## ROUSH INDUSTRIES INC.

EXECUTIVE ORDER A-344-0065 New On-Road Heavy-Duty Engines Page 1 of 2 Pages

Pursuant to the authority vested in the Air Resources Board by Health and Safety Code Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: The engine and emission control systems produced by the manufacturer are certified as described below for use in on-road motor vehicles with a manufacturer's GVWR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAM	ENGINE FAMILY ENGINE SIZES (L) GRIIE06.8BWL 6.8		FUEL TYPE 1	STANDARDS & TEST	INTENDED SERVICE	ECS & SPECIAL FEATURES 3	DIAGNOSTIC 5		
2016	GRIIE06.8E			LPG	Otto	CLASS THOO	TWC, SFI, 2WR-HO2S, HO2S	EMD+		
PRIMARY ENGINE'S IDLE EMISSIONS CONTROL 4 ADDITIONAL IDLE EMISSIONS CONTROL										
N/A N/A								-		
ENGINE (	L)			ENGINE MODE	LS / CODES (ra	ted power, in	hp)	C		
6.8 Blue Bird Vision Bus / GGF618BR5, GGF61HBR5, GGF61JBR5, GGF61BR5, GGF61HFR5, GGF61JFR5 (320 for all codes)  *=not applicable; GVWR=gross vehicle weight rating; 13 CCR xyz=Title 13, California Code of Regulations, Section xyz; 40 CFR 86.abc=Title 40, Code of Federal Regulations, Section 86.abc;										
L=liter; hp: CNG/LN L/M/H I- ECS=er up catalyst; WR-HO2S= IDI/DDI=inc SPL=smok ESS=er	=horsepower; kw=k NG=compressed/liqt HDD=light/medlum/h mission control syste ; DPF=diesel partici =wide range oxygen direct/direct diesel in te puff limiter; ECM/ ngine shutdown syst	ilowatt; h uefied natu eavy heav em; TWC/ ulate filter; sensor; T jection; T' PCM=eng em (per 13	r=hour;  ural gas; LPG=liquel  y-duty diesel; UB=L  OC=three-way/oxidi: PTOX=periodic tra; Bl=throttle body fuel  C/SC=turbo/ super c  ine/powertrain contro;  CCR 1956.8(a)(6)(	ied petroleum gas; E85=85% eth Irban bus; HDO=heavy duty Otto; izing catalyst; NAC=NOx adsorpti oxidizer; HO2S/O2S=heated/ox Injection; SFI/MFI=sequential/m. harger; CAC=charge air cooler; of module; EM=engine modificatic A)(1); 30g=30 g/hr NOx (per 13 C	anol füel; MF=mülicon catalyst; SCR-Lygen sensor; HAF-litti port fuel injection EGR / EGR-C=exhon; 2 (prefix)=para CCR 1956.8(a)(6)(C	ti fuel a.k.a. BF  J / SCR-N=sele S/AFS=heated/ n; DGI=direct g aust gas recirct llel; (2) (suffix) b); APS =intern	ebi fuel; DF=dual fuel; FF=flexible fuel; ctive catalytic reduction – urea / – ammonia; W air-fuel-ratio sensor (a.k.a., universal or linear c asoline injection; GCARB=gaseous carburetor ilation / cooled EGR; PAIR/AIR=puised/secon.	VU (prefix) =warm- xygen sensor); ;; dary air injection;		

Following are: 1) the FTP exhaust emission standards, or family emission limit(s) as applicable, under 13 CCR 1956.8; 2) the SET and NTE limits under the applicable California exhaust emission standards and test procedures for heavy-duty diesel engines and vehicles (Test Procedures); and 3) the corresponding certification levels, for this engine family. "Diesel" CO, SET and NTE certification compliance may have been demonstrated by the manufacturer as provided under the applicable Test Procedures in lieu of testing. (For flexible- and dual-fueled engines, the CERT values in brackets [] are those when tested on conventional test fuel. For multi-fueled engines, the STD and CERT values for default operation permitted in 13 CCR 1956.8 are in parentheses.).

