

FOUR WHEEL DRIVE CONTROL SYSTEM > GENERAL

OUTLINE

- a. A compact and lightweight full-time 2-speed VF4BM transfer is used.
- b. The 4WD control ECU actuates and controls the 2 shift motors in the transfer shift actuator assembly. This causes the VF4BM transfer to switch the transfer gear ratio between high and low and the center differential between free and lock.
- c. The transfer position switch is used to switch the transfer gear ratio between high and low, and the center differential lock switch is used to switch the center differential between free and lock. The optimal drive mode is selected from 4 drive modes (H4F, H4L, L4F and L4L) in accordance with road surface conditions by operating these switches, thus enabling a drive that makes optimal use of drive torque performance.
- d. A low viscosity oil is used, thus improving fuel consumption.

SPECIFICATION

Transfer Type	VF4BM	
Drive Type	Full-time	
Transfer Gear Ratio	High	1.000
	Low	2.566
Reduction Gear Type	Single Pinion Planetary	
Center Differential Gear Type	TORSSEN*1 Limited Slip Differential (LSD)	
Oil Capacity	1.4 Liters (1.5 US qts, 1.2 Imp. qts)	
Oil Viscosity	SAE 75W	
Oil Type	Toyota Genuine Transfer Gear Oil LF or Equivalent	
Weight (Reference)*2	41.2 kg (90.8 lb)	

HINT:

- *1: TORSSEN is a registered trademark of JTEKT Corporation.
- *2: Weight shows the figure with the fluid fully filled.

MAIN FEATURES

a. Drive Mode Features

Drive Mode	Features
H4F (High Speed 4WD and Center Differential Free)	Achieves a high level of stability in any speed range and road condition. Using its own movement, the center differential distributes drive torque optimally to the front and rear wheels, and absorbs the rotation difference between them during steering.
H4L (High Speed 4WD and Center Differential Lock)	Ensures a high level of driveability in snowy and icy areas, on sand and on rough roads. By switching the center differential to lock, the front and rear torque

	distribution is stopped and drive torque is accurately transmitted.
L4F (Low Speed 4WD and Center Differential Free)	Ensures a large amount of drive torque and engine braking force by switching the transfer gear ratio to low. Using its own movement, the center differential distributes drive torque optimally to the front and rear wheels, and absorbs the rotation difference between them during steering.
L4L (Low Speed 4WD and Center Differential Lock)	Used when a large amount of drive torque is especially needed such as when freeing the vehicle from mud. By switching the center differential to lock, the front and rear torque distribution is stopped and drive torque is accurately transmitted.