

SECTION **MA**

MODIFICATION NOTICE:

- TD25Ti engine has been added for Europe. For specifications other than those described here, refer to the TD25 engine.

CONTENTS

PERIODIC MAINTENANCE (For Europe)	1002	SAE Viscosity Number.....	1006
Basic Schedule for Diesel Engine Models			
(For TD25Ti engine only).....	1002	<input type="checkbox"/> TD25Ti <input type="checkbox"/>	
Maintenance Under Severe Driving Conditions			
(For TD25Ti engine only).....	1004		
RECOMMENDED FLUIDS AND		ENGINE MAINTENANCE	1007
LUBRICANTS	1005	Changing Engine Oil.....	1007
Fluids and Lubricants.....	1005	Cleaning and Replacing Air Cleaner Filter.....	1008

PERIODIC MAINTENANCE (For Europe)

Basic Schedule for Diesel Engine Models (For TD25Ti engine only)

Engine maintenance for vehicles which drive less than 30,000 km/year (18,000 miles/year)

Abbreviations: R= Replace, I = Inspect and correct or replace as necessary.

MAINTENANCE OPERATION	MAINTENANCE INTERVAL											Reference page
	km x 1,000	10	20	30	40	50	60	70	80	90		
	(Miles x 1,000)	(6)	(12)	(18)	(24)	(30)	(36)	(42)	(48)	(54)		
Perform at kilometer (mile) interval or month interval, whichever comes first.	Months	6	12	18	24	30	36	42	48	54		
Engine oil (Use recommended oil)*		R	R	R	R	R	R	R	R	R	MA-1007	
Engine oil filter*		R	R	R	R	R	R	R	R	R	MA-25	
Drive belts		I	I	I	I	I	I	I	I	I	MA-24	
Engine anti-freeze coolant (Ethylene glycol base)	See NOTE (1)								R		MA-26	
Cooling system			I		I		I		I		MA-27	
Air cleaner filter (Viscous paper type)*					R				R		MA-1008	
Intake & exhaust valve clearance			I		I		I		I		MA-24	
Fuel lines					I				I		MA-29	
Fuel filter*					R				R		MA-28	
Injection nozzles	See NOTE (2)										MA-31	

NOTE: (1) Replace at the first 80,000 km (48,000 miles) or 48 months, then every 60,000 km (36,000 miles) or 36 months.
 (2) If engine power decreases, black exhaust is emitted or engine noise increases, inspect and if necessary, adjust the fuel injection nozzles starting pressure and the spray pattern.

* Maintenance item with “*” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.

Chassis and body maintenance for vehicles which drive less than 30,000 km/year (18,000 miles/year)

Abbreviations: R= Replace, I = Inspect and correct or replace as necessary, L = Lubricate, T = Tighten. [] = At the specified distance only.

MAINTENANCE OPERATION	MAINTENANCE INTERVAL						Reference page
	km x 1,000	20	40	60	80		
	(Miles x 1,000)	(12)	(24)	(36)	(48)		
Perform at kilometer (mile) interval or month interval, whichever comes first.	Months	12	24	36	48		
Headlamp aiming		I	I	I	I	NOTE (3)	
Wheel alignment (if necessary, rotate & balance wheels)		I	I	I	I	MA-37, NOTE (4)	
Brake pads, discs & other brake components*		I	I	I	I	MA-38	
Brake linings, drums & other brake components*		I	I	I	I	MA-38	
Foot brake, parking brake & clutch (For free play, stroke & operation)		I	I	I	I	NOTE (5)	
Brake booster vacuum hoses, connections & check valve			I		I	MA-38	
Brake & clutch systems		I	I	I	I	MA-34, 37	
Brake & clutch fluid (For level & leaks)		I	I	I	I	MA-34, 37	
Brake fluid*			R		R	MA-37	
Power steering fluid & lines (For level & leaks)		I	I	I	I	MA-39	
Manual steering gear oil (For level & leaks)		I	I	I	I	MA-40	
Air bag system	See NOTE (1)					NOTE (6)	
Manual transmission oil (Inspect for leaks or replace)		I	I	I	[R]	MA-34	
Transfer fluid and standard differential gear oil (for leaks)*		I	I	R	I	MA-35, 36	
Limited-slip differential (LSD) gear oil (For level and leaks)*		I	I	R	I	MA-36	
Steering gear, linkage, axle, suspension parts & propeller shaft*		I	I	I	I	MA-39, 35	
Greasing point of steering linkage, propeller shaft & suspension*	See NOTE (2)	L	L	L	L	MA-35	
Exhaust system*		I	I	I	I	MA-34	
Drive shaft*		I	I	I	I	NOTE (7)	
Front wheel bearing grease (2WD models)			I		I	NOTE (8)	
Front wheel bearing grease (4WD models)*		I	R	I	R	NOTE (8)	
Free-running hub grease (4WD models)*		I	I	I	I	NOTE (9)	
Body mountings		T	T	T	T	NOTE (10)	
Body corrosion			Annually			MA-43	

NOTE: (1) Inspect at the first 10 years, and then every 2 years.
 (2) The propeller shaft should be re-greased daily if it is immersed in water.
 (3) “Aiming Adjustment” in EL section
 (4) “Front Wheel Alignment” in FA section
 (5) “Brake Pedal and Bracket” in BR section, “Adjusting Clutch Pedal” in CL section
 (6) “Maintenance Items” in RS section
 (7) “FRONT AXLE — Drive Shaft” in FA section
 (8) “Front Wheel Bearing” in FA section
 (9) “Manual-lock Free-running Hub — 4WD” and “Auto-lock Free-running Hub — 4WD” in FA section
 (10) “CAB AND REAR BODY” in BT section

* Maintenance item with “*” should be performed more frequently according to “Maintenance Under Severe Driving Conditions”.

PERIODIC MAINTENANCE (For Europe)

Basic Schedule for Diesel Engine Models (For TD25Ti engine only) (Cont'd)

Engine maintenance for vehicles which drive more than 30,000 km/year (18,000 miles/year) TD25Ti engine

Abbreviations: R= Replace, I = Inspect and correct or replace as necessary.

MAINTENANCE OPERATION	Perform at kilometer (mile) interval.	MAINTENANCE INTERVAL												Reference page
		km x 1,000 (Miles x 1,000)	10 (6)	20 (12)	30 (18)	40 (24)	50 (30)	60 (36)	70 (42)	80 (48)	90 (54)	100 (60)	110 (66)	
Engine oil (Use recommended oil)*			R	R	R	R	R	R	R	R	R	R	R	MA-1007
Engine oil filter*			R	R	R	R	R	R	R	R	R	R	R	MA-25
Drive belts			I	I	I	I	I	I	I	I	I	I	I	MA-24
Engine anti-freeze coolant (Ethylene glycol base)	See NOTE (1)										R			MA-26
Cooling system					I			I			I		I	MA-27
Air cleaner filter (Viscous paper type)*								R					R	MA-1008
Intake & exhaust valve clearance					I			I			I		I	MA-24
Fuel lines								I					I	MA-29
Fuel filter*								R					R	MA-28
Injection nozzles	See NOTE (2)												R	MA-31

NOTE: (1) Replace at the first 90,000 km (54,000 miles), then every 60,000 km (36,000 miles).

(2) If engine power decreases, black exhaust is emitted or engine noise increases, inspect and if necessary, adjust the fuel injection nozzles starting pressure and the spray pattern.

* Maintenance item with "*" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".

Chassis and body maintenance for vehicles which drive more than 30,000 km/year (18,000 miles/year)

Abbreviations: R= Replace, I = Inspect and correct or replace as necessary, L = Lubricate, T = Tighten.

MAINTENANCE OPERATION	Perform at kilometer (mile) interval.	MAINTENANCE INTERVAL				Reference page	
		km x 1,000 (Miles x 1,000)	30 (18)	60 (36)	90 (54)		120 (72)
Headlamp aiming			I	I	I	I	NOTE (3)
Wheel alignment (if necessary, rotate & balance wheels)			I	I	I	I	MA-37, NOTE (4)
Brake pads, discs & other brake components*			I	I	I	I	MA-38
Brake linings, drums & other brake components*			I	I	I	I	MA-38
Foot brake, parking brake & clutch (For free play, stroke & operation)			I	I	I	I	NOTE (5)
Brake booster vacuum hoses, connections & check valve				I		I	MA-38
Brake & clutch systems			I	I	I	I	MA-34, 37
Brake & clutch fluid (For level & leaks)			I	I	I	I	MA-34, 37
Brake fluid*				R		R	MA-37
Power steering fluid & lines (For level & leaks)			I	I	I	I	MA-39
Manual steering gear oil (For level & leaks)			I	I	I	I	MA-40
Air bag system	See NOTE (1)						NOTE (6)
Manual transmission oil (Inspect for leaks or replace)			I	I	R	I	MA-34
Transfer fluid and standard differential gear oil (for leaks)*			I	R	I	R	MA-35, 36
Limited-slip differential (LSD) gear oil (For level and leaks)*			I	R	I	R	MA-36
Steering gear, linkage, axle, suspension parts & propeller shaft*			I	I	I	I	MA-39, 35
Greasing point of steering linkage, propeller shaft & suspension*	See NOTE (2)		L	L	L	L	MA-35
Exhaust system*			I	I	I	I	MA-34
Drive shaft*			I	I	I	I	NOTE (7)
Front wheel bearing grease (2WD models)				I		I	NOTE (8)
Front wheel bearing grease (4WD models)*			I	R	I	R	NOTE (8)
Free-running hub grease (4WD models)*			I	I	I	I	NOTE (9)
Body mountings			T	T	T	T	NOTE (10)
Body corrosion					Annually		MA-43

NOTE: (1) Inspect at the first 10 years, and then every 2 years.

(2) The propeller shaft should be re-greased daily if it is immersed in water.

(3) "Aiming Adjustment" in EL section

(4) "Front Wheel Alignment" in FA section

(5) "Brake Pedal and Bracket" in BR section, "Adjusting Clutch Pedal" in CL section

(6) "Maintenance Items" in RS section

(7) "FRONT AXLE — Drive Shaft" in FA section

(8) "Front Wheel Bearing" in FA section

(9) "Manual-lock Free-running Hub — 4WD" and "Auto-lock Free-running Hub — 4WD" in FA section

(10) "CAB AND REAR BODY" in BT section

* Maintenance item with "*" should be performed more frequently according to "Maintenance Under Severe Driving Conditions".

PERIODIC MAINTENANCE (For Europe)

Maintenance Under Severe Driving Conditions (For TD25Ti engine only)

The maintenance intervals shown on the preceding pages are for normal operating conditions. If the vehicle is mainly operated under severe driving conditions as shown below, more frequent maintenance must be performed on the following items as shown in the table.

Severe driving conditions

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>A — Driving under dusty conditions
 B — Driving repeatedly short distances
 C — Towing a trailer or caravan
 D — Extensive idling
 E — Driving in extremely adverse weather conditions or in areas where ambient temperatures are either extremely low or extremely high
 F — Driving in high humidity areas or in mountainous areas</p> | <p>G — Driving in areas using salt or other corrosive materials
 H — Driving on rough and/or muddy roads or in the desert
 I — Driving with frequent use of braking or in mountainous areas
 J — Frequent driving in water</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Maintenance operation: Inspect = Inspect and correct or replace as necessary.

Driving condition	Maintenance item	Maintenance operation	Maintenance interval		Reference page
			Annual driving distance		
			Less than 30,000 km (18,000 miles)	More than 30,000 km (18,000 miles)	
A B C D	Engine oil	Replace	Every 5,000 km (3,000 miles) or 3 months	Every 5,000 km (3,000 miles)	MA-1007
	Engine oil filter				MA-25
A	Air cleaner filter (Viscous paper type)	Replace	Every 20,000 km (12,000 miles) or 12 months	Every 30,000 km (18,000 miles)	MA-1008
A E	Fuel filter	Replace	Every 20,000 km (12,000 miles) or 12 months	Every 30,000 km (18,000 miles)	MA-28
A C G H I	Brake pads, discs & other brake components	Inspect	Every 10,000 km (6,000 miles) or 6 months	Every 15,000 km (9,000 miles)	MA-38
	Brake linings, drums & other brake components				MA-38
. F	Brake fluid	Replace	Every 20,000 km (12,000 miles) or 12 months	Every 30,000 km (18,000 miles)	MA-37
. . . . C H	Transfer fluid and standard differential gear oil	Replace	Every 30,000 km (18,000 miles) or 18 months	Every 30,000 km (18,000 miles)	MA-35, 36
	Limited-slip differential (LSD) gear oil*1	Replace			MA-36
	Drive shaft	Inspect	Every 10,000 km (6,000 miles) or 6 months	Every 15,000 km (9,000 miles)	*2
. G H	Steering gear, linkage, axle, suspension parts, and propeller shafts	Inspect			MA-39, 35
	Exhaust system	Inspect			MA-34
. G H J	Greasing points of steering linkage, propeller shafts, & suspension	Lubricate			MA-35
. J	Front wheel bearing grease	Inspect			*3
	Free running hub grease	Inspect			

*1: Including differential gear with differential lock

*2: "FRONT AXLE — Drive Shaft" in FA section

*3: "Front Wheel Bearing", "Manual-lock Free-running Hub — 4WD" and "Auto-lock Free-running Hub — 4WD" in FA section

Maintenance for off-road driving (for 4WD models only)

Whenever you drive off-road through sand, mud or water as deep as the wheel hub, more frequent maintenance may be required of the following items:

- ▲ Brake pads and discs
- ▲ Brake lining and drums
- ▲ Brake lines and hoses
- ▲ Wheel bearing grease and free-running hub grease
- ▲ Free running hub grease
- ▲ Differential, transmission oil and transfer fluid
- ▲ Steering linkage
- ▲ Propeller shafts and front drive shafts
- ▲ Air cleaner filter
- ▲ Clutch housing (Check water entry. Refer to MA-35.)

RECOMMENDED FLUIDS AND LUBRICANTS

Fluids and Lubricants

	Capacity (Approximate)		Recommended Fluids/Lubricants
	Liter	Imp measure	
Engine oil (Refill)			
With oil filter			
	NA20S	3.8	3-3/8 qt
	Z24S	2WD 3.8 4WD 4.3	3-3/8 qt 3-3/4 qt
	KA24E	2WD 3.9 4WD 4.1	3-3/8 qt 3-5/8 qt
	TD25 & TD27	6.0	5-1/4 qt
	QD32 & TD25Ti	6.7	5-7/8 qt
Without oil filter			
	NA20S	3.4	3 qt
	Z24S	2WD 3.3 4WD 3.8	2-7/8 qt 3-3/8 qt
	KA24E	2WD 3.5 4WD 3.7	3-1/8 qt 3-1/4 qt
	TD25 & TD27	5.3	4-5/8 qt
	QD32 & TD25Ti	6.0	5-1/4 qt
Cooling system (With reservoir)			
	NA20S	6.8	6 qt
	Z24S	With A/C 8.9 Without A/C 8.7	7-7/8 qt 7-5/8 qt
	KA24E	6.7	5-7/8 qt
	TD25 & TD27	9.5	8-3/8 qt
	TD25Ti	10.6	9-3/8 qt
	QD32	9.4, 10.2*4	8-1/4 qt, 9 qt*4
Manual transmission gear oil			
	FS5R30A	4WD 5.1	9 pt
	FS5W71C	2WD 2.0 4WD 4.9	3-1/2 pt 8-5/8 pt
Transfer fluid			
	TX10A	2.2	2 qt
Differential gear oil			
Front:	R180A	1.3	2-1/4 pt
Rear:	C200	1.3	2-1/4 pt
	H233B	2.8	4-7/8 pt
Power steering fluid			
		—	—
Brake and clutch fluid			
		—	—
Propeller shaft grease			
		—	—
Multi-purpose grease			
		—	—

*1: For further details, see "SAE Viscosity Number".

*2: Contact a NISSAN dealership for more information regarding suitable fluid, including recommended brand(s) of DEXRONTMIII/MERCONTM Automatic Transmission Fluid.

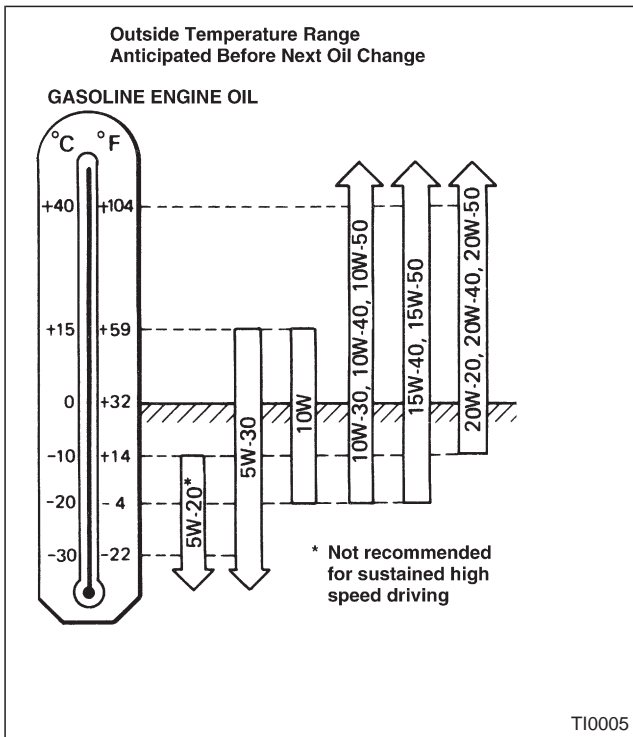
*3: API GL-5, SAE 140 and 10% volume of LSD Friction Modifier (Part No.: 38469-C6000) is an equivalent.

*4: For Australia or models with air conditioner.

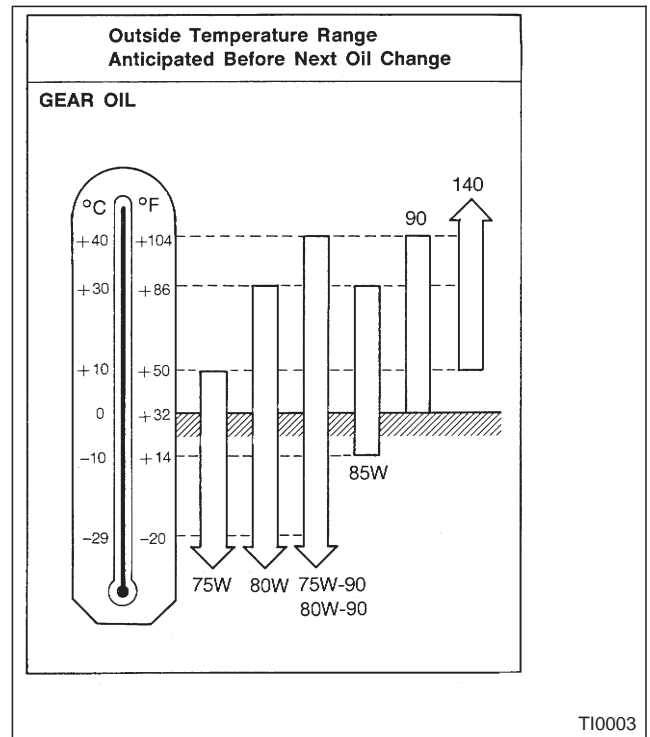
*5: Never mix DOT 3 and DOT 4. (DOT 3 is filled at factory.)

RECOMMENDED FLUIDS AND LUBRICANTS

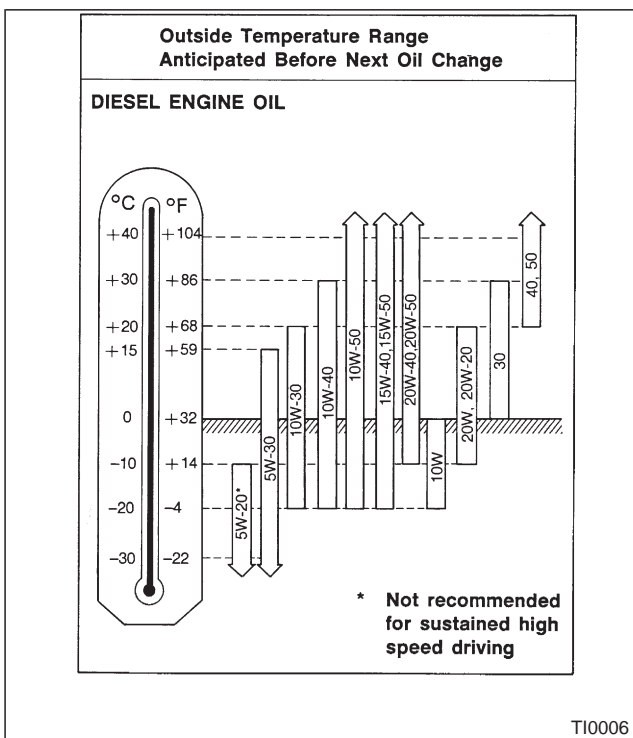
SAE Viscosity Number

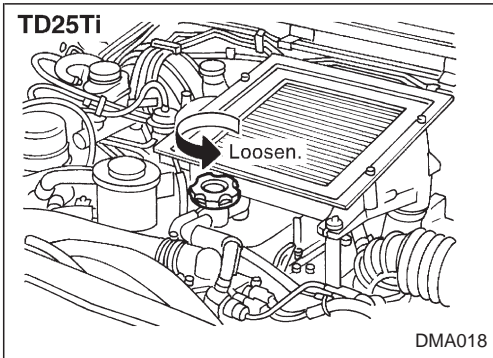


- For warm and cold areas: 10W-30 is preferable for ambient temperatures above -20°C (-4°F).
- For hot areas: 20W-20, 20W-40 and 20W-50 are suitable.



- For warm and cold areas: 75W-90 for transfer and 80W-90 for differential are preferable.
- For hot areas: 90 is suitable for ambient temperatures below 40°C (104°F).
- For all areas: 75W-90 for transmission is preferable.
- For cold areas: 10W-30 is preferable. On turbocharger models, 5W-20 is not recommended, and 5W-30 should be used only below 0°C (32°F).
- For hot and warm areas: 20W-40 and 20W-50 are suitable.





Changing Engine Oil

WARNING:

- Be careful not to burn yourself, as engine oil is hot.
- Prolonged and repeated contact with used engine oil may cause skin cancer; try to avoid direct skin contact with used oil. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.

1. Warm up engine, and check for oil leakage from engine components.
2. Remove drain plug and oil filler cap, and allow oil to drain.
3. Drain oil and refill with new engine oil.

Oil grade: ACEA B3

Viscosity:

See "RECOMMENDED FLUIDS AND LUBRICANTS" in MA section of original Service Manual.

