

GOVERNMENT OF NATIONAL CAPITAL TERRITORY OF DELHI
 TRANSPORT DEPARTMENT : OPERATION BRANCH
 5/9, UNDER HILL ROAD: DELHI - 110054.

No. 20(214)/DC/OPS/TPT/2011/ 1184-80

Dated : May 20, 2016

CIRCULAR

The Competent Authority, Transport Department, Government of NCT of Delhi is pleased to allow the registration approval of vehicles, as per details given below, manufactured by M/s VE Commercial Vehicles Ltd in National Capital Territory of Delhi, as per the details contained in the Type Approval Certificate issued by designated testing agency ARAI, Pune for compliance to the Central Motor Vehicles Rules, 1989.

Base model & Variants		Wheel base (mm)	Seating Capacity (Incl. Driver)	Gvw kgs	Goods Carrying Capacity Kg.
EICHER Pro 1059 CNG E CAB & HSD		3350	3	6450	3246
1	EICHER Pro 1059 CNG E CAB & FSD/DSD				3346
2	EICHER Pro 1059 CNG E CAB & CASSIS				#
3	EICHER Pro 1059 CNG E CAB & CASSIS SL				#
4	EICHER Pro 1059 CNG E CAB & FSD/DSD SL			6450	3216
5	EICHER Pro 1059 CNG E CAB & HSD SL				3041
6	EICHER Pro 1059 CNG E CAB & ALC SL				2651
7	EICHER Pro 1059 XP CNG E CAB & CASSIS				#
8	EICHER Pro 1059 XP CNG E CAB & FSD/DSD				4096
9	EICHER Pro 1059 XP CNG E CAB & HSD	3350	3		3996
10	EICHER Pro 1059 XP CNG E CAB & CASSIS SL			7200	#
11	EICHER Pro 1059 XP CNG E CAB & FSD/DSD SL				3966
12	EICHER Pro 1059 XP CNG E CAB & HSD SL				3791
13	EICHER Pro 1059 XP CNG E CAB & ALC SL				3401
14	EICHER Pro 1050 CNG E CAB & HSD				2196
15	EICHER Pro 1050 CNG E CAB & FSD/DSD			5400	2296
16	EICHER Pro 1050 CNG E CAB & CASSIS				#
Certificate No./date / agency		AALA 0106 dated 14.03.2016 issued by ARAI, Pune			
Document Reference		Current Certificate			
Engine(model / type)		E483-CNG-62-4, 4 CYLINDER, WATER-COOLED, POSITIVE IGNITION, Naturally Aspirated Engine (Dedicated CNG)			
Power		62 kW @ 32000 rpm 3298 cc			
Type / Category		Fully Built -up Goods vehicle -N2			
Tyres size /type (Front / Rear)		Fr. & Rr: Single 7.50x16-16PR/8.25x16-16PR Make: Ceat/Apollo/JK/MRF/Birla			
Vehicle manufacturer		M/s VE Commercial Vehicles Ltd., (A Volvo Group & Eicher Motors Joint Venture), 102, Industrial Area No.1, Pithampur-454775, Distt-Dhar(M.P.), Plant: Pithampur			
Engine manufacturer		M/s VE Commercial Vehicles Ltd., Plant: Pithampur			
Dimensions in mm		Base Model	Length	Width	Height
			5810	2145	2818
		Variant 1	5810	2145	2340
		Variant 2	5713	2020	2340
		Variant 3	5967	2020	2340
		Variant 4	6233	2145	2340
		Variant 5	6233	2145	2818
		Variant 6	6160	2095	2678
		Variant 7	5713	2020	2340
		Variant 8	5810	2145	2340
		Variant 9	5810	2145	2818
		Variant 10	5967	2020	2340
		Variant 11	6233	2145	2340
		Variant 12	6233	2145	2818
		Variant 13	6160	2095	2870
		Variant 14	5810	2145	2818
		Variant 15	5810	2145	2340
		Variant 16	5713	2020	2340
Technical Specifications of CNG Conversion Kit		Copies of Annexure-I to AIS:024 - AALA0106 dated 14.03.2016 issued by ARAI, Pune are enclosed (4 pages)			

