

(資料編)

1. 調査団員名簿

	氏名	担当	現職	期間
1	仁田知樹	総括	国際協力機構ケニア事務所次長	7/4-7/7
2	福田義夫	計画管理	国際協力機構 無償資金協力部 業務第一グループ 水・衛生チーム長	6/29-7/8
3	石井公一	公共交通計画	ペガサスエンジニアリング (株)	6/29-7/13
4	山口良二	機材計画/ 維持管理計画	(株) フジタプランニング	6/29-7/13

2. 調査日程

	月日	曜日	行程	調査内容
1	6月27日	日	羽田-関空-ドバイ	移動
2	28日	月	ドバイ-ナイロビ	移動、 JICA Kenya Office にて調査対処方針・概要説明、協議
3	29日	火	ナイロビ-キガリ	移動、 インフラ省大臣に調査概要説明、 ONATRACOM カウンターパートに調査概要説明、今後のスケジュール調整依頼
4	30日	水	キガリ	世銀都市交通調査チームと意見交換、 財務省にて調査概要説明、社会統計資料受領
5	7月1日	木	キガリ	ONATRACOM 整備工場にて概要説明・調査必要資料提出の依頼、 キガリ市内バスターミナルの現況調査
6	2日	金	キガリ	インフラ省公共交通局にて調査概要説明、調査必要資料提出の依頼、 ONATRACOM と協議
7	3日	土	ブユンバ	ONATRACOM 地方整備工場の現況視察
8	4日	日	キガリ	平和統一記念式典を視察、 仁田団長到着、団内経過報告
9	5日	月	キガリ	ONATRACOM にてM/Dに関する討議
10	6日	火	キガリ	ONATRACOM にてM/Dサイン
11	7日	水	キガリ	財務省計画局と協議、ONATRACOM の資料作成状況確認、市内民間修理工場視察
12	8日	木	キガリ	民間ミニバス会社と面談
13	9日	金	キガリ	ONATRACOM より調査資料受領・協議、民間ミニバス運転手組合面談
14	10日	土	ルヘンゲリ	ONATRACOM 地方整備工場の現況視察
15	11日	日	キガリ	資料整理
16	12日	月	キガリ	ONATRACOM と協議、収集資料確認
17	13日	火	キガリ-ナイロビ	ONATRACOM と協議、収集資料確認、午後、ナイロビへ移動
18	14日	水	ナイロビ	JICA Kenya Office へ報告
19	15日	木	ナイロビ-ドバイ	ナイロビ市内バス組み立て工場見学、午後、移動
20	16日	金	ドバイ-関空-羽田	移動

3. 面談者リスト

	Name	Professional Affiliation (Title)	Department
(1)	Dr. Ntawukuliryayo Jean Demascene	Minister	Ministry of Infrastructure
(2)	Mr. Bizimana EMMANUEL	Secretary General	Ministry of Infrastructure
(3)	Mr. Nuriyaryyanji PHILIPPE	Director of Transport	Ministry of Infrastructure
(4)	Mr. Musafili	Director	Ministry of Finance
(5)	Mr. Vincent GATWABUYEGE	Managing Director	ONATRACOM Head office
(6)	Mr. Damien NTAHORUGIYE	Work Shop Manager	ONATRACOM Head office
(7)	Mr. Rwalinda CELESTIN	Manager	ONATRACOM Byumba branch
(8)	Mr. L. Kanamugire RWAKA	Technical Manager	Rwandamotor S.A. in Kigali city
(9)	Mr. Bonaventure NIYIBIZI	Executive Secretary	Ministry of Finance and Economic Planning
(10)	Mr. Stephen NEWPORT	Planner	Consultant of World Bank

4. Minutes of Discussion (別添)

5. 収集資料リスト

番号	資料の名称	形態	発行機関	備考
1	Rwanda Development Indicators, 6 th edition, August 2003	図書	Statistics Dep. Ministry of Finance and Economic Planning	A4, 399p
2	Map for Rwanda, 1:300000, 2004	地図	Mapping Agency	A1, 1p
3	Financial statement, 1999-2003	電子	ONATRACOM	A4, 15p
4	Organization chart (current, planned), July 2004	電子	ONATRACOM	A4, 2p
5	Fare table, July 2004	電子	ONATRACOM	A4, 1p
6	List of employees, July 2004	電子	ONATRACOM	A4, 1p
7	Operation Plan	電子	ONATRACOM	A4, 15p
8	Volume of Passengers	電子	ONATRACOM	A4, 2p
9	Manuel des procedures administratives, financiers et operationnelles, July 2003	図書	ONATRACOM	A4, p80
10	Onatracom Rapport 2001	図書	ONATRACOM	A4, p70
11	Estude sur la viabilite du systeme de transport urbain, banlieue et peripherique dans la mairie de Kigali, Sep. 2001	図書	ONATRACOM	A4, p55
12	Time table, July 2004	電子	ONATRACOM Byumba office	A4, 1p
13	Organization chart (current, planned), July 2004	電子	Ministry of Infrastructure	A4, 1p
14	Accident report, July 2004	電子	Ministry of Infrastructure	A4, 9p

15	Tariff breakdown, July 2004	電 子	Ministry of Infrastructure	A4, 1p
16	Sector report, July 2004	電 子	Ministry of Infrastructure	A4, 93p

SERVICE AND MAINTENANCE

In order to maintain safety and economical operation, it is suggested that periodic inspection and maintenance should be performed regularly according to the recommendations outlined in this section.

