

कार्यालय परिवहन आयुक्त, उत्तराखण्ड,
कुल्हान, सहस्रधारा रोड़, देहरादून।
संख्या- 2835 /TR/ 23-3(i)/सी0एन0जी0किट/2021

दिनांक 2/सितम्बर, 2021

आदेश

केन्द्रीय मोटरयान नियमावली, 1989 के नियम 115 बी में in use वाहनों में सी0एन0जी0 किट लगाये जाने की व्यवस्था की गयी है। इस सम्बन्ध में कार्यालय ज्ञाप संख्या-3460/टी0आर0/5/CNGKIT/2019-2020 दिनांक 04-11-2019 के द्वारा सी0एन0जी0 किट के रिट्रोफिटमेंट हेतु अनुमोदन की प्रक्रिया निर्धारित की गयी है, जिसके अन्तर्गत M/s Motozen Fuel System द्वारा केन्द्रीय मोटरयान नियमावली 1989 के नियम 126 में वर्णित टेस्टिंग एजेंसी ICAT, Manesar द्वारा नार्म्स के अनुरूप होने के प्रमाण संख्या- CAMA-0291 Dated 27th December, 2017 , CAMA-0291 R01 Dated 05th July 2021, CAMA-0291*01 Dated 05th July, 2021 & CAMA 0291 L01 Dated 23rd January, 2018 प्राप्त कर लिये गये है। उक्त प्रमाण पत्र के आधार पर M/s Motozen Fuel System के सी0एन0जी0 किट मॉडल MFS BSIII (Engine cm³ Range-973.5 to 1622.5) को in use पेट्रोल चालित वाहन मॉडल Maruti Sx4 (1586cc) में रिट्रोफिटमेंट कर प्रस्तुत की गयी, जिसका संयुक्त निरीक्षण उप परिवहन आयुक्त (प्रथम) एवं सम्भागीय निरीक्षण (प्राविधिक) देहरादून द्वारा किया गया। उक्त सी0एन0जी किट एवं सिलेण्डर/वाल्व का संक्षिप्त विवरण निम्नानुसार है:-

1. Detail of Kit Manufacturer/ Supplier/ Installer- M/s Motozen Fuel Systems
Dahiya Greens, Sec-17-18 Dividing
Road, Opp. Green Park, Gurgaon
2. CNG Kit Identification no- MFS BSIII (Engine cm³ Range-973.5 to 1622.5)

3. CNG Cylinder (DOE Approved/Endorsed):

Name of Manufacturer	M/s Everest kanto cylinder ltd.	M/s Rama Cylinder Pvt. Ltd.	M/s Sahuwala High Pressure Cylinder Pvt. Ltd.	M/s Jay Fe Cylinder Ltd.	M/s Lizer Technologies Ltd	M/s EuroIndia Cylinder Ltd.
Identification no	EKC	RAMA	SHPC/ECON	JFC/TLM13456	LTL	EICL
Type	Steel Cylinder	Steel Cylinder	Steel Cylinder	Steel Cylinder	Steel Cylinder	Steel Cylinder
Max test Pressure (kg/cm ²)/MPa	360/36	340/33.4	335/33	335/33	335/33	335/33
Working Pressure (KG/cm ²)/MPA	200 /20	204 /20	200/20	200/20	200/20	200/20
Cylinder Capacity (water Equivalent)	50,55,60,65,70 ltr (Dia 316mm) 50, 55, 58,60,63,65,70,75,80,85,90ltr (Dia 356mm) 50, 55, 60, 65,70, 75,80,85,90 ltr (Dia 317mm) (Dia 328.8mm)	50,52,53,55,57,58, 60,62,63,65,70,75, 78,80,82,85,90 ltr (Dia 356mm) 50, 55, 60, 65,70,75,80,85,90 ltr (Dia 317mm)	50, 55, 60, 65,70, 75,80,85,90ltr (Dia 325mm) 50, 55, 60, 65,70, 75, 80,85,90 ltr (Dia 356 mm) 50, 55, 60, 65,70, 75,80,85,90 ltr (Dia 316 mm)	50, 55,58 60,63,65,70, 75,78,80,85,90 ltr (Dia 356mm) 50, 55,58,60,70,75,80, 85,90ltr (Dia 317 mm)	50, 55, 57,58,60, 62,63,65,68,70,73, 75,77,78,80,82,85, 90 ltr (Dia 356mm) 50, 55, 57,58,60, 62,63,65,70,75,80, 85,90 ltr (Dia 317 mm)	50, 60 lts (Dia 267 mm) 57, 58,63,65, 65,70, 75,80,82,85,90 ltr (Dia 356mm) 50, 55, 60, 65,70, 75,80, 82,85,90 ltr (Dia 316mm)
Approval Reference from DOE	G3(42)523/ Dt:06-02-2006	G3(42)553/I DT-11-11-2010 G3(42)515/V1 Dt- 20-05-2011	G3(42)544/III DT-06-05-2011 G3(42)544/I Dt- 24-12-2008	G.3(42) 557/I Dt-22/12/2009	G.3(42)536/I Dt-10-12-2008	G.3 (42)572/I Dt-14-10-2011

4. Cylinder Valve (DOE approved/endorsed):

Name of manufacturer	M/s Saleri Italy	OMB Spa	M/s Minda Emer Technologies Ltd.	M/s Batra Associate Ltd.	M/s H.M Plastic
Modelname/ Identification no	Alfa		ME-CVM-001	Batra	HMP
Type	Manual shut off		Manual shut off	Manual shut off	Manual shut off
Working pressure (KG/Cm ²)	210/21		200/20	200/20	200/20
Max Test pressure (kg/cm ²)	330/33		300/30	300/30	300/30
Approval reference form DOE	G-3(4)166 Dt 03/05/2009		G-3(40)230 Dt 5/07/2016	G-3(40)87 Dt 23/11/2011	G-3(40)225 Dt 15/04/2014

5. ICAT, Manesar द्वारा प्रदत्त CAMA-0291 Dated 27th December, 2017 & CAMA 0291 L01 Dated 23rd January, 2018 में उक्त सी0एन0जी0 किट एवं सलेन्डर/वाल्व को निम्न मॉडल वाहन पर लगाये जाने के उल्लेख किया गया है:-

