



**C2R2 MAX**

**A14**

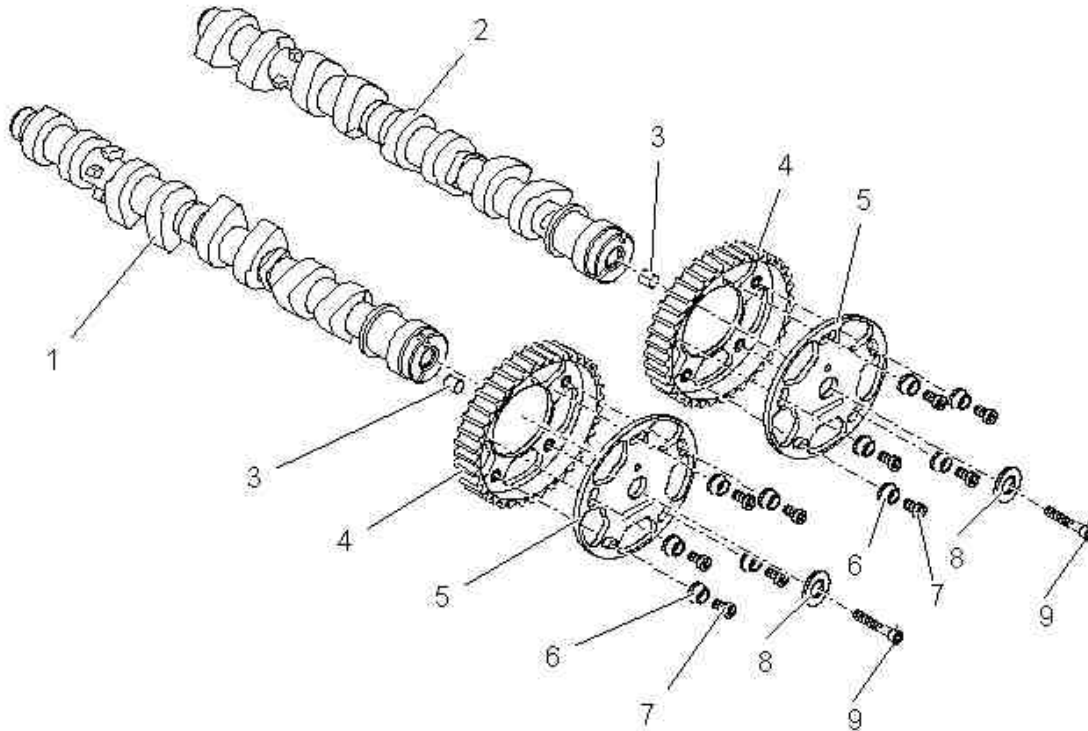
**TIMING**





# C2R2 MAX

Version 05 24 Août 2009



The references for standard parts, shown in *Italics* in the table opposite, are included in the kits "TUR2-MO00.KTPR.01" and "KIT REV MOT C2R2", and cannot be sold separately.

Ref	Part Number	Qty	Description
1	0A1463215A	1	AAC Intake
2	0A1463216A	1	AAC Exhaust
3	PS78034A10	2	AAC Pin
4	0A1461450A	2	AAC Pulley
5	0A1461446A	2	AAC Pulley hub
6	0A1461449A	10	Pulley washer
7	CS530167ST	10	Pulley / hub screw
8	0A1462364B	2	Camshaft washer AAC
9	PS82003A10	2	Screw CHC M10X150 L35 CL12.9
	<i>BCSP080735</i>	2	<i>Camshaft seal Ø38x50-7</i>
	<i>BCSP080653</i>	1	<i>Roll pin Ø5x18</i>
	<i>BCSP0816H6</i>	1	<i>Timing belt</i>
	<i>BCSP0829C8</i>	1	<i>Tension roller</i>
	<i>BCSP080655</i>	1	<i>Pin M8x125 16/46</i>
	<i>BCSP6936A8</i>	1	<i>Nut washer M8x125</i>
	<i>BCSP083062</i>	1	<i>Belt winder</i>
	<i>BCSP6913V0</i>	1	<i>Screw HSHC M8x100-42</i>
	<i>BCSP1201E5</i>	1	<i>Water pump</i>
	<i>BCSP1206A0</i>	1	<i>O-ring Ø74x3</i>



Assembly, without tightening, the camshaft pulley hubs (*ref. 5*) with the camshaft pulleys (*ref. 4*), the washers (*ref. 6*) and the screws (*ref. 7*).

