

INSTRUCTION MANUAL FOR TIMING BELT REPLACEMENT

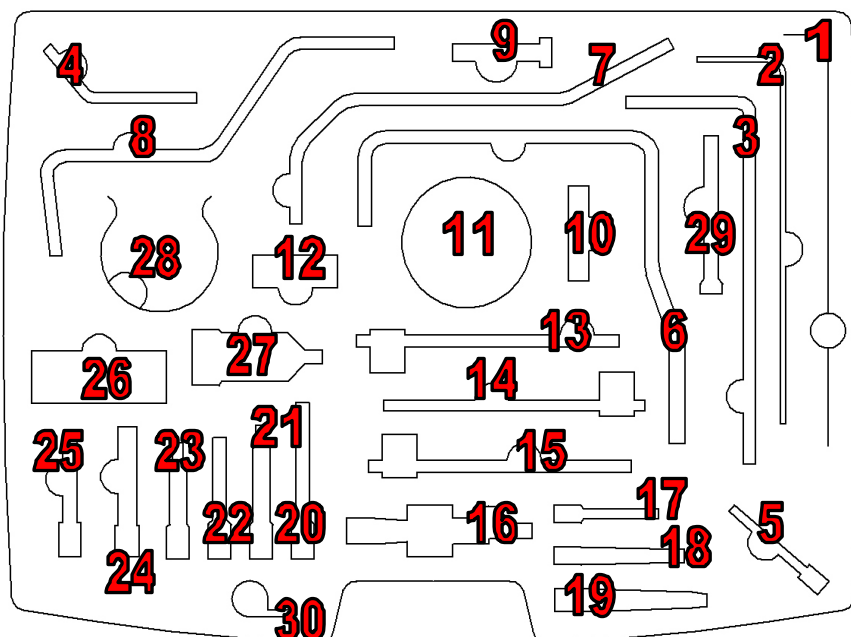


Application:

Complete set of Tools suitable for timing on Peugeot-Citroen, Ford petrol and diesel engines. This set include all the tools useful for locking camshafts, crankshaft, tensioners, pulleys, etc.

List of Components:

1. Tensioner locking tool, Peugeot new models;
2. Sprocket aligning tool, Peugeot new models;
3. D. 7,7 – 275 mm special locking pin, Peugeot HDI;
4. D. 6 bended pin for Peugeot-Fiat;
5. D. 4,9x70 special locking pin, Peugeot new models;
6. D. 7,9 bended locking pin, Peugeot-Fiat;
7. D. 7 bended locking pin, Peugeot-Fiat;
8. D. 8 bended locking pin, Peugeot-Fiat;
9. 10x44 screw;
10. TE 6x55 ZB screw (2 pcs);
11. Rotating tool for belt-stretcher, Peugeot new models;
12. Flywheel locking tool, diesel engines;
13. Belt-stretcher tool, Peugeot DW10-Toyota;
14. Belt-stretcher tool, Peugeot Citroen HDI DW12;
15. Tensioner adjusting tool, Peugeot new models;
16. Flywheel locking pin, Peugeot new models;
17. 5,9x60 injection pump locking pin, Peugeot HDI;
18. D.7,9x75 camshaft locking pin, Peugeot HDI;
19. D.7,9x90 locking pin, Peugeot petrol engines;
20. D.8,9x88 locking pin, Peugeot petrol engines;
21. D.9,9x77 locking pin, Peugeot petrol engines;
22. D.7,9x70 locking pin, Peugeot petrol engines;
23. D.9,9x67 locking pin, Peugeot petrol engines;
24. D.11,5x75 locking pin, Peugeot new models;
25. D.7,9x75 camshaft locking pin, Peugeot HDI;
26. Crankshaft pulleys remover, Peugeot HDI;
27. D.28,5x75 locking pin, Peugeot engines;
28. 1,5x15 d.33,5 spring, Peugeot engines;
29. 8x80 ZB screw;
30. Tensioner locking cotter pin, Peugeot new models.



Diesel & Gasoline Engines:

Fiat: Ulisse

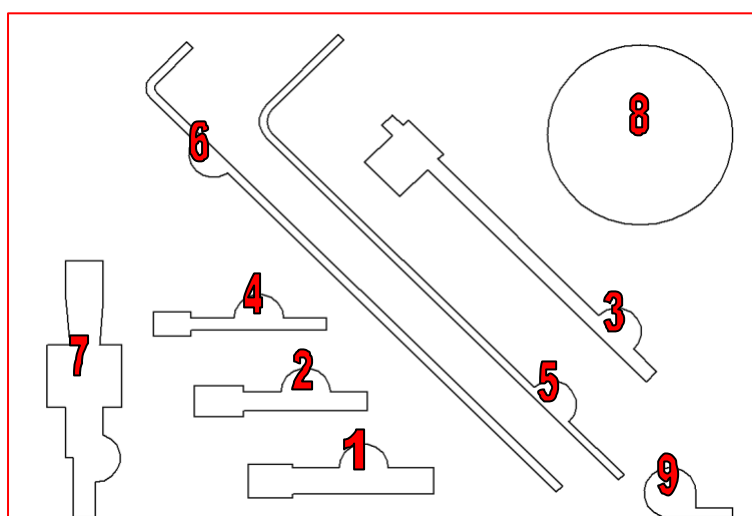
Ford: Fiesta Fusion Focus Focus C-Max

Citroen & Peugeot: Xsara, C2, C3, C4, C5, C8 Evasion, Berlingo, Xsara, Xsara/Picasso, Xantia, Evasion, C5, 206, 306, 307, 406, 407, 607, 806

Engines: 1.4 -1.6 Hdi, 1.4 -1.6 Duratorq TDCi, 1.8-2.0EW, 1.9 D, 2.0 Hdi, 2.0 JTD, 2,2 Hdi, 1.8 16v., 2.0 16v.