Sl. No.	Approved Vehicle Model	Engine CC	Mass Emission	ICAT Certificate No.	Validity for the conversion in use vehicles Manufactured & Registered from
1	Maruti Swift Vx	1298	BS-III	CAMA 0291 Date - 27th December 2017	1 st January 2005 till the validity of Bharat Stage III Norms
2	CHEVROLET AVEO	1399		CAMA 0291 L01 Date - 23 rd January 2018	- do -
3	CHEVROLET AVEO	1598		- do -	- do -
4	CHEVROLET AVEO U-VA	1150		- do -	- do -
5	CHEVROLET BEAT	1199		- do -	- do -
6	CHEVROLET OPTRA MAGNUM 1.6	1598		- do -	- do -
7	CHEVROLET SPARK	995		- do -	- do -
8	FIAT ADVENTURE	1596		- do -	- do -
9	FIAT PALIO STILE	1596		- do -	- do -
10	FORD FIESTA 1.4	1398		- do -	- do -
11	FORD FIESTA 1.6	1596		- do -	- do -
12	FORD IKON 1.3	1299		- do -	- do -
13	FORD IKON 1.6	1597		- do -	- do -
14	HONDA CITY	1497		- do -	- do -
15	HYUNDAI ACCENT	1495		- do -	- do -
16	HYUNDAI ACCENT VIVA	1599		- do -	- do -
17	HYUNDAI GETZ	1341		- do -	- do -
18	HYUNDAI I10 1.1	1086		- do -	- do -
19	HYUNDAI I10 1.2	1197		- do -	- do -
20	HYUNDAI I20	1197		- do -	- do -
21	HYUNDAI SANTRO	1086		- do -	- do -
22	HYUNDAI SANTRO XING	1086		- do -	- do -
23	HYUNDAI VERNA	1599		- do -	- do -
24	MAHINDRA LOGAN	1598		- do -	- do -

25	MARUTI ASTAR	998		- do -	- do -
26	MARUTI ASTAR	1061		- do -	- do -
27	MARUTI BALENO	1590		- do -	- do -
28	MARUTI EECO (5SEATER)	1196		- do -	- do -
29	MARUTI EECO (7 SEATER)	1196		- do -	- do -
30	MARUTI ESTEEM	1298		- do -	- do -
31	MARUTI RITZ	1197		- do -	- do -
32	MARUTI SWIFT DZIRE	1298		- do -	- do -
33	MARUTI SX4	1586		- do -	- do -
34	MARUTI VERSA (8 SEATER)	1298		- do -	- do -
35	MARUTI VERSA (5 SEATER)	1298		- do -	- do -
36	MARUTI WAGON R	1061		- do -	- do -
37	MARUTI ZEN	993		- do -	- do -
38	MARUTI ZEN ESTILO	1061		- do -	- do -
39	MITSUBISHI LANCER	1468		- do -	- do -
40	OPEL CORSA	1389		- do -	- do -

अतः उक्त सी०एन०जी० किट/सिलेंडर/वाल्व को प्रोटोटाइप एजेन्सी द्वारा अनुमोदित विशिष्टताओं के अनुसार उपरोक्त 40 मॉडल वाहनों पर रिट्रोफिटमेंट निम्नलिखित प्रतिबन्धों एवं शर्तों के अधीन किये जाने की अनुमति प्रदान की जाती है:-

1. किट रिट्रोफिटमेंट के साथ वाहन में लगाये जाने वाले ऑटो सीएनजी टैंक एवं मल्टीफंक्शन वाल्व के सुरक्षित होने के सम्बन्ध में सीसीओई के प्रमाण-पत्र की प्रति विक्रय के समय क्रेता को उपलब्ध करायी जाएगी, जिसे क्रेता द्वारा पंजीयन अधिकारी के समक्ष प्रस्तुत किया जाएगा।
2. वाहन में किट रिट्रोफिटमेंट किट निर्माता की अधिकृत कार्यशाला अथवा वाहन विनिर्माता द्वारा ही लगायी जायगी। इस प्रकार की कार्यशालाओं को जी०एस०टी० प्रमाण-पत्र उपलब्ध कराना अनिवार्य होगा।
3. किट के स्पेसिफिकेशन अथवा ले आउट में किसी प्रकार का परिवर्तन हाने पर इसकी सूचना सम्बन्धित प्रोटोटाइप एजेन्सी को तत्काल देनी होगी और पुनः टाइप एप्रूवल प्राप्त कर प्रस्तुत करना होगा।
4. किट के सम्बन्ध में सुरक्षा प्राविधान केन्द्रीय मोटरयान नियमावली, 1989 के नियम 115ख के बिन्दु (ड) के एनेक्जर IX एआईएस024 और एआईएस028 (आरईवी-1) में समय-समय पर यथा संशोधित -विनिर्धारित सुरक्षा सम्बन्धी अपेक्षाओं का अनुपालन किया जायेगा।
5. प्रत्येक किट स्थापित करने वाला (kit installer) यह सुनिश्चित करेगा कि लगायी जाने वाली किट सुरक्षित है तथा लगाये गये फ्यूल टैंक एवं मल्टीफंक्शन वाल्व के सम्बन्ध में सीसीओई प्रमाण-पत्र प्राप्त कर लिया गया है।
6. ऑटो सीएनजी टैंक वाहन में स्थायी रूप से स्थापित किया जायेगा।
7. ऑटो सीएनजी टैंक निर्माता के स्पेसिफिकेशन के अनुरूप ही लगाया जायेगा।
8. प्रोटोटाइप एजेन्सी से अनुमोदित किट का वाहन में रिट्रोफिटमेंट के पश्चात् विनिर्माता द्वारा वाहन स्वामी को सर्विस मैनुअल आर्वतक निरीक्षण और अनुरक्षण की निर्देशिका, सर्विस, मरम्मत अनुरक्षण हेतु पर्याप्त बुनियादी संरचना प्रदान की जायेगी।

