S-WAY CNG 8x2 – 1+3 CONFIGURATION

IVECO S-Way 260S NP (CNG)

TECHNICAL GVW 35 t

DESCRIPTION

This conversion has been realised and perfected by System Truck on the old Stralis range, and is now available on the last range vehicles S-Way 260S Natural Power with natural gas (**CNG**) engine, already equipped with a steering rear axle (6x2). The converted vehicle has EWVTA (European Whole Vehicle Type Approval).

The **1+3 configuration** is perfect to cope with the most challenging missions in terms of load and manoeuvrability, such as the transport of concrete and building materials, and in general for equipment with evenly-distributed loads (roll-offs, tanks, isothermal bodies, refuse collection vehicles, etc.).

The conversion to a 4-axle vehicle (8x2) is carried out through the application of an intermediate axle[1] with single wheels, steering hydraulically. The suspension is pneumatic and features the axle lifting device with automatic operation. The central axle suspension benefits from the optimised traction control system and load transposer for increased grip already present on the last axle.
System Truck's Technology system for the hydraulic control of the added axle steering is completely independent from the front steering system and therefore does not affect in any way the original vehicle driving comfort.

The specific solution for CNG vehicles can involve the repositioning of gas tanks and/or of the other components and auxiliary groups located on the chassis and/or the use of components designed by System Truck engineering in order to optimise spaces, depending on the gas cylinders configuration on the base vehicle (see pages 3-4).

[1] The added central axle is an **original IVECO** axle for vehicles with wheelbases 5100, 5500, 5700, 6050.

S.T. System Truck S.p.A.
Conversion solutions for industrial vehicles
Via Paesa, 28 - 46048 Roverbella (MN) - Italy
Tel +39 0376 696809 - info@st-truck.com - www.st-truck.com

Quality System
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Certificate N°: 11 057 01

TECHNICAL NOTES

Specifications of the **base vehicle** for the conversion to 8x2 1+3:

Model	**IVECO S-Way 260S NP (CNG) 6x2**
Suspensions	Y/PS (rear pneumatic)[2] *or* Y/FS (full pneumatic) *or* *AS cabin only:* Y/FS-CM (full pneumatic - swap bodies)
Wheelbase (min – max) (mm)	4500 – 6050[3]
Other	Parking brake also on the front axle (**IVECO option 2311**)[4]

Specifications of the **vehicle converted** to 8x2 1+3:

Model		**IVECO S-Way 260S NP (CNG) 8x2 1+3**
Suspensions added central axle		Pneumatic (with automatic lifting device)[5]
Tare increase (kg) (including tyres and wheel rims)		~900
Maximum allowed weights (kg)	1st axle[6]	7500 / 8000 / 8600[7] / 9000[8]
	2nd axle[9]	7000 / 7500
	3rd axle (drive axle)[6]	11500 / 12000
	4th axle[6]	7500 / 8000
GVW[10] (max) (kg)		35000[11] (technical) / 32000 (legal)[12]
GCW[13] (max) (kg)		45000 (technical) / 44000 (legal)[12] *or* *Cursor 13 engine only:* 50000 (technical)

[2] Where a body with high tare (for example, a concrete mixer) is foreseen, the conversion can even be carried out on vehicles with a non-liftable rear axle.
[3] Not all CNG tanks configurations on all wheelbases are compatible with the conversion: see page 3.
[4] However, vehicles which are not prepared with this option can also be adapted by System Truck prior to the conversion.
[5] With unloaded or partially loaded truck, it is possible to ride with the 2nd and 4th axles lifted. The conversion can also be done with a non-liftable central axle (regardless of the rear axle featuring the lifting device or not).
[6] Maximum weight unvaried with respect to the original vehicle.
[7] **IVECO option 8334**.
[8] **IVECO option 76248**.
[9] Maximum weight variable depending on the maximum weight on the 4th axle.
[10] Gross Vehicle Weight.
[11] 34000 for ADR compliant vehicle versions (only AT and FL classes).
[12] The legal GVW and GCW can vary according to single country regulations, which must always be checked.
[13] Gross Combination Weight: maximum technically allowable weight of the combined vehicle (rigid + trailer).