Codes: DV4TD (8HW/8HX/8HZ) - DV4TED4 (8HV/8HY)- DV6ATED4 (9HX/9HY/9HZ)
F6JA-F6JB-F6JC-G8DA-G8DB-EW7J4(6FZ) - EW10J4 (RFN/RFR)
EW10J4S(RFK)-EW10-HPi (RLZ)- EW12 (3FZ), DW8 (WJZ), DW10(RHY-RHZ),
DW12 (4HX), EW7J4 (6FZ), EW10J4 (RFR), EW10J4D (RLZ) – Hpi

Diesel Engines: 1.4 – 1.6 HDi, TDCi



Description:

- | | |
|---------------------------|------------------------------------|
| 1. Crankshaft locking pin | 6. Locking tool for belt-stretcher |
| 2. Camshaft locking pin | 7. Locking flywheel/clutch pin |
| 3. Belt tensioner | 8. Timing tool for belt-stretcher |
| 4. Locking fuel pump pin | 9. Locking pin for camshaft |
| 5. Locking tool | |

Ford

Models	Fiesta Fusion Focus Focus C-Max
Engines	1.4 -1.6 Duratorq TDCi
Codes	DV4TD (8HW/8HX/8HZ), DV4TED4 (8HV/8HY), DV6ATED4 (9HX/9HY/9HZ) F6JA, F6JB, F6JC, G8DA, G8DB

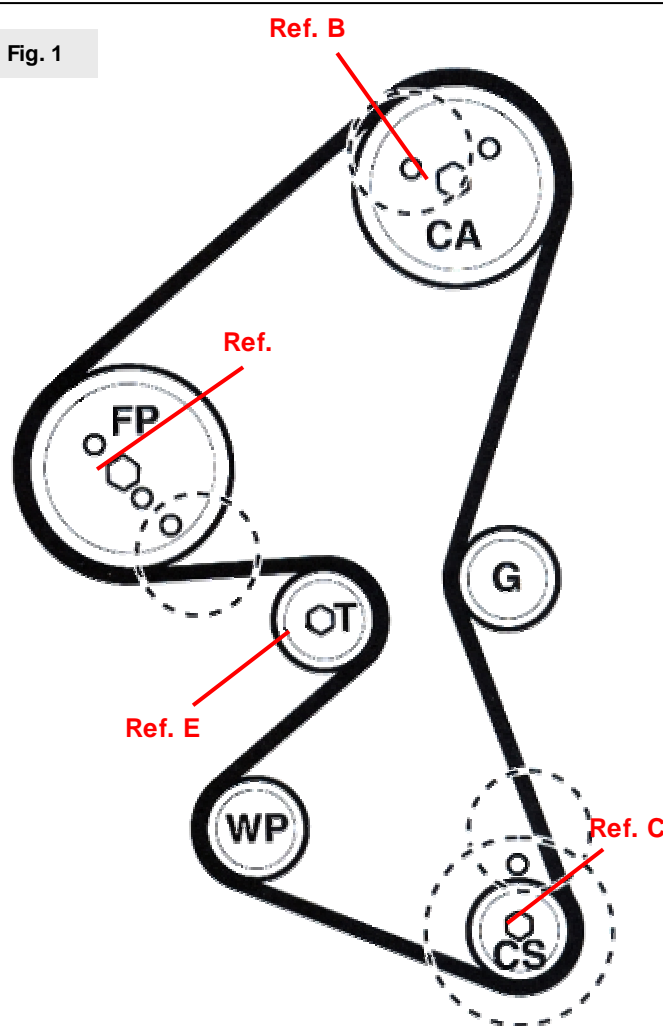
Citroen

Models	Xsara, C2, C3, C4, C5, C8 Evasion
Engines	1.4 -1.6 Hdi, 1.8-2.0 EW
Codes	DV4TD (8HW/8HX/8HZ), DV4TED4 (8HV/8HY), DV6ATED4 (9HX/9HY/9HZ) F6JA, F6JB, F6JC, G8DA, G8DB EW7J4(6FZ), EW10J4 (RFN/RFR), EW10J4S (RFK), EW10-HPi (RLZ), EW12 (3FZ)

Peugeot

Models	206, 307, 406, 406 Coupe, 607, 806, 807, Expert
Engines	1.4 -1.6 Hdi, 1.8-2.0 EW
Codes	DV4TD (8HW/8HX/8HZ), DV4TED4 (8HV/8HY), DV6ATED4 (9HX/9HY/9HZ) F6JA, F6JB, F6JC, G8DA, G8DB EW7J4(6FZ), EW10J4 (RFN/RFR), EW10J4S (RFK), EW10-HPi (RLZ), EW12 (3FZ)

Fig. 1



Diesel Engine: 1.4 – 1.6 HDi, TDCi

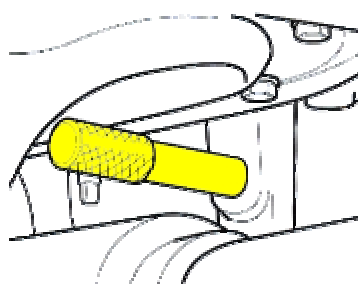
- Use the flywheel locking pin (n.1) to lock crankshaft position (see Re. A);
- Now remove the crankshaft pulley;
- Remove flywheel locking pin (n.1);
- Mount the crankshaft pulley bolt;
- Slowly rotate the crankshaft clockwise to align the camshaft pulley hole (see Re. B);
- Use the camshaft locking pin (n.2)
- Use the crankshaft locking pin (n.4) (see Re. C);
- Now loosen the belt-stretcher with tensioner (n.3, or a 6 mm. hex key) and remove crankshaft pulley, crankshaft locking pin, tone wheel, timing belt.