9. किट निर्माता द्वारा किट उपयोगकर्ताओं का समुचित प्रशिक्षण देने की व्यवस्था की जायेगी।
10. किट निर्माता द्वारा केन्द्रीय मोटरयान नियमावली, 1989 के नियम 115ख के बिन्दु (च) के एनेक्जर x के उपबन्धों का अनुपालन सुनिश्चित किया जायेगा।
11. किट निर्माता द्वारा सीएनजी किट के रिट्रोफिटमेंट के समय मोटरयान अधिनियम, 1988 केन्द्रीय मोटरयान नियमावली, 1989 एवं उत्तराखण्ड मोटरयान नियमावली, 2011 की व्यवस्थाओं का अनुपालन करना होगा।
12. किट निर्माता द्वारा मोटर वाहन में विधिमान्य तरीके से किट रिट्रोफिटमेंट न किये जाने और या विधि की व्यवस्थाओं का अनुपालन सुनिश्चित न करने की दशा में अनुमोदन रद्द कर दिया जायेगा।
13. मोटर वाहनों में किट रिट्रोफिटमेंट के सम्बन्ध में किट निर्माता द्वारा परिवहन विभाग के सक्षम अधिकारी द्वारा अपेक्षित सूचनाओं को निर्धारित समय के भीतर उपलब्ध कराना होगा। साथ ही इस विषय में परिवहन आयुक्त द्वारा समय-समय पर जारी आदेशों का अनुपालन सुनिश्चित किया जाएगा।
14. किट निर्माताओं द्वारा अनुमोदन प्राप्त किट ही वाहनों में फिट की जाएगी और ऐसी किट का विवरण सम्बन्धित पंजीयन अधिकारी द्वारा पंजीयन प्रमाण पत्र में प्रविष्ट किया जाएगा।

संलग्न:- प्रोटोटाईप प्रमाण पत्र की प्रति।


 (सनत कुमार सिंह)
 उप परिवहन आयुक्त,
 उत्तराखण्ड।

संख्या-2835/TR/CNG/2021 तददिनांकित।

प्रतिलिपि:- निम्नलिखित को अनुपालनार्थ हेतु प्रेषित।

- 1-समस्त सम्भागीय/सहायक संभागीय परिवहन अधिकारी, उत्तराखण्ड।
- 2-समस्त संभागीय निरीक्षक (प्राविधिक) उत्तराखण्ड।
- 3-सम्बन्धित पत्रावली।
- 4- M/s Motozen Fuel Systems Dahiya Greens, Sec-17-18 Dividing Road, Opp. Green Park, Gurgaon-122007


 (सनत कुमार सिंह)
 उप परिवहन आयुक्त,
 उत्तराखण्ड।



INTERNATIONAL CENTRE FOR AUTOMOTIVE TECHNOLOGY

[A Division of NATRIP Implementation Society (NATIS), Govt. of India]

C A M A 0291 R01

Date : 05th July 2021

EXTENSION OF VALIDITY

Cert	Brief	Dwg	Total
01	12	02	15 Pgs

1. This is in continuation to certificate referred below, issued to CNG Kit manufacturer in respect of retrofitment on the model specified therein.

Reference TA Certificate	CNG Kit Manufacturer
Refer Annexure "A"	M/s. Motozen Fuel Systems Pvt Ltd Plot No. B- 9/2, Block-B Phase-1, Landmark Samaypur Badli Metro Station, Badli Industrial Area, North Delhi, Delhi - 110 042.

2. All conditions and compliance requirement, in respect retrofitment of CNG Kit, given in the certificate referred below, remain unchanged. Brief & CNG Kit Specification (No. Motozen-SX4-CNG2020-21-03-19 dt.19.03.2021) of the in-Use vehicle model, as decalared by the CNG Kit installer, are enclosed with this certificate.

MPFI, "In-Use" Base Model	Year of Manufacture	Engine cm ³	Engine CC Range
Maruti Swift Vx	July 2005	1298	973.5 to 1622.5 cm ³

ANNEXURE A

Sr. No.	Reference of TA/ Extension/ Layout / Revalidation Certificate	Validity of Certificate			
		Earlier		Revalidated	
		From	To	From	To
1	C A M A 0291	27.12.2017	26.12.2020	27.12.2020	26.12.2023
2	C A M A 0291 L01	23.01.2018			
3	C A M A 0291 ☆01	05.07.2021	-	-	

Compliance of Mass Emission Standards & Validity: (Ref. 115B (1) A.(II) Clause (a) (iii), as per GSR 599(E) dt. 16.09.2005

The CNG Converted "In-Use" base model meets the Bharat Stage - III norms, manufactured/ registered from from 01st January 2005 to till the validity of BS III norms, subject to specific approval, for layout plan by ICAT, for retrofitment of CNG Kit in each vehicle model.

Emission Test report	Maruti SX4, C T O P Q 0521 Dt. 26.06.2021 (EKC Cylinder, Suzuki Cat Con, NGK Spark Plug, Injector : TA10, Regulator : TA01, Interfacing Unit : MP 32)	
ICAT Ref No.	2021-084 (IOCS Ref. : 148634)	Please turn over for Disclaimer

AUTHORISED SIGNATORY

 ICAT PRASHANT VIJAY DEPUTY GENERAL MANAGER		 ICAT DINESH TYAGI DIRECTOR	 Page 1 of 1

Office Address : Centre-I : Plot No.-26, Sector-3, HSIIDC, IMT-Manesar, Gurugram-122050. Haryana (India)
 Centre-II : Plot No.-01, Sector M-11, HSIIDC, Manesar, Gurugram-122051. Haryana (India)
 Phone : 0124-4586111, Fax : +91-124-4586111, Email : team@icat.in, Website : www.icat.in
 (An ISO 9001, ISO 14001 and OHSAS 18001 certified, scope wise, ISO 9001 accredited and BIS recognised Test House)



MOTOZEN

FUEL SYSTEMS PRIVATE LIMITED

ANNEXURE I

TECHNICAL SPECIFICATION OF GASEOUS FUELLED VEHICLES KIT (DEDICATED/Bi-FUEL/DUAL FUEL/DEDICATED DUAL FUEL AS APPLICABLE)

