# MAINTENANCE

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# MAINTENANCE SCHEDULE

# SCHEDULE A

Maintenance operation: A = Check and adjust if necessary;

A = Check and adjust if necessary;
 R = Replace, change or lubricate;
 I = Inspect and correct or replace if necessary

**CONDITIONS:** 

- Towing a trailer, using a camper or car top carrier.
- Repeated short trips less than 5 miles (8 km) and outside temperature remains below freezing.
- Extensive idling and/or low speed driving for long distances such as police, taxi or door-to-door delivery use.
- Operating on dusty, rough, muddy or salt spread roads.

Quatara	Service interval (Odom- eter reading or months, which we can be ach maintenance schedule.									sarne intervals shown	See Page									
System			3.75	7.5	11.25	15	11.25	22.5	26.25	30	33.75	37.5	41.25	45	48.75	52.5	56.25	60	Months	(item No.)
	Maintenance items	k m x 1,000	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96		
ENGINE	Timing belt (1)	3VZ–E engine																R		MA-6 (item 1)
	Valve clearance*	22R–E engine								Α								А	A: Every 36 months	MA-11 (item 14)
	Valve clearance	3VZ-E engine																Α	A: Every 72 months	MA-10 (item 12)
	Drive belts	I: First period. 30,000 miles (48,000 km) or 36 months, second period, 60,000 miles (96,000 km) or 72 months I: After that, every 7,500 miles (12,000 kmmiles (12,000 km													MA-6 (item 2)					
	Engine oil and oil filte	r*	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R: Every 6 months	MA–7 (item 6)
	Engine coolant						R: First period 45,000 miles (72,000 km) or 36 months R: After that every 30,000 miles (48,000 km) or 24 months													MA-8 (item 7)
	Exhaust pipes and m	ounting				I				1				1				I	I: Every 24 months	MA-10 (item 11)
FUEL	JEL Idle speed					A: First period. 7,500 miles (12,000 km) or 12 months, second period, 15,000 miles (24,000 km) or 24 months A: After that, every 15,000 miles (24,000 km) or 24 months													, 15,000 miles	MA–11 (item 15)
	Air filter* (2)		I	I	1	1	1	I	1	R	1	I	1	1	1	1	1	R	I: Every 6 months R: Every 36 months	MA-7 (item 4, 5)
	Fuel lines and conne	ction (3)								1								1	I: Every 36 months	MA-9 (item 10)
	Fuel tank cap gasket																	R	R: Every 72 months	MA–9 (item 9)
IGNITION	Spark plugs*									R								R	R: Every 36 months	MA-7 (item 3)
EVAP	Charcoal canister	Calif. only																1	I: Every 72 months	MA-9 (item 8)
EXHAUST	Oxygen sensor	Fed. and Canada only	R:	R: 80,000 miles (129,000 km) only									MA-10 (item 13)							
BRAKES	Brake linings and dru	ims		1		I		1		1		1		I		1		1	I: Every 12 months	MA-14 (item 18)
	Brake pads and discs			1		1		I		1		1		1		1		1	I: Every 12 months	MA-13 (item 17)
	Brake line pipes and hoses					1				1				1				I	I: Every 24 months	MA-12 (item 16)

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# SCHEDULE A (Cont'd)