Instruction for a right assembling:

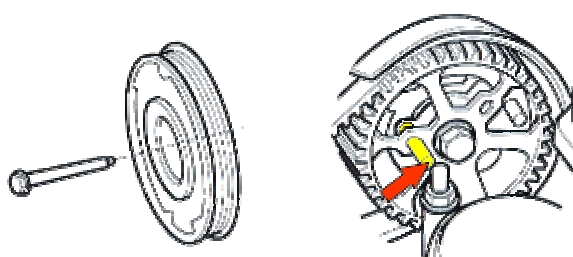
N.B. Mount only new belt and operate with cold engine

- Locking pin for camshaft (n.2) have to be mounted;
- Use the timing pin for locking the fuel pulley (n.4, Re. D);
- Now mount the new timing belt on the pulley; then tone wheel, crankshaft pulley bolt by hand;
- Remove pin (n.4), and mount it for locking crankshaft (Re. C);
- Now start rotating anti-clockwise till you can see the sign in the window (Re. E);
- Tighten the belt-stretcher at 30 Nm;
- Remove crankshaft pin n.3, and camshaft pin n.2;
- Slowly rotate the crankshaft full turn 10 times;
- Mount again crankshaft pin n.3 and check if camshaft pin could be inserted.
- Now remove all tools and mount all components;

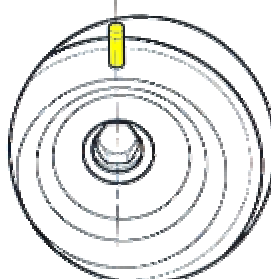
Ref. A



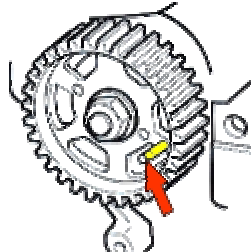
Ref. B



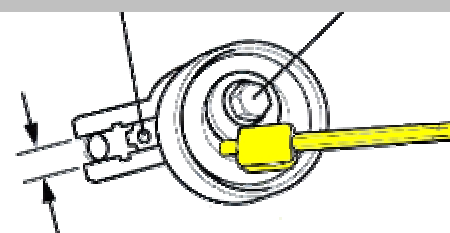
Ref. C



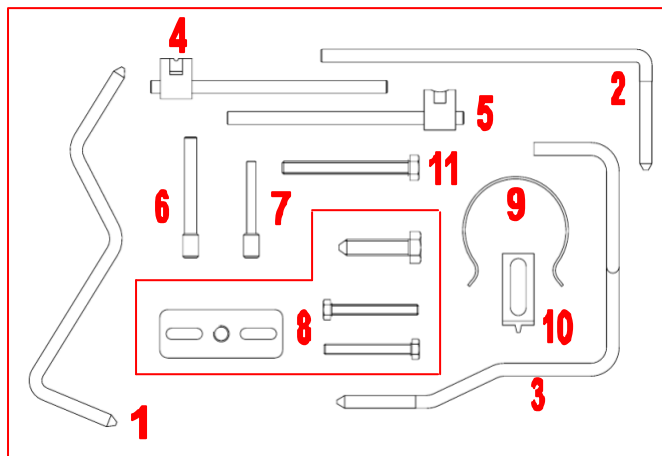
Ref. D



Ref. E



Diesel Engines: DW8 – DW10 – DW12 (Hdi)



Description:

- | | |
|---------------------------|------------------------------------|
| 1. TDC Flywheel lock pin | 6. Lock pin for crankshaft |
| 2. TDC Flywheel lock pin | 7. Lock pin for injection pump |
| 3. TDC Flywheel lock pin | 8. Extractor for crankshaft pulley |
| 4. Bel tensioner DW8-DW10 | 9. Lock clip for timing belt |
| 5. Belt tensioner DW12 | 10. Flywheel locker |
| | 11. Camshaft clamp bolt |

ENGINE 1,9 D - WJZ (DW8), WJY(DW8B)

Disassembling:

- Rotate the crankshaft clockwise into the adjusting position
- Insert the flywheel timing pin (re. 2)
- Insert the camshaft clamp bolt (re. 11)
- Insert the injection pump lock pin (re. 7)
- Loosen the bolt of the belt tensioner and rotate the pulley clockwise going away from the belt
- Tighten slightly the bolt and remove the timing belt

Assembling:

- Loosen the bolts of the camshaft pulley, tighten with the fingers and loosen of 1/6 of turn
- Rotate the pulley completely clockwise
- Loosen the bolts of the injection pump pulley, tighten with the fingers and then loosen of 1/6 of turn.
- Rotate completely the pulley of the injection pump clockwise
- Put on the belt on the crankshaft pulley and lock it with a clip (re. 9)
- Fit the timing belt anticlockwise. It must be stretched on the sprockets.
- Assemble the belt on the cogs of the injection pump and then of the crankshaft pulley