1. Details of Kit Manufacturer / Supplier / Installer			
a) Name of the Manufacturer M/s. Motozen Fuel Systems Private Limited			
b) Address Plot No. D-9/2, Block B Phase-1, Landmark Samaypur Baldi Metro Station, Badli Industrial Area, North Delhi, Delhi - 110042.			
c) Telephone No. & Fax No. 08448383692 (Mob)			
2. Gas Kit Identification			
a) Identification No. MFS BSIII			
b) Variants, if any N/A			
c) Fuel system (Dedicated / Bi-Fuel / Dual Fuel / Dedicated Dual Fuel)			
d) Type of Dual-fuel system (Type 1A / 1B / 2A / 2B / 3B)			
e) Fuel (Gas Fuel (Specify Name of fuel) & Gasolin/ Diesel)			
3. Cylinder Details (PESO approved / endorsed)			
a) Name of manufacturer	M/s. Everest Kanto Cylinder Limited	M/s. Rama Cylinder Pvt. Ltd.	M/s. Sahuwala High Pressure Cylinder (p) Ltd.
b) Identification No.	EKC	RAMA	SHPCCL / ECON
c) Type	Steel Cylinder	Steel Cylinder	Steel Cylinder
d) Working pressure (kg/cm ²)	200/20	204/20	200/20
e) Max. test pressure (kg/cm ²)	360/36	340/33.4	335/33
f) Cylinder capacity (water equivalent) (liters) and diameter (mm)	50,55,60,65,70 ltrs Dia 316mm 50,54,55,58,60,64,65,68,70,75,80,85,90 ltrs Dia 316mm Dwg. No. 5747003/0 20,53,55,58,60,63,65,70,75,80,85,90 ltrs Dia. 356 mm (Dwg. No. 54740004/0) 50,53,55,58,60,63,65,70,75,80,85,90 ltrs Dls 323.8mm (Dwg. No. 54740005/0)	50,52,53,55,57,58,60,62,63,65,70,75,78,80,82,85,90 ltrs Dia. 356 mm (Dwg. No. R-SC-356-200-7.4 Rev.2) 50,55,60,65,70,75,80,85,90 ltrs Dia 317mm (Dwg. No. R-SC-317-200-6.5)	50,55,60,65,70,75,80,85,90 ltrs Dia. 325mm 50,55,60,65,70,75,80,85,90 ltrs Dia. 356mm (Dwg. No SHPCCL/417302-0) 50,55,60,65,70,75,80,85,90 ltrs Dia. 316mm (Dwg. No. shpccl/415302-1)
g) Approval reference from PESO (PESO compliance with Date)	G.3(42)523 dated 06.02.2006	G.3(42)515/Vidated 20.05.2011 G.3(42)553/I dated 11.11.2010	G.3(42)544/I dated 24.12.2008 G.3(42)544/I dated 17.07.2008 G.3(42)544/III dated 06.05.2011 G.3(42)544/III dated 06.02.2005
h) Number of Cylinders fitted (schematic drawing)	ONE	ONE	ONE

Manufacturer: Motozen Fuel Systems Private Limited	Document No: Motozen-SK4-CNG-2020-21-03-19	Test Agency: ICAT MANESAR, Automotive Technology
Signature:	Sheet No: 1 of 14	Signature:
Name: VIVEK SHARMA	Date: 19-03-2021	Designation: Prashant Vij
Designation: Manager, Production Quality		Date of Issue: Certification Business Unit
		Page No. 01 of 09

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i) Tare weight of each cylinder (kg)				
3. Cylinder Details (PESO approved / endorsed)				
a) Name of manufacturer	M/s. Jay Fe Cylinders Ltd.	M/s. User Technologies Ltd.	M/s. Euro India Cylinders Limited	M/s. ADM Gastech Solutions LLP
b) Identification No.	JFC/TLM 13456	UTL	EICL	BTIC
c) Type	Steel Cylinder	Steel Cylinder	Steel Cylinders	Steel Cylinders
d) Working pressure (kg/cm ²)	200/20	200/20	200/20	
e) Max. test pressure (kg/cm ²)	335/33	335/33	335/33	
f) Cylinder capacity (water equivalent) (liters) and diameter (mm)	50,55,58,60,63,65,70,75,78,80,85,90 ltrs Dia. 356mm (Dwg. No. EICL-356-7.5-34CrMo4)	50,55,57,58,60,62,63,65,68,70,73,75,77,78,80,82,85,90 ltrs Dia. 356mm (Dwg. No. LTLK/A/V/Y/15)	50,55,57,58,60,62,63,65,68,70,73,75,77,78,80,82,85,90 ltrs Dia. 356mm (Dwg. No. EICL-356-7.5-34CrMo4)	50,55,60,65,70,80,90 ltrs Dia. 325mm (Dwg. No. IS325-CrMo-CNG Rev.0)
g) Approval reference from PESO (PESO compliance with Date)	G.3(42)557/I dated 22.12.2009 Batch Certificate: G.3(42)557/I/2017/460 dated 03.10.2017	G.3(42)536/I dated 10.12.2008 G.3(42)536 dated 18.3.2008	G.3(42)572 dated 18.08.2011 50ltrs, 55ltrs, 60ltrs, 65ltrs G.3(42)572/I dated 14.10.2011	CCOE Approval Letter No. G.3 (4) 71/8TIC dated 01.11.2018
h) Number of cylinders fitted (schematic drawing)	ONE	ONE	ONE	ONE
i) Tare weight of each cylinder (kg)				
4. Cylinder Valve (s) / Shutoff valve (PESO approved / endorsed)				
a) Name of manufacturer	M/s. OIMA Sileri Spa, Italy	M/s. Minda Emer Technologies Ltd.	M/s. Batra Associate Ltd.	M/s. H.M. Plastic
b) Model name/Identification No.	Alfa	ME-CVM-001	Batra	HMP
c) Type	Manual Shut off	Manual Shut off	Manual Shut off	Manual Shut off
d) Working pressure (kg/cm ²)	210/21	200/20	200/20	200/20
e) Max. test pressure (kg/cm ²)	330/33	300/30	300/30	300/30
f) Approval reference from PESO (PESO compliance with Date)	As per drawing 695 Alfa New, CCOE Approval No. G.3(4)166 dtd. 03.06.2009	As per drawing A1D-A 6237 CCOE Approval No. G.3(40)290 dtd. 05.07.2016	As per drawing B9/CNG 1/000 CCOE Approval No. G.3(40)87 dtd. 23.11.2011	As per drawing HMP/CNG/CV/00 CCOE Approval No. G-3(40)725 dtd. 15.04.2014
Manufacturer : Motozen Fuel Systems Private Limited	Document No : Motozen SX4-CNG-2020-21-03-19	Test Agency : ICAT MANESAR	Cert No : 3115	
Signature : 	Sheet No : 2 of 14	Name : 	Page No 02 of 09	
Name : VIVEK KUMAR	Date : 19-03-2021	Designation : President	Business Unit	
Designation : Manager Prod. & Quality		Date of Issue : 19-03-2021		

