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tender number - ERI/2023/LS/01

***PR***

## ***SCOPE OF WORK TO PROVIDE HYDRAULIC PNEUMATIC AND ENGINEERING SERVICES***

## Background

The Multi-axle division has Super Abnormal vehicles that transport loads in excess of 35tonnes up to 500tonnes for Eskom, these specialized equipment in the Logistics fleet and they need to be maintained effectively to avoid major breakdown and on-route delays.

Place of work:

-trailers may be parked in the yard Logistics Yard or located across SA. A pricing schedule must be included for servicing and/or maintaining outside the yard. Note: we do not pose associated tools for this service hence the supplier must be equipped to perform this service at our yard and across the road (mobile unit).

Tasks

- To inspect, strip and quote on all hydraulic cylinders
- To report on stripped cylinders specifying on normal wear and tear, abuse, engineering design, inferior part or missed supersession.
- Measure all parts to determine if they are within specification.
- To refurbish all worn parts if necessary.
- To polish cylinder bores to required specification.
- To grind and chrome gland to OEM specification tolerance.
- To quote on services, best equal, matching or original equipment manufacturer par.
- To assemble cylinder as specified by OEM manual.

- To replace all seals with prior to delivery.
- To test cylinders for leaks prior to delivery
- To inscribe a job number on the cylinder on an easily accessible position.
- To provide all hydraulic pumps, pipes, valves, control banks, tanks, and fluid services and parts as and when required.
- To provide all pneumatic (air) service comprising of compressor (part and replacement), air pipes, hose clamps, air valves air tanks and brake boosters.
- To provide all engineering service, fabrication and modification on al Multi-Axle fleet.
- To provide all necessary warranties and after sales services support as necessary.
- To provide cost effective expertise on all engineering work.
- To have a solid national footprint
- To ascribe to all necessary ERI values.

PNEUMATIC SYSTEM

The Pneumatic system shall be inclusive of all hoses, piping, bends, valves, fluid, pumps, reservoir, gauges, etc. necessary to complete the trailer operating pneumatic system. Its main use is to provide a braking force to the complete trailer or total combination when inter-connected with other fleet. The total system must be repaired/replaced inclusive of safety relief valves, gauges tested and certified, piping, coupling, etc.

These must be checked and rectified when putting the system back on line:

• proper connection to all circuits

• Clogged air filters

• Dirt in the circuit

-test and commission

-handover with certificate of proof

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**PART A: Trailer Service and Maintenance required**

-Yearly service
-Maintenance/overhaul every five years
-Breakdowns/repairs, as and when required, across SA depending on the failure occurred.

Quarterly Service shall include, but not limited to:
-Visual inspection of the pneumatic circuit and recommend resolution thereof, i.e. the state of pipes under operation, etc.
-check and repair all leaks
-tighten loose ends
-check operation and ensure trailer reliability
-Clean the filters of the pneumatic circuits
-check the braking effect of the trailer
-check the braking compressor
-assessment of state of trailers and feedback via reports to Logistics

Maintenance/overhaul
-check piping connection and repair if necessary for wear and tear
-change the braking components
-check all valves, couplings, and associated equipment necessary to complete the pneumatic circuit for operation and repair/replace as necessary
-calibrate and supply certificates for valves
- adjust brakes; check brake stroke, correct position of the adjustable lever, if necessary, on the cam shaft, in order to draw the brake linings nearer
-change the piping every 60 months or 300000km
-Refill the system

-Commission and test, then handover to Operations

Breakdowns/Repairs
-attend to breakdowns as they occur
-troubleshooting and ensuring productivity
-guaranteeing and commissioning the work

Expectations:
-Recommendations on improving the life of the fleet
-Quarterly reports of the state of the fleet
-Maintenance plan to align to embargo dates for the fleet for each trailer
-Circuit drawings on how the system is lined up per trailer
-A file depicting modifications and failures & solutions per trailer, supported by drawing
-All drawing shall be in CAD format and hard copies available in the trailer files
-Quality work at all times
-training/transfer of skill to ensure productivity on minor adjustments that can be made by a lay person
-all tools and equipment shall be for the contractor to service and maintain