EMD=engine manufacturer diagnostic system; OBD(F) / (P) / (\$)=full / partial / partial with fine / on-board diagnostic;

in	NMHC		NOx		NMHC+NOx		СО		PM		нсно	
g/bhp-hr	FTP	SET	FTP	SET	FTP	SET	FTP	SET	FTP	SET	FTP	SET
STD	0.14	*	0.20	*	*	*	14.4	*	0.01	*	0.01	*
CERT	0.02	*	0.01	*	*	*	1.2	*	0.000	*	0.000	*
NTE	* .			*	*		*		*		*	

<sup>4</sup> g/bhp-hr=grams per brake horsepower-hour; FTP=Federal Test Procedure; SET= supplemental emissions testing; NTE=Not-to-Exceed emission limit; STD=standard or emission test cap; FEL=family emission limit; CERT=certification level; NMHC/HC=non-methane/hydrocarbon; NOx=oxides of nitrogen; CO=carbon monoxide; PM=particulate matter; HCHO=formaldehyde;)

BE IT FURTHER RESOLVED: The manufacturer has demonstrated compliance with the Greenhouse Gas Emission Standards as specified in Title 13 CCR 1956.8 and the incorporated "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy Duty Otto Cycle Engines and Vehicles" (HDOE Test Procedures) adopted Dec. 27, 2000, as last amended Oct. 21, 2014 using the 2014 model year National Heavy-Duty Engine and Vehicle Greenhouse Gas Program as specified in Section 1036.108 of the HDOE Test Procedures. The manufacturer has submitted the required information and therefore has met the criteria necessary to receive a California Executive Order based on the Environmental Protection Agency's Certificate of Conformity for the above listed engine family.

	EPA CERTIFICATE OF C	ONFORMITY	PRIMARY INTENDED SERVICE CLASS  Vocational				
	GRIIE06.8BWL	-001					
In	CO <sub>2</sub>		O.U.	1			
g/bhp-hr	FTP	SET	CH₄	N₂O			
STD	627	*	0.10	0.10			
FCL	627	*	*	*			
FEL	*	*	. *	*			
CERT	586	*	0.03	0.02			

BE IT FURTHER RESOLVED: Certification to the FEL(s) / FCL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) / FCL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs.

**BE IT FURTHER RESOLVED:** For the listed engine models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels), 13 CCR 2035 et seq. (emission control warranty) and 13 CCR 1971.1 (on-board diagnostic).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed at El Monte, California on this

\_ day of June 2016

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

## **⊘** Air Resources Board

Pursuant to the authority vested in the Air Resources Board by Health and Safety Code Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-14-012:

IT IS ORDERED AND RESOLVED: The following on-road motor vehicles with a manufacturer's GVWR over 14000 pounds are certified as described below. Production vehicles shall be in all material respects the same as those for which certification is granted.

MANUFACTURE		EXECUTIVE ORDER		ENG	INE FAMILY	ENGINE SIZES (L)	FUEL TY	PE 1 STANDARDS & TEST PROCEDURE			ECS & SPECIAL FEATURES 3	OBD COMPLIANCE
ROUSH INDUSTRIES INC	. A-	344-0065	2016	GR	IE06.8BWL	6,8	LPG		Otto	HDO	TWC, HO2S, 2WR-HO2S, SFI	EMD+
Gasoline, LPG	or Alco Only	hol Vehicle	S ·	(2) Sel				VEI	HICLE DESCR	PTION		
EVAPORATI	VE	FUEL TANK		VEHICLE VEHICLE		MAKE & MODELS		ENGINE		ENGINE MODELS / CODES		
FAMILY	UL (K)			YEAR	VEHIOLE MAKE & MODELO			(L)		(rated pov	ver, in hp)	
GRIIF0265LPG	150	67.5, 93,	47	2016	Blue Bird \	∕ision Scl	nool Bus	6.8	Blue Bird V	/ision Bus / GGF618 FR5, GGF61HFR5, G	BR5, GGF61HBR GF61JFR5 (320 f	5, GGF61JBR or all codes)

