

**SCOPE OF WORK FOR WHEEL SUB ASSEMBLY**

**1. Scope of Work for vendor:**

1. Assemble the components as per Assembly procedure mentioned in S. No 5 of this Document.
2. Accessories like coveralls and safety kits etc. are to be arranged by the Vendor.
3. Pressure gauges, fillings necks & rubber hose will be provided by BEML while all other hand tools have to be arranged by the vendor.
4. Vendor has to make own arrangements and ensure workers are wearing necessary safety items (i.e. Nose mask, Rubber Gloves, and shoes).
5. Vendor has to ensure optimum utilization of material provided by BEML.
6. Keeping the place clean & orderly is also the responsibility of Vendor.
7. Work has to be carried out inside BEML Ltd, EMD Complex factory premises.
8. The completed work / stage have to be offered after work completion to BEML QC for clearance.
9. Vendor has to fulfill other statutory requirement as per procedure of the company.
10. Activities to be carried out on two shift basis. If required on 3rd shift and on Sundays / Holidays also.
11. Adequate man power should be deployed to have an average output of 40 equipments per month (Considering peak production). The contractor should also deploy additional man power in case of exigency and Sundays / Holidays / Leaves / Absenteeism.
12. If there is any change in production plan / dispatch plan, accordingly sufficient additional man power should be deployed by the contractor as directed by shop in – charge.
13. One supervisor with good writing and communication skills must be deployed in each shift to maintain records of works to be carried out on priority given by BEML representative. He should update the progress & maintain certified data sheets. Vendor supervisor should co- ordinate with shop- in - charge or Quality Inspector to fulfill the BEML process requirements.
14. The firm shall declare and maintain records of all materials brought inside the factory and may declare consumables.
15. After Assembly activity, the waste materials such as packing materials etc. should be collected & dumped at identified place for easy disposal.
16. It is the responsibility of the contractor to keep the work area clean & tidy. Contractor should take necessary measures to avoid wastage of consumables such as grease, compressed air, water and other items.

**2. BEML Scope:**

1. BEML will provide a space at Defence Hangar/ Hull Shop for keeping materials and consumables.
2. BEML will provide the facilities like Crane, compressed air, Chalk powder, Torque Wrench, Pressure Gauge, Inflation neck, Rubber Hose, electricity and lighting.
3. All material required for assembly will be provided by BEML.

4. The necessary movements of material to facilitated activities will be assisted by BEML.

### **3. Inspection / Clearance:**

1. All Assemblies/ Sub Assemblies will be certified by BEML quality inspector and production in- charge after painting (at sub structure level, assembly level).
2. BEML reserves the right to ask the vendor to reverse the assembly activity and carry out the same operation afresh if the subject sub assembly or assembly gives a problem during the equipment assembly or testing. In that case if the problem is attributed to the improper assembly by the vendor then the vendor cannot claim any charges for subsequent disassemblies and assemblies.
3. Any rework carried out based on inspection feedback should be as per rework procedure mutually agreed between vendor, BEML Quality and BEML R&D.
4. The firm shall provide adequate supervisors (minimum one person) to carry out the assigned jobs flawlessly and co- ordinate with BEML officials for the day to day operation.
5. Vendor should maintain record of raw material collected from BEML Reps for making assemblies and also the finished assembly handed over back to BEML Rep with necessary signature.

Any loss of items, damages caused by vendor, issued from BEML, will be subjected to deduction of equivalent cost from the vendor payment.

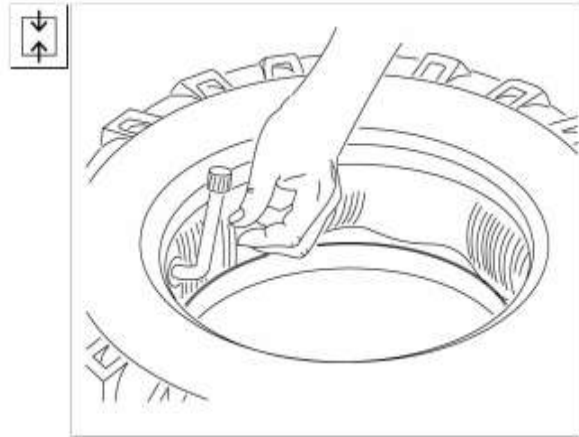
### **4. Perquisites for Assembly of Tyre:**

- Check the tyres for proper visibility of Sl.no, date of manufacturing and free of crack.
- Apply chalk powder inside tyre at tube seating area
- Place the wheel rims on the assembling platform.
- Insert inner tube with valve inside the tyre and spread around to avoid twisting.
- Place Distance insert (Flap) around wheel rim seating area and ensure positioned in inner tube neck seating area.
- Dismantle Split wheel by removing top pressure plate loosening the M20x2 nut of 10 nos and insert the tyre assembly into the rim and reassemble the removed pressure plate.
- Ensure the torque of 400 Nm.
- Air to be filled 4 bar pressure externally.