The pulleys must not strain too much on their respective hubs for the valve timing.



Tightening torque of the pulley hub / camshaft screw.

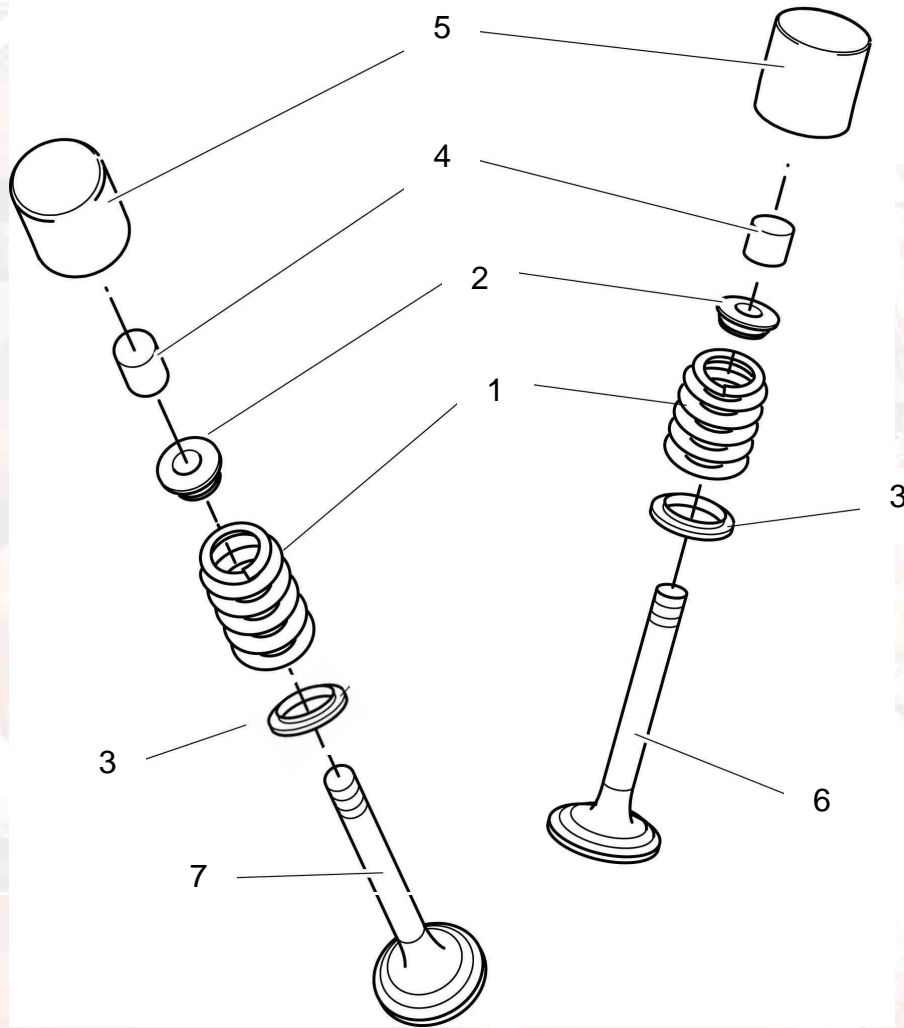


242  
5 m.kg





# C2R2 MAX



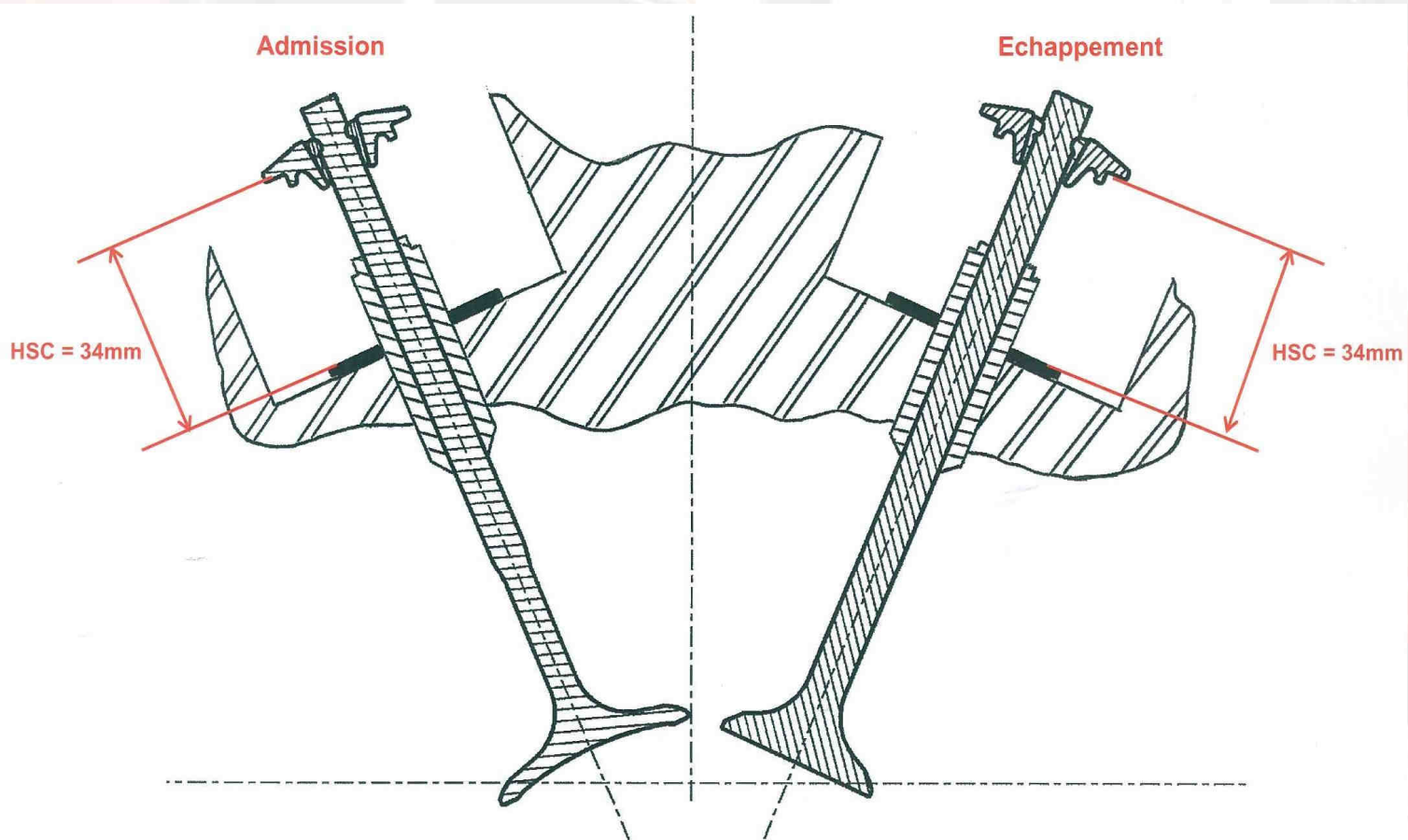
The references for standard parts, shown in *Italics* in the table opposite, are included in the kits "TUR2-MO00.KTPR.01" and "KIT REV MOT C2R2", and cannot be sold separately.

Ref	Part Number	Qty	Description
1	0A1463246B	16	Valve spring
2	0A1463254C	16	Upper housing
3	0A1463221A	16	Valve spring lower shim
4	0A1462994A	8	Valve cover seating thickness 3mm
4	0A1463267A	8	Valve cover seating thickness 3,75mm
5	0A1461444B	16	Lifter
6	0A1420932 B	8	Exhaust valve
7	0A1462463A	8	Intake valve
	<i>BCSP095640</i>	16	<i>Valve stem seal</i>
	<i>BCSP095020</i>	32	<i>valve half-moon</i>
	<i>BCSP0320Y7</i>	1	<i>Upper casing</i>
	<i>BCSP032464</i>	2	<i>Pin screw M6x100 Lg16</i>
	<i>BCSP032427</i>	5	<i>Special screw M6x100 Lg1é</i>
	<i>BCSP0320T3</i>	1	<i>Upper casing No.2</i>
	<i>BCSP0320J5</i>	1	<i>Oil pan</i>
	<i>BCSP1839F1</i>	1	<i>Engine cylinder head mount</i>
	<i>BCSP696881</i>	2	<i>Pin</i>
	<i>BCSP095020</i>	32	<i>Valve clips retainer</i>

### Checking the housing clearances

Intake: 34mm +/- 0.25mm

Exhaust: 34mm +/- 0.25mm





### Fitting the intake valves:

Assemble the spring retainers ([ref. 3](#)) (**Check before the housing clearance, as described on page 5**), the valve springs ([ref. 1](#)), the upper housings ([ref. 2](#)), the valve half-moons, the valve cover seatings ([ref. 4](#)) and the lifters ([ref. 5](#)).

