

## LANCER CARGO

– Japan domestic version –



Demand for passenger-car-based commercial vehicles remains steady in Japan. Until recently, Mitsubishi Motors Corporation (MMC) was represented in this segment by the LIBERO CARGO. This vehicle had been on the market for more than 10 years, however, so MMC needed to offer a vehicle with higher levels of environmental compatibility, safety, and economy to meet today's needs. MMC's response was the LANCER CARGO, a new commercial vehicle that's more appealing in every way. It was launched in January 2003.

### 1. Targets

MMC began its LANCER CARGO program by conducting research that yielded an accurate picture of today's usage trends and user requirements for light commercial vehicles. Based on its findings, MMC worked to develop a vehicle that would increase MMC's market share by virtue of a low purchase price, low running costs, and superior reliability and ease of use—all attributes for which there is strong demand.

### 2. Features

#### (1) Business-oriented exterior design

To ensure that minor knocks on the bumpers are not conspicuous and that bumper replacement costs are minimal, the plastic used for the bumpers is material color black rather than painted. The front grille is also same kind of color and has a unique design that gives

prominence to a large Mitsubishi three-diamond emblem. At the rear, an enlarged tailgate opening ensures easy cargo-handling. A newly designed tailgate with concomitantly broad surfaces is complemented by newly designed rear lamp units that have smaller dimensions for reduced cost and incorporate a high-brilliance silver coating for good visibility. The space above each rear lamp unit is occupied by a quarter end garnish that further emphasizes the vehicle's originality.

#### (2) Roomy cabin and cargo area

A cab-forward design and long wheelbase like those of the LANCER WAGON yield superior spaciousness for people and cargo. Other features shared with the LANCER WAGON include high seating positions, which facilitate occupant ingress and egress, and a low dashboard and low belt line, which together promote visibility and a sense of openness.

To ensure suitability for business use, the LANCER CARGO was designed differently from the LANCER WAGON in several respects: The spare tire was moved from the cargo area to a position under the cargo-area floor, and the cargo-area floor was made flat. The rear seat was moved forward to make the cargo area longer. And cargo loading and unloading were made easier by elimination of the luggage-floor box (located on the cargo-area floor in the LANCER WAGON), by lowering of the cargo-area floor to a height of 550 mm (measured from the ground), and by lowering of the top surface of the rear bumper.

#### (3) Class-topping fuel economy

In developing the LANCER CARGO, MMC placed particular emphasis on fuel economy, which is a major factor in purchase decisions. This emphasis is reflected in powertrain specifications: The two-wheel-drive, automatic-transmission version (the top-selling version of the LANCER CARGO) is offered with a continuously variable transmission (the first to be used in a light commercial vehicle), and the four-wheel-drive (4WD) version has an INVECS-II four-speed automatic transmission. Each automatic transmission is mated to a simple 1.5-liter, SOHC, four-valve-per-cylinder, MPI engine, resulting in class-topping 10-15-mode fuel consumption. Further, emphasis was placed not only on catalog-figure fuel consumption but also on fuel consumption achieved in practical use (an important factor in running costs); several driving patterns typical of light commer-



cial vehicles were determined through a study of practical use and were used as references in the development program. The overall result is fuel economy that's superior to that of competing vehicles (including those with five-speed manual transmissions).

**(4) Driving performance for business needs**

The LANCER WAGON's proven four-wheel independent suspension system (this has a MacPherson-strut arrangement at the front and a multi-link arrangement at the rear) is employed also in the LANCER CARGO. To deal with the significant cargo weights and cargo-weight fluctuations associated with cargo-carrying applications, the body and suspension system were strengthened and the suspension system was retuned. Particular attention was paid to ensuring good handling stability when the vehicle is carrying cargo and good ride comfort when it is moderately loaded. Further, the 4WD system is the unique in the class to have a center differential fitted with a viscous coupling unit. This technology promotes stability when the vehicle is driven laden on gradients and on snow-covered roads.