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5. Solenoid Valve / Automatic shutoff valve				
a) Name of manufacturer		PART OF REGULATOR		
b) Model Name / Identification No.				
c) Type				
d) Working pressure (kg/cm ²)				
e) Max test pressure (kg/cm ²)				
f) Approval reference (Test Report / Approval Number)				
6. Petrol Solenoid Valve				
a) Name of manufacturer		NOT APPLICABLE (since the vehicle have fuel injection system, injection cut off relay is used to cut off petrol supply to injector)		
b) Model Name / Identification No.				
c) Type				
e) Max test pressure (kg/cm ²)				
7. Refilling valve / Refilling Receptacle				
a) Name of the manufacturer	M/s. Emer, S.r.l. Italy	M/s. OMB Sileri S.p.A	M/s. H.M. Plastic, Rajkot	M/s. Kamnath
b) Model name / Identification No.	DGM41037GM	CL-CL0	HMP	KEXON
c) Type	NZS	NZS	NZS	NZS
d) Working pressure (kg/cm ²)	200/20	200/20	200/20	200/20
e) Max test pressure (kg/cm ²)	300/30	300/30	300/30	300/30
8. Pressure Regulator				
a) Name of manufacturer	M/s. Motozen Fuel Systems Private Limited			
b) Model name / Identification No.	AUTOMOTO / TA01 TACNO.- CMS040 (Trade Mark- Digifuel Italy)			
c) Type	CNG ELECTRONIC REGULATOR			
d) Inlet pressure (kg/cm ²)	200/20			
e) Outlet pressure (kg/cm ²)	2/0.2 - 4/0.4			
f) No. of stages	TWO			

Manufacturer: Motozen Fuel Systems Private Limited	Document No: Motozen-SX4-CNG-2020-21-03-19	Test Agency: ICAT MANESAR	Cert No:
Signature: 		Signature: 	Signature: 
Name: VIVEK SHARMA	Sheet No: 3 of 34	Name: Prashant Vijay	Page No: 03 of 09
Designation: Manager Product Quality	Date: 19-03-2021	Designation: Prashant Vijay	Date of Issue: 19-03-2021



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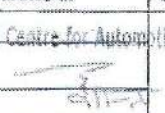
FUEL SYSTEMS PRIVATE LIMITED

g) Approval reference (Test Report / TAC compliance with Date)		TAC NO. - CM9040					
9. Vaporizer / Heat exchanger (for LNG)							
a) Name of manufacturer		NA					
b) Model name / Identification No.							
c) Type							
d) Inlet pressure (kg/cm ²)							
e) Outlet pressure (kg/cm ²)							
f) Approval reference (Test Report / Approval Number)							
10. Filter							
a) Name of manufacturer		Inbuilt with CNG Pressure Regulator					
b) Model name / Identification No.							
c) Type							
d) Inlet pressure (kg/cm ²)							
e) Outlet pressure (kg/cm ²)							
11. Oil Pump or Lubrication System, if applicable							
a) Name of manufacturer		NA					
b) Type							
12. High Pressure Tubing							
a) Name of manufacturer	M/s. Autotronics Impex Pvt. Ltd.	M/s. Emer S.P.A., Italy	M/s. Livon Gas Equipments	M/s. Jiading E-xon Power Technology Ltd.	M/s. Shiv Shakti Impex.		
b) Model name / Identification No.	ST-01 CT0CF 1037	EMER	LEG-HPP-01	HP 01	SSI-P-99B-5D-05-6MM*4MM		
c) Type (rigid / flexible)	Steel Tube	Steel Tube	Steel Tube	Steel Tube	Steel Tube		
d) Working pressure (kg/cm ²)	215/21.5	200/20	200/20	200/20	300/30		
e) Max. test pressure (kg/cm ²)	700/70	700/70	700/70	700/70	700/70		
Manufacturer: Motozen Fuel Systems Private Limited		Document No: Motozen-SX4-CNG-2020-21-03-19		Test Agency: ICAT MANESAR		Cert No:	
Signature: 				Signature: 		International Centre for Automotive Technology	
Name: VIVEK SHARMA		Sheet No: 4 of 14		Designation: Prashant Vijay DGM Certification Business Unit			
Designation: Manager Prod. & Quality		Date: 19-03-2021		Date of issue		Page No 04 of 09	



