

## 7. LPG FUEL SYSTEM AND DIAGRAM (DF752)

- All fuel connections added to this engine must be installed by qualified personnel utilizing recognized procedures and standards.
- These non-KUBOTA installed parts, such as hoses, fittings, piping, shut-off solenoid valve should be approved for LPG use and conform to UL, CSA, NFPA, MSHA and all other applicable standards.
- An approved, listed fuel filter and shutoff solenoid valve must be installed between the LPG tank and Kubota LPG regulator with vaporizer.
- The following LPG standards must be followed prior to installation : UL, CSA, NFPA, and MSHA standards.

### 1. Tightening torque and leak check for LPG regulator with vaporizer

Each fitting must be sealed with approved joint sealant compound, and be tightened to the specified torque using a wrench, and leak check must be performed as shown in the below table.

[TIGHTENING TORQUE AND LEAK CHECK PRESSURE]

Fitting	Qty.	Size	Tightening torque			Leak check pressure		
			N•m	kgf•m	ft-lb	kPa	kgf/cm <sup>2</sup>	psi
LPG OUT (VAPOR)	1	R3/8	29.4 to 58.8	3.0 to 6.0	21.7 to 43.4	> 9.8	> 0.1	> 1.42
LPG IN (LIQUID)*	1	R1/4	19.6 to 39.2	2.0 to 4.0	14.5 to 28.9	> 1471	> 15	> 213
WATER IN/OUT	2	R3/8	29.4 to 58.8	3.0 to 6.0	21.7 to 43.4	> 245	> 2.5	> 35.6

\*NOT KUBOTA supplied

### 2. Change the angle of LPG fitting of dual fuel carburetor

The fitting on the dual fuel carburetor may be mounted on any position since it is not sealed.

The nut may be loosened using a wrench. LPG fitting may be changed to any specified angle.

The nut should be tightened to the specified torque using a wrench as shown in the below table.

[TIGHTENING TORQUE]

Fitting	Qty.	Size	Tightening torque			Leak check
			N•m	kgf•m	ft-lb	
LPG IN (VAPOR)	1	M12 × 1.25	11.8 to 26.5	1.2 to 2.7	8.7 to 19.5	Soap solution or its equivalent

### 3. Setting of LPG regulator and vibration limits

Install the LPG regulator in **UPRIGHT** position, it must be installed within 4G vibration level. If not, it may not supply necessary LPG fuel to the engine.

### 4. Caution for Regulator

In order to conform to applicable EPA and CARB Emissions regulations when operating this engine on LP fuel, only a KUBOTA GENUINE LPG REGULATOR KIT can be used.

This regulator can only be installed by an authorized KUBOTA DISTRIBUTOR or the manufacturer of the equipment in which this engine is used.

## 3. Combustion and Cooling Air Requirements {Refer to 25 °C (77 °F) and 1000 hPa}

Model	Engine Speed	Fuel	r/min	1500	2000	2400	2800	3200	3600
WG752	Combustion and Cooling Air Requirements	Gasoline	L/sec	434.2	594.9	721.4	847.9	974.4	1100.4
			m <sup>3</sup> /h	1563.0	2141.6	2597.0	3052.5	3507.9	3961.6
			in <sup>3</sup> /sec	26495	36301	44022	51742	59463	67153
			ft <sup>3</sup> /min	919.8	1260.3	1528.3	1796.4	2064.4	2331.4
DF752	Combustion and Cooling Air Requirements	Gasoline	L/sec	434.2	594.9	721.4	847.9	974.4	1100.4
			m <sup>3</sup> /h	1563.0	2141.6	2597.0	3052.5	3507.9	3961.6
			in <sup>3</sup> /sec	26495	36301	44022	51742	59463	67153
			ft <sup>3</sup> /min	919.8	1260.3	1528.3	1796.4	2064.4	2331.4
	Combustion and Cooling Air Requirements	LPG	L/sec	433.8	594.4	720.8	847.2	973.6	1099.6
			m <sup>3</sup> /h	1561.7	2139.8	2594.9	3050.0	3505.1	3958.4
			in <sup>3</sup> /sec	26472	36271	43986	51700	59414	67098
			ft <sup>3</sup> /min	919.1	1259.3	1527.1	1794.9	2062.8	2329.5

## Note :

## 1. Cooling Air Fan and Pulley Specifications

Model		WG752	DF752
Fan Diameter	mm	φ 300	φ 300
	in.	φ 11.81	φ 11.81
No. of Blade and Type of Shape		4, S type	4, S type
Diameter of Fan Driving Pulley	mm	φ 100	φ 100
	in.	φ 3.94	φ 3.94
Diameter of Fan Pulley	mm	φ 84	φ 84
	in.	φ 3.31	φ 3.31

## 2. Conversion Rates

☆ 1 L = 61.0237 in<sup>3</sup> = 0.035315 ft<sup>3</sup>

☆ 1 ft<sup>3</sup> = 28.3168 L

☆ 1 L/sec = 3.6 m<sup>3</sup>/h = 2.1189 ft<sup>3</sup>/min

## (5) Exhaust Gas Volume

{Refer to 25 °C (77 °F) and 1000 hPa}

Model	Engine Speed	Fuel	r/min	1500	2000	2400	2800	3200	3600
WG752	Gas Volume	Gasoline	L/sec	22.58	30.11	36.13	42.16	48.18	54.20
			m <sup>3</sup> /h	81.30	108.40	130.09	151.77	173.45	195.13
			in <sup>3</sup> /sec	1378	1838	2205	2573	2940	3308
			ft <sup>3</sup> /min	47.8	63.8	76.6	89.3	102.1	114.8
DF752	Gas Volume	Gasoline	L/sec	22.58	30.11	36.13	42.16	48.18	54.20
			m <sup>3</sup> /h	81.30	108.40	130.09	151.77	173.45	195.13
			in <sup>3</sup> /sec	1378	1838	2205	2573	2940	3308
			ft <sup>3</sup> /min	47.8	63.8	76.6	89.3	102.1	114.8
	Gas Volume	LPG	L/sec	21.52	28.70	34.43	40.17	45.91	51.65
			m <sup>3</sup> /h	77.48	103.30	123.96	144.62	165.29	185.95
			in <sup>3</sup> /sec	1313	1751	2101	2452	2802	3152
			ft <sup>3</sup> /min	45.6	60.8	73.0	85.1	97.3	109.4

## Note :

## Conversion rates

☆ 1 L = 61.0237 in<sup>3</sup> = 0.035315 ft<sup>3</sup>

☆ 1 ft<sup>3</sup> = 28.3168 L

☆ 1 L/sec = 3.6 m<sup>3</sup>/h = 127.133 ft<sup>3</sup>/hr