



Timing a VE Style Fuel Pump

The following instructions are compiled from the YouTube Video below instructing on how to time a VE style fuel pump.



[Contact Denco Diesel and Turbo](#)

Copyright © 2012 Denco Diesel and Turbo. All rights reserved worldwide.

Topics Covered

- 1.** Introduction of Denco Diesel Staff Member
- 2.** Safety Checks and Degree of Difficulty
- 3.** Introduction of VE Style Pump and Vehicle
- 4.** Pump Variations - Explanation of TDC, ATDC, BTDC, ACSD
- 5.** Tools Required
- 6.** Specific Timing Specifications for common vehicles
- 7.** Installing the Dial Gauge and Timing Bracket

DISCLAIMER:

If you are to adjust the timing on a vehicle's pump you are doing so at your own risk. Denco Diesel and Turbo take no responsibility for your actions and suggest that you take all necessary safety precautions to ensure the safety of yourself , those around you and the vehicle.

[Contact Denco Diesel and Turbo](#)

Copyright © 2012 Denco Diesel and Turbo. All rights reserved worldwide.

1. Denco Staff Member: Scott Wood

Introducing Scott Wood, National Service Manager and Director at Denco Diesel and Turbo

Scott has over 25 years experience in diesel fuel injection and is a factory trained technician as well as one of the directors of Denco Diesel and Turbo.



[Contact Denco Diesel and Turbo](#)

Copyright © 2012 Denco Diesel and Turbo. All rights reserved worldwide.

2. Vehicle Safety Checks

General Safety checks should be carried out prior to attempting to time a vehicle.

Safety checks such as:

- Ensuring the vehicle has been turned off
- The vehicle has been secured with chocks
- Keys are removed from the ignition and that the vehicle is in neutral with the handbrake on.



[Contact Denco Diesel and Turbo](#)

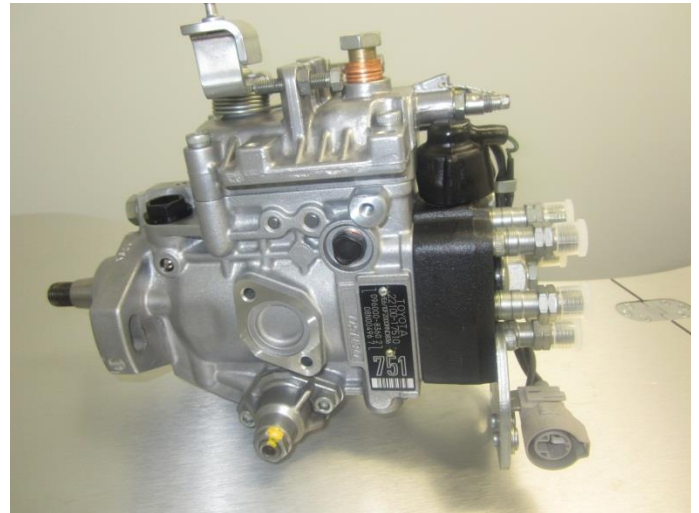
Copyright © 2012 Denco Diesel and Turbo. All rights reserved worldwide.

3. Introduction of VE Style Fuel Pumps

VE Style Fuel pumps are commonly fitted to the following vehicles (pre common rail):

- Ford Courier
- Mitsubishi Triton
- Toyota Hilux
- Toyota Landcruiser
- Nissan Patrol
- Early Nissan Navara
- Mazda Bravo

Pictured Below: Fuel Pump to suit Toyota HZ Landcruiser



[Contact Denco Diesel and Turbo](#)

Copyright © 2012 Denco Diesel and Turbo. All rights reserved worldwide.

4. Pump variations

Within your manufacturers manual you will find specific timing specifications for your vehicle. We also list common timing specifications below.

Depending on the variation of your pump, your specifications will be given for TDC, ATDC and BTDC.

TDC = Top Dead Centre

ATDC = After Top Dead Centre

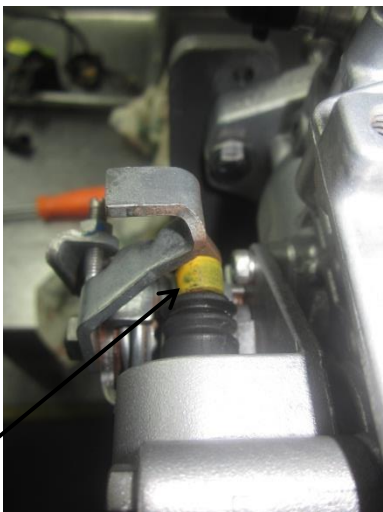
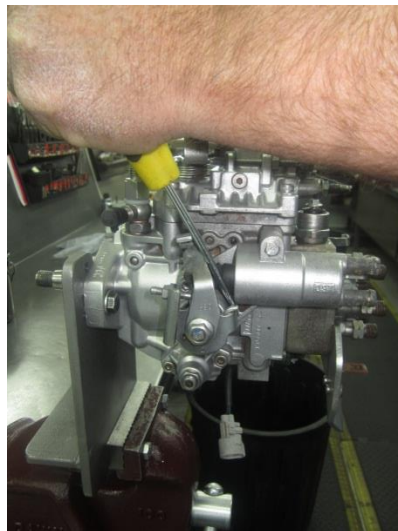
BTDC = Before top dead centre

ACSD = Automatic Cold Start Device – Requires 8mm Spacer for timing

To release ACSD advance:

Using a screwdriver, turn the cold starting lever counterclockwise approx. 20°

Put a metal plate (thickness of approx. 8mm) between the cold starting lever and thermo wax plunger.