Citroën

Berlingo, Xsara	DW8 (WJZ) 1.9 D
Xsara/Picasso, Xantia, Evasion, C5	DW10 (RHY-RHZ) 2.0 HDi
C5	DW12 (4HX) 2.2 HDi

Fiat

Ulisse	DW10 (RH Z) 2.0 JTD
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Peugeot

206-306	DW8 (WJZ) 1.9 D
206, 306, 307, 406, 607, 806	DW10 (RHY-RHZ) 2.0 HDi
406, 407	DW12 (4HX) 2.2 HDi

- The angular displacement of the sprockets do not have to exceed the space of a cog
- Fit the belt on the water pump pulley and on the belt tensioner, then loosen the belt tensioner bolt
- Turn the belt tensioner pulley clockwise with the wrench supplied (re. 4) in order to stretch the belt
- Tighten slightly the bolts with a couple of 10 Nm
- Remove the clip (re. 9)
- Rotate the belt tensioner pulley anticlockwise till the tension reaches 106±2 units SEEM.
- Tighten the belt tensioner bolt with a couple of 21 Nm.
- The bolts have not to be at the end of grooves on the sprockets.
- Tighten the bolts of the camshaft pulleys and of the injection pump with a couple of 23 Nm.
- Remove the timing and lock pins.
- Make the crankshaft 8 revolutions made clockwise reaching the adjusting position
- Reinsert the tools (re. 2, 7 and 11) and loosen the crack-camshaft and belt tensioner bolts.
- Measure the belt tension rotating the pulley anticlockwise till about 42±2 units SEEM
- Tighten the belt tensioner bolt with a couple of 21 Nm
- Tighten the camshaft bolts with a couple of 23 Nm
- Remove and then reinstall the tension meter: it must indicate 38-46 units SEEM
- Remove the meter and the lock and timing pins
- Rotate the crankshaft twice clockwise in the adjusting position
- Tighten the bolt of the crankshaft pulley at a couple of 40 Nm + 51°

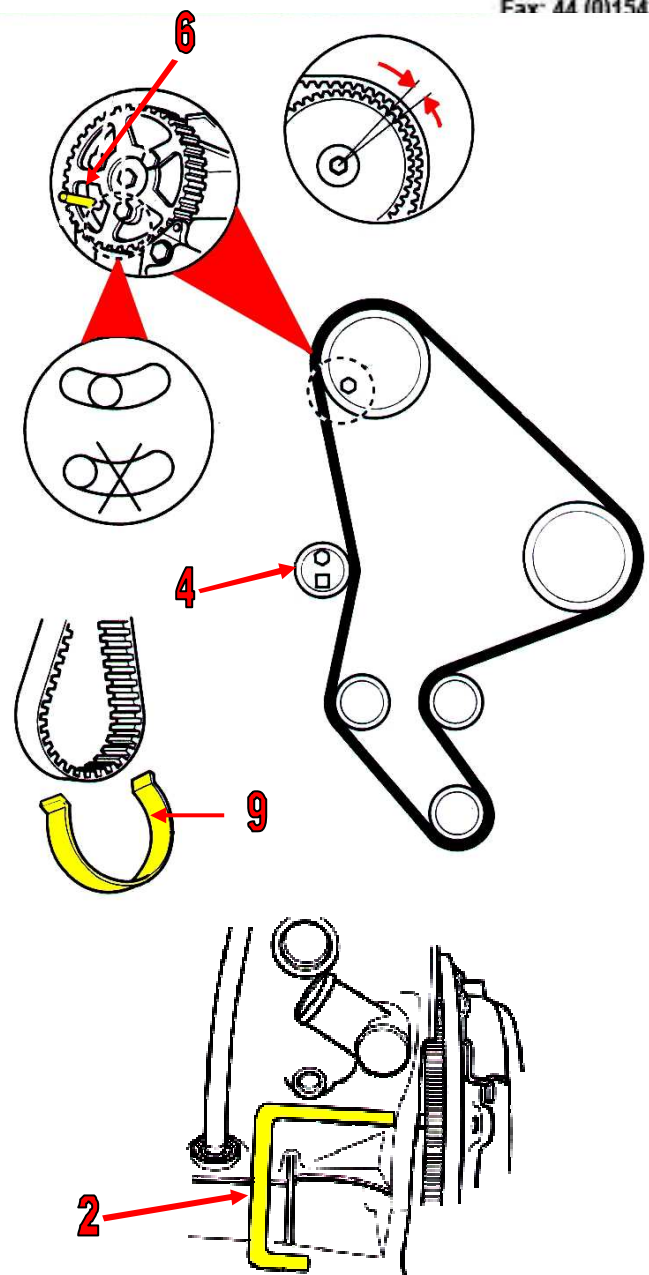
ENGINE: 2,0 Hdi - RHY (DW10ADT), RHZ (DW10ATED/L)

Disassembling:

- Insert the flywheel locker (re. 10)
- Remove the bolts of the crankshaft pulley and then the pulley using the tool re. 8.
- Remove the flywheel locker (re. 10)
- Disconnect the supply connections, support the engine and the power steering tank, the engine supports on the right and the timing guard.
- Turn the crankshaft clockwise in the adjusting position
- Insert the TDC flywheel lock pin (ref. 2 , 1 or 3 for C5)
- Insert the crankshaft lock pin (rif. 6)
- Loosen the bolt of the belt tensioner and of the crankshaft pulley
- Rotate the belt tensioner pulley clockwise going away from the belt with using the tool re. 5.
- Tighten slightly the bolt and remove the timing belt

