



HINO TEAM SUGAWARA

HINO500 Series Trucks Make a 1-2 Finish in Under 10-litre Class for Their 7th Straight Championship.

Complete Victory in the Under 10-litre Class!

Team Extends Record for Consecutive Dakar Rally Finishes to 25!

HINO TEAM SUGAWARA entered Dakar Rally 2016, which was held in Argentina and Bolivia in South America from January 2 through 16, 2016. Extending their record of consecutive finishes since the team first entered the rally in 1991 to 25—and crowning their seventh straight victory in the Under 10-litre Class with a one-two finish—the team's two trucks put on a stunning performance that placed them on par with many of their larger rivals, finishing in 13th and 31st place in the overall trucks category.

In preparation for this year's rally, the team's trucks, which were based on the HINO500 Series, received upgrades to their A09C-TI engines' air intakes and modifications to their control systems to improve output and handleability. Combined with their upgraded suspensions, which were carefully honed through real-world trials carried out at Rally Mongolia in August 2015, these trucks were given a considerable boost to their racing capabilities in preparation for the Dakar Rally.

Of the team's two trucks, Car 1 was crewed by driver Yoshimasa Sugawara and his new navigator Mitsugu Takahashi. Car 2 was piloted by the team's ace driver Teruhito Sugawara and navigator Hiroyuki Sugiura, a duo who greeted their fifth Dakar Rally together.

On the support side, the team's assistance squad was again joined by Katsuyuki Nagoshi from Hino Motors' Engine Engineering Div. as the team's engineer; Seiichi Suzuki from Japan Racing Management, the team's parent body, as mechanic leader; and Masaki Nakamura from Hino Motors' Vehicle Planning & Production Engineering Div. as mechanic sub-leader. In addition, Kohei Shimazaki from the Technical Research Center joined the team as the driver of the support car that transported the mechanics.

Also on the team were four of Hino's best and brightest mechanics: Masaki Tagoku (Tokyo), Masato Kondo (Shizuoka), Nozomi Tonoike (Kagawa) and Hideyuki Sakaguchi (Kyushu), who were chosen from among the numerous mechanics who applied from Hino dealerships nationwide.

Marking the eighth year since the event was relocated to South America, this year's rally kicked off in Buenos Aires, the capital city of Argentina, and coursed through Uyuni in Bolivia before reaching the finish line in Rosario, Argentina, taking contestants through 13 stages and a total distance of 9,039 kilometers, of which timed stages (Special Stages) made up 4,320 kilometers. The start line was initially set to be in Peru, but the country unfortunately had to cancel its bid to host the event in September.

Possibly due to this change, the first half of the race was a stream of stages that presented contestants with relatively few challenges. Meanwhile, the weather refused to stabilize throughout the duration of the race, with intense winds and torrential rains forcing organizers to cancel the Special for January 3, while a slew of other complications forced them to shorten Specials on January 4 and a number of subsequent days as well.



Car 1
Driver. Yoshimasa Sugawara / Navigator. Mitsugu Takahashi



Car 2
Driver. Teruhito Sugawara / Hiroyuki Sugiura



Racing vehicles were tortured by a thick mantle of fine and powdery sand known as fesh-fesh.



The team's trucks were serviced by Hino mechanics at the bivouac.

Under these conditions, the team's HINO500 Series trucks made an impressive display of their potential, racing neck-and-neck with their larger rivals even in the early stages where sheer power was the determinant of the race. On January 9, Car 2 crossed the finish line in Salta, Argentina in 18th place overall (in accumulated rankings), and Car 1 in 41st after suffering a delay from being bogged down. These results meant that the team's two trucks finished the first week of the rally with a one-two lead in the Under 10-litre Class.

After a day of rest, contestants embarked on the second week of the rally on January 11, when they would be faced with dunes and fesh-fesh (powder sand).

The level of difficulty increased precipitously as racers were met with the highlight of this year's race—the Fiambala Desert—over three days from January 12 to 14. On January 12, Car 2 climbed to 9th overall for the day's Special, and on the following day clocked the fourth best checkpoint time at one point in the stage. And while the truck got bogged down in a dune area before the finish line and ended up finishing the day in 14th place, its performance was more than enough to show the world what the HINO500 Series trucks were capable of under these harsh conditions.

The following day, Car 2 raced the mountain crossing stage under intense heat and crossed the finish line in Rosario in 13th place with little ado, with Car 1 following suit later in the day.

At the podium set up at Rosario's Monumento Nacional a la Bandera, the team's crews and staff firmly shook hands with Hino Motors Chairman Masakazu Ichikawa—who had flown in from Japan—before the curtain was drawn on this 15-day event. Once again, the numbers show the intensity of this year's rally: Of the 347 bikes and cars that started, only 214, or 62%, made it to the finish line. In the Trucks category, only 41 finished out of 55 starts.

