
Tender Enquiry

Sub: Fabrication, assembly and supply of gear train assembly of buggy drive gear box.

Sir,

Sealed quotations are invited, for and on behalf of the President of India, for ‘Fabrication, assembly and supply of gear train assembly of Dhruva SFSB buggy drive gear box’, so as to reach this office latest by 1500 hrs. on 18th September 2020.

The tender notice no. and name of work shall be superscribed over the envelope, and addressed to, Administrative Officer - III, Reactor Group Office, Dhruva, BARC, Trombay, Mumbai-85.

The quotation shall be sent through registered post/speed post through Indian postal services only. Quotation delivered by person or through courier will not be accepted and not considered for bidding process.

The quotation shall be in the format of attached schedule B and shall show the basic cost and taxes separately and shall include the Ref. No. of this enquiry, PAN no. and GST no. of the firm.

The description, scope of the work and the terms and conditions are given below.

1. Description :
The buggy drive gear box consists of a reduction gear box with a face mounted motor. The speed reduction is achieved through a three stage gear train of helical gears & pinions.

2. Scope of work:

2.1 Fabrication and supply of two sets of total gear train of the gear box, including heat treatment to achieve specified hardness, as per drawing, schedule B and technical specifications. Sketch of the components is attached for bidding purpose. Detailed drawing will be provided to the successful bidder. The components of gear train are as follows.
i) First stage helical pinion adaptor shaft, 14 teeth. Material EN-24, final hardness 52 – 55 RC

ii) First stage helical gear, 106 teeth. Material EN-36, final hardness 48 – 52 RC.

iii) Second stage helical pinion shaft, 13 teeth. EN-24, final hardness 52 – 55 RC.

iv) Second stage helical gear, 67 teeth. EN-36, final hardness 48 – 52 RC.

v) Third stage helical pinion shaft, 15 teeth. EN-24, final hardness 52 – 55 RC.

vi) Third stage helical gear, 57 teeth. EN-36, final hardness 48 – 52 RC.


2.2 Supply of one new set of bearings and oil seals for assembly of the gear box. (SKF 6207–4 no., SKF6215–2 no., SKF6210–1 no., SKF6212–1 no.)

2.3 Assembly of the gearbox (provided by department) at manufacturer’s workshop with the newly fabricated gear components, bearings etc. and do trial manual run to check smoothness. Both the sets of gears to be checked in this manner.

2.4 Arrange to clamp the gear box, mount motor, fill oil and run the gear box with motor for 2 hours minimum for qualification of gears (any one set of gears). The operation shall be smooth without any undue vibrations. The tests shall be done at manufacturer’s workshop in presence of BARC representative.

3. Technical specification:

   Gear Box specifications:

1. Motor HP: 7.5
2. Motor shaft RPM: 960
3. Out put shaft RPM: 6.4
4. The out put shaft shall have a tapped hole of M16x50mm long at the center (from projected side as shown in the enclosed drawing).
5. Gear material shall be of EN–36 while shaft material shall be of En-24 in accordance with AGMA Standard 241.01 wherever applicable.
6. All gears shall be of helical teeth and they have to be heat treated preferably through liquid nitriding and nitro-carburising process to achieve the required surface hardness.
7. The manufacturing tolerances of the gears and shaft shall be as per Drawing.
8. The helical gears and pinion shall be perfectly matching with each other and the movement shall be smooth. The backlash between gear & pinion shall be as per AGMA standards charts.
9. The raw material for gears and pinion shall be forged bar. The raw materials shall be checked for its trueness / straightness, ovality and other defects etc. before starting the job.

4. Vendor Qualification:

4.1 Vendor should have workshop preferably having ISO certification.
4.2 Vendor should have workshop with gear cutting section equipped with sophisticated machine tools like CNC and conventional Gear Hobbing, Gear Shaper, Gear Shaving machines.
4.3 Vendor should have Gear testing lab and quality control department to check the various facets of Gear Geometry such as lead, involute profile, run out, tooth to tooth spacing, contact pattern.

5. Testing and QAP:

5.1 A sample from each variety of raw material bars to be used for fabrication shall be collected in the presence of BARC representative and tested at Govt. approved lab for chemical analysis and physical properties to confirm the specified grade of material as per relevant ASTM code, before starting the job. BARC representative will stamp the balance material for identification.

5.2 Volumetric NDT (Ultrasonic Testing) shall be done on raw material after proof machining to detect any sub surface defects in presence of BARC representative.

5.3 Liquid penetrant test (LPT) shall be performed on all the machined surface of all the components in presence of BARC representative.

5.4 The vendor shall submit the heat treatment procedure for scrutiny by BARC.

5.5 Vender shall submit all the original test certificates (physical chemical, impact, heat treatment, DPT and dimensional etc.) to BARC prior to dispatch of the material.

5.6 The finished gears and pinions shall be checked by BARC for contour, physical and dimensional accuracy.

5.7 The specified surface hardness shall be checked by the vendor in the presence of BARC representative.

5.8 The complete geared motor drive assembly shall have a performance guarantee of 12 months from the date of delivery against any manufacturing/workmanship/material defect.

5.9 Cost of test sample and all testing charges shall be borne by the vendor & arrangements required for the above testing shall be the responsibility of the vendor.

5.10 All the above tests shall be witnessed by BARC representative and the vendor shall inform in advance for the tests to be witnessed by BARC.