Assembling:

- Loosen the bolts of the camshaft pulley, tighten with the fingers and loosen of 1/6 of turn
- Rotate the pulley completely clockwise
- Put on the belt on the crankshaft pulley and lock with the clip re. 9.
- Fit the timing belt anticlockwise. It must be stretched on the sprockets.
- Assemble the belt on the cogs of the injection pump and then of the crankshaft pulley
- The angular displacement of the sprockets do not have to exceed the space of a cog
- Fit the belt on the water pump pulley and on the belt tensioner, then loosen the belt tensioner bolt.
- Turn the belt tensioner pulley clockwise with the wrench supplied (re. 5) in order to stretch the belt
- Tighten slightly the bolts with a couple of 10 Nm
- Remove the clip (re. 9)
- Install the belt tensioner meter in the position ▼
- Rotate the belt tensioner pulley anticlockwise till the tension reaches 98 ± 2 units SEEM.
- Tighten the belt tensioner bolt with a couple of 25 Nm.
- The bolts have not to be at the end of grooves on the sprockets.
- Tighten the bolts of the camshaft pulleys and of the injection pump with a couple of 20 Nm.
- Remove the timing and lock pins.
- Make the crankshaft 8 revolutions made clockwise reaching the adjusting position



- Reinsert the tools (re. 2 and 6) and loosen the crank-camshaft and belt tensioner bolts.
- Measure the belt tension rotating the pulley anticlockwise till about 54 ± 2 units SEEM
- Tighten the belt tensioner bolt with a couple of 25 Nm
- Tighten the camshaft bolts with a couple of 20 Nm
- Remove and then reinstall the tension meter: it must indicate 51-57 units SEEM, except for C5 that has to indicate 54 ± 3 units SEEM.
- Remove the meter and the lock and timing pins
- Rotate the crankshaft twice clockwise in the adjusting position
- Tighten the bolt of the crankshaft pulley at a couple of 40 Nm + 51°

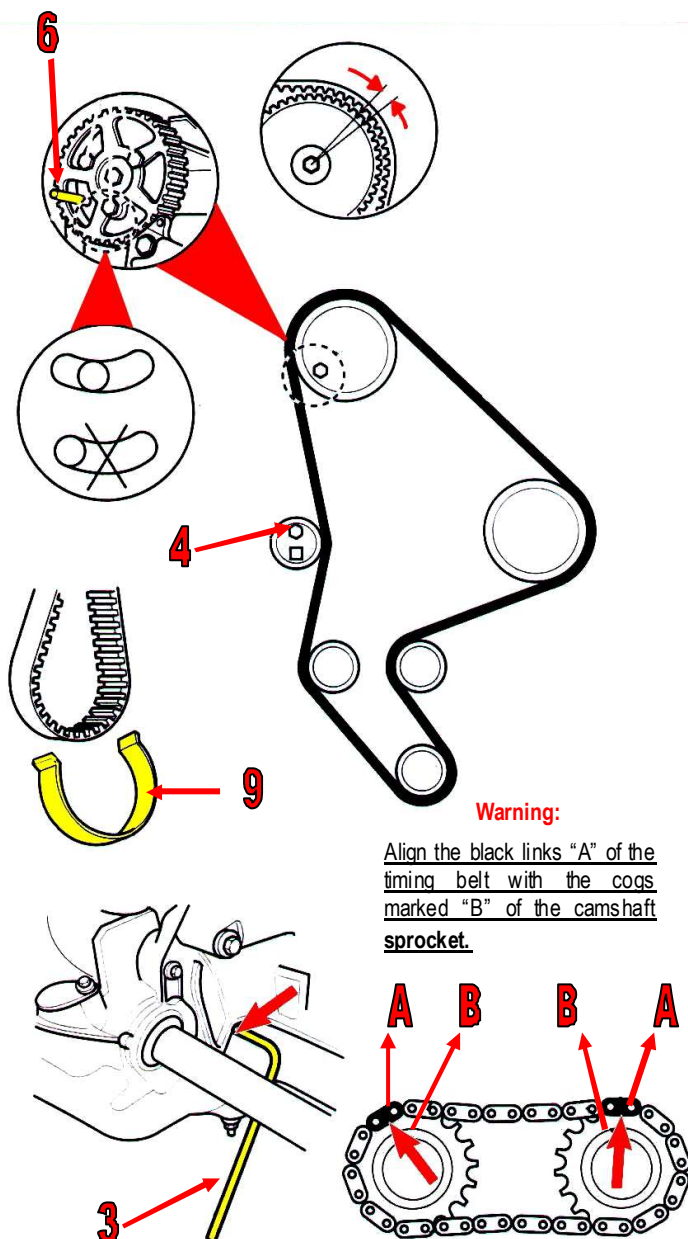
ENGINE: 2.2 Hdi - 4HX (DW12ATED)

Disassembling:

- Rotate the crankshaft clockwise into the adjusting position
- Insert the flywheel timing pin (re. 3)
- Insert the camshaft clamp bolt (re. 6)
- Loosen the bolt of the belt tensioner and of the camshaft pulley
- Rotate the belt tensioner pulley clockwise going away from the belt with using the tool re. 4.
- Tighten slightly the bolt and remove the timing belt