Contd/

Vide Type approval certificate No.(s) detailed above, the testing agency ARAI, Pune has certified that the above base model and its variants comply with the provisions of the CMVR, 1989, (as detailed in Annexure-I, IA and IB to TAC No. AALA 0106 dated 14.03.2016, including following requirements:

Provisions			Notification	Date	Effective from	Applicable CMVR
CNG with OE fitment			GSR 853 (E)	19.11.2001	19.05.2002	115-B (i)
			GSR 589 (E)	16.09.2005	16.09.2005	115 (14)(D)
Prevalent Approval norms for Diesel Vehicles	Bharat Stage-III	All over India	GSR 686 (E)	20.10.2014	01.04.2005	115 (14), (G),
			GSR 443(E)	21.06.2010	01.10.2010	
	Bharat Stage-IV	As per notified areas	GSR 84(E)	09.02.2009	OBD-I 1.4.10	115 (15)
					OBD-II 1.4.13	(a),(b)(ii)(A)
Idling CO & NMHC			GSR 103 (E)	23.02.2012	23.02.2013	115 (2)(i)
Passby Noise Limits			GSR 111 (E)	10.02.2004	01.04.2005	120(2)
Brakes/Lamps/Reflex Reflectors / Category of Vehicle / Tyres / VIN Number / Horn and other Safety components			S.O. 1365(E)	13.12.2004	Notified dates	Annexure-I Annexure-IA Annexure IB
			GSR 589 (E)	16.09.2005		
			GSR 784 (E)	12.11.2008		
			S.O. 436 (I)	15.03.2012		
			GSR 290(L)	15.01.2015		
			GSR 291(E)	24.04.2014		
			GSR 389 (E)	09.06.2014		
			GSR 225 (E)	26.03.2015		
Safety Checks for use of CNG Fuels in internal combustion engine vehicles (as per AIS 028) and Indian Gas Cylinder Rules, 2004			GSR 534 (E)	24.07.2014	24.07.2015	115 B E

The approval is accorded subject to the responsibility of the manufacturer for ensuring the fitment of the same component, parts/ assemblies etc details of which are given in the detailed specifications duly endorsed by the ARAI, at the time of submission of vehicle for COF/Registration and no element of local body building is involved.

All MLO(HQ)/CMVI (Burai) are requested to accept the **Base Model: EICHER Pro 1059 CNG E CAB & HSD & its 16 variants, complying with I-S-IV emission norms (Dedicated CNG)**, Fully Built -up Goods vehicle -N2 manufactured by M/s VE Commercial Vehicles Ltd (A Volvo Group & Eicher Motors Joint Adventure) in NCT of Delhi subject to compliance of Motor Vehicles Act and Rules made there under and department's instructions/order issued from time to time in this regard.

(PRAWIN DESAI)
MLO (OPERATIONS)
Dated : May 20 2016

No. 20(214)/DC/OPS/TPT/2011/ 1184-86

Copy forwarded for information and necessary action to:-

- All MLOs/CMVI (Burai) /Programmer, Transport Department
- VE Commercial Vehicles Ltd, (A Volvo Group & Eicher Motors Joint Adventure), 102, Industrial Area No. 1, Pithampur - 454775, District-Dhar (M.P.)
3. Sr.SA, Computer Branch, Transport Department for uploading this order on the website of the department.
4. Guard File

Encl:

Technical specifications of CNG
Annexure-I to AIS:024 - AALA0106
dated 14.03.2016 of ARAI, Pune (4 Sheets)

(PRAWIN DESAI)
MLO (OPERATIONS)