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Cabin				AD						AT						AS				
1st axle ÷ start of body (mm)				505[14]						940						960				
Distance between axles (mm)	1st - 3rd			4500	4800	5100	5500	5700	6050	4500	4800	5100	5500	5700	6050	4500	4800	5100	5700	6050
	2nd - 3rd			1320		1365 (standard) *or* 1320				1320		1365 (standard) *or* 1320				1320		1365 (standard) *or* 1320		
Body fitting[15] (mm)	min			6542	7052	7552	8222	8560	9146	5722	6236	6740	7416	7684	8270	5886	6402	6930	7986	8600
	max[16]			7582	8160	8730	9500	9884	10554	6770	7352	7928	8704	9008	9678	6976	7564	8164	9374	10076
			IVECO option																	
Allowed CNG cylinders configurations [17]	left	4x80 (standard AD/AT)	72011	☐ (E+G)	☐ (E+F/G)	☐ (A/B)	■	■	■		☐ (E+F)	☐ (A)	■	■	■	(admissibility to be checked with System Truck technicians)				
		without	72015	■	■	■	■	■	■	■	■	■	■	■	■					
		4x70	72010	☐ (E+F/G)	☐ (E+F/G)	■	■	■	■	☐ (E+F)	☐ (E+F)	■	■	■	■					
		2x115 + 2x148 (standard AS)	72012			☐ (C/D)	☐ (A/B)	■	■			☐ (C)	☐ (A)	■	■			☐ (A)	■	■
	right	4x80 (standard AD/AT)	72016	☐ (E+F/G)	☐ (E+F/G)	■	■	■	■	☐ (E+F)	☐ (E+F)	■	■	■	■					
		2x115 + 2x148 (standard AS)	72017	☐ (E+F/G)	☐ (E+F/G)	■	■	■	■	☐ (E+F)	☐ (E+F)	■	■	■	■			■	■	■
		without	72020	☐ (E+F/G)	☐ (E+F/G)	■	■	■	■	☐ (E+F)	☐ (E+F)	■	■	■	■					
		(2x115 + 2x148)x2	73107																	
	on chassis	4x80	72022			(admissibility to be checked with System Truck technicians)														
		6x80	72023																	
	behind cabin	3x148	72024	■[18]	■[18]	■[18]	■[18]	■[18]	■[18]											

Key: ■ allowed ☐ allowed with layout modifications (modification ref., see page 4)

[14] *Or* 920 with groups behind the cabin *or* 650 with air filter behind the cabin (IVECO option 1836/04897).
[15] The body fitting dimensions are calculated with reference to the Y/PS version vehicle, with technical maximum weight of the 1st axle of 9000 kg and with the standard CNG cylinders configuration. Nota bene: the dimensions specified are theoretical and must be checked each time according to the actual vehicle configuration.
[16] The maximum body fitting is limited by the value of the weight on the front steering axle, which must not be lower than 20% of the GVW.
[17] Nota bene: the specifications on allowed CNG cylinders configurations and on possible layout modifications must be checked each time according to the actual vehicle configuration and to the specific needs of the customer. For configurations differing from those in the table, a feasibility assessment must be requested to System Truck technicians.
[18] Only without air filter behind the cabin (IVECO option 1836/04897).

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Layout modifications

A	Installation of System Truck vertical battery box on the left hand side of the chassis; forward relocation of the cylinders on the left hand side of the chassis.
B	Forward relocation of the original IVECO battery box and of the cylinders on the left hand side of the chassis. The vehicle must be ordered with air filter behind the cabin (**IVECO option 1836/04897**).
C	Installation of System Truck vertical battery box on the right hand side of the chassis; forward relocation of the cylinders on the left hand side of the chassis.
D	Installation of System Truck vertical battery box on the left hand side of the chassis; forward relocation of the cylinders on the left hand side of the chassis. The vehicle must be ordered with air filter behind the cabin (**IVECO option 1836/04897**).
E	Forward relocation of the cylinders on the chassis.
F	Relocation of the original IVECO battery box in the rear overhang / above the chassis / on the right hand side of the chassis (depending on the vehicle configuration) *or* installation of System Truck vertical battery box in the rear overhang / above the chassis / on the right hand side of the chassis (depending on the vehicle configuration). The vehicle must be ordered with standard air filter, without air filter behind the cabin (IVECO option 1836/04897).
G	Installation of System Truck vertical battery box on the left hand side of the chassis. The vehicle must be ordered with air filter behind the cabin (**IVECO option 1836/04897**).
H	Forward relocation of the original IVECO battery box on the left hand side of the chassis. The vehicle must be ordered with air filter behind the cabin (**IVECO option 1836/04897**).

The tyres of the added axle are each time the same mounted on the axles of the base vehicle.

The turning radiuses remain the same with respect to the base (6x2) vehicle with the same wheelbase.

Alongside the conversion to 8x2 1+3, and depending on the possible new layout, System Truck can provide for modifications (extension or reduction) of the **wheelbase** and/or of the **rear overhang** of the vehicle[19], the **repositioning of components** applied to the chassis (moving them from one side to the other or to the rear overhang) in order to achieve a configuration suitable for the foreseen body, as well as the installation on the vehicle of the electromagnetic retarder **Telma AD 72-00**[20].

The converted vehicle is homologated with II stage European homologation (WVTA) and is accompanied by the certificate of conformity (CoC) for incomplete vehicle[21].

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T +39 (0)376 1590804 commerciale@st-truck.com

[19] If it is necessary that the rear overhang house no air tanks, an assessment of possible alternatives must be requested to System Truck technicians.
[20] Only for vehicles with Allison automatic transmission and without Intarder / hydraulic retarder. In the case of installation of the electromagnetic retarder, the added central axle will not feature the lifting device.
[21] The vehicle must be completed by the bodybuilder in order to be registered.

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