Quality of work
-all work shall be of the highest quality and carry a minimum of 12 months for repairs.
-all work shall be to restore the specified trailer to the design capacity
-no inferior products are to be employed
-part for part shall be replaced, i.e. flexible shall be flexible

Warranty

-All parts shall have a minimum warrantee of months

All the listed text in this specification shall be complied with fully without compromise

On reply to this request, please include the following:
-A safety plan to carry out the work
-Method statement to service and to maintain

**PART B: Supply of Pneumatic components**

This is inclusive of all equipment necessary to complete the circuit, such as valves, cylinders, piping, pumps, couplings, etc. Part for part replacement shall apply, usually a sample shall be provided or drawing for manufacture of new parts will be given.

NB: this contract will be awarded to two suppliers

***Types Of Trailers in Logistics Services***

| **Trailer Combination** | **Type of Design** | **Capacity (t)** |
|---|---|---|
| **SUPRA** Cometto 2 x14 axle beam trailer – CJL485/6GP | Monoblock | 450 |
| **MIGHTY** Nicolas 2 x 12 axle beam trailer – XRN437/979GP | Monoblock | 410 |
| **MONO** Nicolas 2 x 13 axle beam trailer - ZSW423/435GP | Monoblock | 270 |

| | | |
|---|---|---|
| **MINI** Nicolas 2 x 11 axle beam trailer – YSN066/069GP | Monoblock | 235 |
| **MACRO** Nicolas 2 x 10 axle beam trailer – CLJ432/492GP | Monoblock | 213 |
| GIANT Nicolas1 - 20 axle – BB15NJGP | Modular | 600 |
| GIANT Nicolas2 - 20 axle – BB15NYGP | Modular | 600 |
| KOEBERG 20 axle – CJL490/491GP | Modular | 450 |
| ULTRA1 Nicolas - 12 axle – CJL486GP | Modular | 250 |
| ULTRA2 Nicolas - 12 axle – CJL487GP | Modular | 250 |
| MOD 1 Nicolas 13 axle (11+2) – TPC095GP | Modular | 180 |
| MOD2 Nicolas 13 axle (11+2) – TPC096GP | Modular | 180 |
| Nicolas 12 axle (12 axles) – CJL479/80GP | Modular | 150 |
| Nicolas 12 axle (6+6 axles) –CJL483GP | Modular | 150 |
| Nicolas 8 axle gooseneck – CJL477GP | Modular | 100 |
| Nicolas 8 axle gooseneck – CJL478GP | Modular | 100 |

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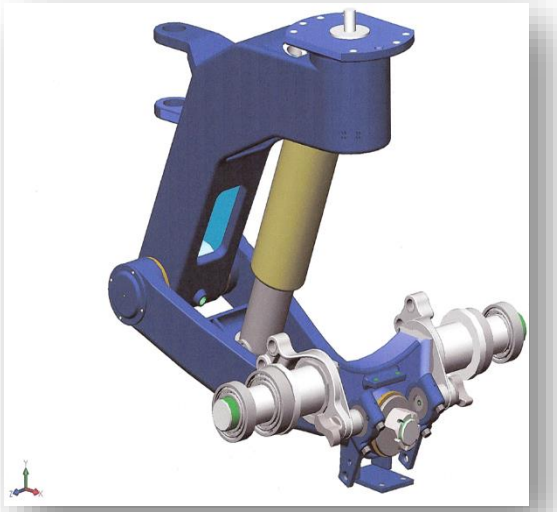


## 2 LEG TOP HOUSING.(NO1 IN SKETCH B)

2.1 TO BE CLEANED OF OLD PAINT.
2.2 TO BE CHECK FOR BENDING.
2.3 TO BE CHECK FOR CRACKS.
2.4 TOP SHAFT HOLE TO BE POLISHED AND MEASURED. (No 2 IN SKETCH B)
2.5 BOTTOM SHAFT HOLE TO BE POLISHED AND MEASURED. (No 3 IN SKETCH B)
2.6 ALL THREADED HOLES TO BE CLEANED WITH TAP.
2.7 TO BE PAINTED ROTRAN BLUE.