System	Service interval (Odometer reading or months, which-	Maintenance services beyond 60,000 miles (96,000 km) should continue to be performed at the same intervals sh in each i maintenance schedule.													the same intervals show	wn See Page					
	Maintenance items	Miles x 1,0	000	3.75	7.5	11.25	15	18.75	22.5	Zs.zs	30	33.75	37.5	41.25	45	48.75	52.5	56.25	60	Months	(item No.)
	wantenanceitems	km x 1, 00	00	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96		
CHASSIS	CHASSIS Steering linkage Ball joints and dust covers				1		I		Ι		I.		1		1		I		1	I: Every 12 months	MA-14 (item 19)
					1		1		1		1		1		Ι		1		1	I: Every 12 months	MA-15 (item 22)
	Drive shaft boots 4WD			I		I		1		I		1		I		1		ł	I: Every 12 months	MA-15 (item 21)	
	Automatic transmission, manual transmission, transfer (4WD) and differential						R				R				R				R	R: Every 24 months	MA-16 (item 23) MA-17 (item 24) MA-18 (item 25) MA-20 (item 26)
	Steering gear housing oil (4)						1				1				1				1	I: Every 24 months	MA-15 (item 20)
	Front wheel bearing and		2WD		Ţ						R								R	R: Every 48 months	MA 21 (itom 27)
	thrust bush grease (4WI	D)	4WD								R								R	R: Every 36 months	
	Propeller shaft grease (5	5)	4WD		R		R		R		R		R		R		R		R	R: Every 12 months	MA-21 (item 28)
	Bolts and nuts on chassis and body (6)				1		1		1		1		1		1		1		1	I: Every 12 months	MA-22 (item 29)

 $\star$  or \* mark indicates maintenance which is part of the warranty conditions for the Emission Control System. The warranty period is in accordance with the owner's

guide or the warranty booklet.

 $\star$ : California specification vehicles.

\* : Vehicles other than California specification vehicles.

#### HINT:

(1) Applicable to vehicles operated under conditions of extensive idling and / or low speed driving for long distances

such as police, taxi or door-to-door delivery use.

- (2) Applicable when operating mainly on dusty roads. If not, apply SCHEDULE B.
- (3) Includes inspection of vapor vent system.
- (4) Check for oil leaks from steering gear box.
- (5) If the propeller shaft has been immersed in water, it should be re-greased daily.
- (6) Applicable only when operating mainly on rough, muddy roads. The applicable parts are listed below. For other usage conditions, refer to SCHEDULE B.
  - Front and rear suspension member to cross body.
  - Bolts for sheet installation.

# SCHEDULE B CONDITIONS:

Conditions other than those listed for SCHEDULE A.

r		P										
System	Service interval (Use odometer reading or	Maintenance services shown in each mainte	elintervals									
	months, whichever comes first)	Miles x 1,000	7.5	15	22.5	30	37.5	45	52.5	60	Months	See Page
	Maintenanceitems	km x 1,000	12	24	36	48	60	72	84	96		
ENGINE	Valve clearance	22R–E engine				Α				Α	A: Every 36 months	MA-11 (item 14)
	Valve clearance	3VZ–E engine								Α	A: Every 72 months	MA-10 (item 12)
	Drive belts	I: Firs od, 6 !: Afte	st peri 0,000 er tha	od. 30 miles t, ever	months, second peri-	MA-6 (item 2)						
	Engine oil and oil filter*	R	R	R	R	R	R	R	R	R: Every 12 months	MA-7 (item 6)	
	Engine coolant	R: Fi R: Af	rst pe iter th	riod. 4 at, eve	6 months or 24 months	MA-8 (item 7)						
	Exhaust pipes and mountings					1				1	I: Every 36 months	MA-10 (item 11)
FUEL	Idle speed			irst pe 00 mi fter th	eriod. 7 les (24 at, eve	MA–11 (item 15)						
	Air filter*					R				R	R: Every 36 months	MA-7 (item 5)
	Fuel lines and connections (1)					1				1	I: Every 36 months	MA-9 (item 10)
	Fuel tank cap gasket									R	R: Every 72 months	MA-9 (item 9)
IGNITION	Spark plugs					R				R	R: Every 36 months	MA-7 (item 3)
	Charcoal canister	Calif. only								1	1: Every 72 months	MA–9 (item 8)
EVAP	Oxygen sensor	R: 8	0,000	miles	(129,	000 kn	n) Org	у			MA-10 (item 13)	
EXHAUST	Brake lining and drums			1		I		1		1	I: Every 24 months	MA-14 (item 18)
BRAKES	Brake pads and discs			1		I		ł	ļ		I: Every 24 months	MA-13 (item 17)
	Brake line pipes and hoses					ł		1	1		I: Every 24 months	MA-12 (item 16)

