# 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. 5,9x63 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:**

**Engines:**
- 1.4 - 1.6 Hdi, 1.4 - 1.6 Duratorq TDCi, 1.8 - 2.0 EW, 1.9 D, 2.0 JTD, 2.2 Hdi, 1.8 16v, 2.0 16v.

**Codes:**
- DV4TD (8HW/8HX/8HZ), DV4TED4 (8HV/8HY), DV6ATE4 (9HX/9HY/9HZ), F6JA, F6JB, F6JC, G8DA, G8DB

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### Diesel Engines: 1.4 – 1.6 Hdi, TDCi

**Ford**

<table>
<thead>
<tr>
<th>Models</th>
<th>Fiesta Fusion Focus Focus C-Max</th>
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<tbody>
<tr>
<td>Engines</td>
<td>1.4 - 1.6 Duratorq TDCi</td>
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**Citroen**

<table>
<thead>
<tr>
<th>Models</th>
<th>Xsara, C2, C3, C4, C5, C8 Evasion</th>
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</thead>
<tbody>
<tr>
<td>Engines</td>
<td>1.4 - 1.6 Hdi, 1.8 - 2.0 EW</td>
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**Peugeot**

<table>
<thead>
<tr>
<th>Models</th>
<th>206, 307, 408, 406 Coupe, 607, 806, 807, Expert</th>
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<tbody>
<tr>
<td>Engines</td>
<td>1.4 - 1.6 Hdi, 1.8 - 2.0 EW</td>
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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;
Diesel Engines: DW8 – DW10 – DW12 (Hdi)

**Description:**

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

**Disassembling:**
- Rotate the crankshaft clockwise into the adjusting position
- Insert the flywheel timing pin (re. 2)
- Insert the camshaft clamp bolt (re. 11)
- 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**

<table>
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<tr>
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<tbody>
<tr>
<td>Berlingo, Xsara</td>
<td>DW8 (WJZ) 1.9 D</td>
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<tr>
<td>Xsara/Picasso, Xantia, Evasion, C5</td>
<td>DW10 (RHY-RHZ) 2.0 HDi</td>
</tr>
<tr>
<td>C5</td>
<td>DW12 (4HX) 2.2 HDi</td>
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**Fiat**

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<tbody>
<tr>
<td>Ulyss</td>
<td>DW10 (RHZ) 2.0 JTD</td>
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**Peugeot**

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<td>206-306</td>
<td>DW8 (WJZ) 1.9 D</td>
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<tr>
<td>206, 306, 307, 406, 607, 806</td>
<td>DW10 (RHY-RHZ) 2.0 HDi</td>
</tr>
<tr>
<td>406, 407</td>
<td>DW12 (4HX) 2.2 HDi</td>
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- 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 (DW/10ADT), RHZ (DW/10ATED/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 (ref 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 crack-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°
Align the black links "A" of the timing belt with the cogs marked "B" of the camshaft sprocket.

**Warning:**
- 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 bolts (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 + 5°
- Lock the crankshaft pulley bolt with a couple of 260 Nm

**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
- 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.
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±4 Nm +53°;
- 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.
Assembling

- Fix the locking pins correctly (re. A-B-C)
- Assemble the new timing belt on the crankshaft pulley anticlockwise.
- 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.