**(5) Safety and environmental compatibility**

The LANCER CARGO has a Reinforced Impact Safety Evolution body structure like that of the LANCER WAGON. Consequently, it achieved Japan New Car Assessment Program ratings almost identical to those of the LANCER WAGON for occupant protection in a 64 km/h offset frontal impact, in a 55 km/h full-width



frontal impact, and in a 55 km/h side impact. Passive safety is promoted by driver and front-passenger airbags (these are fitted as standard equipment), by impact-absorbing pillar trim (this mitigates secondary-impact head injuries), and by seatbelt pretensioners and force limiters (these are fitted as standard equipment).

With regard to environmental compatibility, every version of the LANCER CARGO is certified as an Ultra Low Emission Vehicle (U-LEV) owing to exhaust emissions that are at least 75 % lower than those permitted by Japan's 2000 standards. Every version also complies with Japan's 2010 standards for fuel consumption. By virtue of these two environmental credentials, the LANCER CARGO qualifies for favourable treatment under Japan's system of 'green' tax incentives.

### 3. Major specifications

The LANCER CARGO lineup and major specifications are shown in the following table.

| Specifications     |                                      | Model  | LANCER CARGO                                     |       |       |  |
|--------------------|--------------------------------------|--|--|-------|-------|--|
|                    |                                      |  | UB-CS2V  |       |       |  |
|                    |                                      |  | E, G   |       |       |  |
|                    |                                      |  | 2WD  | CVT   | 4WD   |  |
|                    |                                      |  | 5 M/T  |       | 4 A/T |  |
| Seating capacity   |                                      | (persons)  | 2 (5)  |       |       |  |
| Dimensions         | Overall length                       | (mm)   | 4,440  |       |       |  |
|                    | Overall width                        | (mm)   | 1,695  |       |       |  |
|                    | Overall height                       | (mm)   | 1,455  |       |       |  |
|                    | Wheelbase                            | (mm)   | 2,600  |       |       |  |
|                    | Tread                                | Front  | (mm)   | 1,470 |       |  |
|                    |                                      | Rear   | (mm)   | 1,470 |       |  |
|                    | Ground clearance                     | (mm)   | 155  |       |       |  |
|                    | Cargo-area length                    | (mm)   | 1,740 (1,045) ( ): dimension with five occupants |       |       |  |
| Cargo-area width   | (mm)                                 | 1,360 (1,400) ( ): dimension with five occupants     |  |       |       |  |
| Cargo-area height  | (mm)                                 | 905  |  |       |       |  |
| Engine             | Model                                |  | 4G15   |       |       |  |
|                    | Displacement                         | (cc)   | 1,468  |       |       |  |
|                    | Valve mechanism; number of cylinders |  | SOHC 16-valve; four cylinders                    |       |       |  |
|                    | Maximum output                       | {kW (PS)/min <sup>-1</sup> Net}                      | 66 (90) /5,250                                   |       |       |  |
|                    | Maximum torque                       | {Nm (kgf·m) /min <sup>-1</sup> Net}                  | 133 (13.6) /3,750                                |       |       |  |
| Fuel supply system |                                      | ECI-MULTI (electronically controlled fuel injection) |  |       |       |  |
| Chassis            | Steering                             |  | Rack and pinion (power-assisted)                 |       |       |  |
|                    | Suspension                           | Front  | MacPherson struts                                |       |       |  |
|                    |                                      | Rear   | Multi-link                                       |       |       |  |
|                    | Brakes                               | Front  | Ventilated discs (13-inch)                       |       |       |  |
|                    |                                      | Rear   | Leading/trailing drums (9-inch)                  |       |       |  |
| Tires              |                                      | 165/R13-6PRLT  |  |       |       |  |

([C & D Product Dev. Project], Car Research & Dev. Office, MMC: Ikeda, Uchida, Aiba)