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# SCHEDULE B (Cont'd)

System	Service interval (Use odometer reading or months, whichever comes first)	Maintenance services intervals shown in eac	See Page										
		Miles x 1,000	7.5	<b>15</b> 24	22.5 36	30 48	37.5	45 72	52.5 84	60	Months	(item No.)	
	Maintenance items	km x 1,000	12				60			96			
CHASSIS	Steering linkage			I		1		1		1	I: Every 24 months	MA-14 (item 19)	
	Ball joints and dust covers			1		I		I		I	I: Every 24 months	MA-15 (item 22)	
	Drive shaft boots	4WD		1		I		1		I	I: Every 24 months	MA-15 (item 21)	
	Automatic transmission, manual transmission, transfer (4WDj and differential (2)			I		ł		1		1	I: Every 24 months	MA–16 (item 23) MA–17 (item 24)	
	Steering gear housing oil (3)			I		1		I		1	I: Every 24 months	MA-15 (item 20)	
	Front wheel bearing and	2WD				R				R	R: Every 48 months	MA-21 (item 27)	
	thrust bush grease (4WD)	4WD				R				R	R: Every 36 months		
	Propeller shaft grease (4)	4WD		R		R		R		R	R: Every 24 months	MA–21 (item 28)	
	Bolts and nuts on chassis and body (5)							1		1	I: Every 24 months	MA-22 (item 29)	

★ or \* mark indicates maintenance which is part of the warranty conditions for the Emission Control

System. The warranty period is in accordance with the owner's guide or the warranty booklet.

 $\star$  : California specification vehicles.

 $\star$ : Vehicles other than California specification vehicles.

#### HINT:

(1) Includes inspection of vapor vent system.

(2) Check for oil level.

(3) Check for oil leaks from steering gear box.

(4) If the propeller shaft has been immersed in water, it should be re-greased daily.

(5) The applicable parts are listed below.

• Front and rear suspension member to cross body.

• Bolts for sheet installation.

# MAINTENANCE OPERATIONS ENGINE

#### MA025-05

# Cold Engine Operations

# 1. (3VZ–E ENGINE)

#### **REPLACE TIMING BELT**

- (a) Remove the timing belt. (See pages EG-32)
- (b) Install the timing belt.
- (See pages EG-41)

#### 2. INSPECT DRIVE BELTS

(a) Visually check the belt for excessive wear, frayed cords etc.

#### HINT:

Conventional type:

Check that the belt does not touch the bottom of the pulley groove.

If necessary, replace the drive belt.

V-Ribbed type:

Cracks on the ribbed side of the belt are considered acceptable.

If the belt has chunks missing from the ribs, it should be replaced.

- Nippondenso Borroughs
- (b) Using a belt tension gauge, check the drive belt tension.

#### Belt tension gauge:

Nippondenso BTG – 20 (95506–00020) or Borroughs No. BT–33–73F Drive belt tension: 22R-E Used belt 80 ± 20 lbf New belt 125± 25 lbf 3VZ - EGenerator Used belt 100 ± 20 lbf New belt 160 ± 20 lbf PS Used belt 80 ± 20 lbf New belt 125 ± 25 lbf A/C Used belt 80 20 lbf New belt 125 ± 25 lbf

If necessary, adjust the drive belt tension.











## HINT:

- "New belt" refers to a belt which has been used less than 5 minutes on a running engine.
- "Used belt" refers to a belt which has been used on a running engine for 5 minutes or more.
- After replacing the drive belt, check that it fits properly in the ribbed grooves, especially in the places difficult to see.
- After installing a new belt, run the engine for approx. 5 minutes and then recheck the tension.

# 3. REPLACE SPARK PLUGS

- (a) Disconnect the high–tension cords at the boot. Do not pull on the cords.
- (b) (2213 E) Remove the spark plugs.
  - (3VZ E)

Using plug wrench (16 mm), remove the spark plugs.