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	ENTRY	FINISH	FINISH RATE
MOTO	136	84	62%
QUAD	45	23	51%
AUTO	111	66	59%
TRUCK	55	41	75%
TOTAL	347	214	62%

RANKING	MAKER	TIME
1	IVECO	44:42:03
2	KAMAZ	45:52:30
3	IVECO	46:22:58
4	MAN	47:05:04
5	IVECO	47:13:02
13 (1)	HINO	50:32:31
31 (2)	HINO	69:55:07

(): Under 10-litre Class

HI NO TEAM SUGAWARA

The Road to a Glorious 7th Straight Victory in their Class

Kicking off in Argentina, Dakar Rally 2016 became the first rally in which the Trucks category entered into Bolivia. The course then looped back to Argentina for the finish line.

Special stage: 4,320km
Connection: 4,719km
Total distance: 9,039km

Jan 2. Ceremonial Start
Dakar Rally 2016 kicks off in Buenos Aires.



Jan 3. Stage 1
Heavy rains force organizers to cancel entire stage.



Jan 4. Stage 2
Race finally begins in earnest.



Jan 5. Stage 3
Trucks complete shortened SS with composure.



Jan 6. Stage 4
Highland stages kickoff midway through the rally.



Jan 7. Stage 5
Dakar Rally 2016 crosses over into Bolivia.



Jan 8. Stage 6
Contestants face another SS in extreme highlands cased out of Uyuni.



HINO500 Series and a assistant truck [HINO700 Series ZS]



Jan 9. Stage 7

Contestants race a long 817km stage between Uyuni and Salta.



Jan 11. Stage 8

The second half of the rally kicks off.



Jan 10. Rest day

Trucks are completely refreshed on rest day.





Jan 12. Stage 9

Trucks show their mettle off-piste and on dunes in looped course.



Jan 13. Stage 10

The trucks do well in Fiambala, the most challenging stage of the rally.



Jan 14. Stage 11

Most longest stage, 431km is under intense heat.



Jan 15. Stage 12

Both trucks return safely to their last bivouac.



Jan 16. Stage 13 & Finish Ceremony

Both trucks finish at Rosario and wins seventh straight championship in the Under 10-litre Class.
Car 2 finishes at 13th overall, showcasing the HINO500 Series truck's outstanding capabilities.



Hino Motors Chairman Masakazu Ichikawa (2nd from left) flew in from Japan to cheer on the team.



Team members are elated.

Members of HINO TEAM SUGAWARA Who Battled Through Dakar Rally 2016

Yoshimasa Sugawara, Team director and Car 1 driver

I'm happy to have finished in what ended up being a very challenging rally this year, and I'm also very happy to see so many people cheering us on at the goal. One of the memorable things for me this year was that, for the first time in a long while, we got bogged down and stuck. I'll continue to race on. I'd like to thank everyone who has supported us.

Teruhito Sugawara, Car 2 driver

This was the 25th anniversary of Hino Motors' first entry in the Dakar Rally, so I took that to heart as we raced. The truck upgrades that we made have had a definite impact and I feel that we've got our rivals by their tails now. We know what we need to do next, so I think this was a great race also in terms of development going forward.

Mitsugu Takahashi, Car 1 navigator

The road was deeply rutted at the 110km point in today's SS, keeping us from getting through. There was a line of vehicles that couldn't move forward and we lost about an hour and 20 minutes. Fortunately, we managed to finish the special thanks to locals who guided us to an alternate route. This was the first Dakar for me and the fact that it's all over hasn't sunk in yet. I feel like we're going to be racing again tomorrow.

Hiroyuki Sugiura, Car 2 navigator

The course today was made up of twisty piste in the mountains, with almost no high-speed segments. There were areas that were slippery from the rain, and we did have one spin out. We wanted to finish in the top ten this year but regrettably we were a few positions short. That said, we've proven that we're capable of fighting close battles with the top contenders so we have a lot to look forward to.

Seiichi Suzuki, Mechanic leader

What I learned is that anything can happen in Dakar. It was critical for us to deal with them one by one as they arose. In the past, I had been servicing trucks for myself. In the Dakar Rally, I experienced servicing the vehicle for the driver, and I think that has helped me grow in many ways.

Maaski Nakamura, Mechanic sub-leader

All too soon two weeks. I experienced the withdrawal in Rally Mongolia, so I am very glad to calling both trucks finishes. I overcame with nice team members and relationship.

Masaki Tagoku, Mechanic

Time just flew by and I had a lot of fun. It was tough when things got so hectic that we didn't even have time to sleep, but I'm very happy that I was able to work with this group of people. I'm very grateful that we were able to bring both HINO500 Series trucks to the finish line.

