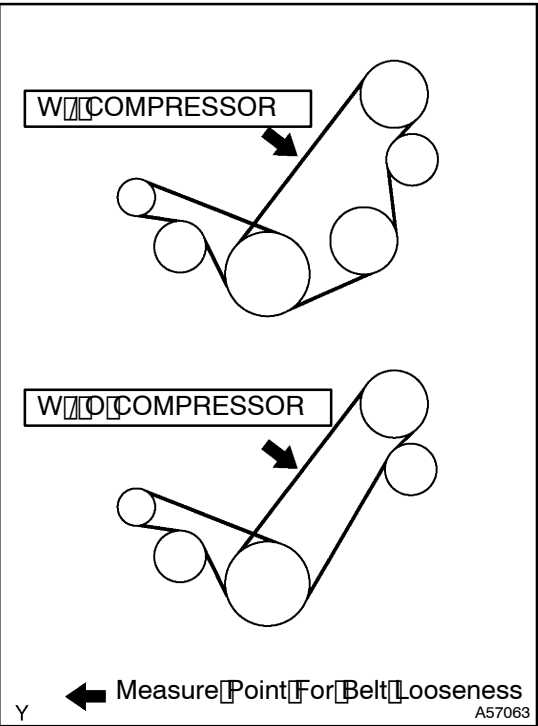


ENGINE ASSEMBLY (1CD-FTV)

140DD-01

INSPECTION

- 1. INSPECT COOLANT (See page 16-13)
- 2. INSPECT ENGINE OIL (See page 17-13)
- 3. INSPECT BATTERY (See page 19-12)
- 4. INSPECT AIR CLEANER FILTER ELEMENT SUB-ASSY



5. INSPECT DRIVE BELT

(a) Inspect vane pump V belt.

(1) Belt deflection

Pressing force: 98 N·m (10 kgf 22 lbf)

	New belt mm (in.)	Used belt mm (in.)
W/Air Conditioner	9.5 – 11.5 (0.37 – 0.45)	12.5 – 15.5 (0.49 – 0.61)
W/O Air Conditioner	10 – 11 (0.39 – 0.43)	15 – 18 (0.59 – 0.71)

(2) Tension

	New belt N (kg, lb)	Used belt N (kg, lb)
W/Air Conditioner	519 – 755 (53 – 77, 117 – 170)	196 – 392 (20 – 40, 44 – 88)
W/O Air Conditioner	647 – 843 (66 – 86, 145 – 190)	323 – 519 (33 – 53, 73 – 117)

NOTICE:

- Check the drive belt deflection at the specified point.
- When installing a new belt, set its tension value as specified.
- When checking a belt used for over 5 minutes, confirm the deflection value is within the specified one.
- When reinstalling a belt used for over 5 minutes, perform the check based on the used deflection value.
- V-ribbed belt tension and deflection value should be checked after 2 revolutions of engine cranking.
- When using a belt tension gauge, confirm the accuracy first by using a master gauge.

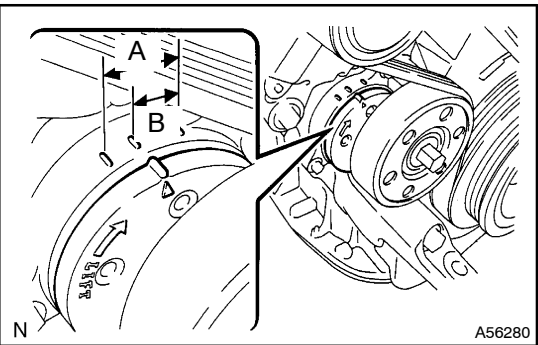
(b) Inspect fan and generator V belt.

