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ABONNEMENT GME

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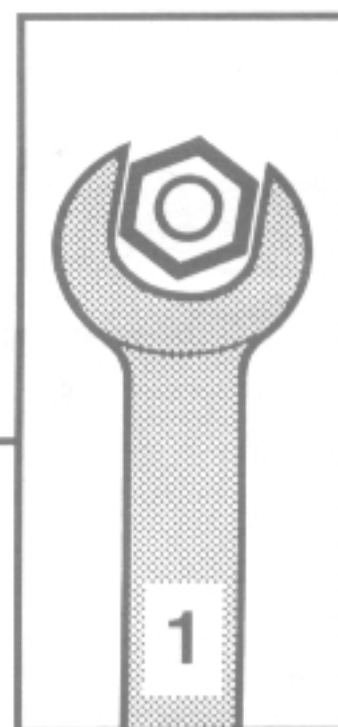


# XU 10 J4R ENGINE (RFV)

(1998cc 16 Valve)

- CYLINDER HEAD R.P.O. 6779 →  
(cylinder head, camshafts, camshaft bearing cap casings)
- TIGHTENING PROCEDURES  
(camshaft bearing cap casings)
- DIPSTICK GUIDE TUBE ASSEMBLY  
R.P.O. 6793 →
- RECIPROCATING GEAR  
R.P.O. 6769 →

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**AUTOMOBILES CITROËN**  
DIRECTION COMMERCE EUROPE  
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## EVOLUTION : XU10J4R ENGINE (RFV)

### 1 – PREAMBLE

Summary of the evolutions :

- cylinder head unit (cylinder head, camshafts, camshaft bearing cap casings)
- tightening method of camshaft bearing cap casings
- dipstick guide tube assembly
- reciprocating gear

### 2 – CYLINDER HEAD UNIT

Applicable since R.P.O. number : 6779.

Application : engine XU10J4R (all types).

Reduction of width of the camshaft lateral bearing (bearing no. 5, gear side) : 23 mm instead of 24 mm.

This improvement has entailed the modification to the following components :

