ARROW COACH BUILDERS

a State-of-the-art and High Tech

Bus Body Building Industry in Chennai, South India
Introduction

- Arrow Coach Builders, a Modern bus body manufacturing facility is located near Chennai, Tamil Nadu, South India.

- Arrow has been carefully developed with the sole objective of offering Impeccable Quality Buses by introducing modern technology in bus body building.

- Arrow Coach is located on an expanse of 14 acers, just two Kms off the GST road, between Chengalpet and Maduranthagam; within five kilometers to Maduranthagam.
Infrastructure

- Entire area of 14 acres is well secured with compound wall and barbed wire fencing, ensuring safety parking of about 200 buses/chassis
- Built up area: 1,80,000 sqft
- In-house FRP molding facility for any new shapes for front, rear, dash board etc.
- In-house passenger seat fabrication including seat frame and lining works
- In-house seat cushion/backrest moulding facility
- In-house window frame fabrication and assembly
- R&D unit equipped with Autocad and optimizer softwares
- A large sump with 1.25 lakhs liters capacity and a dedicated sump of 4000 liters capacity for fire safety
- 2 number of open wells and a bore well to a depth of 850 feet assuring perennial water supply
- Adequate insurance cover is in place for the entire unit, including men & machines and work-in-progress, against all types of hazards.

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Infrastructure

- 16m long paint spray booth cum heating oven
- Roof leak testing
- 8 tank hot phosphating process
- Under chassis inspection

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Industrial shed/Admin office

Inside of the shed

Aerial view

Administrative Office

Conference Hall

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Certification

(An approved vendor for Daimler India)
(An ISO 9001 certified company)

(Obtained ARAI certification)

(An approved vendor for Daimler India)
(An approved vendor for Ashok Leyland)
Major machineries

Hydraulic Shearing machine

Hydraulic Bending machine

15m long hydraulic stretching machine

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We are an ARAI approved Bus Body building industry under both Phase 1 and Phase II of AIS-052.

We specialize in adopting ARAI bus codes for manufacturing of Type II, Type III, Type IV, AC and Non AC buses on Ashok Leyland, Tata Motors and Eicher chassis.
All our buses are 100% Roll over compliant providing more stability to the structure
Production capacity

- Started in the year 2009, we have made more than 2700 fully built vehicles within a short period of about 8 years.

- Arrow Coach can execute bus bodies of mini, city, school, standard, semi-luxury, luxury, sleeper coaches with provision for AC / non-AC and also special purpose vehicles.

- With the existing setup, the unit can deliver 40~45 buses per month.

- We have planned for capacity addition with another industrial shed of 60,000 sqft., so as to scale up the production to 50~60 buses per month.

- We have put - in place an experienced quality assurance team, to ensure that the best of manufacturing standards and procedures are followed

- A dedicated team has been formed to look after supplying spares, carrying out repairs and attending to warranty works (if any), after delivery of buses.

- We have also taken action to foray into special vehicles sector like ambulances, vans and refrigeration vehicles.
Our product segment includes:

- Staff bus sector
- Fully built vehicles for OEMs
- Schools/Colleges
- Omni buses
- Sleeper/Semi sleeper coaches
- Government organizations
- Special purpose vehicles
- Dry/Refrigerator containers
- Tourist bus segment
- Ambulances
Structure stage – All metal body

- All structure pipes are made of GI
- All joints are done by MIG welding
- All welded joints are touched by zinc rich primer
- Entire structure is epoxy coated
Exterior Paneling

0.95mm zero sprangle skinpass coil
(Single coil of Tata make).

Fixed by hydraulic stretching machine

Aluminium sheet
(Hindalco make)
Sheet metal fixing

- Side stretch panel coil is bonded to the structure by PU Sealant.
- Rubber strip is placed between stretch panel coil and structure to avoid metal to metal contact
- Bottom panel and even the roof panel does not directly touch the structure
- High density thermocole fixed to the vehicle top and sides for insulation
Final Inspection

ROAD TEST

WATER LEAK TEST
In order to ensure quality product, we ensure the following in our system:

- FRP layers applied on the top of the roof of the bus to prevent water leakage
- Usage of fixtures for the LH/RH structure assembly, roof structure, rear shape, foot step, battery box, foundation channel, doors etc to ensure products are made with minimum variances
- Structure is assembled using a EOT crane as opposed to manual assembly, which could cause bending and twisting of components
- TIG welding used for making all Aluminum components
- Usage of pneumatic tools to ensure product quality in addition to reduction in lead time
- Vehicles painted inside paint booth (Vertical draw-down) to ensure dust-free painting. After painting heating oven is used for better paint adhesion and to give added glossiness
- Raw materials are sourced directly from manufacturers (and Ashok Leyland approved vendors) with quality certificates
- Structure tubes are bent using tubular bending machine to ensure uniformity of bend

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Quality

- Stretch panel is bonded with the structure using high quality PU sealant to prevent corrosion and rattling on the side body.
- EN8 U-clamp used and tightened with a torque wrench.
- Front shape, rear shape and dash board are made by FRP for light weight and to give better finishing.
- Side stretch panel is made using a hydraulic stretching machine and is of skinpass Tata steel.
- Requirement of all raw materials such as pipes, tubes, sheet, plywood etc are arrived at using an optimizer software before production in order to ensure maximum utilization of materials, thus reducing scrap generation.
- Each stage of the vehicle is checked using a check list specifically prepared for that particular stage.
- Adequate rubber and sealants on the entire interior and exterior paneling process to ensure there is absolutely no metal-to-metal contact.
Some of the safety features we provide in the vehicles are as follows:

- Driver controlled entrance door (pneumatic operation)
- Alarm system for emergency door in case of accidental opening
- Additional latch for both the driver and emergency door
- First aid box with medicines
- Fire extinguisher provided
- Passenger seat belts provided
- Sun visor, fan, air ventilator, barricade partition etc provided for driver for smooth and comfortable driving
- Interior grab rail extended up to entrance foot step
- Full partition provided behind driver seat to avoid direct sun light to passengers in case of night driving. This feature also avoids unwanted disturbance to the driver

Note: Apart from the above, we also specialize in incorporating specific customer requirement
Arrow Coach is very conscious about corrosion. Hence all of our vehicles undergo the following process in order to deliver a corrosion free product.

- All tubular sections used for the structure are in GI including the formed sections
- Zinc rich primer applied to the welded joints
- MIG welding used for the entire body building process, including structure & panel
- Entire structure is epoxy coated
- All MS Components used are hot-phosphated and epoxy-coated
- Body u-clamps are EN8 material
- Front shape, rear shape and dash board are made by FRP for light weight
- Exterior bottom panels are made of Aluminum
- Interior roof and side stretch panel welded joints are touched up with zinc rich primer
- Entire under chassis is painted with anti-corrosive rubberized paint
- Interior roof are made of Aluminum Composite Panel (ACP) for light weight
- All interior pipes are powder coated
- Foot steps are finished with Aluminum sheets
Product photos – Omni buses
Product photos – Mini buses
Product photos – Staff bus/Institutions
Product photos – Government organizations

ISRO, Sri Harikota

State Express Transport Corporation

BHEL, Trichy

APSRTC Semi Deluxe

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Tourist Buses

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Export vehicles

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Product photos – Interiors
Special purpose vehicles

Mobile Temple (Tirumala Tirupati Devasthanam)

Mobile Museum (Government of Museum, Ch)

Mobile library

Shuttle bus (Tirumala Tirupati Devasthanam)

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Special purpose vehicles

Animal Ambulance

Mobile eye hospital – Shankara Nethralaya

Mobile Kitchen (Interior)

Refrigerator container
Special purpose vehicles

- Shuttle bus (Staff transportation)
- Mobile eye hospital – Shankara Nethralaya
- Mobile Toilet
- Refrigerator container

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Special purpose vehicles

- Ambulance
- Mobile LED display vehicle
- Mobile canteen
- ATM cash van
We have built buses on the following OEM chassis:

- SML Isuzu
- Eicher
- Ashok Leyland
- Tata Motors
- Daimler
- Force Motors
- Sinotruk
- Dongfeng
End Product

Buses built by us runs in leading MNCs including:

- Ford
- Infosys
- Royal Enfield
- Yamaha
- Wipro
- Toshiba
- Hyundai
- Saint-Gobain
- Alstom
- Tech Mahindra
- Delphi-TVS
- Mahindra
- Nokia
- Samsung
- Renault Nissan
- Apollo Tyres Ltd
We have designed and developed an animation video which explains our infrastructure, process and capabilities. This video can be viewed in the following youtube link

http://www.youtube.com/watch?v=0GHWXrqwPGk