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f) Outer diameter / Inner Diameter (mm)	5/9/4	5/4	6/4	5/4	5/4
g) Material	PVC Coating	PVC Coating	PVC Coating	PVC Coating	PVC Coating
h) Approval reference (Test Report / Approval Number)	CT18M 5148 dated. 23.05.2017	CT11L 0124 dated. 03.02.2016	CT0905065	CT08M 5009 dated. 18.01.2017	SHL/16/2017-2018/1697/1941 dated. 08.06.2017
13. Low Pressure Tubing					
a) Name of manufacturer	M/s. Superseal Flexible Hose Limited	M/s. Polyhose India (Rubber) Pvt. Ltd.	Gates India Pvt. Ltd.	M/s. Polyhose India (Rubber) Pvt. Ltd.	Gates India Pvt. Ltd.
b) Model name / Identification No.	Superseal X"	Polyhose Fuel/CNG Hose I.D. 1/2"	GATES 1/2 INCH (12.5 mm) CNG HOSE	Polyhose Fuel/CNG Hose I.D. 3/16"	GATES 1/2 INCH (6.3 mm) CNG HOSE
c) Type	Low Pressure Hose with braided	Low Pressure Hose with braided	Low Pressure Hose with braided	Low Pressure Hose with braided	Low Pressure Hose with braided
d) Working pressure (kg/cm ²)	2.04	2.04	2.04	2.04	2.04
e) Max test pressure (kg/cm ²)	48.95	48.95	48.95	48.95	48.95
f) Outer diameter / Inner Diameter (mm)	19.60/12.50	19.4/12.7	19.8/12.7	11.10/4.95	12.7/6.3
g) Material					
h) Approval reference (Test Report / Approval Number)	SHL/239/2014-2015/985/500 dated. 05.03.2015	CTICK1974 dated. 08.07.2015	SHL/239/2015-2016/717/1057 dated. 19.05.2015	CT2BL5008 dated. 06.09.2016	SHL/239/2016-2017/10620/1338 dated. 19.05.2015
14. Gas-Air Mixer					
a) Name of manufacturer					
b) Model name / Identification No					
c) Type & drawing	R.A.				
d) Venturi Size (mm)					
e) Approval reference (Test Report / Approval Number)					
15. Gas Injector					
a) Name of manufacturer	M/s. Motozen Fuel Systems Private Limited				
b) Model name / Identification No	AUTOMOTO / TA10 (Trade Mark- Digifuel Italy)				
c) Type & drawing	TA10-D1				
d) Injector flow specs	2 BAR				
e) Approval reference (Test Report / Approval Number)	CDDGQ9148 dated.12/04/21				
Manufacturer: Motozen Fuel Systems Private Limited	Document No: Motozen-SX4-CNG-2020-21-03-19	Test Agency: ICAT MANESAR	Cert No:		
Signature: 		Signature: 	International Centre for Automotive Technology		
Name: VIVEK SHARMA	Sheet No: 5 of 14	Name: Prashant Vijay	DGM Certification Business Unit		
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FUEL SYSTEMS PRIVATE LIMITED

16. ON / OFF Switch (Fuel selector switch)	
a) Name of manufacturer	M/s. A.E.B. S.p.A, Italy
b) Model name / Identification No	119B
17. Ignition System	
a) Name of manufacturer	OE FITTED
b) Type of Ignition System	Electronic
c) Spark plug gap, mm	1.0 ± 0.05mm
d) Make	NGK KR6A10
e) Identification	
18. Wiring Harness	
a) Name of manufacturer	M/s. A.E.B. S.p.A
b) Electrical circuit diagram / Detail layout	
c) Approval reference (Test Report / Approval Number)	TCO 0793 dated. 15-05-2013
19. Interfacing Unit (ECU)	
a) Name of manufacturer	M/s. A.E.B. S.p.A., ITALY
b) Identification No.	MP32
c) Type	Injection Type
20. Ignition Timing Advancer	
a) Name of manufacturer	
b) Type	NA
c) Timing on Gas mode	
d) Timing on baseline fuel.	
21. Fuel selector switch	
a) Name of manufacturer	Prefer clause no.15
b) Model No	
c) Type	

Manufacturer : Motozen Fuel Systems Private Limited	Document No : Motozen-SX4-CNG-2020-21-03-19	Test Agency : ICAT MANESAR	Cert No :
Signature : 		Signature : International Centre for Automotive Technology	
Name : VIVEK SHARMA	Sheet No : 6 of 14	Name : Prashant Vijay	
Designation : Manager Prod. & Quality	Date : 19-03-2021	Designation : BGM Certification Business Unit	Page No 06 of 09

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Prashant Vijay

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FUEL SYSTEMS PRIVATE LIMITED

20. Fuel flow actuation mechanism (Mechanical / Electronic)			
a) Brief description of system (Attach Annexure)		NA	
b) Schematic layout (Attach Drawing)			
c) Identification of critical components of kit, including ECU, Lambda sensor, Pressure sensor, temperature sensor etc with Make and Identification number (attach Annexure)			
21. Brief Description of System including Dimensional Layout for Cylinder and other kit components installation ventilation details etc.		Enclosed sheet no. 13 & 14	
22. Joints and connections			
a) Name of manufacturer			
b) Type			
c) Number of Joints and connections represented on Drawing (Attach Drawing)		107	
23. Catalytic Converter OE			
(a) Make & Identification Replaced		M/s. Maruti Car (OE Fitted)	
(b) Make & Identification		BACOL	
24. Refilling valve interlocking switch (NA for LNG)			
a) Name of manufacturer	M/s. SUNGHO	Dongnan Electronics Co. Ltd.	M/s. Cruus
b) Identification No.	SUNGHO	Dongnan	KEBA
c) Type	Micro switch with side actuated	Micro switch with side actuated	Micro switch with side actuated
25. Current limiting Device (Fuse)			
a) Name of manufacturer	M/s. Protection Electromech (p) Ltd.		
b) Identification No.	15A		
c) Voltage / current rating	12V / 7.5A		
d) Type	Glass Fuse		

Manufacturer : Motozen Fuel Systems Private Limited	Document No : Motozen-SX4-CNG-2020-21-03-19	Test Agency : ICAT MANESAR	Cert No :
Signature : 		Signature : 	
Name : VIVEK K HARMA	Sheet No : 7 of 14	Designation : Prashant Vijay	
Designation : Manager Prod. & Quality	Date : 19-03-2021	Date of Issue : 19-03-2021	Page No 07 of 09



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FUEL SYSTEMS PRIVATE LIMITED

e) Approval reference (Test Report / Approval Number)		SHL/239/2015-2016/6979/2953 dated. 30.12.2015	
26. Indicator			
(A) Pressure Indicator			
a) Name of manufacturer		M/s. Human CNG Part Company Limited	
b) Identification No.		CNGauge - CNG201C -CIN	
c) Type		Manometer	Manometer
(B) Temperature Indicator (for LNG)		Manometer	Manometer
a) Name of manufacturer		NA	
b) Identification No.		NA	
c) Type		NA	
27. Service shut off valve			
a) Name of manufacturer		NA	
b) Identification No.		NA	
c) Type		NA	
28. Compartment/Sub-compartment / Gas tight housing			
a) Name of manufacturer		NA	
b) Identification No.		NA	
c) Type		NA	
d) Material used		NA	
e) Approval reference (Test Report / Approval Number)			
29. Conduit			
a) Name of manufacturer		M/s. Schlemmer Technology India Private Limited.	M/s. Precision Corrugators Pvt. Ltd.
b) Identification / Part No.		VDH / 3036	VDH / 2939
c) Inner & outer diameter		30 mm / 36 mm	29 mm / 39 mm
d) Type		PVC	PVC
Manufacturer: Motozen Fuel Systems Private Limited		Document No : Motozen-SX4-CNG-2020-21-03-19	
Signature: 		Test Agency: ICAT MANESAR	
Name: VIVEK SHARMA		Signature: 	
Designation: Manager Prod. & Quality		Designation: Prashant Vijay, DGM Certification Business Unit	
Date: 19-03-2021		Date of Issue	
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FUEL SYSTEMS PRIVATE LIMITED