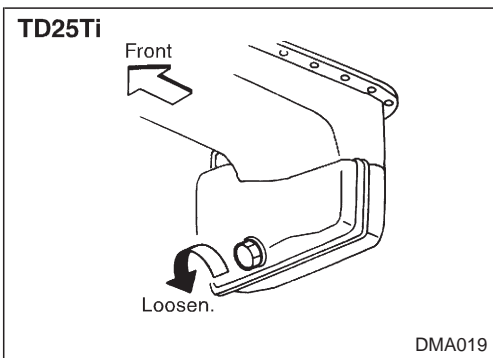
Refill oil capacity (approximate):

Without oil filter change

TD25Ti 6.0 l (5-1/4 Imp qt)

With oil filter change


TD25Ti 6.7 l (5-7/8 Imp qt)



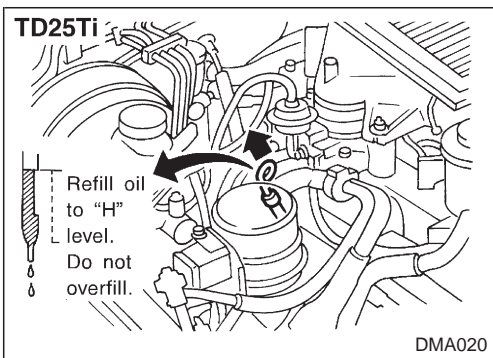
CAUTION:

- Be sure to clean drain plug and install with new washer.

Drain plug:

: 54 - 59 N·m (5.5 - 6.0 kg-m, 40 - 43 ft-lb)

- The refill capacity depends on the oil temperature and drain time. Use these values as a reference and be certain to check with the dipstick when changing the oil.



4. Check oil level.
5. Start engine. Check area around drain plug and oil filter for oil leakage.
6. Run engine for a few minutes, then turn it off. After 10 minutes check oil level.

Coolant capacity (With reservoir tank):

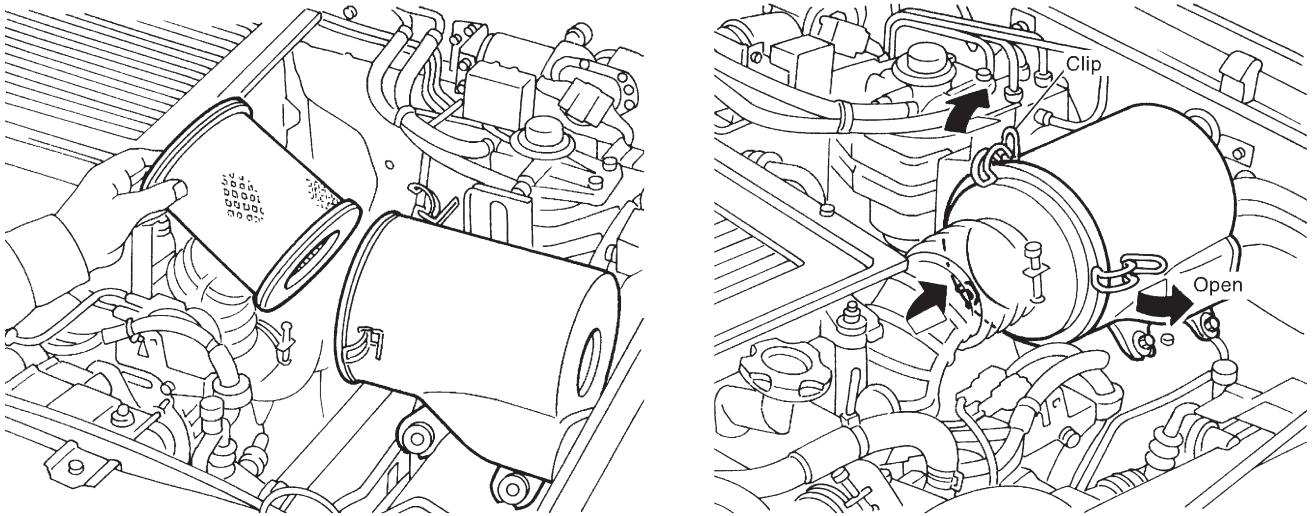
TD25Ti 10.6 l (9-3/8 Imp qt)

Reservoir tank capacity (for MAX level):

0.6 l (1/2 Imp qt)

Cleaning and Replacing Air Cleaner Filter

TD25Ti



DMA021

VISCOUS PAPER TYPE

The viscous paper type air cleaner filter does not require any cleaning operation between renewal.