(c) Check the electrode gap of new spark plugs.
Correct electrode gap:
0.8 mm (0.031 in.)
Recommended spark plugs:
22R-E ND W16EXR-U
NGK BPRSEY
3VZ-E ND K76R-U
NGK BKR5EYA

# 4. INSPECT AIR FILTER

(a) Visually check that the air cleaner element is not excessively dirty, damaged or oily.

HINT: Oiliness may indicate a stuck PCV valve.

If necessary, replace the air cleaner element.

- (b) Clean the element with compressed air.
  - First blow from back side thoroughly, then blow off the front side of the element.

# 5. REPLACE AIR FILTER

Replace the used air cleaner element with a new one.

# 6. REPLACE ENGINE OIL AND OIL FILTER

22R – E (See page EG-236)

3VZ- E (See page EG-278) Oil grade:

API grade SG Energy – Conserving II multigrade and recommended viscosity oil Engine oil capacity: Drain and refill

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#### 22 R – E

w/o Oil filter change

3.8 liters (4.0 US qts, 3.3 lmp. qts)

w/ Oil filter change

4.3 liters (4.5 US qts, 3.8 lmp. qts)

3VZ–E

w/o Oil filter change

2WD 4.0 liters (4.2 US qts, 3.5 lmp. qts)

4WD 4.2 liters (4.4 US qts, 3.7 Imp. qts)

w/ Oil filter change

2WD 4.3 liters (4.5 US qts, 3.8 lmp. qts) 4WD 4.5 liters (4.8 US qts, 4.0 lmp. qts)





#### 7. REPLACE ENGINE COOLANT

- (a) Drain the coolant from the radiator and engine drain cocks.
- (b) Close the drain cocks.

(c) Fill system with coolant.

Coolant capacity (w/ Heater or air conditioner): 22R–E

Ex. 4WD A/T 8.4 liters (8.8 US qts, 7.4 lmp. qts) 4WD A/T 9.1 liters 0.6 US qts, 8.0 lmp. qts)

3VZ–E

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2WD M/T 10.4 liters (11.0 US qts, 9.2 lmp. qts) A/T 10.2 liters (10.8 US qts, 9.5 lmp. qts)

4WD M/T 10.5 liters (11.1 US qts, 9.2 lmp. qts)

A/T 10.3 liters (10.9 US qts, 9.1 Imp. qta)

HINT:

Use a good brand of ethylene–glycol base coo– lant, mixed according to the manufacturer's in– structions.

Using coolant which has more than 50% ethylene-glycol (but not more than 70%) is recommended.

## NOTICE:

- Do not use an alcohol type coolant.
- The coolant should be mixed with demineralized water or distilled water.







# **11. INSPECT EXHAUST PIPES AND MOUNTINGS**

Visually inspect the pipes, hangers and connections for severe corrosion, leaks or damage.

12. (3VZ–E ENGINE) ADJUST VALVE CLEARANCE (See page EG–18)



# 13. (FEDERAL AND CANADA) REPLACE OXYGEN SENSOR

- (a) Disconnect the oxygen sensor wiring connector.
- (b) Remove the cover (4WD), oxygen sensor and gasket from the exhaust pipe.
- (c) Install a new gasket, oxygen sensor and cover (4WD) to the exhaust pipe.
- Torque: 20 N-m (200 kgf-cm, 14 ft-lbf)
- (d) Inspect oxygen sensor operation. Inspect feedback control.

22R-E (See page EG-212)

3VZ-E (See page EG-252)



# Hot Engine Operations

#### 14. (22R–E ENGINE) ADJUST VALVE CLEARANCE

- (a) Warm up the engine to normal operating temperature.
- (b) Stop the engine and remove the cylinder head cover.
- (c) Set No.1 cylinder to TDC/compression.
- Turn the crankshaft with a wrench to align the timing marks at TDC. Set the groove on the pulley to the "O" position.
- Check that the rocker arms on No.1 cylinder are loose and rocker arms on No.4 cylinder are tight.

