



KD455.50

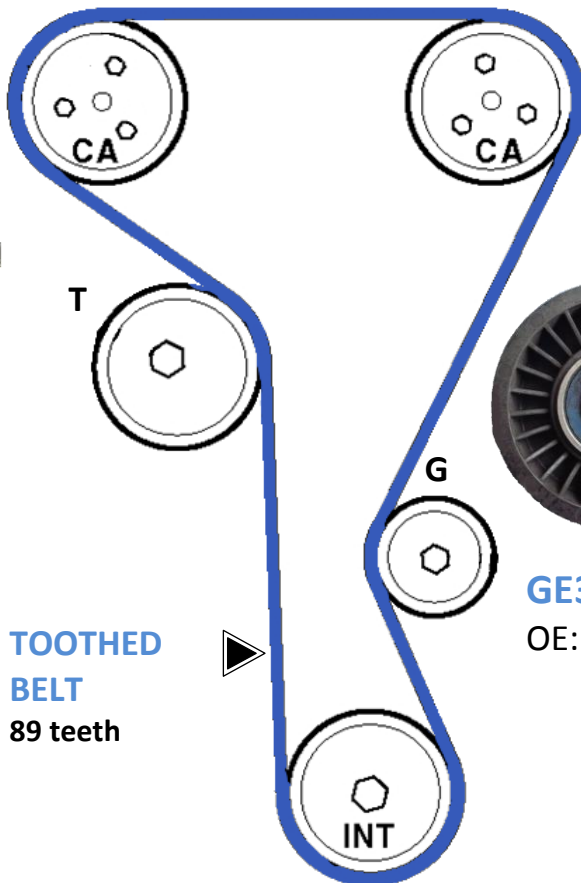
Assembly/disassembly recommendations

	ENGINES	OE reference
NISSAN: Primastar, Primastar FL, Interstar (I, II, II FL)	2.2 dCi 2.2 dti	7701477380 4431762 93161859
OPEL: Movano(A, FL, FL2), Vivaro (A, A FL)		
RENAULT: Avantime, Espace(IV, IV.2), Laguna (II, II.2), Master (II, II.2), Trafic (II, II.2)	2.5 dCi 2.5 dti	
VAUXALL: Movano (A, FL, FL2), Vivaro, Vivaro FL		

TIMING BELT ARRANGEMENT FOR KIT KD455.62



GT355.38 (T)
OE: 8200839580



TOOTHED BELT
89 teeth



GE355.41 (G)
OE: 8200004593, 4506092, 9201540



COMMON PROBLEMS WITH TENSIONER GT355.38

PROBLEMS INVOLVING TENSIONER FAILURE

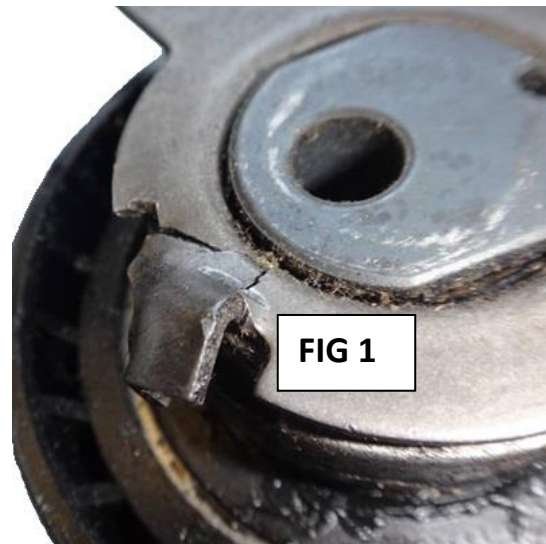
Probable cause

Insufficient timing belt tension.

This failure typically occurs when the timing belt has been fitted with too low tension (identified by wear on the back of the belt, cut teeth, and damage to the lower stop of the tensioner roller (**FIG 1**) the **low tension is normally caused by the tensioner being tensioned in the wrong direction.**

When the automatic tensioner roller operates under insufficient (low) tension, the metal adjustment indicator strikes the stops and eventually breaks as result of these repetitive impacts.

If the belt is too loose, it slips on the rollers and the teeth of the belt are subject to forces which exceed the technical specifications of the belt. This causes the teeth on the belt to tear at the base where they join the belt which allows the belt to slip on cam pulleys, allowing the timing to slip and damage the engine.



Tensioner roller assembly GT355.38 is placed under tension by adjusting it in an anti-clockwise direction.

REPLACEMENT

Special tools

- Crankshaft timing pin - MOT no. 1536.
- Blocking tool for intake camshaft - MOT no. 1534.
- Blocking tool for exhaust camshaft - MOT no. 1537.