5.11 Material not qualifying in any of above tests shall be rejected.

5.12 The successful vendor shall submit the QAP to BARC for scrutiny immediately after receipt of the work order & shall indicate the various inspections and testing to be witnessed by BARC. Work shall be started after approval of the QAP.

6. Terms and conditions.

i) Contractor has to arrange transportation for collecting the gear box housing & motor from BARC and return back the same after successful completion of the job.

ii) All the charges including the transportation, mobilization etc., if any shall be indicated/included in the quotation.
iii) PAN and GST number shall be indicated in the quotation. Quotations without these numbers shall be rejected.

iv) The prices quoted by the vendor shall be valid for at least 45 days from the last date of submission of the tender.

v) The contractor may visit the site to familiarize himself with the quantum of work.

vi) Should there be any fitment problem at the time of assembly the vendor shall rectify / replace the defective part free of cost.

7. **Completion schedule:**

7.1 The job shall be completed within 120 days from the receipt of the work order.

7.2 Penalty clause: Any delay in the completion of the job which is attributable to the vendor, is liable for a penalty @ ½ % of the work-order value per week (max. 5%).

7.3 In case extension in the job completion period is required, the vendor has to write to BARC with sufficient reason.

8. **Commercial Terms and conditions:**

8.1 No advance or part payment is admissible. The full and final payment will be made within 60 days after completion of the job in all respects.

8.2 Income tax @ 2% will be deducted from your bill. TDS certificate to that effect will be issued by BARC.

8.3 For payment the following shall be provided

8.4 Original Bill in duplicate (Taxes need to be shown separately in the bill).

8.5 Advance stamped receipt.

8.6 PAN and GST number to be indicated in the stamped invoice.

8.7 Payment will be made only through ECS/Core Banking System. Hence, please furnish the bank details such as Bank’s name & address, A/c No. and IFSC code in the invoice.

9. **CONFIDENTIALITY CLAUSES.**

(i) **Confidentiality:**

No party shall disclose any information to any third party concerning the matters under this contract generally. In particular, any information identified as “Proprietary” in nature by the disclosing party shall be kept strictly confidential by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party.

This clause shall apply to the sub-contractors, consultants, advisers or the employees engaged by a party with equal force.

(ii) “Restricted information” categories under section 18 of the Atomic Energy Act, 1962 and “Official Secrets” under Section 5 of the Official Secrets Act, 1923 :-

Any contravention of the above mentioned provisions by any contractor, sub-contractor, consultant, adviser or the employees of a contractor will invite penal consequences under the aforesaid legislation.
(iii) **Prohibition against use of BARC’s name without permission for publicity purposes :-**

The contractor or sub-contractor, consultant, adviser or the employees engaged by the contractor shall not use BARC’s name for any publicity purpose through any public media like Press, Radio, T.V. or Internet without the prior written approval of BARC.

10. **Security Instructions**

Please indicate whether any of your relatives are employed in BARC or you or any of your employees were employed in BARC or any other units of DAE.

11. **General:**

11.1 You may contact Shri S. K. Banerjee, SO/E, who is designated as EIC for this job, at Telephone No. 2559 4643/4622 for further clarifications.

11.2 The names of your authorized representatives to whom official instruction can be given may please be communicated.

ENCLOSED:-

1. Schedule B
2. Drawing

Thanking you,

Yours faithfully

(Manoj Tilara)
Maint. Supdt. (Mech),
RRMD
Tel: 022-25594258
## Schedule B

**Sub: Fabrication, assembly and supply of gear train assembly of buggy drive gear box.**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Description</th>
<th>Unit</th>
<th>Rate (Rs.)</th>
<th>Qty</th>
<th>Amount (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fabrication &amp; Supply of 1&lt;sup&gt;st&lt;/sup&gt; stage adapter pinion shaft with material EN-24 as per specified hardness and drawing</td>
<td>No.</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Fabrication &amp; supply of 1&lt;sup&gt;st&lt;/sup&gt; stage gear with material EN-36 as per specified hardness and drawing</td>
<td>No.</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Fabrication &amp; supply of 2&lt;sup&gt;nd&lt;/sup&gt; stage pinion shaft with material EN-24 as per specified hardness and drawing</td>
<td>No.</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Fabrication &amp; supply of 2&lt;sup&gt;nd&lt;/sup&gt; stage gear with material EN-36 as per specified hardness and drawing</td>
<td>No.</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Fabrication supply of 3&lt;sup&gt;rd&lt;/sup&gt; stage helical pinion shaft with material EN 24 as per specified hardness and drawing</td>
<td>No.</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Fabrication &amp; supply of 3&lt;sup&gt;rd&lt;/sup&gt; stage gear with material EN-36 as per specified hardness and drawing</td>
<td>No.</td>
<td></td>
<td>2</td>
<td></td>
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<tr>
<td>7.</td>
<td>Fabrication supply of output shaft with material EN 24 as per specified hardness and drawing</td>
<td>No.</td>
<td></td>
<td>2</td>
<td></td>
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<tr>
<td>8.</td>
<td>Trial assembly of gear box with above gear elements including supply and installation of new bearings as per list, new oil seals, oil etc., testing with motor and qualification, as detailed in Tender specifications. (manual run with both sets and with motor for one set)</td>
<td>Lumpsum</td>
<td></td>
<td>1</td>
<td></td>
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</table>

**GST @**

**Other charges**

**Total**

Total amount in words: