TRITON

The TRITON is the fourth generation of the pickup, whose first three generations generated sales of 2.8 million units around the world, made by Mitsubishi Motors Corporation (MMC). Representing an evolution of the user benefits that MMC established and refined in the first three generations, it was developed in line with a concept of prioritizing basic functionality, establishing an MMC brand identity by means of high quality, and meeting the needs of a wide range of customers. MMC plans to market the TRITON in more than 140 countries. As a first step in implementing a global strategy, MMC launched the TRITON in Thailand on August 25, 2005.

1. Targets

In developing the TRITON, MMC sought to meet a wide range of user needs by applying the pickup know-how that it has gained around the world. Three specific goals were as follows (**Fig. 1**):

- Deliver basic functionality by applying the reliability and durability know-how gained with the previous three generations of the MMC pickup.
- Establish an MMC brand identity by means of class-leading quality achieved through application of the Mitsubishi Motors Development System (MMDS).
- Realize attractive styling, comprehensive functionality, and comfort matched to contemporary lifestyles while also accommodating a wide range of business uses.

The development team focused on two key words: "ART" and "ACT" (**Fig. 2**). The former key word is an acronym of "Active Recreational Truck" and expresses the notion of expanding pickup possibilities in a new, recreational direction. The latter word is an acronym of "Active Commercial Truck" and expresses the notion of creating a pickup that embodies MMC's hallmark reliability and durability.

From the two key words, the development team established the broader goal of creating a distinctive pickup that would appeal not only to established pickup users but also to certain users of Sports Utility Vehicles (SUVs).

2. Features

2.1 Exterior

In pursuit of a distinctive pickup, the development team reflected the ideas behind the "ART" and "ACT" key words in various aspects of the TRITON's form.

2.1.1 Double Cab and Club Cab exterior-design features – ART

The front design of the Double Cab and Club Cab versions inherits the Mitsubishi SUV DNA seen in the PAJERO EVOLUTION, and it has a Mitsubishi three-diamond mark in its center. The body has a stable, road hugging stance that's emphasized by sculpted front fenders, and it has an impactful, dynamic form that's created by features including the A-pillars and roofline

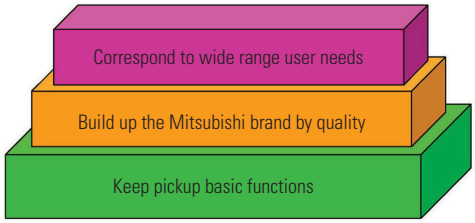

Fig. 1 Product concept

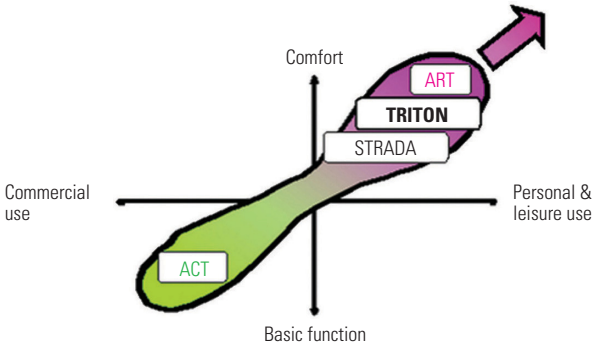

Fig. 2 Key word

(these are shaped to convey a sense of speed) and the belt line (this kicks up toward the rear). Doors and rear surfaces with taut contours like those of well-toned muscles combine with a matching, sloping rear gate to create a contemporary pickup look in which toughness is blended with the refinement of a passenger car. The cargo box has distinctive parting lines that make it appear to wrap onto the cabin, and on the Double Cab version of the TRITON it has curved side lines that match the roof line, creating a form that's fresh but pleasantly familiar (**Figs. 3** and **4**).

2.1.2 Single Cab exterior-design features – ACT

The front design of the Single Cab version inherits the Mitsubishi SUV DNA in common with that of the Double Cab and Club Cab versions, but a grille, headlamps, bumpers, and other items unique to the ACT theme create a stronger expression of reliability and durability (**Fig. 5**).

2.2 Interior-design features

The interior design reflects the pursuit of a fresh look that's matched to the exterior design. The instrument panel has a flowing wave shape and a geometrically striped surface treatment that together express a progressive identity. At the same time, a uniquely designed steering wheel, a large floor console, and bucket-type front seats realize the look and feel of a sporty passenger car (**Fig. 6**).