## NEW PARTS TO BE FITTED

- REPLACE TOP **SPHERICAL BEARING**. (No 4 IN SKETCH B)
- REPLACE BOTTOM **SPHERICAL BEARING**. ( No 5 IN SKETCH B)
- REPLACE LOCK BOLT. ( No 6 IN SKETCH B)
- REPLACE ALL SWIVEL BEARINGS.(No 7 IN SKETCH B)

- NOTE: AL LEGS BUSHES AND BEARINGS MUST BE STANDARD.


## THE FOLLOWING REPAIRS IS NEEDED ON THE HYDRAULIC LEGS OF THE NICOLAS TRAILER

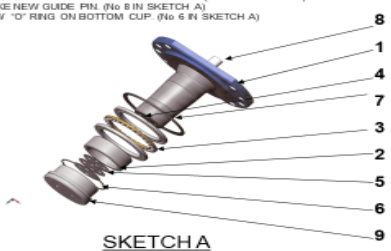
### 1 THE LEG MOUNTING PIN (No 1 IN SKETCH A)

1.1 TO BE CLEANED OF OLD PAINT.
1.2 TO BE CHECK FOR BENDING.
1.3 TO BE CHECK FOR CRACKS.
1.4 REMOVE COLLAR. (No 2 IN SKETCH A)
1.5 PIN SHAFT MUST BE POLISHED AND MEASURED.
1.6 ALL THREADED HOLES TO BE CLEANED WITH TAP.
1.7 BOTTOM CUP TO BE CLEANED AND MEASURED. (No 9 IN SKETCH A)
1.8 SHIMS PLATES TO BE CLEANED AND CHECK. ( No 5 IN SKETCH A)

NOTE: SUM PIN LOCKING IS ONLY A CIRCLIP

### NEW PARTS TO BE FITTED

A NEW THRUST BEARING PART No 51126. ( No 3 IN SKETCH A)
B MAKE NEW COLLAR. ( No 2 IN SKETCH A)
C NEW SHIM PLATES TO BE MADE AS NEEDED. ( No 5 IN SKETCH A)
D NEW DUST SEAL BETWEEN PIN AND LEG. (No 7 IN SKETCH A)
E MAKE NEW GUIDE PIN. (No 8 IN SKETCH A)
F NEW "O" RING ON BOTTOM CUP. (No 6 IN SKETCH A)




SKETCH A

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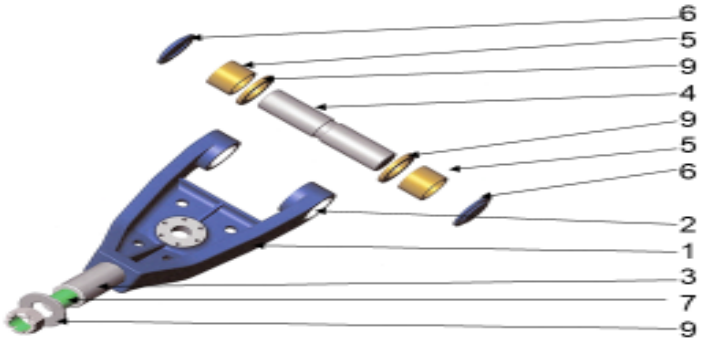
**3 LEG BOTTOM HOUSING . (No1 IN SKETCH C)**

3.1 TO BE CLEANED OF OLD PAINT.
3.2 TO BE CHECK FOR BENDING.
3.3 TO BE CHECK FOR CRACKS.
3.4 CONNECTING HOLES TO BE POLISHED AND MEASURED. (No2 IN SKETCH C
3.5 PIN TO BE POLISHED AND MEASURED. (No 3 IN SKETCH C)
3.6 SHAFT TO BE POLISHED AND MEASURED. (No 4 IN SKETCH C)
3.7 ALL THREADED TO BE CLEANED. (No 7 IN SKETCH C
3.8 ALL THREADED HOLES TO BE CLEANED WITH TAP.
3.9 TO BE PAINTED ROTRAN BLUE.

