



# **BID SPECIFICATION DOCUMENT.**

## **1. SCOPE OF WORK AND AREAS OF FOCUS**

### **1.1 DETAILS ON THE PREFERRED SOLUTION**

The appointment of an Automotive Engineering Entity that is capable of overhauling commercial vehicle engines, removing, replacing and commissioning it, and gives a six-month unlimited warranty from the date of commissioning.

### **1.2 TARGETED AREA BY THIS PROJECT**

An Automotive Engineering Entity, specializing in the overhauling of commercial diesel vehicle engines. For the entity to be able to do the overhauling of the bus engines, PRASA must ensure that the equipment required to do so is available at the Automotive Engineering Entity's machine shop, which can be summarized as follows:

- cleaner (to chemically wash the stripped engine components)
- Reboring Machine
- Honing Machine
- Surface Grinder
- Pressure Testing Equipment
- Conrod Resizing Machine
- Conrod Serrating and Alignment Machine
- Conrod Honing Machine
- Crack Test Equipment
- Crankshaft Grinder and Polishing Machine
- Crankshafts Hardness Test Equipment
- Cylinder Head Overhaul - Valve Refacing Machine
- Cylinder Head Overhaul - Valve Seat Machine
- Surface Grinder
- Lathe
- Line Bore Machine (Camshaft)
- Sandblasting Machine
- Cap and Rod Grinder
- Dynamometer (With Electronic Reporting)

The workshop infrastructure and equipment will be assessed by Bid Evaluation Committee.

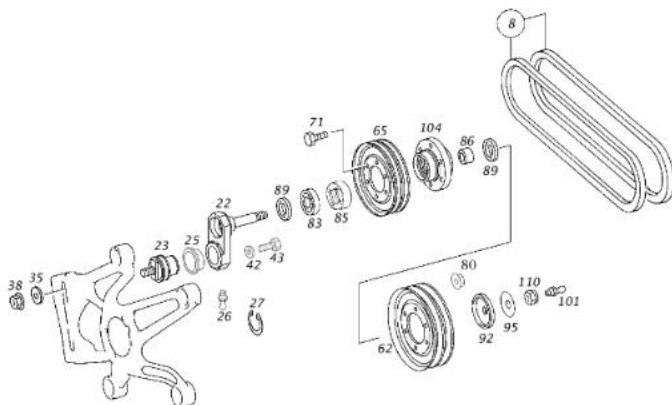
## 1.3 AUTOMOTIVE ENGINEERING – GUIDELINES

1.3.1 During the engine overhaul process, the following aggregates must be removed, overhauled and/or clean and repaired as well as replaced. The costs for removing and replacing must be included in the price for removing and replacing as well as commissioning of the engine:

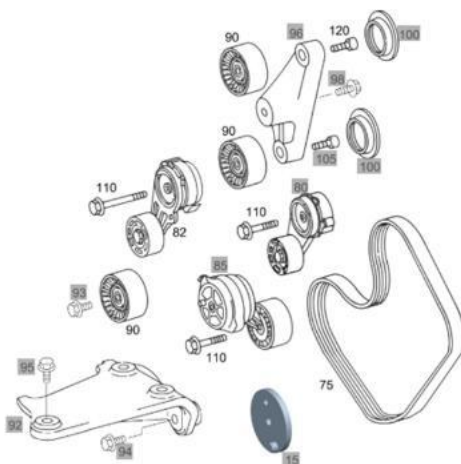
- Radiator – Clean and Repair
- Intercooler – Clean and Repair
- Overhaul Air Compressor
- Overhaul Starter Motor
- Overhaul Alternator

1.3.2 During the engine overhaul process, the following parts, **supplied by LDPT**, must be removed, and replaced. The costs for removing and replacing must be included in the price for removing and replacing as well as commissioning of the engine:

### Tensioner Pulley Assembly – MA 3825060110



### Guide Pulley Assembly – MA 4572004770



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In the process of removing and replacing and/or overhauling the engine, should the Service Provider discover any additional work affecting the engine, such work must be quoted for separately and an order supplied by PRASA prior to such work commencing.