MAINTENANCE SCHEDULE

To insure driving safety and maximum economical operation, periodic inspection and maintenance should be performed at your authorized dealer according to the maintenance schedule. For service operations which call for disassembly or specialized instruments, contact your authorized dealer.

Maintenance operations

- I: Inspect, clean and correct or replace as necessary
- A: Adjust
- R: Replace or change
- T: Tighten to specified torque
- L: Lubricate

When performing checks on the following items, regular inspection items should also be checked.

*Marks = Under severe driving conditions, more frequent maintenance is required. Refer to "Maintenance schedule under severe driving conditions."

Maintenance schedule

- I: Inspect, clean and correct or replace as necessary
- A: Adjust
- R: Replace
- T: retighten to specified torque
- L: Lubricate

Use odometer reading or period, whichever comes first.

SERVICE INTERVAL: X 1,000 km. (X 1,000 miles)	Initial Every										Period					
	1	5	10	15	20	25	40	50	(0.6)	(3)		(6)	(9)	(12)	(15)	(25)
ENGINE																
Engine starting and abnormal noise	-	I	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Idling speed and acceleration	-	I	-	-	-	-	-	-	-	-	-	-	-	-	-	-
*Air cleaner element	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R
*Inlet and exhaust manifold	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	T
Valve clearances	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A
Compression pressure in each cylinder	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	I
Oil contamination	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
*Main oil filter element	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R
*Partial flow oil filter element	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
*Air breather(Except closed type)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Main fuel filter element	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R
Pre-fuel filter element	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R
Fuel tank strainer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fuel tank inside	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nozzle injection pressure and spraying condition	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Injection timing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Feed pump strainer	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Function of air compressor, governor and unloader valve	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	I
Function of radiator sub tank cap	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fan belt for damage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exhaust pipes and mounting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Radiator coolant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CLUTCH																
Clutch minipack exhaust cover	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Function of clutch system	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clutch pedal free play and pedal stroke	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Maintenance schedule

I: Inspect, clean and correct or replace as necessary A: Adjust
R: Replace T: retighten to specified torque L: Lubricate

Use odometer reading or period, whichever comes first.

SERVICE INTERVAL: X 1,000 km. (X 1,000 miles)	Initial Every 1 5 10 15 20 25 40 50 (0.6) (3) (6) (9) (12)(15)(25)(30)	Period
TRANSMISSION Looseness in gear control mechanism	- - - - -	or Every year
PROPELLER SHAFT Loose connections *Universal joint and splines for wear Looseness in bearing and related parts	- - - - - - - - - - - - - - - - - - - -	or Every 6 months or Every year or Every year
REAR AXLE Axle case for damage and distortion	- - - - -	or Every year
FRONT AXLE Damage and distortion	- - - - -	or Every year
SUSPENSION *Leaf spring U-bolt nuts Spring for damage Unbalance spring action of leaf springs due to weakening Mount for looseness and damage Spring leaves for misalignment Shock absorbers for leaks and damage Shock absorbers for looseness in mount	T - - - - - - I -	or Every year or Every month or Every year or Every 3 months or Every year or Every 3 months or Every 3 months
WHEELS Presence of foreign matter Wheel nuts as necessary Disc wheel for damage Front wheel hub bearings for looseness Rear wheel hub bearings for looseness	- I - - - - - T - - - - - - I - - - - - - - - - - - - - - -	or Every month or Every month or Every 3 months or Every 6 months
STEERING Looseness in mount Bearings for excessive play	- - - - - - - - - - - - - - -	or Every 3 months or Every year

Maintenance schedule

I: Inspect, clean and correct or replace as necessary A: Adjust
R: Replace T: retighten to specified torque L: Lubricate

Use odometer reading or period, whichever comes first.

SERVICE INTERVAL: X 1,000 km. (X 1,000 miles)	Initial Every 1 5 10 15 20 25 40 50 (0.6) (3) (6) (9) (12)(15)(25)(30)	Period
*Steering linkage for damage, looseness and excessive play Clearance between knuckle and front axle Wheel alignment Right and left turning circle Clearance between kingpins and bearings	I -	or Every 3 months or Every year or Every year or Every year or Every year
SERVICE BRAKE Function of control valve system Pipes for leakage, damage and loose connections Cams of wheel brakes for excessive wear Brake chamber rod stroke Function of brake chamber *Lining for wear *Brake drum for wear and damage Brake hose Brake hose Function of brake valve and relay valve	I - - - - - - I -	or Every month or Every month or Every month or Every month or Every 3 months or Every year or Every month or Every year or Every year
PARKING BRAKE Function of control valve system Function of spring chamber Brake spring chamber rod stroke	I - - - - - - - - - - - - - - -	or Every month or Every year or Every month
ELECTRICAL EQUIPMENT Specific gravity of electrolyte Function of starter motor Starter motor brushes for wear Function of generator Generator brushes for wear Terminals of wiring harness for damage and loose connections	- -	or Every 3 months or Every 3 months or Every year or Every month or Every year or Every month or Every month