**NEW PARTS TO BE FITTED**

A REPLACE BUSHES. (No 5 IN SKETCH C)
B REPLACE COVERS. ( No 6 IN SKETCH C)
C REPLACE NUT AND WASHERS ON PIN END. ( No 8 IN SKETCH C)
D REPLACE SPACERS. ( No 9 IN SKETCH C)

**NOTE:** IF PIN (No 3) IS WORN IT MUST BE WELDED UP AND CUT TO SIZE.
IF PIN (No 4) IS WORN IT MUST BE REPLACED.



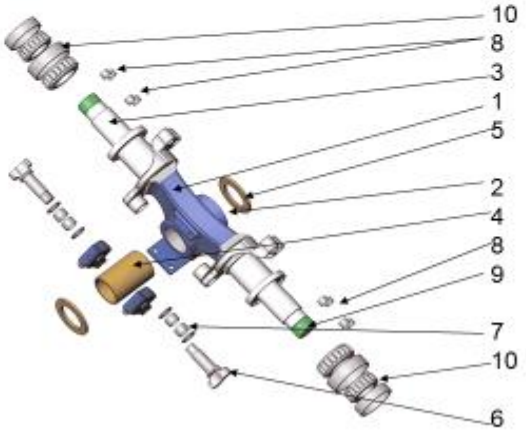

**4 AXLE (No 1 IN SKETCH D)**

4.1 TO BE CLEANED OF OLD PAINT.
4.2 TO BE CHECK FOR BENDING.
4.3 TO BE CHECK FOR CRACKS.
4.4 CONNECTING HOLES TO BE POLISHED AND MEASURED. (No2 IN SKETCH D)
4.5 AXLE ENDS TO BE POLISHED AND MEASURED. (No 3 IN SKETCH D)
4.6 S CAM TO BE POLISHED AND MEASURED. (No 4 IN SKETCH C)
4.7 ALL THREADED TO BE CLEANED. (No 9 IN SKETCH D)
4.8 ALL THREADED HOLES TO BE CLEANED WITH TAP.
4.9 TO BE PAINTED ROTRAN BLUE.

**NEW PARTS TO BE FITTED**

A MAKE NEW CONNECTING BUSHES. (No 4 IN SKETCH D)
B MAKE NEW TRUST WASHERS. ( No 5 IN SKETCH D)
C MAKE NEW S CAM BUSHES. ( No 7 IN SKETCH D)
D MAKE NEW BRAKE SHOE BUSHES. ( No 8 IN SKETCH D)
E FIT NEW WHEEL BEARINGS (No 10 IN SKETCH D)

**NOTE:** ALL WHEEL STUDS AND NUTS TO BE REPLACED



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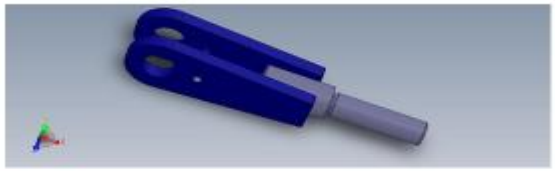
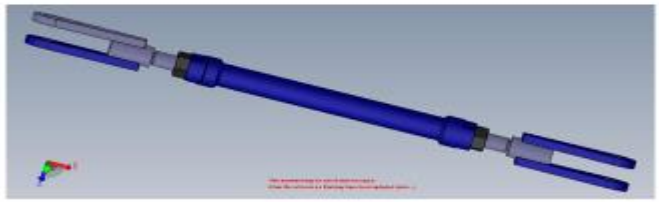
# STEERING ARMS

- CHECK AND REPAIR ALL STEERING ARMS FOR BE BENDING.
- CHECK AND REPAIR ALL SCREW ENDS ON STEERING ARMS.
- CHECK AND REPAIR ALL TAPER PINS.
- REPLACE WORN BEARINGS
- RE-SCREW CONNECTING END AND PUT LUBRICATION





**The minimum threshold for further evaluation will be 70%**
**NB: There will be a site inspection**

Name : Mike Masondo

Signature :

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