- cylinder head
- camshaft bearing cap casings
- the camshafts

2.1 – Identification of the specific parts

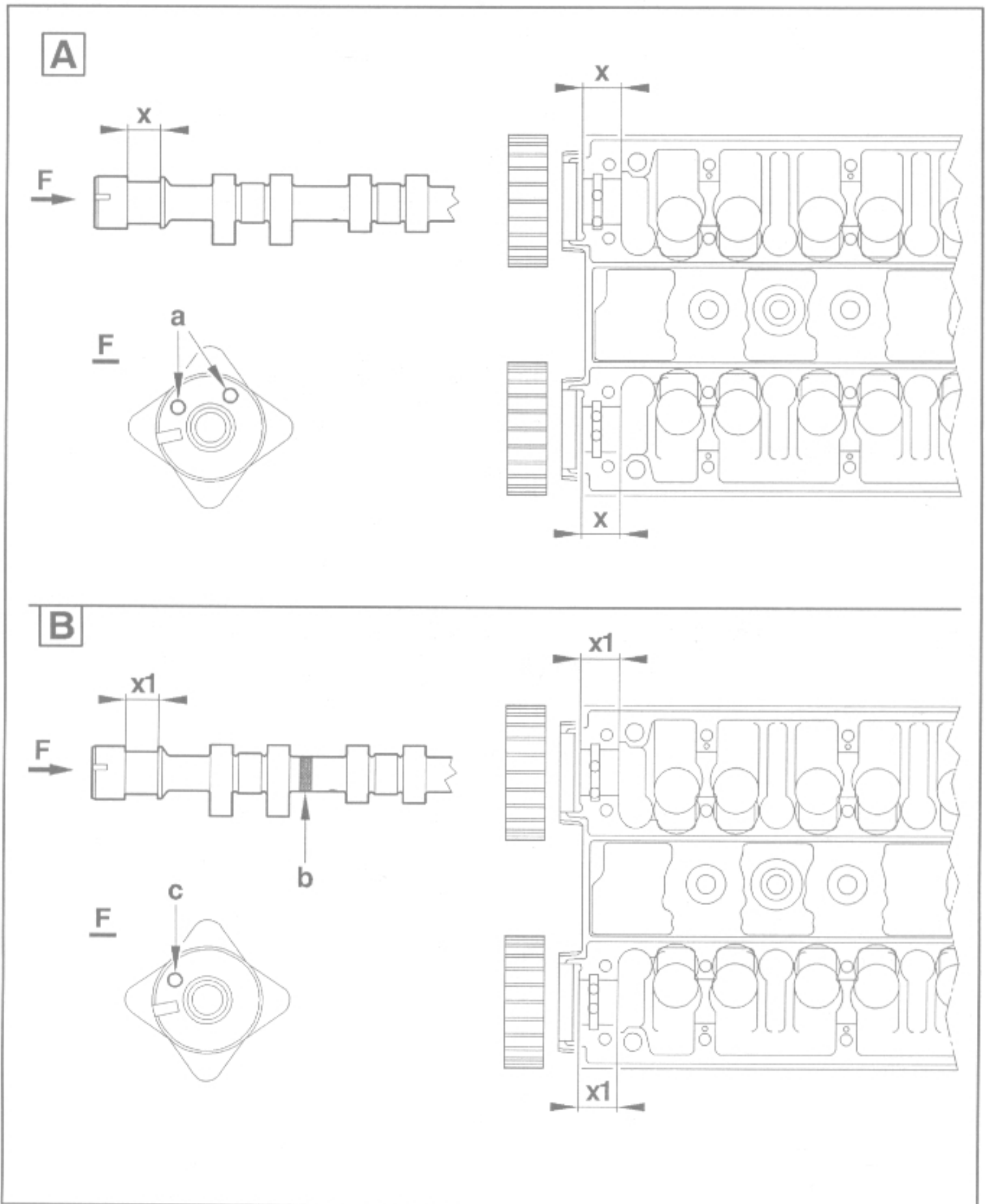


Fig : B1BP10YP

### **2.1.1 – Later assembly A**

Identification of the cylinder head : width of X = 23 mm.

The camshafts : width of X = 23 mm.

Identification of camshafts : 2 holes "a" on valve timing side (view F).

**NOTE** : The inlet and exhaust camshafts are identical.

### **2.1.2 – Earlier assembly B**

Identification of the cylinder head :  
width of X1 = 24 mm.

The camshafts : width of X1 = 24 mm.

Identification of camshafts 2 possibilities :

- 1 white paint mark item "b"
- 1 hole "c" (depth 10 mm) on valve timing side (view F)

**NOTE** : The inlet and exhaust camshafts are identical.

### **2.2 – Interchangeability**

The parts of the earlier and later assemblies cannot be interchanged separately.

The early engines can be modified if all the new parts are fitted.

### **2.3 – Replacement parts**

The Replacement Parts Department supplies both the old and the new parts.

**NOTE** : The cylinder head is supplied with the camshaft bearing cap casings.

### 3 – CAMSHAFT BEARING CAP CASINGS

Application : engine XU10J4R (all types).

New tightening method : "U" type tightening instead of "snail" type.