Maintenance schedule

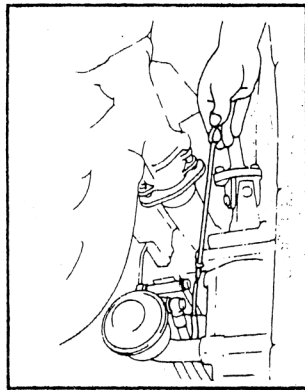
I: Inspect, clean and correct or replace as necessary A: Adjust
 R: Replace T: retighten to specified torque L: Lubricate

Use odometer reading or period, whichever comes first.

Item	Service	Severe driving conditions	Normal driving conditions
Engine oil	Replace	Every 10,000 km (6,000 miles) or Every 2 months	Every 20,000 km (12,000 miles) or Every 5 months
Main oil filter element	Replace	Every 20,000 km (12,000 miles) or Every 6 months	Every 40,000 km (25,000 miles) or Every year
Partial flow oil filter element	Replace	Every 10,000 km (6,000 miles) or Every 6 months	Every 20,000 km (12,000 miles) or Every year
Air cleaner element	Replace	Every 25,000 km (15,000 miles) or Every 6 months (After 6 times of repeated cleaning)	Every 50,000 km (30,000 miles) or Every year
Inlet and exhaust manifold	Retighten	Every 25,000 km (15,000 miles) or Every 6 months	Every 50,000 km (30,000 miles) or Every year
Transmission gear oil	Replace	Every 25,000 km (15,000 miles) or Every 6 months	Every 50,000 km (30,000 miles) or Every year
Differential gear oil	Replace	Every 25,000 km (15,000 miles) or Every 6 months	Every 50,000 km (30,000 miles) or Every year
Steering linkage for damage, looseness and excessive play	Inspect	Every 5,000 km (3,000 miles) or Every month	Every 15,000 km (9,000 miles) or Every 3 months
Front and rear brake lining for wear.	Inspect	Every 5,000 km (3,000 miles) or Every month	Every 15,000 km (9,000 miles) or Every 3 months
Front and rear brake drum for wear and damage	Inspect	Every 25,000 km (15,000 miles) or Every 6 months	Every 50,000 km (30,000 miles) or Every year
Leaf spring U-bolt nuts	Retighten	Every 25,000 km (15,000 miles) or Every 6 months	Every 50,000 km (30,000 miles) or Every year
Universal joints and splines for wear	Inspect	Every 25,000 km (15,000 miles) or Every 6 months	Every 50,000 km (30,000 miles) or Every year

Severe driving conditions

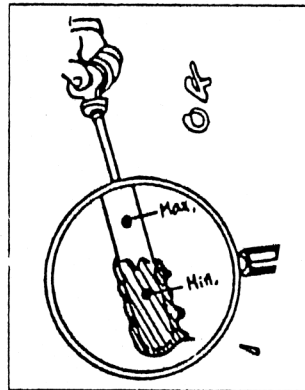
- Repeated short trips
- Driving on rough roads
- Driving on dusty roads
- Driving in extremely cold weather and/or salted roads



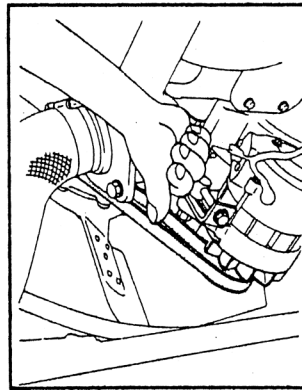
MAINTENANCE GUIDE REGULAR INSPECTION

Engine oil level

Pull out the oil level gauge rod (oil dipstick), wipe and clean it, and reinsert it. Again pull it out and check that oil level is within high and low level marks. Also check the oil on the gauge rod for contamination.

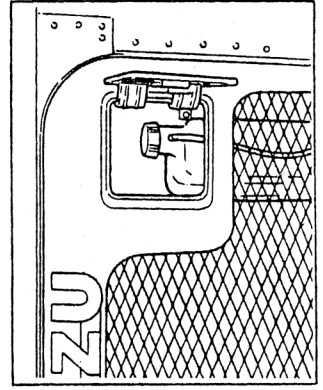


*Engine oil level should be checked with the vehicle standing on level ground (before the operation of engine.)
 If the engine is running, stop the engine and allow five minutes for the oil to settle down before checking the oil level.*



Fan belt

Check that the fan belt gives a deflection of approximately 10 to 15 mm (0.4 to 0.6 in) when the middle part of the belt is depressed a force of 10 kg (22 lbs). Also check the belt for cracks and damage. *When belt replacement becomes necessary both belts should be replaced at a time.*



Coolant level

Check the level of coolant and replenish as necessary at the radiator surge tank. When the level of coolant in the surge tank is found to be lower than "MIN" line of its capacity, check the radiator and other parts of the cooling system for leaks, then replenish to bring the level up to the "MAX" line.