e) Approval reference (Test Report / Approval Number)	SHL/239/2014 2015/9044/392 dated 20.02.2015	SHL/239/2014-2015/9044/391 dated 20.02.2015	SHL/239/2017- 2018/3418/2544 dated 03.08.2017
30. 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. Livon Gas Equipments		
b) Identification No.	LPG/CNG Pad		
c) Type	EPDM		
d) Number of bands / cylinder (Should be part of layout)			
e) Approval reference (Test Report / Approval Number)	AML/2010-03/7398/938 dtd. 30.03.2010		
31. Battery cut off switch (if applicable)			
(a) Name of manufacturer	NA		
(b) Identification No.	NA		
(c) Type	NA		
32. Labels - Number and position	NA		
33. First Aid Box	NA		
34. Fire Extinguisher (Number and Type)	NA		
35. Idle rpm	800 +/- 100		
36. Brief Description of System Including Dimensional Layout for Cylinder and other kit components installation ventilation details etc.	Enclosed sheet no. 13 & 14		
37. Any other information			
a.) Petrol ECU Make/ Identification	M/s Denso / 33920m55k0		
b.) Oxygen Sensor	NA		
c.) Lambda	Pre- Heated		
Note: In case of OE fitment, if any of the above information is already covered in the information submitted as per AIS-007, only the reference need be given and it is not necessary to duplicate the information.			
* Mention NA wherever not applicable			

Manufacturer: Motozen Fuel Systems Private Limited	Document No : Motozen-SX4-CNG-2020-21-03-19	Test Agency : ICAT MANESAR	Cert No :
Signature: 		Signature: 	
Name: V. SHARMA	Sheet No : 9 of 14	Name: Prashant Vijay	
Designation : Manager Prod. & Quality	Date : 19-03-2021	Designation: DGM Certification Business Unit	Page No 09 of 09



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FUEL SYSTEMS PRIVATE LIMITED

ANNEXURE II		TECHNICAL SPECIFICATIONS OF IN-USE VEHICLES
1.	Manufacturer's name and address	Maruti Suzuki India Limited Gurgaon Plant Old Palam Gurgaon Road Gurgaon - 122015, Haryana
2.	Vehicle Data	
	a) Model	Maruti SX4 VXi BS3
	b) Category of Vehicle	Passenger Car
	c) Year and Month of Manufacture	2007 / October
	d) Engine No.	M16A1307630
	e) Chassis No.	MA3EJC1500119790
	f) Registration number (Enclose RC copy)	DL5CR1946
	g) Application	
3.	Engine	
	a) Make	MARUTI
	b) Model	K-Series
	c) Type	NA
	d) Bore x stroke (mm)	NA
	e) No. of cylinders	4
	f) Displacement	1586
	g) Compression ratio	NA
	h) Max. Engine output (kW @ rpm)	76.99kW@5600rpm
	i) Max. Torque (Nm @ rpm)	145Nm@4100rpm
4.	Frame	



Manufacturer: Motozen Fuel Systems Private Limited	Document No: Motozen-SX4-CNG-2020-21-03-19	Test Agency: ICAT MANESAR	Cert No:
Signature:		Signature:	
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Designation: Manager Prod. & Quality	Date: 19-03-2021	Designation: DGM Certification Business Unit	Page No 01 of 03

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	a) Long member size (mm)	NA
	b) Number of cross members	NA
5.	Suspension	NA
	a) Type / Description	NA
	b) Spring	NA
	c) Anti-roll bar	NA
6.	Wheels and tyres	205/80R-14
	a) Wheel rim size	
	b) Tyre size designation including ply rating	
	c) Speed index	
	d) Load index / Load rating	
	e) Tyre Type (Radial / Cross / Tube / Tubeless)	
	f) Laden Tyre pressure (front & rear) (kg/cm ²)	
7.	Electrical system	
	a) System voltage (V)	12 V
	b) Battery rating (Ah)	N/A
8.	Fuel tank	
	a) Material	NA
	b) Capacity (l)	45L
9.	Dimensions	
	a) Wheel base (mm)	NA

Manufacturer: Motozen Fuel Systems Private Limited	Document No: Motozen-SX4-CNG-2020-21-03-19	Test Agency: ICAT MANESAR	Cert No:
Signature: 		Signature: 	
Name: VIVEK SHARMA	Sheet No: 11 of 14	Name: Prashant Vijay	
Designation: Manager Prod. & Quality	Date: 19-03-2021	Designation: DGM Certification Business Unit	Page No 02 of 03

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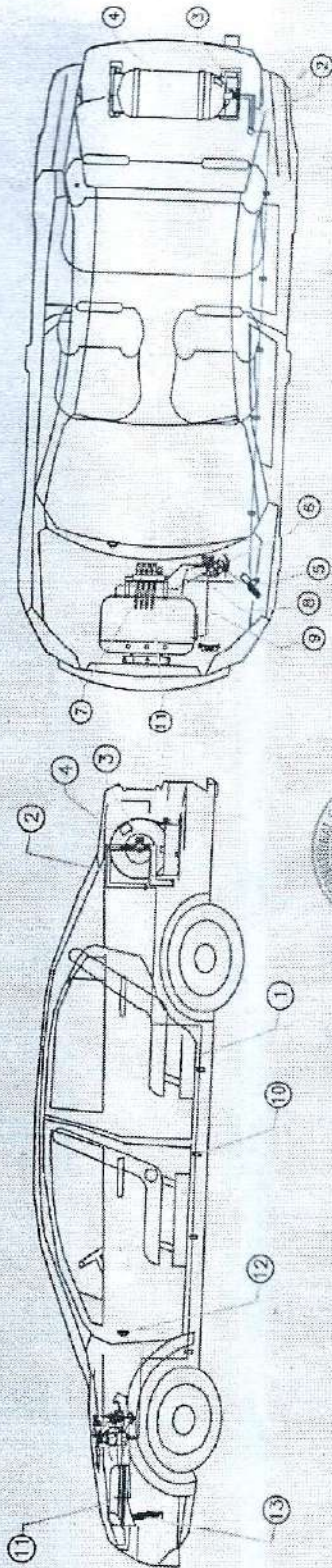
	b) Overall width (mm)	NA
	c) Overall length (mm)	NA
	d) Overall height (mm)	NA
	e) Front track (mm)	NA
	f) Rear track (mm)	NA
	g) Min. ground clearance (mm)	NA
	h) Cargo box dimensions (mm)	NA
	i) Load body platform area	NA
10.	Weights	
	a) Maximum GVW (kg)	1650
	b) Maximum GCW (kg)	N/A
	c) Maximum FAW (kg)	NA
	d) Maximum RAW (kg)	1280
	e) Kerb weight with 90% fuel (with spare wheel, tools, etc.) (kg)	1200
	f) Maximum gradeability in 1st gear	NA
11.	Seating	
	a) Seating capacity	5
	b) Sketch showing seating layout with dimensions	N/A

