

## CASE STUDY

**VEHICLE SECTOR: TRANSIT**

**INDUSTRY SECTOR: GOVERNMENT AGENCY**



## 1 BUSINESS NEED

Transit and Paratransit applications put a tremendous number of miles on vehicles compared to other applications. Light-duty and Medium-duty buses in this application are always on the go.

This Transit Agency had several buses that were 'end of life' with blown engines. Such a vehicle is an ideal candidate for remanufacture – the useful life has been realized but there is value left in the core and the body. With a complete power train replacement and required attention to other mechanical, interior and exterior needs, the vehicle can be returned to service and realize an additional lifetime.

### Power Train:

At 290,000 miles, this bus had exceeded its expected lifetime and was ready for a re-power as part of the remanufacturing service.

### Suspension:

A service area that includes a high percentage of county roads will take its toll on suspension. Just about every front-end, steering and suspension-related component and subassembly needed replacement.

### Interior:

Normal wear and tear was assessed; only few areas required attention – seats, windows, gaskets, bushings, seals, switches, wheelchair lift and decals are among the items replaced during this service.

This vehicle platform has a lot of space to cool and puts a big burden on both the air conditioning system and alternator. Both these subsystems are supplemented in this platform.

### Exterior:

The exterior was in surprisingly good shape. After working out typical dents and dings, the fleet white paint job was applied before installing an updated graphic set.

## 2 SOLUTION

An in-depth remanufacturing solution for this platform starts with a remanufactured engine and transmission on new mounts.

The intake assessment and input from users / operators indicated the suspension was too light in the original design. Therefore, the Leaf Springs were re-arched and supplemented with an additional Leaf Spring. The bus now easily accommodates any passenger loading and road combination.

All new, supplemental air-conditioning components, including blowers were installed. A new, supplemental, high-amperage, 250Amp alternator was also installed.

The bus got new body bushings, front-end components and steering linkages. New brake rotors and calipers are standard equipment on this type remanufacture service.

Where practical, LED-lighting replaced existing fixtures; elsewhere, re-lamping fixtures should eliminate near term lighting issues.

Supplemental sound-dampening and heat-shielding material were added to improve ride comfort. The roof was even covered in a special heat-reflective coating to reduce summertime temperatures.

New tires round out a comprehensive effort to restore original ride quality, comfort and safety.

There is no substitution for the speed, accuracy and quality of work when the chassis and body are separated. The production line environment for this remanufacture service allows easy access to all areas of the vehicle.

## 3 RESULTS

To appreciate the improvement in power, road noise, ride quality, ride comfort, steering power and environmental comfort first-hand experience is required. A close second is a report from the user / operator / customer – such a report is available, upon request.

Seals, gaskets, weather-stripping, caulking and special sealing tape was applied to stop and prevent future water ingress at several spots.

The agency required that the remanufactured bus be offered with the same 3-year, 100,000-mile warranty available on new, replacement buses.

All aspects of the vehicle performance were reset – power, acceleration, handling, steering, braking are all like new.



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