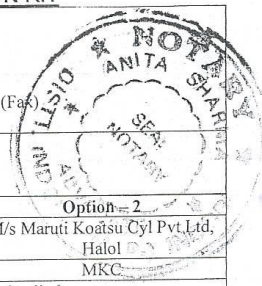
AAAL 0106 dt. 14.03.2016

Annexure I to AIS:024



TECHNICAL SPECIFICATION OF CNG CONVERSION KIT

1. Details of Kit Manufacturer / Supplier / Installer		M/s SQT Pvt. Ltd. Plot No. 227, Udyog Vihar Phase-IV Gurgaon, Haryana- 122019 0124-4386990 & 0124-4386995 (Fax) Mr.Gagan Agrawal						
2. CNG Kit Identification		PBOM0181						
3. CNG Cylinder (DOE approved/endorsed)		Option - 1		Option - 2				
a) Name of manufacturer		M/s Everest Kanto Cylinder Ltd., Tarapur		M/s Maruti Koatsu Cyl Pvt.Ltd, Halol				
b) Identification No.		EKCT R80		MKC				
c) Type		Seamless steel cylinder						
d) Working pressure (kg/cm ²) / (MPa)		204 at 15 °C						
e) Max. test pressure (kg/cm ²) / (MPa)		340						
f) Cylinder capacity (water equivalent)		E-W/B 60litres-2nos & 80litres-2nos (Total 280 Ltr) F & H-W/B 80litres 4nos (Total 320 Ltr)						
g) Approval reference from DOE		G.3(42)312/IV Dated 09.01.2001		G.3(42)277/V Dated. 16/01/2006				
4. Cylinder Valve(s)(DOE approved/endorsed)		Option - 1	Option-2	Option-3	Option-4			
a. Name of manufacturer		M/s Vanaz Engineers	M/s EMER	M/s OMB Saleri BS	M/s.Rotarex			
b. Model name/Identification No.		V-0146 / CM/L 0258746	KR 102	341	Y841			
c. Type		CNG cyl. valve	CNG cyl valve	CNG cyl valve	CNG cyl valve			
d. Working pressure (kg/cm ²)/(MPa)		200 kg/cm ²	200 kg/cm ²	260 Bar	260 Bar			
e. Max. test pressure (kg/cm ²)/(MPa)		300 kg/cm ²	450 kg/cm ²	275 bar	260 Bar			
f. Approval reference from DOE		Letter no. G.3(40)11/2003 dtd.29.07.2003	Letter No. G.3 (4)140 dt. 10/08/07	Letter no. G.3(4)166 dtd.16.03.07	Docket no. G3(4)201			
5. CNG Solenoid Valve		M/s AFC,USA ZEBR-IS-1898 Electric Solenoid 10 bar 1600 psi						
6. Petrol Solenoid Valve		Not Applicable						
7. Refilling valve		Option-1	Option-2	Option-3	Option-4	Option-5	Option-6	Option-7
a. Name of the manufacturer		Emer,	M/s	OPWSHER	M/s EMER	OPW	OPW	WEH
b. Model name/Identification No.		Italy	Vanaz	EX	VAL14159	SHEREX	CL 40	GmbH
c. Type		P30	V-0161	CL 50	NZS	CL 40	CL 40	TN5-CL
d. Working pressure (kg/cm ²) / (MPa)		NGV1	NGV1	NGV	220 kg/cm ²	NGV	250	84169
e. Max test pressure (kg/cm ²) / (MPa)				NZS	220 kg/cm ²	kg/cm ²	345	NGV1
						kg/cm ²	345	200 Bar
						kg/cm ²	450Bar	450Bar



Manufacturer: Signature, Name & Designation	Document No:	Test Agency: Signature, Name & Designation
VE Commercial Vehicles Ltd (A Volvo Group & Eicher Motors Joint Venture)	10.50-59XP/CNG-4/CBB16/00/01 Rev-00	A. A. BADUSHIA DEPUTY DIRECTOR & HEAD, REGULATION MANAGEMENT & REGULATION, ARAI, PUNE
Sheet No : 1 of 4	Date : 09.01.2016	

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District INDORE (M.P.)