If not, turn the crankshaft one complete revolution and align marks as above.







- (d) Adjust the clearance of half of the valves.
- Adjust only the valves indicated by arrows. **Valve clearance:**

Intake 0.20 mm (0.008 in.) Exhaust 0.30 mm (0.012 in.)

- Use a thickness gauge to measure between the valve stem and rocker arm. Loosen the lock nut and turn the adjusting screw to set the proper clearance. Hold the adjusting screw in position, and tighten the lock nut.
- Recheck the clearance. The thickness– gauge should move with a very slight drag.
- (e) Turn the crankshaft one complete revolution (360 °) and align timing marks in the manner mentioned above. Adjust only the valves indicated by arrows.
   (f) Reinstall the cylinder head cover.

# 16. ADJUST IDLE SPEED

(a) Preparation

- Install air cleaner
- Connect all pipes and hoses of air intake system



- Connect all vacuum lines (i.e., EVAP, EGR system, etc.)
- Make sure all MFI system wiring connectors are fully connected
- Engine should be at normal operating temperature
- Switch off accessories
- Set transmission in neutral
- (b) Connect a tachometer- to the engine Connect the tachometer- test probe to the iG E) ter-.rninal of the DLC1. NOTICE:
  - NEVER allow the tachometer terminal to touch ground as it could result in damage to the igniter and/or ignition coil.
  - As some tachometers are not compatible with this ignition system, we recommend that you confirm the compatibility of your unit before use.
- (c) Race the engine at 2,500 rpm for approx. 2 minutes.
- (d) Set the idle speed by turning the idle speed adjusting screws.

Idle speed:

22R–E 4WD A/T 850 rpm Ex. 4WD A/T 750 rpm 3VZ–E 800 rpm

(e) Remove the tachometer.



# BRAKES

# **16. INSPECT BRAKE LINE PIPES AND HOSES**

HINT: Inspect in a well – lighted area. Inspect the entire circumference and length of the brake hoses using a mirror as required. Turn the front wheels fully right or left before inspecting the front brake. (a) Check all brake lines and hoses for:

• Damage





- Wear
- Deformation
- Cracks
- Corrosion
- Leaks
- Bends
- Twists
- (b) Check all clamps for tightness and connections for leakage. .
- (c) Check that the hoses and lines are clear of sharp edges, moving parts and the exhaust system.
- (d) Check that the lines installed in grommets pass through the center of the grommets.



# 17. INSPECT FRONT BRAKE PADS AND DISCS (See BR section)

(a) Check the thickness of the disc brake pad and check for irregular wear.

Minimum lining thickness: 1.0 mm (0.039 in.)



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HINT: If a squealing or scraping noise occurs from the brake during driving, check the pad wear indicator. If there are traces of the indicator contacting the disc rotor, the disc pad should be replaced.

(b) Check the disc for wear.
Minimum disc thickness:
2WD FS17 type 21.0 mm (0.827 in.) FS18 type 20.0 mm (0.787 in.) PD60 type 23.0 mm (0.906 in.) PD66 type 28.0 m m (1.102 in.)
4WD S 12 + 12 Type 18.0 mm (0.790 in.)





#### (b) Check the steering linkage for looseness or damage. Check that:

- Tie rod ends and relay rod ends do not have excessive play.
- Dust seals are not damaged.

## 20. INSPECT STEERING GEAR HOUSING

Check the steering gear housing for oil leaks. If leakage is found, check for cause and repair.



# 21. (4WD)

# INSPECT DRIVE SHAFT BOOTS

Inspect the drive shaft boots for clamp looseness, grease leakage or damage.

# 22. INSPECT BALL JOINTS AND DUST COVERS

- (a) Inspect the ball joints for excessive looseness. (See SA section)
- (b) Inspect the dust cover for damage.