2.3 Packaging

The same as the previous model, MMC gives the

Fig. 3 Double Cab

Fig. 4 Club Cab

Fig. 5 Single Cab

TRITON dimensions suitable for markets around the world, thereby positioning the TRITON in the middle of the range of dimensions found in the light-pickup segment. The TRITON's wheelbase and treads are set to improve both the handling stability and ride comfort. Notably, the treads are widened by increasing the body width at front and rear wheel sections while keeping the door-to-door width unchanged. This wider treads realizes an increased maximum steering angle that permits a class-smallest minimum turning radius (5.9 m with four-wheel-drive (4WD) ; 5.7 m with two-wheel-drive (2WD)). Also, balance of the hood visible area from the driver's viewpoint has improved, and morereover, controllability in tight spaces has significantly improved. This improvement is noticeable sales point for new TRITON. With regard to cabin spaciousness, an increase of approximately 150 mm in the interior length of the Double Cab version realizes SUV-level spaciousness for rear-seat occupants. Comfort-enhancing equipment such as leather seats and a retractable rear power window further distinguishes the TRITON's rear-passenger accommodation from that of a conventional pickup, giving passengers the impression that they are riding in an SUV.

2.4 Performance

2.4.1 Newly developed common-rail injection engine

In a first for an MMC pickup, the company developed two common-rail direct-injection diesel engines with two displacements: 2.5-liter and 3.2-liter. In the common-rail system, innovatively devised technology permits fuel under a pressure of 180 MPa to be injected

Fig. 6 Interior

with freely controllable timing. As a result, exhaust emissions clear the requirements of the European Union's (EU's) STEP 3 emission regulations, which have been implemented in Thailand. Nevertheless, power and fuel economy are approximately 20 % higher than those of diesel engines in the earlier MMC pickup, meaning that class-topping performance is combined with competitive fuel economy.

2.4.2 Platform

In the chassis, a rack-and-pinion steering gear accommodates increasingly high speeds of driving in Asia and elsewhere. Increased mounting rigidity for the front suspension is matched by updated rear suspension alignment for an optimal front/rear rigidity balance. A newly designed frame combines with these benefits to help realize SUV-level handling stability and ride comfort. With the Single Cab version, which is intended mainly for commercial use, stiff suspension is combined with a platform design that reflects the ART and ACT themes.

2.4.3 Crashworthiness

In light of plans to sell the TRITON in Europe, MMC targeted crashworthiness good enough for a 4☆ rating in the European New Car Assessment Program (Euro NCAP). Consequently, the TRITON has highly rigid body framework and a newly designed chassis frame that's highly efficient in terms of absorbing impact energy. In the cabin, driver and passenger airbags are complemented by pretensioner- and force-limiter-equipped seatbelts for further occupant protection. In addition, a pedal structure that limits rearward pedal movement in a frontal impact helps protect the driver's lower legs.

2.4.4 Equipment

To make the TRITON acceptable to SUV users, MMC moved beyond the equipment specifications seen with conventional pickups. Highlight items of passenger-car-style equipment and pickup-style equipment newly adopted for the TRITON are as follows:

- Retractable rear power window
  The window between the cabin and cargo bed can be raised and lowered electrically for easy access to the cargo bed.
  It also has a ventilation position that permits fresh air to be introduced into the cabin. This is one of the specific features of the TRITON.
- Leather power seats
  The highest grade of the Double Cab version is the first pickup to have leather-upholstered seats.
  The driver's seat has power adjustment (a feature that puts it in on a par with the driver's seat of an SUV).
- Liquid-crystal information panel
  Instead of an information panel with three conventional mechanical meters, the TRITON has liquid-crystal meters that are superior in terms of legibility and styling. In addition to environmental information such as the altitude and outside temperature, the information panel shows driving-related information such as the average speed and average fuel consumption. If an MMC audio system is fitted, the information panel can also show audio information.
- Electronic devices
  Electronic Time & Alarm Control System (ETACS) is fitted in all TRITON versions. The ETACS realizes diverse functions that can be customized using an MMC Multi-Use Tester (MUT). It also has comprehensive diagnosis functions.

2.4.5 Rough-road performance (4WD versions)

For stability at high speeds, the TRITON has a layout that makes its center of gravity lower than that of the previous model. As a result, the TRITON has less ground clearance than the previous model. However, the lowest parts of the TRITON are located as close as possible to the wheels, to prevent the adverse effect on the rough-road performance. Updated crossmember positioning permits a ramp-breakover angle (a key index of rough-road driveability) of 26.7 ° (an increase of 3.5 ° over the previous model), and the rebound

wheel strokes are longer (20 mm longer at the front; 13 mm longer at the rear) than those of the previous model. Notwithstanding its relatively low center of gravity, therefore, the TRITON surpasses the previous model in terms of rough-road performance.

2.4.6 Corrosion protection and environmental compatibility

For superior reliability and durability, the TRITON is sufficiently corrosion-resistant to be offered with a 12-year corrosion warranty. Also, the TRITON achieves early compliance with EU directives on recycling and other aspects of environmental compatibility.

3. Major specifications

Major specifications of the TRITON are shown in the following table.