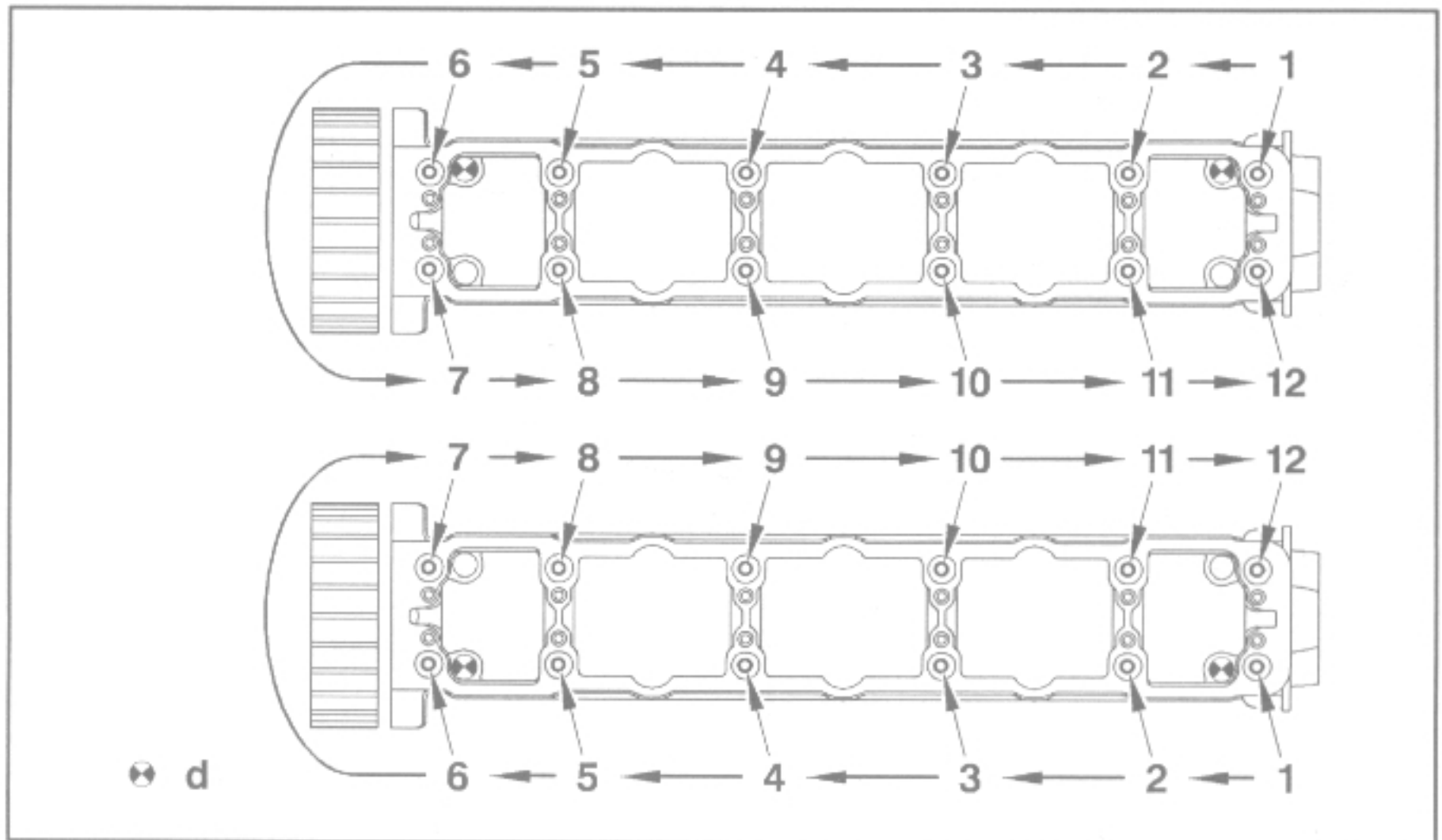


Fig : B1BP10ZD

"d" locating peg on the cylinder head.

Tighten the retaining bolts in the order indicated.

Tightening method :

- pre-tighten the screws to 0.5 m.daN
- tighten to 1 m.daN

**IMPERATIVE** : Only this new method should be applied.

## 4 – DIPSTICK GUIDE TUBE

Applicable since R.P.O. number : 6793.

XU10J4R Engine (all types).

The venting hole has been relocated from position "g" to position "h".

New arrangement :

- upper dipstick guide tube "e" (without venting hole at position "g")
- lower dipstick guide tube "f" (with venting hole at position "h")
- dipstick with O-ring (2)

Former arrangement :

- upper dipstick guide tube "e" (with venting hole at position "g")
- lower dipstick guide tube "f" (without venting hole at position "h")
- dipstick with O-rings (1) and (2)

Diameter of venting holes : 2 mm.