#### 23. (2WD)

## CHECK OIL LEVEL IN MANUAL TRANSMISSION, AUTOMATIC TRANSMISSION AND DIFFERENTIAL

Remove the filler plug and feel inside the hole with your finger. Check that the oil comes to within 5 mm (0.20 in.) of the bottom edge of the hole. If the level is low, add oil until it begins to run out of the filler hole. **Transmission oil (M/T)** –

Oil grade:

API GL–4 or GL–5 Viscosity: SAE 75W–90







Remove the filler plug and feel inside the hole with your finger. Check that the oil comes to within 5 mm (0.20 in.) of the bottom edge of the hole. If the level is low, add oil until it begins to run out of the filler hole. Differential oil – – Oil grade: AN GL–5 hypoid gear oil

Viscosity: Above –18 ° C (0 ° F) SAE 90 Below –18 ° C (0° F) SAE 80W–90 or 80W





#### 24. (4WD)

# CHECK OIL LEVEL IN MANUAL TRANSMISSION, AUTOMATIC TRANSMISSION, TRANSFER AND DIFFERENTIAL

Remove the filler plug and feel inside the hole with your finger. Check that the oil comes to within 5 mm (0.20 in.) of the bottom edge of the hole. If the level is low, add oil until it begins to run out of the filler hole.

# Transmission oil (M/T) –

Oil grade:

API GL-4 or GL-5 Viscosity: SAE 75W-90



Check the automatic transmission for oil leakage. If leakage is found, check for cause and repair. **Transmission fluid (A/T): ATF DEXRON** ® **II** 



Remove the filler– plug and feel inside the hole with your finger. Check that the oil comes to within 5 mm (0.20 in.) of the bottom edge of the hole. If the level is low, add oil until it begins to run out of the filler hole. Transfer oil (Ex. 3vZ – E A/T) – Oil grade: AN GL–4 or GL–5 Viscosity: SAE 75W–90 Transfer fluid (3VZ– E A/T): ATF DEXRON ® II



Remove the filler plug and feel inside the hole with your finger. Check that the oil comes to within 5 mm (0.20 in.) of the bottom edge of the hole. If the level is low, add oil until it begins to run out of the filler hole. **Differential oil –** 

# Standard differential

Oil grade:

API GL–5 hypoid gear oil

Viscosity:

Above –18  $^{\circ}$  C (0 $^{\circ}$ F) SAE 90

Below –18  $^{\circ}$  C (0  $^{\circ}$  F) SAE 80W – 90 or 80W

A.D.D.

Oil grade:

Toyota 'GEAR OIL SUPER' oil or hypoid gear oil API GL-5

Viscosity:

SAE 75W-90



# 25. REPLACE MANUAL TRANSMISSION. TRANSFER (4 WD) AND DIFFERENTIAL OIL

(a) (Transfer)

Remove the transfer cover.

- (b) Using SST (A340H Transfer), remove the drain plug and drain the oil. SST 09043–38100
- (c) Reinstall drain plug securely.
- (d) Add new oil until it begins to run out of the filler hole.
   Oil grade and viscosity:
   See pages MA 16 to 18

See pages MA -16 to 18













#### 26. REPLACE AUTOMATIC TRANSMISSION FLUID

- (a) Remove the drain plug(s) and drain the fluid.
- (b) Reinstall the drain plug(s) securely.
- (c) With the engine OFF, add new fluid through the dipstick tube.

Fluid:

ATP DEXRON ® II Drain and refill capacity: 2WD

> A43D 2.4 liters (2.5 US qts, 2.1 Imp. qts) A340E 1.6 liters (1.7 US qts, 1.4 Imp. qts)

4WD

A340H 4.5 liters (4.8 US qts, 4.0 lmp. qts) A340F 2.0 liters (2.1 US qts, 1.8 lmp. qts)

(d) Start the engine and shift the selector into ail positions from "P" through "L" and then shift into "P".

(e) (A340H)

Shift the transfer lever position: H2 $\rightarrow$ H4 $\rightarrow$ L4 and L4  $\rightarrow$ H4 $\rightarrow$ H2.