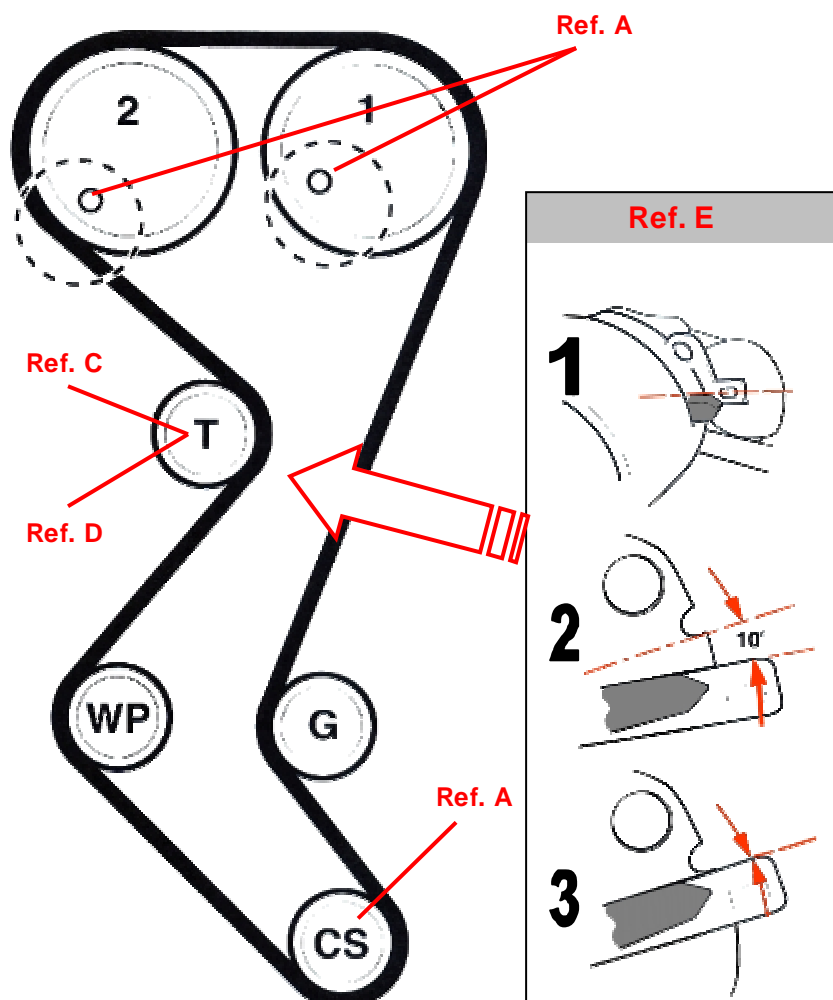
Assembling:

- Rotate the pulley completely clockwise
- Put on the belt on the crankshaft pulley and lock with the clip re. 9.
- Fit the timing belt anticlockwise. It must be stretched on the sprockets.
- Assemble the belt on the cogs of the injection pump and then of the crankshaft pulley
- The angular displacement of the sprockets do not have to exceed the space of a cog
- Fit the belt on the water pump pulley and on the belt tensioner, then loosen the belt tensioner bolt
- Turn the belt tensioner pulley clockwise with the wrench supplied (re. 4) in order to stretch the belt
- Tighten slightly the bolts with a couple of 10 Nm
- Remove the clip (re. 9)
- Install the belt tensioner meter in the position ▼
- Rotate the belt tensioner pulley anticlockwise till the tension reaches 106 ± 2 units SEEM.
- Tighten the belt tensioner bolt with a couple of 25 Nm.
- The bolts have not to be at the end of grooves on the sprockets.



- Tighten the bolts of the camshaft pulleys and of the injection pump with a couple of 20 Nm.
- Remove the timing and lock pins.
- Make the crankshaft 8 revolutions made clockwise reaching the adjusting position
- Reinsert the tools (re. 6) and loosen the crack-camshaft and belt tensioner bolts.
- Measure the belt tension rotating the pulley anticlockwise till about 51 ± 3 units SEEM
- Tighten the belt tensioner bolt with a couple of 25 Nm
- Tighten the camshaft bolts with a couple of 20 Nm
- Remove and then reinstall the tension meter: it must indicate 51 ± 3 units SEEM.
- Remove the meter and the lock and timing pins
- Rotate the crankshaft twice clockwise in the adjusting position
- Tighten the bolt of the crankshaft pulley at a couple of 70 Nm + 51°
- Lock the crankshaft pulley bolt with a couple of 260 Nm

Gasoline Engines: Citroën - Peugeot "EW" 16v.



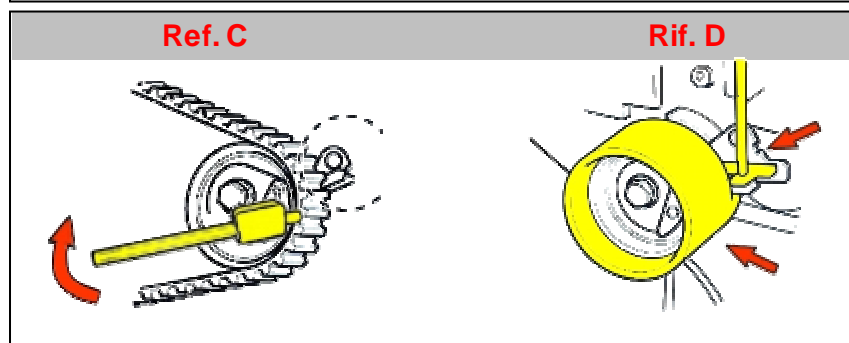
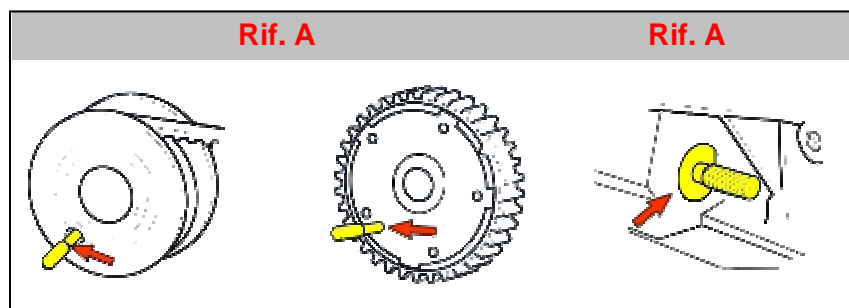
Petrol Engine: 1.8 – 2.0 twin cam