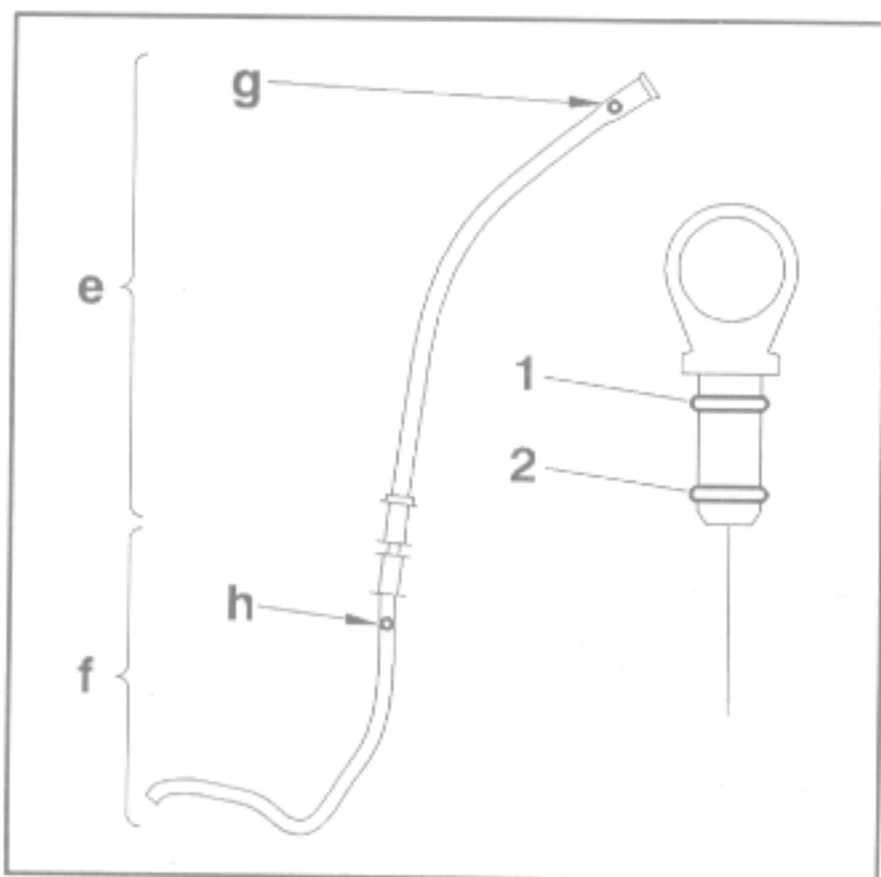


Fig : B1BP110C

Dipstick guide tube assembly.

**NOTE :** The dipsticks of both assemblies are identical. The oil capacities are still the same.

### 4.1 – Interchangeability

The dipstick guide tubes of both assemblies are not interchangeable.

A dipstick with two seals can be fitted onto either assembly

The fitting of a dipstick with only one seal on former engines is prohibited.

The early engines can only be modified if all the new parts are fitted.

### 4.2 – Replacement parts

Former arrangement : only the upper dipstick guide tube is available at the Replacement Part Department.

New arrangement : the upper and lower dipstick guide tubes are available at the Replacement Part Department.

Replacement of the lower dipstick guide tube in engines with former arrangement requires :

- the fitting of a new lower dipstick guide tube (new arrangement)
- the fitting of a new upper dipstick guide tube (new arrangement)

## 5 – RECIPROCATING GEAR

Applicable since R.P.O. number : 6769.

Since the launch of the XU10J4R engine, the connecting rod – piston – connecting rod bearing shell assembly has been fitted in 3 ways.