ALA 0106 dt. 14.03.2016

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TECHNICAL SPECIFICATION OF CNG CONVERSION KIT

8. Pressure Regulator		M/s.M.T.M. s.r.l. Italy	
a. Name of manufacturer	ZENITH		
b. Model name/Identification No.	Single regulator (2 stage regulation)		
c. Type	26 Mpa		
d. Inlet pressure (kg/cm ²) / (MPa)	0.2 Mpa		
e. Outlet pressure (kg/cm ²) / (MPa)	Dual Stage		
9. CNG Filter		Option-1	Option-2
a. Name of manufacturer	WEH GmbH	Parker	
b. Model name/Identification No.	CI - 82999	FKG 112.6	
c. Type	1 micron	1 micron	
d. Inlet pressure (kg/cm ²) / (MPa)	200 ~ 300 Bar	3600 Psi	
e. Outlet pressure (kg/cm ²) / (MPa)	200 Bar	3600 Psi	
10. Oil Pump or Lubrication System, if any		Not applicable	
a. Name of manufacturer			
b. Type			
11. High Pressure Tubing		Option -1	Option-2
a. Name of manufacturer	M/s. Parker Hannifin, China GTST-JS-3295	M/s. Sandwik, Canada TP 316	
b. Model name/Identification No.	--	--	
c. Type	5100 PSI	200 bar	
d. Working pressure (kg/cm ²) / (MPa)	70 Mpa	70 Mpa	
e. Max. test pressure (kg/cm ²) / (MPa)	6.35mm / 4.57 mm	6.35mm / 4.57mm	
f. Outer diameter/Inner Diameter	--	--	
g. Protection quality (material used)			
12. Low Pressure Tubing		M/s Super seal Flexible Hose Ltd.	
a. Name of manufacturer	Fuel supply hose		
b. Model name/Identification No.	MISC 161 (Drq.No.)		
c. Type	12 bar		
d. Working pressure (kg/cm ²) / (KPa)	48 bar		
e. Max test pressure (kg/cm ²) / (KPa)	19.84mm / 12.70 mm		
f. Outer diameter/Inner Diameter	--		
g. Protection quality (material used)	Not applicable (no air mixer)		
13. Gas-Air Mixer			
a. Name of manufacturer			
b. Model name/Identification No			
c. Type & drawing			
d. Venturi Size			
14. ON/OFF Switch		Not applicable	
a. Name of manufacturer			
b. Model name/Identification No			
c. Type			
15. Ignition System & Wiring Harness (for CNG system) (Ref. Clause A11 of Table 2 of AIS 007)			
a. Name of manufacturer	M/s Delphi, India / M/s. Malhotra Cables Pvt.Ltd.		
a. Type of Ignition System	Distributor Less Ignition system (plug on top ignition coil Champion (RG4HC); 0.7 ± 0.05 Enclosed (for Ignition system & Interface unit)		
b. Spark plug gap, mm			
c. Electrical circuit diagram / Detail Layout			
16. Interfacing Unit (for closed loop engines)		M/s AEC, Australia Part No - 01-01-010-560-002 Controller for Ignition and injection control	M/s Delphi, India Controller for Ignition and injection control
a. Name of manufacturer			
b. Model name/Identification No.			
c. Type			



Manufacturer: Signature, Name & Designation	Document No: 10.50-59XP/CNG-4CBB\16\00\01 Rev-00	Test Agency: Signature, Name & Designation	Cert No:
VE Commercial Vehicles Ltd (A Volvo Group & Eicher Motors Joint Venture)	Sheet No : 2 of 4	A. BADUSHA SPECIAL IN CHARGE & HEAD, REGISTRATION MANAGEMENT & REGISTRATION, ARAI, PUNE	ARAI Automotive Research Association of India
Shyam Bute - DGM - PDD	Date : 09.01.2016		

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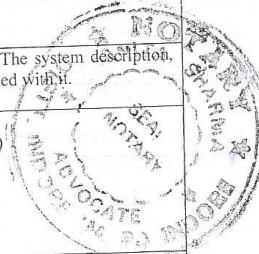
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TECHNICAL SPECIFICATION OF CNG CONVERSION KIT

17. Ignition Timing Advancer a. Name of manufacturer b. Type c. Timing on CNG mode d. Timing on baseline fuel.	For details Refer Table 4 of application. --do-- --do-- --do--			
18. Brief Description of System Including Dimensional Layout for Cylinder and other kit components installation, ventilation details etc.	For details Refer Table 4 of application. The system description, Layouts & Installation drawings are enclosed with it.			
19. Catalytic Converter Make & Model a. Make b. Identification No. c. Type d. Substrate e. Relative Concentration, Pt:Pd:Rh f. Total Charge of Precious Metal, g/vehicle	M/s ECOCAT (formerly known as Vikem) ID204736 Three Way Metallic 5:0:1 5.33			
20. Refilling valve interlocking switch a. Name of manufacturer b. Identification No. c. Type	For NGV M/s EMER Italy APEM2-M0 NO/NC	For NGV/NZS M/s Teknik or Sungho or GE (above name of manufacturer) NO/NC	For NGV M/s CLH IEMM-JC- 1539 NO/NC	For NZS EMER Italy Part of valve NO/NC
21. Current limiting Device (Fuse) a. Name of manufacturer b. Identification No. c. Voltage/current rating d. Type	M/s MTA Italy 15 & 10 for 15A & 10A respectively. 12V - 15A & 10A Blade type			
22. Pressure Indicator a. Name of manufacturer b. Identification No. c. Type	Option-1 M/s AEB Italy AEB-561 Electronic	Option-2 M/s Vanaz K0501-03- 010 Electronic	Option-3 M/s Deevee Electronics --- Electronic	Option-4 M/s CLH IEPL-LC- 2654 Electronic
23. Service shut off valve a. Name of manufacturer b. Identification No. c. Type	M/s HYD AIR HYD AIR 3 Way Shut Off Valve	M/s Swagelok SS-L83XPF4 3 Way Shut Off Valve		
24. Compartment/Sub-compartment/Gas tight housing a. Name of manufacturer b. Identification No. c. Type	NOT APPLICABLE			
25. Conduit a. Name of manufacturer b. Identification No. c. Inner & Outer diameter d. Type	NOT APPLICABLE			
26. Details of Seat Upholstery/roof and side lining a. Name of manufacturer b. Model name/ Identification No. c. Type	Seat Upholstry M/s Mayur Uniquoters Ltd.	Roof lining M/s Amco India Ltd. M/s Manjul Laminates --	Side lining Made of GI sheets	



Manufacturer: Signature, Name & Designation	Document No: 10.50-59XP/CNG-4CBB/16/00/01 Rev-00	Test Agency: Signature, Name & Designation A. A. BADUSHA SR. QUALITY DIRECTOR & HEAD, REGULATION MANAGEMENT & REGULATION, ARAI, PUNE	Test No: 10.50-59XP/CNG-4CBB/16/00/01
VE Commercial Vehicles Ltd (A Volvo Group & Eicher Motors Joint Venture)	Sheet No : 3 of 4		
Shyam Bute - DGM - PDD	Date : 09.01.2016		

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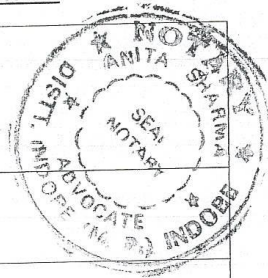
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TECHNICAL SPECIFICATION OF CNG CONVERSION KIT

27. Details of non-moisture retaining hard rubber/ equivalent material padding/ lining provided for inner side of the cylinder mounting band(s)	
a. Name of manufacturer	M/s Signet Rubber (I) Ltd
b. Identification No.	--
c. Type	EPDM
28. Battery cut off switch (if applicable)	NOT APPLICABLE
a. Name of manufacturer	
b. Identification No.	
c. Type	
29. Any other information	--



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VE Commercial Vehicles Ltd (A Volvo Group & Eicher Motors Joint Venture)	10.50-59XP\CNG-4\CBB\16\00\01 Rev-00	<i>(Signature)</i> A. A. BADUSHA SR. DEPUTY DIRECTOR & HEAD, HOMOLOGATION MANAGEMENT & REGULATION, ARAI, PUNE	
<i>(Signature)</i> Shyam Bute - DGM - PDD	Sheet No : 4 of 4		
	Date : 09.01.2016		