Masato Kondo, Mechanic

Masato Kondo: What I learned is that anything can happen in Dakar. It was critical for us to deal with them one by one as they arose. In the past, I had been servicing trucks for myself. In the Dakar Rally, I experienced servicing the vehicle for the driver, and I think that has helped me grow in many ways.

Nozomi Tonoike, Mechanic

A lot of things are going through my mind as I see the goal podium today and realize that it is all over. It was tough but it was well worth it. I really wanted to experience the Dakar Rally first-hand, so I'm very grateful for having been given this opportunity.

Hideyuki Sakaguchi, Mechanic

It was a long two weeks, but it also feels like it just went by in a blink of an eye. Things got really tough at times, but we worked together as a team to overcome any problems. Seeing the goal podium today, I'm just left speechless.

Katsuyuki Nagoshi, Engineer

This is the last edition of A09C engines in three-years plan. Finally, I can call it a real racing engine. I will keep to improve it. Thank you very much for many cooperation.

Masakazu Ichikawa, Chairman, Hino Motors, Ltd.

I'd like to acknowledge the team for delivering a solid performance this year again. I get the feeling that Mr. Teruhito can climb even higher, but in any case, I'm very grateful to the entire team and for all the support that we've received. Twenty-five years of racing in the Dakar is quite a long history when you think about it, and I'm amazed at how Mr. Sugawara and his team have come together to achieve these results.



HINO500 Series truck and its mechanics arrive at the goal podium.



The team and Hino staff members share their excitement at having finished.

HINO500 Series Specifications for Dakar Rally 2016

● Engine

Engine model	A09C-TI (turbo with intercooler)
Engine type	Diesel 4 cycle In-line 6 cylinders
Displacement	8.866L
Maximum output / rpm	630PS / 2,200rpm
Maximum torque / rpm	230kgf · m / 1,200rpm

● Drive system

Drive type	Part time four wheel drive, differential lock with front and rear
Transmission	6-speed direct drive with secondary transmission
Transfer	2-speed (Hi-Lo)
Tire	XZL 14.00R20

● Chassis

Gross weight	7,300kg
Length*	6,290mm 6,370mm
Width*	2,500mm 2,500mm
Height*	3,150mm 3,150mm
Wheelbase*	3,890mm 3,970mm
Fuel tank	700L

*Left: Car 1, Right: Car 2



New Racing Trucks

The trucks that the team will be fielding in Dakar Rally 2016 are based on trucks that raced in the 2015 Rally. They have been given engine and suspension upgrades as well as shedding 300kg of weight. Earlier, in Rally Mongolia 2015 a rally that the team regards as its testing ground the team was forced to withdraw due to a suspension. In response, the suspension on Car 2, to be driven by Teruhito Sugawara, has been made more robust; the same upgrade has been made to Car 1 as well. Also this year, both HINO500 Series trucks will be powered by the 9-litre engine fitted with intake and exhaust system components that the team began developing last year. With this combination of new suspension providing excellent surface-tracking performance and engines with newly developed parts, the trucks' average speed has been increased by over 10%, making them fully capable of taking on European monster trucks.

ENGINE

Thanks to the efforts of Hino Motors' development engineers, the A09C engine produces more than 1.5 times the power and torque of production engines. The team has developed a new cam shaft specifically for Dakar Rally 2016, which will be the A09C engine's third year since its debut. Engineers have also increased air intake by modifying intake and exhaust valve timings, allowing the turbo to spin at lower speeds which in turn allows it to produce more power over a wider range of speeds. Additionally, by incorporating a pair of dedicated intake ducts that serve the three front and three rear cylinders independently, engineers were able to enhance the effects of inertia supercharging to improve acceleration and output at lower revolutions. This is expected to boost the truck's acceleration coming out of deceleration and ultimately increase its average speed. These upgrades were based on data that the team has been gathering since 2013 when it introduced a common rail engine, a Dakar Rally first in the Trucks category.

SUSPENSION

With a combination of tapered leaf springs with spring rates lowered to the bare minimum (two in front and one in rear suspension), along with coil springs configured coaxially with shock absorbers, the team has been able to achieve optimum spring rate for the trucks' bodies overall. As for shock absorbers components responsible for suppressing erratic vehicle behavior over rough terrain the team was able to optimize damping characteristics during test runs leading up to Rally Mongolia. The fruit of these efforts is the nimbleness with which the trucks' suspension systems track road surfaces. While the team was forced to withdraw from Rally Mongolia due to insufficient rigidity of peripheral components, everyone on Team Hino worked with suppliers to implement countermeasures which have endowed the trucks with optimal specifications to take on the Dakar Rally.