5.1 – Summary of assemblies

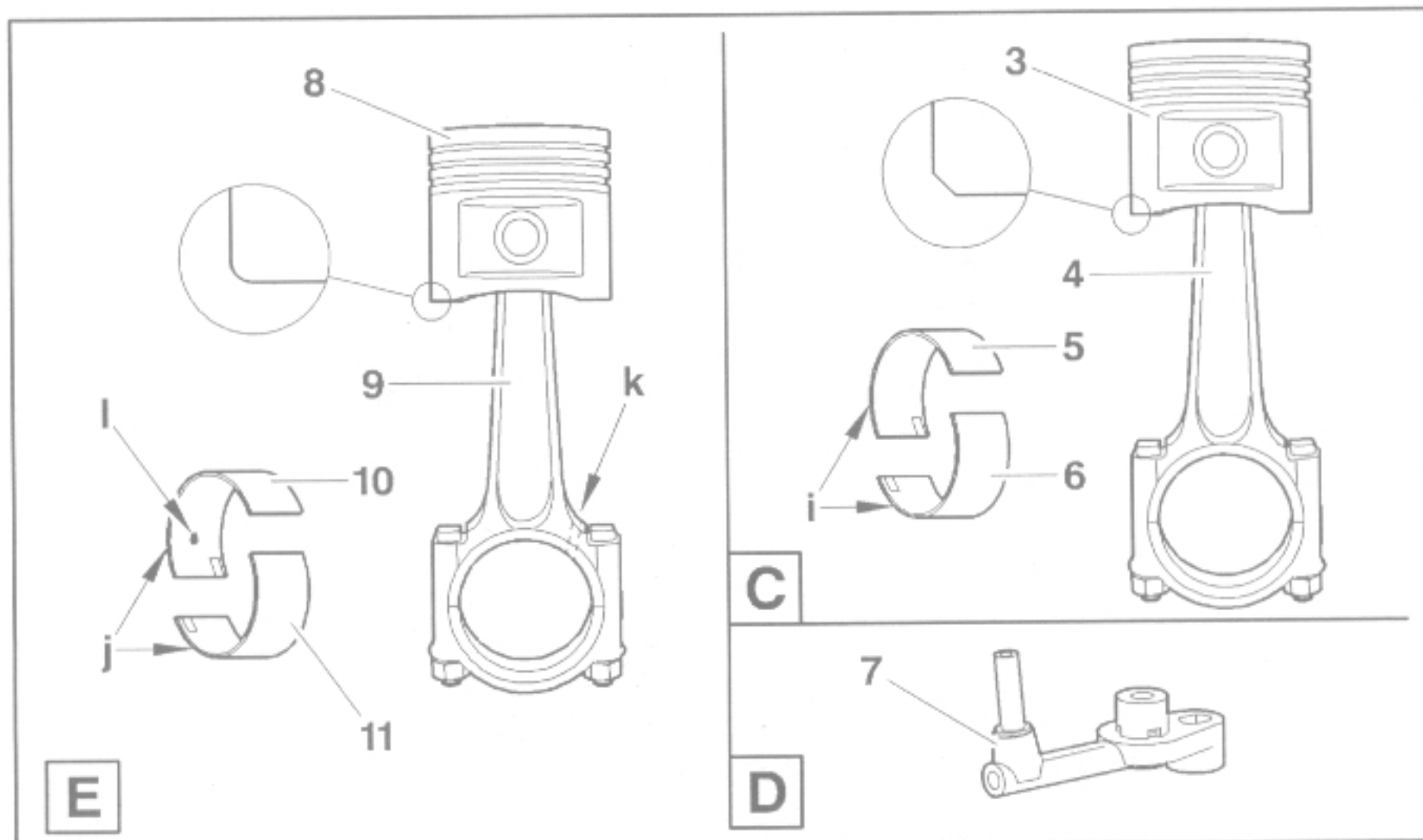


Fig : B1BP111D

Assembly N°1 : C.

Assembly N°2 : C + D.

Assembly N°3 : E.

5.1.1 – Assembly N°1 : C

Original assembly :

Applicable	Code	Part	Data – identification	RP references	Quantity
Prior to RPO No. 6769	(3)	Piston	Letter W on combustion side	0628 81	Set of 4
	(4)	Connecting rod	Not drilled	0603 60	Set of 4
	(5)	Connecting rod upper bearing halfshell	Not drilled yellow paint mark at position "i"	0606 L4 (upper and lower bearing halfshell assembly)	Set of 8
	(6)	Connecting rod lower bearing halfshell	Yellow paint mark at position "i"		
	--	Cylinder block	Not fitted for nozzles	0130 N9 replaced by 0130 Q7 (*)	1

NOTE : (\*) the cylinder block is supplied with the pistons (3) and the nozzles (7).

## POWER UNIT

### 5.1.2 – Assembly N°2 : C + D

Special features :

- connecting rod, piston, connecting rod bearing halfshell assembly identical to assembly 1
- new cylinder block with nozzles to improve the lubrication of the liners

Applicable	Code	Part	Data – identification	RP references	Quantity
From RPO N° 6770. Prior to RPO No. 6944	--	Cylinder block	Fitted for nozzles	0130 Q7 (*)	1
	(7)	Nozzles	--	0609 05	4

**NOTE :** (\*) the cylinder block is supplied with the pistons (3) and the nozzles (7).

### 5.1.3 – Assembly N°3 : E

Special features :

- new cylinder block (without nozzles), (improved surface condition of cylinders)
- the nozzles are replaced by a drilled connecting rod and upper bearing halfshell assembly
- new pistons, (improved surface condition of the skirt)

Applicable	Code	Part	Data – identification	RP references	Quantity
From RPO N° 6945	(8)	Piston	Letter W on combustion side	0628 C8	Set of 4
	(9)	Connecting rod	Drilled at position "k"	0603 65	Set of 4
	(10)	Connecting rod upper bearing halfshell	Drilled at position "l" green paint mark at position "j"	0606 N6 (upper and lower bearing shell half assembly)	Set of 8
	(11)	Connecting rod lower bearing halfshell	Green paint mark at position "j"		
	--	Cylinder block	Not fitted for nozzles	0130 R2	1

**NOTE :** The cylinder block is supplied with the pistons (8).



**5.2 – Interchangeability**

**5.2.1 – Connecting rods / pistons**

Parts	Connecting rod without drilling (4)	Connecting rod with drilling (9)
Former piston (3)	Yes	Yes
New piston (8)	No	Yes

**5.2.2 – Connecting rod bearing halfshells**

The drilled connecting rod bearing halfshells can replace the bearing halfshells without drilling, but the reverse is prohibited.