Item	Body shape		Single Cab	Club Cab					Double Cab						
	Model		KA4TNE NMFRU	KA4TNC NMFRU	KA4TNC NUZRU	KA4TNC RUZRU	KB4TGC NHZRU	KB8TGC NHZRU	KA4TNJ NMZRU	KA4TNJ NUZRU	KA4TNJ RUZRU	KB4TGJ NHZRU	KB8TGJ NHZRU	KB8TGJ NXZRU	KB8TGJ RXZRU
Dimension & weight	Overall length	(mm)	5,030	5,110					4,995						
	Overall width	(mm)	1,750				1,800		1,750			1,800			
	Overall height	(mm)	1,655	1,660	1,655		1,780		1,655	1,650		1,780			
	Wheel base	(mm)	3,000												
	Track Front	(mm)	1,505				1,520		1,505			1,520			
	Track Rear	(mm)	1,500				1,515		1,500			1,515			
	Bed interior length	(mm)	2,220	1,805					1,325						
	Bed interior width	(mm)	1,470												
	Bed interior height	(mm)	405												
	Min. ground clearance	(mm)	200		195		205		200	195		205			
	Cargo floor height	(mm)	715	725	720		860		715	710		850			
	Vehicle weight	(kg)	1,505	1,565	1,600		1,795	1,840	1,640			1,860	1,920	1,930	1,940
	Gross vehicle weight	(kg)	2,495	2,285	2,330		2,535	2,605	2,330			2,535	2,605		
	Seating capacity	(person)	3	2					5						
Performance	Max. speed	(km/h)	150		160	158	170	172	160		158	170	172		
	Min. turning radius	(m)	5.7				5.9		5.7			5.9			
	Max. climbing ability	(tan, q)	0.31		0.36		0.38	0.47	0.36			0.38	0.47		
	Towing capacity with brake	(kg)	N/A												
	Towing capacity (full load) without brake	(kg)	N/A												
Engine	Type		4D56IDI T/C	4D56CDI T/C		4D56CDI I/T	4M41CDI I/T		4D56CDI T/C			4D56CDI I/T	4M41CDI I/T		
	Displacement	(cc)	2,477				3,200		2,477			3,200			
	Bore & stroke	(mm)	91.1 x 95.0				98.5 x 105.0		91.1 x 95.0			98.5 x 105.0			
	Compression ratio		20.5	17.5			17.0		17.5			17.0			
	Max. output (din net)	(kw/min^{-1})	66/4,000	85/4,000		103/4,000	121/3,800		85/4,000			103/4,000	121/3,800		
	Max. torque (din net)	(Nm/min^{-1})	196/2,000	247/2,000		321/2,000	351/2,000		247/2,000			321/2,000	351/2,000		
Fuel system	Fuel supply system		Electrical fuel injection	Electrical fuel injection (commonrail)											
	Fuel tank capacity	(L)	75												
Transmisson	Type (manual floor change)		5 M/T (R5M21)	5 M/T (R5MB1)	4 A/T (R4AW4)	5 M/T (V5MB1)			5 M/T (R5MB1)		4 A/T (R4AW4)	5 M/T (V5MB1)			4 A/T (V4A5A)
	1 st		3.967	4.313	2.452	4.313					2.452	4.313			2.842
	2 nd		2.136	2.330	1.452	2.330					1.452	2.330			1.495
	3 rd		1.360	1.436	1.000	1.436					1.000	1.436			1.000
	4 th		1.000		0.688	1.000					0.688	1.000			0.731
	5 th		0.856	0.789	–	0.789					–	0.789			–
	Reverse		3.578	4.220	2.212	4.220					2.212	4.220			2.720
	Transfer gear ratio High		–			1.000			–			1.000			
	Transfer gear ratio Low		–			1.900			–			1.900			
	Final gear ratio		4.222	3.909		4.100			3.909			4.100			
Steering			Rack & pinion with power steering												
Suspension	Front		Independent-wishbone, coil springs												
	Rear		Rigid, elliptic leaf springs												
Brake	Front		Ventilated discs (15-inch)			Ventilated discs (16-inch)			Ventilated discs (15-inch)			Ventilated discs (16-inch)			
	Rear		LT drums (10-inch)			LT drums (11.6-inch)			LT drums (10-inch)			LT drums (11.6-inch)			
Tires	Front		195R15C 8PR 106/104R	215/70R15C 6PR 106/104S		245/70R16 111S RF			195R15C 8P R 106/104R	215/70R15C 6PR 106/104S		245/70R16 111S RF			
	Rear		195R15C 8PR 106/104R	215/70R15C 6PR 106/104S		245/70R16 111S RF			195R15C 8P R 106/104R	215/70R15C 6PR 106/104S		245/70R16 111S RF			

(RV1 Product Development Project, Product Development Group Headquarters: Erami, Tomita, Konishi, Shibata)