(f) With the engine idling, check the fluid level. Add fluid up to the cool level on the dipstick. (g) Check that the fluid level is in the "HOT" range at the normal operating temperature (70 - 80  $^{\circ}$  C or 158 - 176 \*F) and add as necessary.

NOTICE: Do not overfill.

# 27. REPACK FRONT WHEEL BEARINGS AND THRUST

## BUSH

(a) Change the front wheel bearing grease.

(See SA section)

# 2WD –

Grease grade:

Lithium base multipurpose grease (NLGI No.2) Wheel bearing friction preload (at starting):

5.9–18N(0.6–1.8kgf,1.3–4.Olbf)

#### 4WD –

Grease grade:

Lithium base multipurpose grease (NLGI No.2) Wheel bearing friction preload (at starting):

#### 27 – 55 N (2.8 – 5.6 kgf, 6.2 – 12.3 lbf)

(b) Repack the drive shaft thrust bush grease. (See SA section)

#### 28. (4WD)

#### LUBRICATE PROPELLER SHAFT

Lubricate propeller shaft, referring to the lubrication chart. Before pumping in grease, wipe off any mud and dust on the grease fitting.

Grease grade:

Propeller shaft (ex. Double-cardan joint) -

Lithium base chassis grease (NLGI No.2) Double–cardan joint – Molybdenum disulphide

Lithium base chassis grease (NLGI No.2)



- Suspension system
- Fuel tank mounts
- Engine mounts, etc.

#### **30. FINAL INSPECTION**

- (a) Check operation of body parts:
- Hood
  - Auxiliary catch operates properly
- Hood locks securely when closed
   Doors
  - Door locks operate properly
- Doors close properly
   Seats
- Seat adjusts easily and locks securely in any positions
   Seat backs lock securely at any angle
   Fold–down seat backs lock securely
- (b) Road test
- Engine and chassis parts do not have abnormal noises.
- Vehicle does not wander or pull to one side.
- Brakes work properly and do not drag.
- (c) Be sure to deliver a clean vehicle and especially check:
  - Steering wheel
  - Shift lever knob
  - All switch knobs
  - Door handles
  - Seats

# GENERAL MAINTENANCE

These are maintenance and inspection items which are considered to be the owner's responsibility. They can be performed by the owner or he can have them done at a service shop. These items include those which should be checked on a daily basis, those which, in most cases, do not require (special) tools and those which are considered to be reasonable for the owner to perform.

Items and procedures for general maintenance are as follows.

# OUTSIDE VEHICLE

# 1. TIRES

- (a) Check the pressure with a gauge. If necessary, adjust.
- (b) Check for cuts, damage or excessive wear.

# 2. WHEEL NUTS

When checking the tires, check the nuts for looseness or for missing nuts. If necessary, tighten them.

# 3. TIRE ROTATION

It is recommended that the tires be rotated every 7,500 miles (12,000 km).

# 4. WINDSHIELD WIPER BLADES

Check for wear or cracks whenever they do not wipe clean. If necessary, replace.

# 5. FLUID LEAKS

- (a) Check underneath for leaking fuel, oil, water or other fluid.
- (b) If you smell gasoline fumes or notice any leak, have the cause found and corrected.

# 6. DOORS AND ENGINE HOOD

- (a) Check that all doors and the tailgate operate smoothly, and that all latches lock securely.
- (b) Check that the engine hood secondary latch secures the hood from opening when the primary latch is released.

# **INSIDE VEHICLE**

# 7. LIGHTS

a) Check that the headlights, stop lights, tai-

llights, turn signal lights, and other lights are all working.

(b) Check the headlight aim.

# 8. WARNING LIGHTS AND BUZZERS

Check that all warning lights and buzzers function properly.

# 9. HORN

Check that it is working.

# **10. WINDSHIELD GLASS**

Check for scratches, pits or abrasions.

# 11. WINDSHIELD WIPER AND WASHER

- (a) Check operation of the wipers and washer.
- (b) Check that the wipers do not streak.