**5.2.3 – Connecting rods / connecting rod bearing halfshells**

Parts	Bearing halfshells without drilling (5 ; 6)	Drilled bearing halfshells (10 ; 11)
Connecting rod without drilling (4)	Yes	Yes
Connecting rod with drilling (9)	No	Yes

**5.2.4 – Connecting rod / cylinder block assembly**

Parts	Cylinder block (assembly 1) (assembly 2)	Cylinder block (assembly 3)
Connecting rod without drilling (4)	Yes	No
Connecting rod with drilling (9)	Yes	Yes

**5.3 – Replacement parts**

At the present time, the Replacement Parts Department supplies :

- pistons : former and new ones
- connecting rods : former and new ones
- cylinder block : assembly 2 ; 3

5.4 – Repairs

5.4.1 – Reminder

The gudgeon pin is a tight fit in the connecting rod small end.

**IMPERATIVE** : Do not reuse a piston after it has been disassembled with a press.

5.4.2 – Re-assembling of a connecting rod / piston assembly

Refer to RELAY documentation, XU engine reconditioning.

Operation : dismantling – re-assembly : connecting rods / pistons.

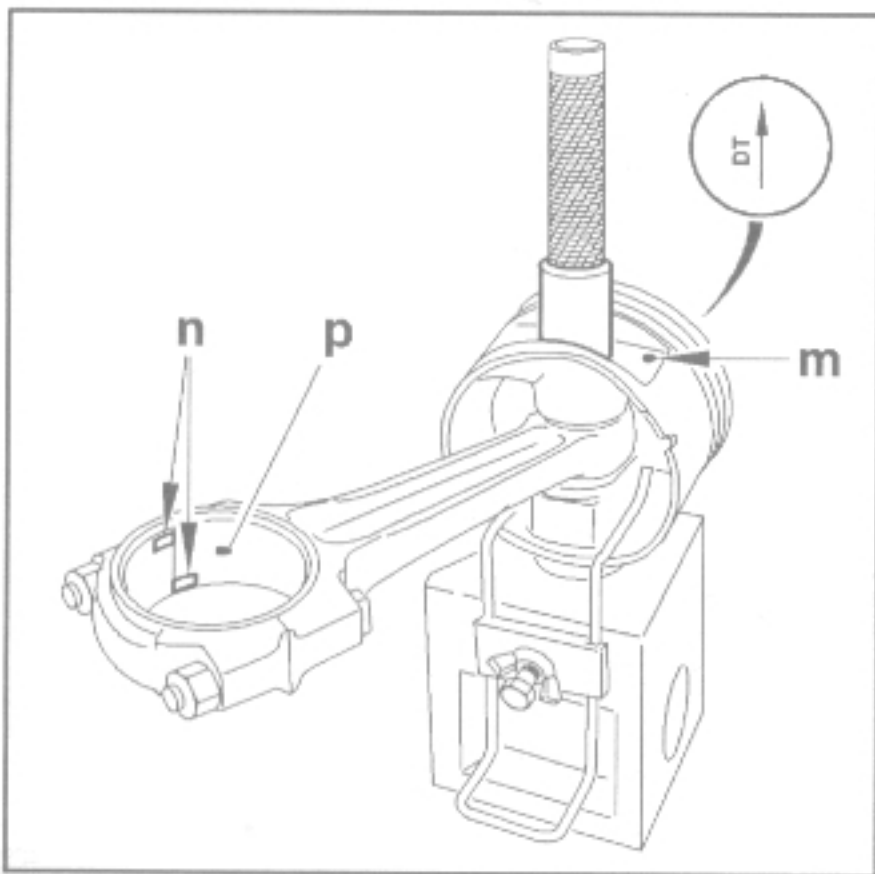


Fig : B1BP112C

**IMPERATIVE** : Observe the orientation of the connecting rod in relation to the piston.

Checking the correct positioning of the piston, 2 possibilities :

- arrow "DT" positioned on the upper side
- casting spot "m" positioned on the upper side

Checking the correct positioning of the connecting rod : notches "n" on the left side.

When the connecting rod / piston assembly is re-assembled on the engine, make sure that :

- piston : arrow "DT" pointed towards the valve timing side
- connecting rod : hole "p" directed towards the exhaust side