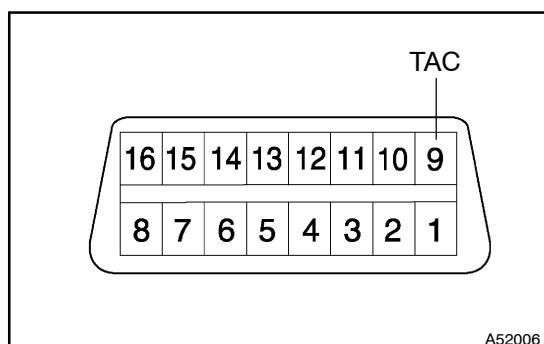
(1) Check that the tension is within A range on the auto tensioner scale.

If the tension is not within the A range on the scale, replace the belt with a new one.

HINT:

When replacing the drive belt with a new one, the belt's tension should be within the B range on the belt tensioner scale.





6. INSPECT ENGINE IDLE SPEED

- (a) Using SST, connect tachometer test probe to terminal 9 (TAC) of DLC3

SST 09843-18040

- (b) Check the idle speed.

Idle speed: 600 – 700 r/min

NOTICE:

- **Check idle speed with cooling fan OFF.**
- **Switch off all accessories and air conditioning.**

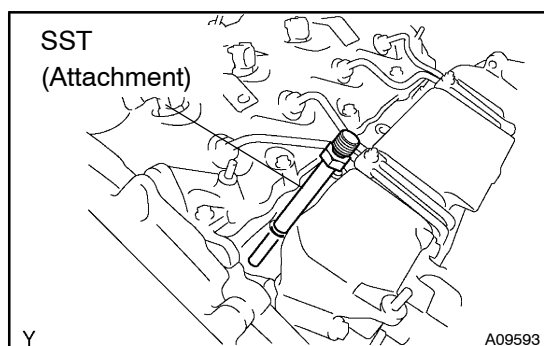
7. INSPECT MAXIMUM SPEED

- (a) Start the engine.
 (b) Depress the accelerator pedal all the way.
 (c) Check the maximum speed.

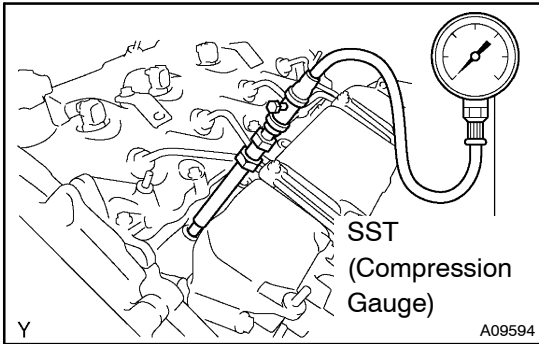
Maximum speed: 5,100 – 5,250 rpm

8. INSPECT COMPRESSION

- (a) Warm up and stop engine.
 (1) Allow the engine to warm up to normal operating temperature.
 (b) Remove the glow plugs. (See page 19-18)
 (c) Disconnect the injector connectors.



- (d) Inspect cylinder compression pressure.
 (1) Install SST (attachment) to the glow plug hole.
 SST 09992-00025 (09992-00121)
Torque: 12 N·m (125 kgf·cm, 95 ft·lbf)



- (2) Connect SST (compression gauge) to the SST (attachment).

SST 09992-00025 (09992-00211)

- (3) Fully open the throttle valve, and start the engine.
- (4) While cranking the engine, measure the compression pressure.

NOTICE:

- **Always use a fully charged battery to obtain engine speed of 250 rpm or more.**
- **Check other cylinder's compression pressure in the same way.**
- **This measurement must be done in as short a time as possible.**

Compression pressure:

2,746 kPa (28.0 kgf/cm², 398 psi) or more

Minimum pressure:

2,256 kPa (23.0 kgf/cm², 327 psi) or more

Difference between each cylinder:

490 kPa (5.0 kgf/cm², 71 psi) or less

- (5) If the cylinder compression is low, pour a small amount of engine oil into the cylinder through the glow plug hole and inspect again.

HINT:

- If adding oil helps the compression, chances are that the piston rings and/or cylinder bore are worn or damaged.
- If pressure stays low, a valve may be sticking or seating improperly, or there may be leakage past the gasket.