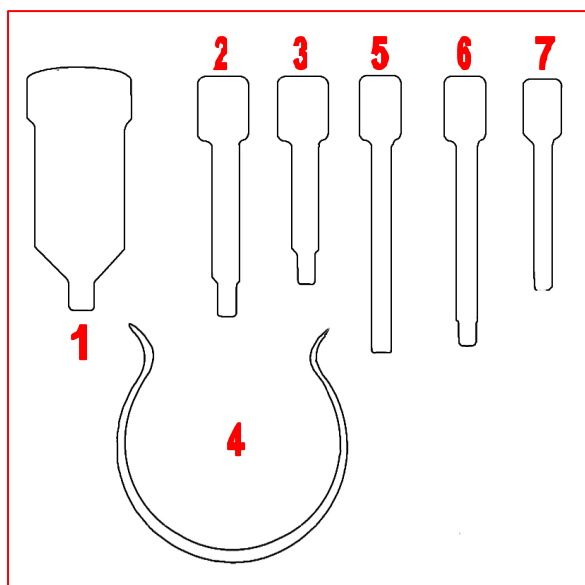
- Rotate the crankshaft clockwise till timing position namely when it is possible to insert the locking flywheel/clutch pin (n. 7, Ref. B);
- Insert now the camshaft locking pins (Ref. A);
- Remove crankshaft pulley bolt, the pulley and lower timing guard;
- Loosen the belt-stretcher bolt and rotate clockwise the pulley with tensioner supplied (n.3, or with 6mm. hex key, Re. C); then remove timing belt;

Instruction for a right assembling:

N.B. Fit only new belt and operate with cold engine

- Check good functioning of belt-stretcher pulley and guide pulley;
- Check good functioning of water pump pulley;
- Flywheel tool (n. 7) and camshaft pins have to remain fitted;
- Fit now the timing tool (n. 8) on belt-stretcher pulley (Ref D);
- Rotate the pulley clockwise to make the arrow crossing the sign (Ref. E-1);
- Fit the locking tool (n. 6) on belt-stretcher pulley (Ref D);
- Remove now the timing tool (n. 8) on belt-stretcher pulley;
- Put timing belt on the crankshaft pulley;
- Now Fit timing belt as follow: 1) guide pulley, 2) inductions stroke camshaft, 3) unloading stroke camshaft, 4) water pump pulley, 5) belt-stretcher pulley;
- Remove camshaft unloading stroke locking pin and locking tool (n. 6);
- Fit the lower timing guard and crankshaft pulley;
- Tighten crankshaft pulley at $40 \pm 4 \text{ Nm} + 53^\circ$;
- Rotate belt-stretching pulley anti-clockwise till arrow rich an angle of 10° , see displayed position (Ref. E-2);
- Now rotate clockwise till when the arrow and sign are aligned (Ref. E-3);
- Tighten belt-stretcher bolt at 17-23 Nm;
- Now remove locking tool (n. 7) and inductions stroke camshaft locking tool;
- Slowly rotate clockwise the crankshaft full turn 10 times to timing position;
- Fit inductions stroke camshaft locking pin;
- Check on the belt-stretcher that arrow and sign are aligned;
- Remove inductions stroke camshaft locking pin.



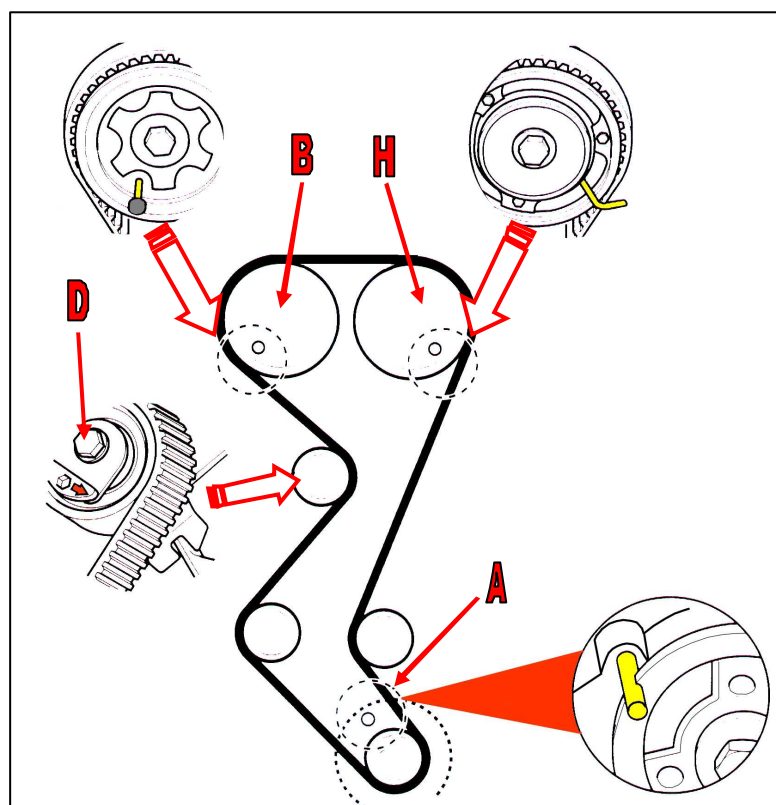


Description:

1. Flywheel locking pin;
2. Locking pin for camshaft pulley;
3. Locking pin for crankshaft pulley;
4. Clip for the belt locking;
5. Tensioner pin;
6. Locking pin for camshaft pulley (HPi);
7. Crankshaft locking pin.

Disassembling

- Rotate the crankshaft clockwise and position for the adjustment;
- Insert the crankshaft locking pin (re. A);
- Now insert the camshafts pulleys locking pins (re. B-C);
- Loosen the belt tensioner bolt (re. D);
- Turn the belt tensioner clockwise (re. E);
- Remove the timing belt.

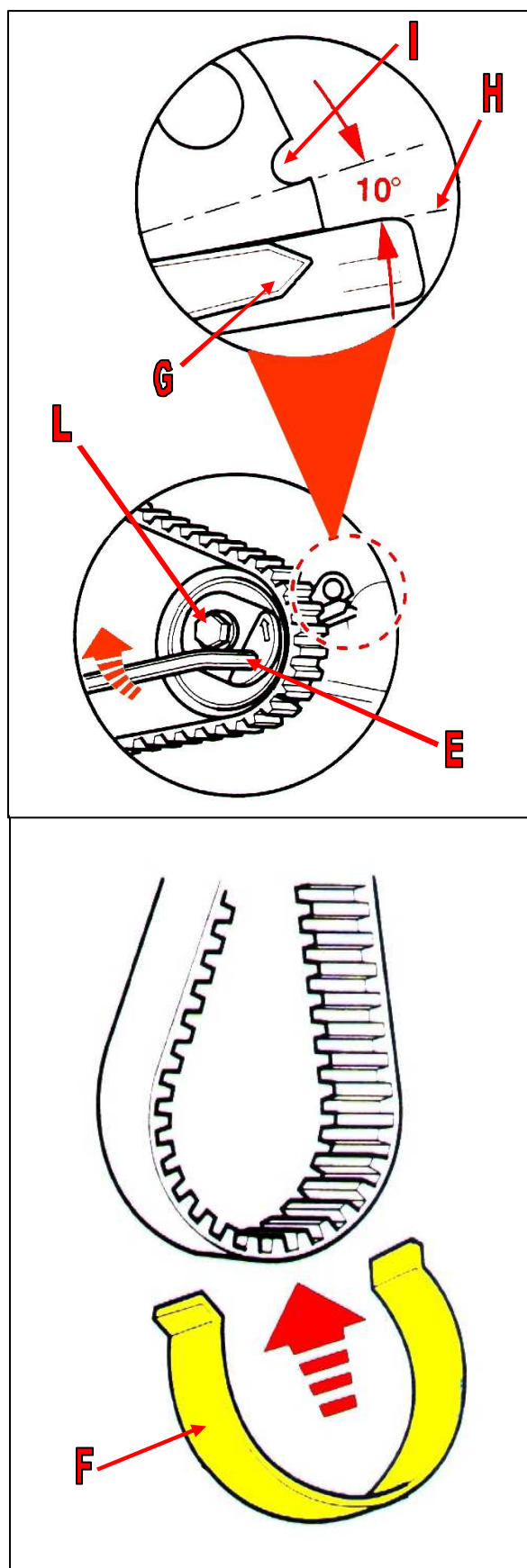


Citroën

C5-Xara-Xara Picasso	1.8 16v. EW7J4 (6FZ)
	2.0 16v. EW10J4 (RFR)
	2.0 16v. EW10J4D (RLZ) - HPi

Peugeot

206-207-306-307	2.0 16v. EW10J4 (RFR)
406-407	1.8 16v. EW7J4 (6FZ)
	2.0 16v. EW10J4 (RFR)
	2.0 16v. EW10J4D (RLZ) - HPi



Assembling

- Fix the locking pins correctly (re. A-B-C)
- Assemble the new timing belt on the crankshaft pulley anti-clockwise.
- Insert the clip on the crankshaft pulley (re. F).
- Put on the belt anticlockwise, verify that it is stretched on the sprockets well.
- Remove all the locking pins and the clip (re. A-B-C-F)
- Rotate the timing belt pulley with a socket wrench (re. E) anticlockwise until the indicator (re. G) reach the position re. H – Beware: the array has to overcome the notch (re. I) at least of 10°.
- If this dose not happened, replace the belt tensioner.
- Rotate the timing belt pulley clockwise until the indicator and the notch are aligned (re. I) – Beware – if the indicator overcome the notch (re. I), repeat the assembling operations.
- Tighten the belt tensioner bolt with a couple of 21 Nm. (re. L)
- Turn the crankshaft 10 times clockwise and position for the adjustment.
- Insert the timing pin of the aspiration camshaft (re. C)
- Insert the timing pins (re. A-B-C)
- Tighten the crankshaft bolt with a couple of 40 Nm.
- Remove the locker and all the pins.