### 1.3.3 Guideline Requirements

No	Description
1	Remove, Replace and Commissioning Engine including Aggregates
2	Strip / Chemical Cleaning / B Blast / Oil Channel Cleaning
3	Consumables
4	Crack Tests
5	Machining: (Polish Main Bearings / Line Bore / Etc.) Including refacing of tappets
6	Standardizing Conrods
7	Re-sleeve Cylinders
8	Recondition Cylinder Heads
9	Overhaul Fuel Injectors
10	Recondition Turbo
11	Set Main Bearings
12	Set Conrod Bearings
13	Overhaul Gasket Set and Gaskets
14	Sleeve Seals
15	O-Rings and Seals
16	Conrod Bolts
17	Oil Pressure Sensor – MA 0125420517
18	Thermostat
19	Water Pump (Coolant Pump)
20	Oil Pump
21	Oil Pressure Valve
22	Complete Engine Assembly
23	Inter Cooler – Clean and Repair
24	Radiator – Clean and Repair
25	Overhaul – Air Compressor
26	Overhaul Starter
27	Overhaul Alternator
28	Radiator Hoses
29	Fuel Tank – Clean and Repair

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#### 1.4 PRASA SINGLE SOURCE – PARTS SUPPLY

All other parts and components required will be supplied by the LDPT depot. The following parts and components will be supplied by the LDPT as an example (all parts supplied must be done on an exchanged basis and handed in at the Depot SCM for scrapping and disposal):

No	Description
1	Camshaft
2	Cam Followers (Roller Tappets) x 12
3	Piston and Sleeve Kits x 6
4	Fuel Filters
5	Oil Filter
6	Radiator Cap
7	Engine Mountings
8	Visco Fan
9	Flywheel
10	Vibration Damper
11	Air Filters
12	Lubricants (Post Installation)
13	Antifreeze (Post Installation)
14	Etc.

#### 1.5 EXTENT AND COVERAGE OF THE PROPOSED PROJECT

It is estimated that 24 Mercedes Benz Buses will be subjected to engine overhauls this financial year.

#### 2. SPECIFICATION of the WORK and PRODUCTS and SERVICES REQUIRED

The engine overhaul must be done in line with that of the Original Equipment Manufacturer (OEM) specifications for the following base Vehicle Identification Number (VIN or Chassis Number):

- Mercedes Benz Bus – VIN: 9BM6340619B649766

##### 2.1 ENGINE BLOCK INSPECTION – WARRANTY

The engine block must be inspected for excessive wear on the cam-follower cylinders and cam-follower key guides and verified serviceable by the supplier for warranty purposes.

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## **2.2 OTHER COMPLIANCE REQUIRED**

2.2.1 The bus will be towed into the supplier by LDPT. If the bus is not operational after the engine overhaul and commissioning, it will be towed back to the depot by LDPT or made operational within 24 hours. The supplier must thus have the necessary space and equipment to conduct engine replacements on their site.

2.2.2 After an engine is overhauled, it must be dynamometer-tested, and the test results (power and torque report) made available to PRASA with the invoice. PRASA retains the right to be present when the engine is tested to verify performance.

2.2.3 In the process of overhauling the engine, should the Service Provider discover any additional work affecting the engine, such work must be quoted for separately and an order or the replacement parts must be supplied by PRASA prior to such work commencing.

2.2.4 All lubricants used must be OEM approved, inclusive of anti-freeze.

## **2.3 WARRANTIES - Overhauled Engine and Aggregates**

An overhauled must carry a warranty from the supplier for at least six months or 100 000 kilometers, whichever comes first (a better warranty will be advantageous). It must be a condition of the warranty that the supplier commission the engine. Any other terms and conditions must be stipulated clearly.

The abovementioned will ensure that LDPT is not liable for any poor workmanship and/or negligence. Documentary proof must be placed on record.

In case of an engine failure during the warranty period, the supplier will be responsible for towing charges, if the failure is attributed to poor workmanship and/or part failure.

The supplier must have sufficient insurance to cover damage or destruction to any or all LDPT property incurred in the performance of its services to PRASA.

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