# **12. WINDSHIELD DEFROSTER**

Check that air comes out from the defroster outlet when operating the heater or air conditioner.

# **13. REAR VIEW MIRROR**

Check that it is mounted securely.

# 14. SUN VISORS

Check that they move freely and are mounted securely.

# **15. STEERING WHEEL**

Check that it has specified freeplay. Be alert for changes in steering condition, such as hard steering, excessive freeplay or strange noise.

# 16. SEATS

- (a) Check that the seat adjusters operate smoothly.
- (b) Check that all latches lock securely in any position.
- (c) Check that the head restraints move up and down smoothly and that the locks hold securely in any latched position.
- (d) For fold–down seat backs, check that the latches lock securely.

# 17. SEAT BELTS

- (a) Check that the seat belt system such as the buckles, retractors and anchors operate properly and smoothly.
- (b) Check that the belt webbing is not cut, frayed, worn or damaged.

# **18. ACCELERATOR PEDAL**

Check the pedal for smooth operation and uneven pedal effort or catching.

CLUTCH PEDAL (See CL section)
 Check the pedal for smooth operation.
 Check that the pedal has the proper freeplay.

#### 20. BRAKE PEDAL (See BR section)

- (a) Check the pedal for smooth operation.
- (b) Check that the pedal has the proper reserve distance and freepla<sup>^</sup>.
- (c) Check the brake booster function.

# 21. BRAKES

At a safe place, check that the brakes do not pull to one side when applied.

#### 22. PARKING BRAKE (See BR section)

- (a) Check that the lever has the proper travel.
- (b) On a safe incline, check that the vehicle is held securely with only the parking brake applied.

## 23. AUTOMATIC TRANSMISSION "PARK" MECHANISM

- (a) Check the lock release button of the selector lever for proper and smooth operation.
- (b) On a safe incline, check that the vehicle is held securely with the selector lever in "P" position and all brakes released.

# **UNDER HOOD**

# 24. WINDSHIELD WASHER FLUID

Check that there is sufficient fluid in the tank.

# 25. ENGINE COOLANT LEVEL

Check that the coolant level is between the "FULL" and "LOW" lines on the see– through reservoir:

# 26. RADIATOR AND HOSES

- (a) Check that the front of the radiator is clean and not blocked with leaves, dirt or bugs.
- (b) Check the hoses for cracks, kinks, rot or loose connections.

# 27. BATTERY ELECTROLYTE LEVEL

Check that the electrolyte level of all battery cells is between the upper and lower level lines on the case. If level is low, add distilled water only.

# 28. BRAKE AND CLUTCH FLUID LEVELS

Check that the brake and clutch fluid levels are near the upper level line on the see-through reservoirs.

# 29. ENGINE DRIVE BELTS

Check all drive belts for fraying, cracks,

wear or oiliness.

# **30. ENGINE OIL LEVEL**

Check the level on the dipstick with the engine turned off.

## **31. POWER STEERING FLUID LEVEL**

Check the level on the dipstick.

The level should be in the "HOT" or "COLD" range depending on the fluid temperature.

## 32. AUTOMATIC TRANSMISSION FLUID LEVEL

- (a) Park the vehicle on a level surface.
- (b) With the engine idling and the parking brake applied, shift the selector into all positions from "P" to "L", and then shift into "P".
- (c) Pull out the dipstick and wipe off the fluid with a clean rag. Re–insert the dipstick and check that the fluid level is in the HOT range.
- (d) Perform this check with the fluid at normal driving temperature (70 80  $^\circ$  C or 158 176  $^\circ$  F).

HINT: Wait until the engine cools down (approx. 30 min.) before checking the fluid level after extended driving at high speeds, in hot weather, in heavy traffic or pulling a trailer.

# **33. EXHAUST SYSTEM**

Visually inspect for cracks, holes or loose supports.

If any change in the sound of the exhaust or smell of the exhaust fumes is noticed, have the cause located and corrected.