8mm spacer
added



[Contact Denco Diesel and Turbo](#)

Copyright © 2012 Denco Diesel and Turbo. All rights reserved worldwide.

Specialised Tools Required

Timing Tool Bracket



NOTE: Use this tool along with a dial gauge (available at any auto shop) to assist you in timing your VE Style fuel pump, Dial gauge must have minimum 5mm travel.

95095-10400 Timing Tool Bracket Available for purchase here

[Contact Denco Diesel and Turbo](#)

Copyright © 2012 Denco Diesel and Turbo. All rights reserved worldwide.

6. Specific Timing Specifications

Common Toyota *PUMP TIMING SPECIFICATIONS*

Toyota Hilux L	2.2ltr	0.94-1.06mm @ TDC
Toyota Hilux 2L	2.4ltr	1.06-1.22mm @ TDC
Toyota Hilux 3L	2.8ltr	0.86-0.94mm @ TDC
Toyota Hilux 5L	3.0ltr	0.64-0.76mm @ TDC
Toyota Dyna	B	0.54-0.66 with ACSD with 8mm spacer 0.94-0.96 no ACSD @ TDC
Toyota Dyna	3B	1.23-1.29mm @ TDC
Toyota Dyna	14B	1.31-1.37mm @ TDC
Toyota Dyna	15BS	0.67-0.73mm @ TDC
Toyota Dyna	15BFT	0.87-0.93mm @ TDC
Toyota HZ Landcruiser	75/80 Series	1.03-1.09mm @ TDC
Toyota HZ Landcruiser	100 Series	0.85-0.91mm @ TDC
Toyota HZ Landcruiser	100 Series ACSD	0.65-0.71mm ACSD, 8mm spacer @ TDC
Toyota 1PZ	5cyl	0.82-0.88mm @ TDC
Toyota 1HDT	Factory Turbo	1.29-1.35mm ACSD with 8mm spacer @ TDC
Toyota 1HDFT	4 Valve Factory Turbo	1.37-1.43mm @ TDC

[Contact Denco Diesel and Turbo](#)

Copyright © 2012 Denco Diesel and Turbo. All rights reserved worldwide.

Common Nissan ***PUMP TIMING SPECIFICATIONS***

Nissan Navara	SD22	0.94 @ TDC
Nissan Navara	SD25	0.89 @ TDC
Nissan Navara	SD33	
Nissan Navara	QD32	0.47 @ TDC
Nissan Navara	TD27 D21 Model	0.49 @ TDC
Nissan Navara	TD27 Other models	0.65 @ TDC
Nissan Navara	TD27T Turbo	0.59 @ TDC

[Nissan Patrol](#) TD42 Early 0.74 @ TDC

[Nissan Patrol](#) TD42 Late 0.70 @ TDC

[Nissan Patrol](#) TD42T Turbo 0.46 @ TDC

[Nissan Patrol](#) TD42TI Turbo Intercooled GU 0.58 @ TDC

[Nissan Patrol](#) RD28 Turbo GQ 0.86 @ TDC

[Nissan Patrol](#) RD28TI Turbo Intercooled GU 0.91 @ TDC

1.35 @ TDC with dimple advance plate



Pictured above: Pump with dimple advance plate

[Contact Denco Diesel and Turbo](#)

Copyright © 2012 Denco Diesel and Turbo. All rights reserved worldwide.

Common Ford ***PUMP TIMING SPECIFICATIONS***

Ford Courier	WLT	1mm Second mark
Ford F250	6 Cyl	1.50mm @ TDC

Common Mazda ***PUMP TIMING SPECIFICATIONS***

Mazda	WLT	1mm Second mark
Mazda	RF	1mm @ TDC
Mazda	SL	1mm @ 8° BTDC

Common Mitsubishi ***PUMP TIMING SPECIFICATIONS***

Mitsubishi Triton	4D56	7° ATDC 1mm
Mitsubishi Triton	4D56T	9° ATDC 1mm
Mitsubishi Triton	4D55T	7° ATDC 1mm
Mitsubishi Triton	Turbo	9° ATDC 1mm
Mitsubishi Triton	4M40	5° ATDC 1mm
Mitsubishi Pajero	Turbo without EGR	7° ATDC 1mm
Mitsubishi Pajero	Turbo with EGR	9° ATDC 1mm

Please Note: The above timing specifications for common vehicles are given as a guide only. You should always check with your manufacturer to ensure you have the correct specification.

[Contact Denco Diesel and Turbo](#)

Copyright © 2012 Denco Diesel and Turbo. All rights reserved worldwide.