

XM

30th NOVEMBER 1995

ABONNEMENT GME

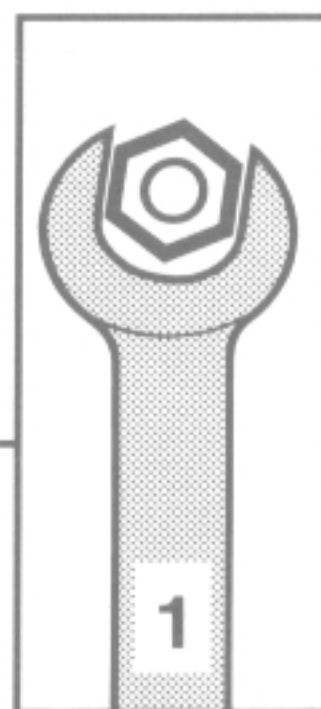
1

No XM - 1



- EVOLUTION : PRESENTATION OF THE XUD 11 BTE ENGINE

MAN 158931



GB



AUTOMOBILES CITROËN
DIRECTION COMMERCE EUROPE
DOCUMENTATION APRÈS VENTE

GENERAL SPECIFICATION

INTRODUCTION : XUD11 BTE (P8C) ENGINE

1 – PRELIMINARY NOTES

As of January 1995, the XUD11 ATE/Y engine (PHZ identification plate, US 87 strict anti-pollution standard for certain countries) is replaced by the XUD11 BTE/L3 (EEC 96 standard), only for vehicles with manual gearbox.

XUD11 ATE/Y engine is still available for vehicles with automatic gearboxes.

XUD11 BTE engine (P8C identification plate) is based on the XUD11 ATE.

The engine uses electronic injection control (LUCAS DIESEL EPIC system*, E.C.U. + injection pump) which makes it possible :

- to meet emission standards
- to improve the driveability

In addition to the electronic injection, the unit installed manages the coded antitheft device.

* EPIC : Electronically Programmed Injection Control.

2 – COUNTRY IN WHICH IT IS MARKETED

Vehicle		Engine		Gearbox	Countries applicable						
Trim level	Type code	Plate and type(c)	Power in kW (power in HP)		D	A	DK	SF	N	S	CH
SX Saloon	Y4-GZ	P8C XUD11 BTE/L3	80 (110)	ME5T 20GM31	X	X	X	X	X	X	X
VSX Saloon					X	X	X				X
SX Estate	Y4-MZ				X	X	X				X
VSX Estate					X	X	X	X	X	X	X
SX Varebiler									X		

(c) = the last characters in an engine type define the antipollution : L3 = EEC 96.

Countries applicable : D : Germany, A : Austria, DK : Denmark, SF : Finland, N : Norway, S : Sweden, CH : Switzerland.

3 – SPECIFICATION

Engine code : XUD11 BTE.

Legislation type : P8C.

Cubic capacity (cc) : 2,088.

Compression ratio : 21.5:1.

Max. EEC power (DIN) : 80 kW (110 HP).

Corresponding engine speed : 4,300 rpm.

Max. EEC torque (DIN) : 25 m.daN (26 mkg).

Corresponding engine speed : 2,000 rpm.

Emission standard : L3 (EEC 96).

Fuel : DIESEL FUEL.

Catalytic converter : YES.

Injection system supplier : LUCAS DIESEL.

4 – SPECIAL FEATURES

4.1 – Engine basis

Derived from the XUD11 ATE with new cylinder block (surface condition of liners improved).

New cylinder head including a new water outlet casing with built-in Diesel fuel filter (XUD9 type).

Cylinder head gaskets : 5 classes to control compression ratios.

Procedure for tightening cylinder head unchanged (identical to that of XUD11 ATE engine).

Capacities + oil filter unchanged (identical to that of XUD11 ATE engine).

4.2 – Air and fuel supply

New fuel line path adapted to the new water outlet casing.

Priming of Diesel fuel lines with a bulb type pump installed near the timing case.