**Nota : to obtain a housing clearing between 33,75 to 34,25mm, it could be necessary to reduce the height of the valve spring lower shim [rep.3](#), by turning on the cylinder head contact side.**



### Fitting the exhaust valves:

Assemble the exhaust spring lower shims ([ref. 3](#)) (**Check before the housing clearance, as described on page 5**) the valve springs ([ref. 1](#)), the upper housings ([ref. 2](#)), the valve half-moons, the valve cover seatings ([ref. 4](#)) and the lifters ([ref. 5](#)).

**Nota : to obtain a housing clearing between 33,75 to 34,25mm, it could be necessary to reduce the height of the valve spring lower shim [rep.3](#), by turning on the cylinder head contact side.**



### Valve clearance setting :

There are three ways to set the valve clearance, as described below. All solutions may be used together to do it, pay attention to respect dimensions written below for each parts.

**Intake =**  
0.20 - 0.22mm

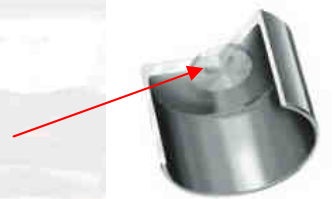
**Exhaust =**  
0.25 - 0.27mm

**First solution :**

Rework the thickness of the valve cover, and pay attention to never go down to **1.8mm** to don't damaged mechanical properties.

For information, average thickness are the following :

- Intake : **3mm**
- Exhaust : **2,2mm**



**Intake** =  
0.20 - 0.22mm

**Exhaust** =  
0.25 - 0.27mm

**Nota :** we remind you that a valve cover has to be resurfaced, not machined. (Maximum pass = 0,02mm for a surface grinder, or by turning for bigger passes with speed and advance conditions in accordance with the material).

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**Timing**



**A**  
**ENGINE**

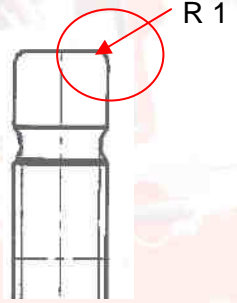
**Second solution :**

Rework the length of the valve end, and pay attention to be included in values of the homologation sheet, as shown on pictures below.

For your information, the length of the inlet valve don't need to be reworked, and the reduction of the exhaust one is around 0,8 to 0,9mm (average value, rework by turning).

Pay also attention to finish by a 1mm ray to the end, as shown on the picture below.

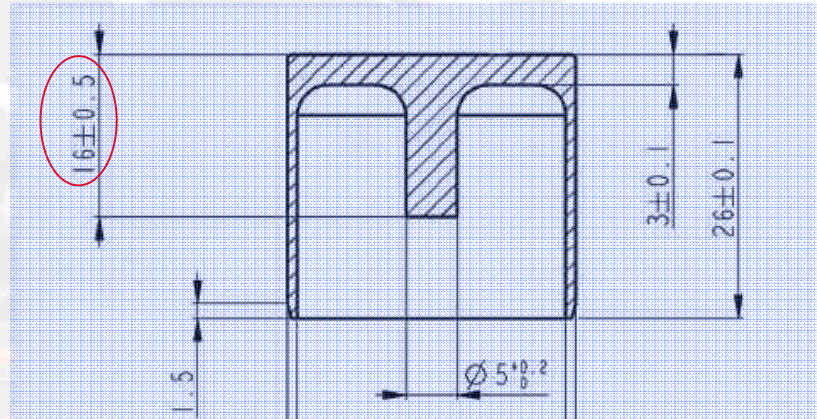
Longueur de soupape	
Valve length	<u>103,8</u> +/- 1.5 mm





### Third solution :

Rework the lifter, and pay attention to be included in values of the homologation sheet, as shown on pictures below.



**Intake** =  
0.20 - 0.22mm

**Exhaust** =  
0.25 - 0.27mm

Valve timing (on valve lift, top dead centre, without play).

**Intake** =  
5.5mm  
**! Without play !**

**Exhaust** =  
3mm

**A14**  
**Timing**



**A**  
**ENGINE**



Once the timing is set, tighten the pulley ([ref. 7, page 2](#)) to the specified torque.

1 m.kg



**Nota :** We remind you that the tuning, the assembly and the settings of a racing engine require specific tools and specialists abilities.

To guarantee a good level of performance and reliability, CITROËN Racing recommend ORECA Magny Cours, partner of our applications since many years.