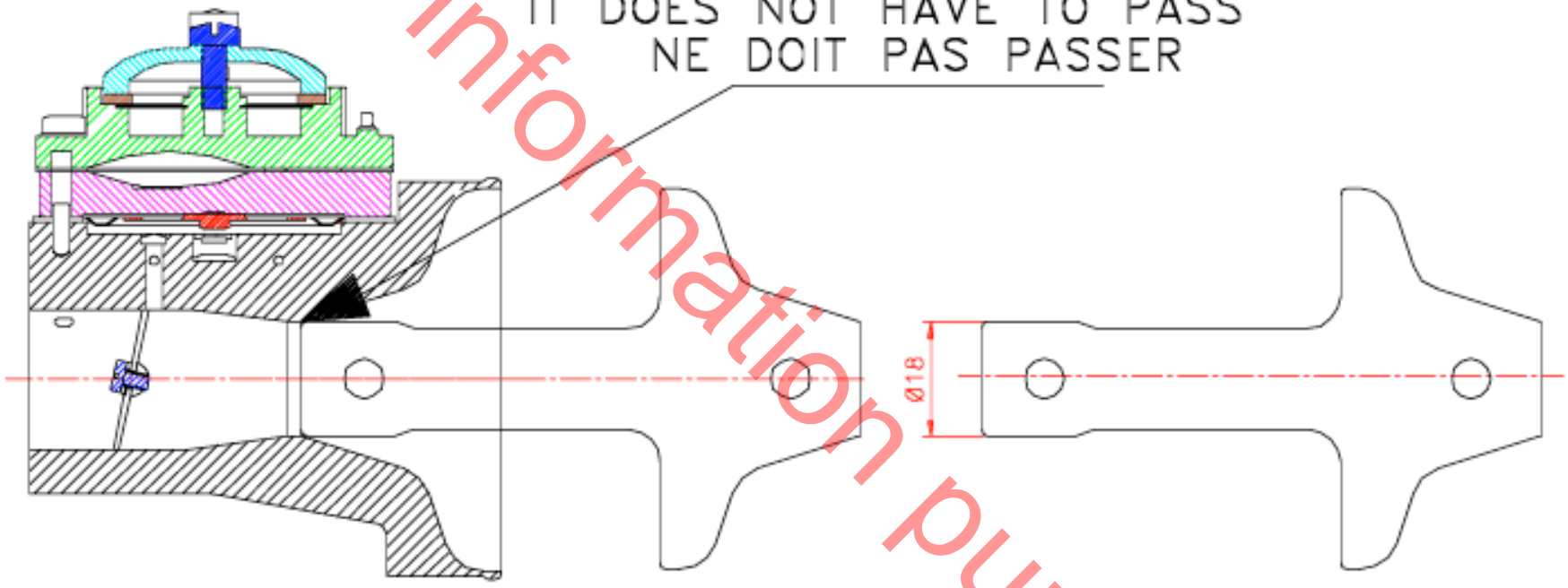
materiale	data 20/9/07
trattamento	q.tà
denominazione VENTURI SECTION MOD.ZC001 Ø18	n.disegno 18002

For information purposes only



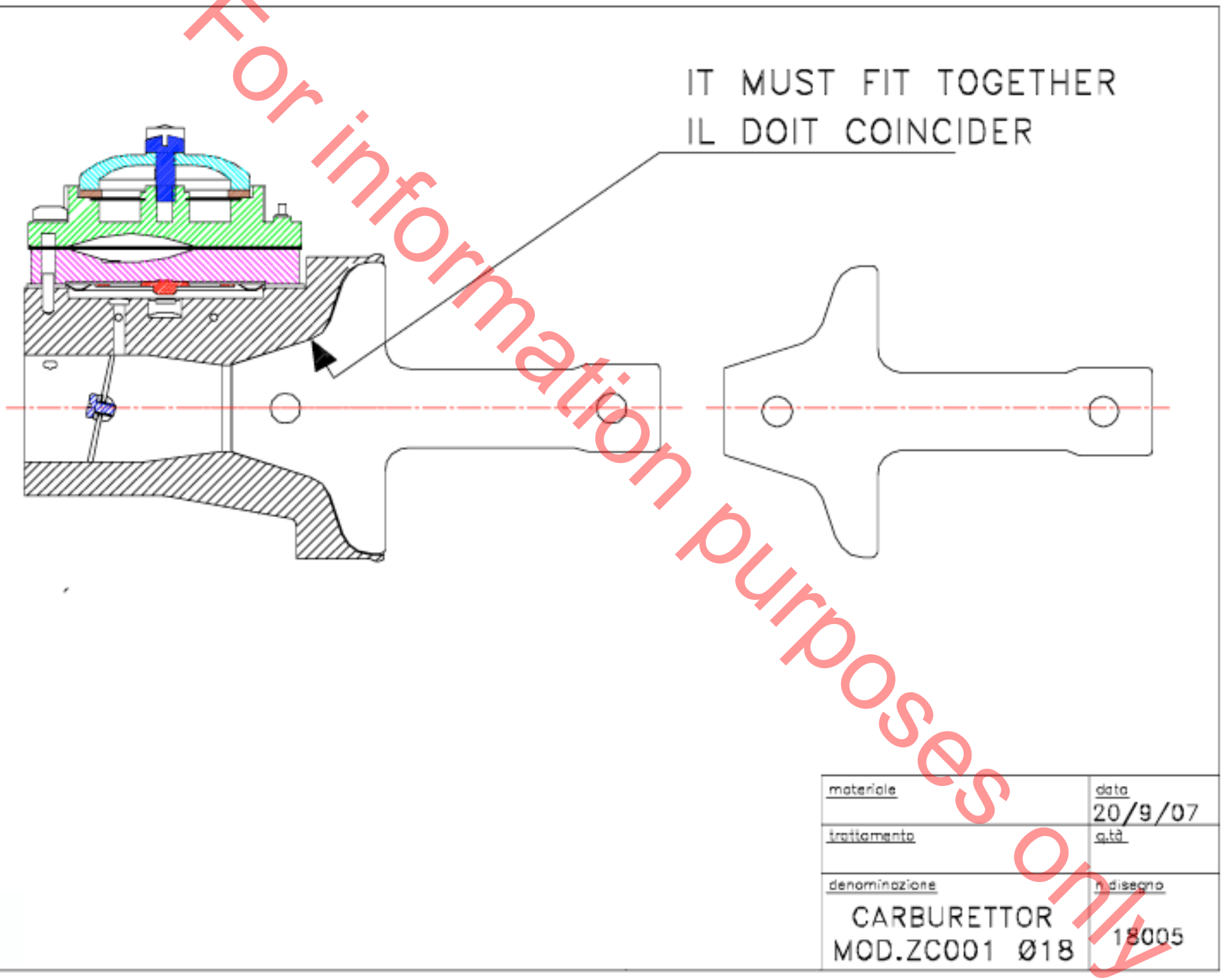
materiale	data
	20/9/07
trattamento	q.tà
denominazione	n.disegno
CARBURATORE MOD.ZC001 Ø18	18004

For information purposes only



materiale	data 24/11/06
trattamento	q.tà
denominazione CARBURATORE MOD.ZC001 Ø18	n.disegno 18006

For information purposes only



materiale	data
	20/9/07
trattamento	q.tà
denominazione	n. disegno
CARBURETTOR MOD.ZC001 Ø18	18005

For information purposes only