New diesel fuel filter (LUCAS 911) installed on water outlet casing.

GARRET type TB 0251 turbocharger (only) with waste gate valve (identical to XUD11 ATE engine).

Full-load boost pressure at 2,500 rpm : 930 ± 50 mbar.

4.3 – Antipollution

EGR recycling valv, type GR 68 (installation identical to XUD11 ATE engine) with control electrovalve located on the bulkhead.

Replacement of electric vacuum pump by a mechanical vacuum pump installed on end of camshaft (gear-box side).

Catalytic converter marking : PSA K076.

4.4 – Timing

Timing method unchanged (identical to XUD11 ATE engine).

5 – INJECTION SYSTEM

The main system components are :

- an injection E.C.U.
- a new injection pump (based on LUCAS DIESEL DPC pump)

Operation of the injection system is explained in a sequence of operations to be issued later.

5.1 – Injection E.C.U.

E.C.U. marking :

- DCU, XUDLC01
- R04010007

E.C.U. inputs :

- accelerator pedal data (sensor near battery tray)
- engine speed (TDC sensor on clutch housing)
- air temperature (probe on intake manifold)
- intake pressure (sensor near battery tray)
- engine water temperature (probe on water outlet housing)
- vehicle speed (sensor on gearbox)
- start-of-injection data (special injector holder No. 4, with needle lift sensor)
- sensors integrated into injection pump

The E.C.U. manages :

- the injection pump (checks the fuel delivery and injection advance)
- the control electrovalve of exhaust gas recycling valve
- the post-heating cut-off
- the coded antitheft function
- emergency strategies
- the diagnostic with storage in memory of fault codes (to be read with ELIT unit or SOURIAU 26A station)
- the engine speed for the instrument cluster
- the air conditioning cut-off signal

5.2 – Injection pump

Pump marking :

- XUDLP01
- R8640A042A

This pump incorporates :

- diesel fuel delivery control electrovalves (replacing load lever, linkage, springs)
- a control electrovalve for the injection advance
- the electric fuel shut-off electrovalve (which cannot be dismantled)
- various sensors (pump temperature, rotor position, cam position, etc.)

5.3 – Injectors

Injector holders placed on cylinders 1 to 3 are identical.

The injector holder placed on cylinder No. 4 is equipped with a needle lift sensor, making it possible for the E.C.U. to know the start of injection.

Cylinders Nos. 1 to 3 :

- type LCR6734302H injector holder
- type RDNOSD6751H injectors
- injector setting pressure 150 (- 5, + 5) bars
- orange mark

Cylinder No. 4 :

- type LDC002R01AD3 injector holder
- type RDNOSDC6751H injector
- injector setting pressure 150 (- 5, + 5) bars
- blue mark

6 – REPAIRS

6.1 – Diesel fuel filter

Each time the Diesel fuel filter is changed ("rotor position fault" and/or "cam position fault" recorded in the E.C.U.), the faults have to be cleared (SOURIAU 26A diagnostic station or ELIT test unit).

6.2 – Injector holder No. 4

In the case of a failure of the needle lift sensor, the complete injector holder has to be changed.

IMPERATIVE : always refit injector holder No. 4 (with needle lift sensor) to cylinder No. 4 (timing side).

IMPERATIVE : do not modify the setting pressure of the injector holder.

6.3 – Injection pump

WARNING : the injection pump requires timing with a special rod (see the corresponding sequence of operations).

IMPERATIVE : do not tamper with component parts of injection pump.

The connector on the injection pump wiring harness contains a rotary locking device and a return spring.

IMPERATIVE : to unlock the connector, push back the locking tab (on top) toward the middle of the connector.

WARNING : when unlocking, the connector rotates violently under the action of the return spring.

6.4 – Engine speeds

Warm engine idling rpm (with or without refrigeration)	750
Max. no-load engine rpm	5,100 ± 75
Max. on-load engine rpm	5,000

NOTE : the engine speeds are determined by the injection E.C.U. (they cannot be adjusted).