ENGINE



SUSPENSION

HINO's History

in the Dakar Rally 1991-2016

Year	Entries	Course (nations) Performance (Trucks category overall/Under 10-litre class)	Course Distance(km)
2016	25	Buenos Aires (ARG) ~ Salta (ARG) ~ Rosario (ARG) Car 1: 31st / 2nd / Car 2: 13th / Winner	9,039
2015	24	Buenos Aires (ARG) ~ Iquique (CHL) ~ Buenos Aires (ARG) Car 1: 32nd / 2nd / Car 2: 16th / Winner	8,159
2014	23	Rosario (ARG) ~ Salta (ARG) ~ Valparaiso (CHL) Car 1: 32th / 2nd / Car 2: 12th / Winner	9,209
2013	22	Lima (PER) ~ Tucuman (ARG) ~ Santiago (CHL) Car 1: 31th / 4th / Car 2: 19th / Winner	7,901
2012	21	Mar del Plata (ARG) ~ Copiapo (CHL) ~ Lima (PER) Car 1: 24th / 3rd (production class 3rd) / Car 2: 9th / Winner	8,836
2011	20	Buenos Aires (ARG) ~ Arica (CHL) ~ Buenos Aires (ARG) Car 1: 13th / 2nd (production class 3rd) / Car 2: 9th / Winner (Production class winner)	9,458
2010	19	Buenos Aires (ARG) ~ Antofagasta (CHL) ~ Buenos Aires (ARG) Car 1: Sidelined due to regulations / Car 2: 7th / Winner (Production class winner)	9,026
2009	18	Buenos Aires (ARG) ~ Valparaiso (CHL) ~ Buenos Aires (ARG) 14th, 26th / 2nd, 6th	9,574
2008	—	The Rally was cancelled for the first time	
2007	17	Lisbon (POR) ~ Dakar (SEN) 9th, 13th / Winner (only the winner was awarded)	7,915
2006	16	Lisbon (POR) ~ Dakar (SEN) 5th, 7th / NA	9,043
2005	15	Barcelona (ESP) ~ Dakar (SEN) 2nd, 6th / Winner (only the winner was awarded)	8,956
2004	14	Clermont-Ferrand (FRA) ~ Dakar (SEN) 5th / NA	10,411
2003	13	Marseille (FRA) ~ Sharm El Sheikh (EGY) 5th / NA	8,602
2002	12	Arras (FRA) ~ Madrid (ESP) ~ Dakar (SEN) 3rd / Winner (7th consecutive victory in this class)	9,440
2001	11	Paris (FRA) ~ Dakar (SEN) 2nd / Winner	10,873
2000	10	Paris (FRA) ~ Dakar (SEN) ~ Cairo (EGY) 5th / Winner	7,880
1999	9	Granada (ESP) ~ Dakar (SEN) 4th / Winner	9,441
1998	8	Paris (FRA) ~ Granada (ESP) ~ Dakar (SEN) 2nd / Winner	10,570
1997	7	Dakar (SEN) ~ Agades (NER) ~ Dakar (SEN) Winner, 2nd, 3rd / Winner, 2nd, 3rd (First dominant victory recorded in the Truck Division)	8,051
1996	6	Granada (ESP) ~ Dakar (SEN) 6th, 11th / Winner , 2nd	7,579
1995	5	Granada (ESP) ~ Dakar (SEN) 2nd / NA	10,067
1994	4	Paris (FRA) ~ Dakar (SEN) 2nd / NA	13,398
1993	3	Paris (FRA) ~ Dakar (SEN) 6th / NA	8,877
1992	2	Paris (FRA) ~ Sirte (LAR) ~ Cape Town (ZAF) 4th, 5th, 6th, 10th / NA	13,015
1991	1	Paris (FRA) ~ Tripoli (LAR) ~ Dakar (SEN) 7th, 10th, 14th / NA (The first entrant as a Japanese truck manufacturer)	9,186

Nation codes: ARG = Argentina, CHL = Chile, EGY = Egypt, ESP = Spain, FRA = France, LBY = Libya, NER = Niger, PER = Peru, PRT = Portugal, SEN = Senegal, ZAF = South Africa

In 1991, Hino Motors became the first Japanese truck manufacturer to enter the Dakar Rally—known as the “world’s most grueling rally,” where as few as 20.5 percent of entrants actually cross the finish line. Since its very first year in the race, Hino has finished all 25 races it started. In 1994, Hino came second in the overall Trucks category, and finished again as runner-up in the 1995 rally. In 1997, Hino astonished the world with a one-two-three sweep in the overall Trucks category. Hino has finished in second place in three races since, and continues to deliver performance befitting one of the top-class Trucks category contenders. Hino has also won seven straight championships in the Under 10-litre Class, which was included in the Trucks category between the years of 1996 and 2002. The Class was subsequently discontinued for a period of two years, but was reinstated in the 2005 race, where Hino duly won the Class championship. Hino won the Class championship again in 2007, and is currently on a seven-year winning streak from 2010 through 2016.



Hino Motors, Ltd.

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