Precautions:

- Disconnect the ground cable from the battery.
- DO NOT rotate the crankshaft or the camshafts once the timing belt has been removed.
- Remove the glow plugs to make engine rotation easier.
- Rotate the engine in the normal direction of rotation (unless indicated otherwise).
- DO NOT rotate the engine with the camshafts or other drive pinions.
- Follow all tightening torque specifications.

REMOVAL**1) Raise the vehicle overhead****2) Remove the following:**

- The protective panel under the engine.
- The right front wheel.
- The right front wheel well.

3) Lift the engine**4) Remove the following:**

- The right motor mount.
- The right motor support bracket (**Fig1**).
- The timing cover (**Fig2**).
- The oil filter canister bolt (**Fig3**).

5) Rotate the crankshaft pulley clockwise until the timing mark is almost at the bottom (Fig4).

6) Install the crankshaft timing pin while slowly rotating the crankshaft pulley clockwise (no. 5). Tool MOT no. 1536

7) Move the crankshaft back and forth gently to ensure that the timing pin is correctly in place

- 8) Check that the timing mark on the crankshaft pulley is at the bottom (no.4).
- 9) Check that the camshaft keyways are vertical (Fig6)
- 10) Install the alignment tools on the camshafts (Fig7) and (Fig8). Tools MOT no. 1534 / MOT no. 1537
- 11) If these tools cannot be installed correctly, rotate the crankshaft one full revolution clockwise
- 12) Loosen the bolts of each camshaft gear (Fig9) and (Fig10) by one full turn
- 13) Loosen the tensioner roller bolt (Fig11)
- 14) Remove the following:
 - The bolts of the exhaust camshaft gear (Fig10)
 - The exhaust camshaft gear (Fig12)
 - The timing belt

RE-INSTALLATION

- 1) Move the crankshaft back and forth gently to ensure that the timing pin is correctly in place (Fig5)
- 2) Verify that the alignment tools are installed correctly (Fig7) and (Fig8)
- 3) Install a new tensioner roller and tighten the bolt by hand (Fig11)
- 4) Verify that the bolts of the intake camshaft gear are not at the limits of their slotted mounting holes (Fig14)

5) Install the timing belt in the following sequence:

- The intermediate shaft gear
- The fixed roller → G (GE355.41)
- The intake camshaft gear
- The tensioner roller → T (GT355.38)

6) Install the exhaust camshaft gear (Fig12) on the belt, then install both together on the end of the camshaft. Check to ensure that the gear bolts are not at the limits of their slotted mounting holes (Fig14)

7) Rotate the tensioner roller backwards until the top of the lever arm (no. 15) is aligned with the top edge of the tool (Fig7). Use a 6 mm Allen key

8) Verify that the pointer is in the indicated position (Fig17)

9) Verify that the bolts of the exhaust camshaft gear are not at the limits of their slotted mounting holes (Fig14)

10) Tighten the tensioner roller bolt (Fig11)

Tightening torque: **25 Nm**

11) Tighten the bolts of the camshaft gears (Fig9) and (Fig10).

Use new bolts. Tightening torque: 10 Nm

12) Remove the following:

- The alignment tools (Fig7 and 8)
- The crankshaft timing pin (Fig5)

13) Rotate the crankshaft two full revolutions clockwise

14) Verify that the timing mark of the crankshaft pulley is at the bottom (Fig4)

15) Install the crankshaft timing pin (Fig5)

16) Move the crankshaft back and forth gently to ensure that the timing pin is correctly in place

- 17) Install the alignment tools on the camshafts (Fig7) and (Fig 8)
- 18) Loosen the bolts of the two camshaft gears (Fig9) and (Fig10)
- 19) Loosen the tensioner roller bolt (Fig11)
- 20) Rotate the tensioner roller anticlockwise until the upper part of the lever arm (Fig15) is aligned with the top edge of the tool (Fig7). Use a 6 mm Allen key.
- 21) Rotate the tensioner roller until the pointer is lined up with the notch (Fig18)
- 22) Tighten the tensioner roller bolt (Fig11)
Tightening torque: **25 Nm**.
- 23) Tighten the bolts of the camshaft gears (Fig9) and (Fig10).
Use new bolts. Tightening torque: **10 Nm**
- 24) Remove the following:
 - The alignment tools (Fig7) and (Fig 8)
 - The crankshaft timing pin (Fig 5)
- 25) Install the oil filter canister bolt (Fig3)
Tightening torque: **22 Nm**
- 26) Re-install the remaining parts in the reverse order that they were removed.