86.abc; L=liter; K=1000 miles; hp=horsepower; kw=kilowatt;

CNG/LNG=compressed/liquefled natural gas; LPG=liquefled petroleum gas; E85=85% ethanol fuel; MF=multi fuel a.k.a. BF=bi fuel; DF=dual fuel; FF=flexible fuel; L/M/H HDD=light/medium/heavy heavy-duty diesel; UB=urban bus; HDO=heavy duty Otto;

3 ECS=emission control system; TWC/OC=three-way/oxidizing catalyst; WU (prefix) =warm-up catalyst; WR-HO2S=wide range oxygen sensor; DPF=diesel particulate filter;
HO2S/OSS=heated/oxygen sensor; HAFS/AFS=heated/alr-fuel-ratio sensor (a.k.a., universal or linear oxygen sensor); TBI=throttle body fuel injection; SFI/MFI=sequential/multi port fuel injection; DGI=direct gasoline injection; GCARB=gaseous carburetor; IDI/DDI=indirect/direct diesel injection; TC/SC=turbo/super charger; CAC=charge air cooler; EGR=exhaust gas recirculation; PAIR/AIR=pulsed/secondary air injection; SPL=smoke puff limiter; ECM/PCM=engine/powertrain control module; EM=engine modification; 2 (prefix)=parallel; (2) (suffix)=in

series; <sup>1</sup> EMD=engine manu<u>facturer diagnostic system; OBD(F) / (P) / (\$)=full / partial / partial with fine / on-board diagnostic;</u>

Following are: 1) the FTP exhaust emission standards or family emission limit(s) as applicable under 13 CCR 1956.1 (urban bus) or 13 CCR 1956.8 (other than urban bus); 2) the SET and NTE limits under the applicable California exhaust emission standards and test procedures for heavy-duty diesel engines and vehicles (Test Procedures); and 3) the corresponding certification levels, in g/bhp-hr, for this engine family. "Diesel" CO, SET and NTE certification compliance may have been demonstrated by the manufacturer as provided under the applicable Test Procedures in lieu of testing. (For flexible- and dual-fueled engines, the CERT values in brackets [] are those when tested on conventional test fuel. For multi-fueled engines, the STD and CERT values for default operation permitted in 13 CCR 1956.1 or 13 CCR 1956.8 are in parentheses.)

	NMHC		NOx		NMHC+NOx		СО		. РМ		нсно	
	FTP	SET	FTP	SET	FTP	SET	FTP	SET	FTP	SET	FTP	SET
STD	0.14	*	0.20	*	*	*	14.4	*	0.01	*	0.01	*
CERT	0.02	*	0.01	*	*	*	1.2	*	0.000	. *	0.000	*
NTE	*		* *		*		*		*			

g/bhp-hr=grams per brake horsepower-hour; FTP=Federal Test Procedure; EURQ=Euro III European Steady-State Cycle; NTE=Not-to-Exceed emission limit; STD=standard or emission test p; FEL=family emission limit; CERT=certification level; NMHC/HC=non-methane/hydrocarbon; NOx=oxides of nitrogen; CO=carbon monoxide; PM=particulate matter; HCHO=formaldehyde

BE IT FURTHER RESOLVED: For the listed vehicle models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels), 13 CCR 1971.1 (on-board diagnostic), 13 CCR 1976(b)(1)(F) {evaporative emission standards}, 13 CCR 2035 et seq. (emission control warranty), and 13 CCR 2235 [fill pipes and openings of motor vehicle fuel tanks]. (The braces { } are for gasoline, LPG or alcohol fueled vehicles only. The brackets [ ] are for gasoline or alcohol fueled vehicles only.)

Vehicles certified under this Executive Order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed at El Monte, California on this

day of June 2016.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division