Manufacturer: Motozen Fuel Systems Private Limited	Document No: Motozen-S34-CNG-2020-21-03-19	Test Agency: ICAT MANESAR	Cert No:
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Name: VIVEK SHARMA	Sheet No: 12 of 14	Name: Prashant Vijay	
Designation: Manager Prod. & Quality	Date: 19-03-2021	Designation: DGM Certification Business Unit	Page No 03 of 03

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SR. NO.	DESCRIPTION	SR. NO.	DESCRIPTION	SR. NO.	DESCRIPTION
5	REFILLING VALVE	10	LINE CLAMP/SCREW	13	ECU
6	CNG CYLINDER	9	COOLANT HOSE	12	CHANGE OVER SWITCH
7	CNG CYLINDER VALVE	8	LOW PRESSURE HOSE	11	ENGINE
8	DUCTING PIPE	7	INJECTOR RAIL		
9	HIGH PRESSURE STEEL PIPE	6	REDUCER		

MOTOZEN FUEL SYSTEMS

DESCRIPTION:

LAYOUT PLAN OF CNG CONVERSION FOR MARUTI SX4 BS III

ENGINE CAPACITY : 1586 CC



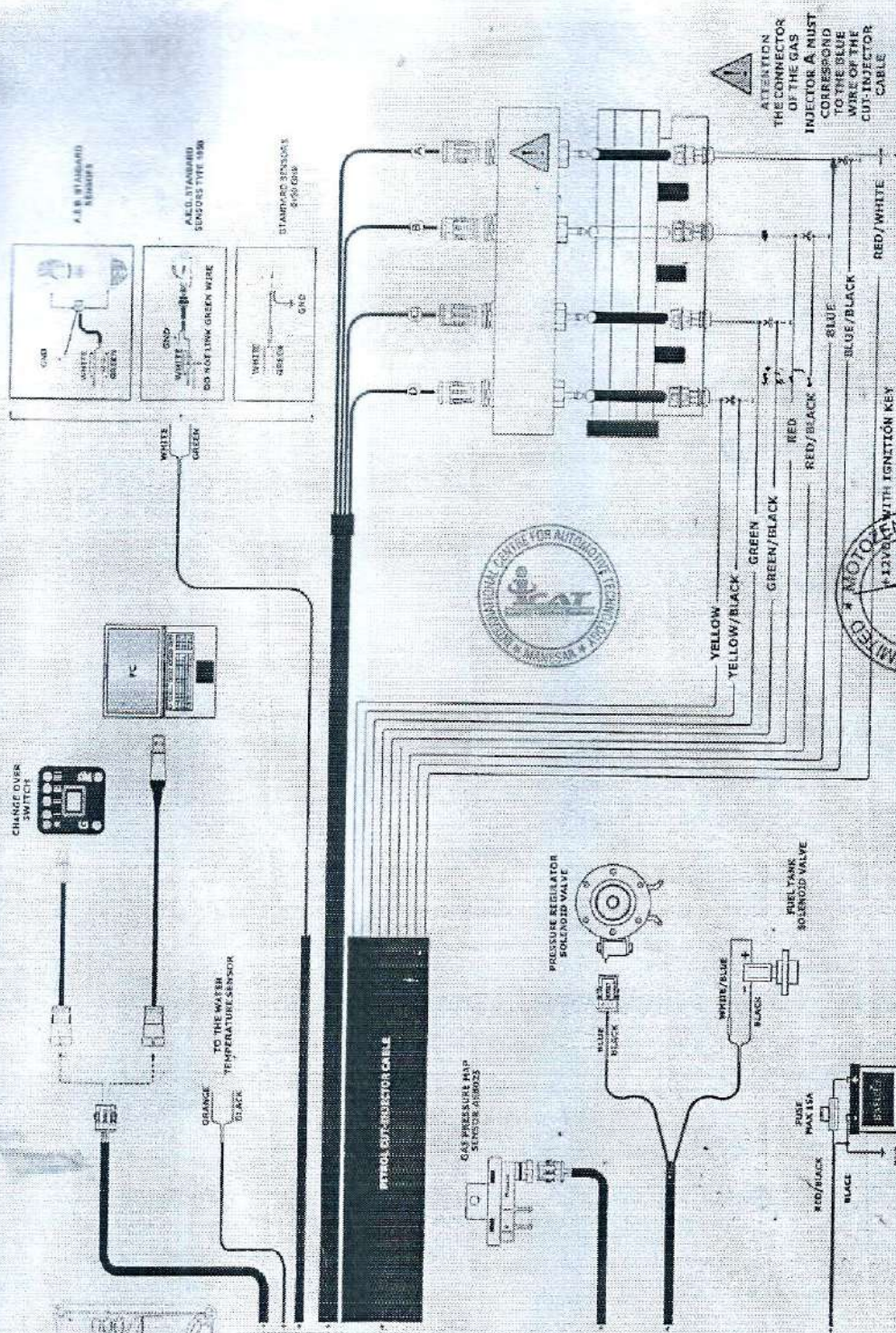
DATE

19/03/2021

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International Centre for Automotive Technology

Prashant Vijay

DGM Certification Business Unit