## **5. Assembly Procedure:**

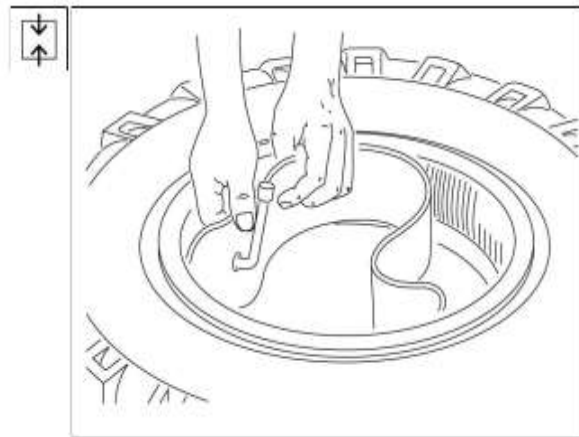
### **Assembly Procedure**

1. Insert the air tube with extension into tyre.



*Fig. 11.17 Air tube with extension - installation*

2. Slide the bead lock on air tube extension, fit into tyre and place correctly and evenly between tyre beads. Remember to carefully straighten the air tube in tyre so that it would not be jammed.

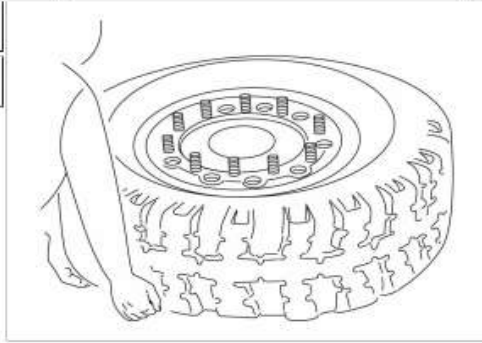


*Fig. 11.18 Bead lock - installation*

3. Place the disc wheel on a suitable support stand (block).
4. Slide the tyre with air tube and bead lock on the disc wheel so that the air tube extension goes through a cut-out in the disc wheel.

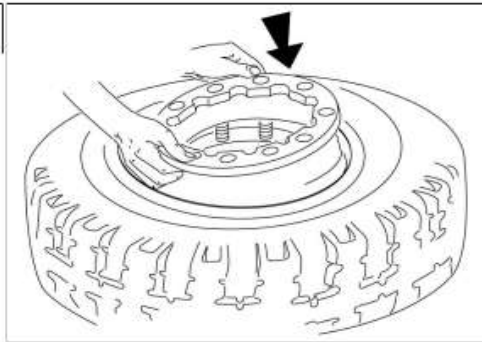
**CAUTION:**

**Slide the tyre on the disc wheel so that the tyre treads pattern arrows would point forwards after installation of the assembled vehicle wheel!**



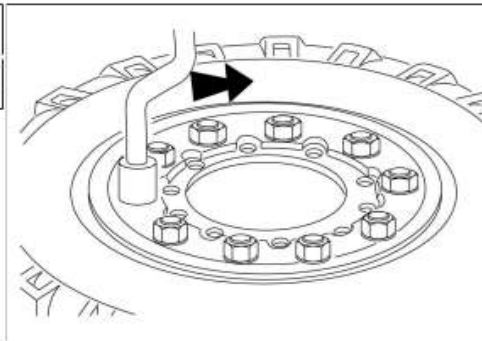
*Fig. 11.19 Tyre - installation*

5. Fit the pressure plate on bolts of the disc wheel so that the air tube extension goes through a cut-out in the pressure plate.

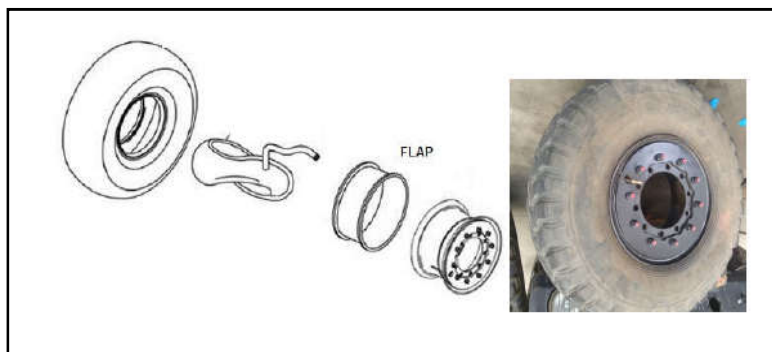


*Fig. 11.20 Pressure plate - installation*

6. Screw mounting nuts of pressure plate and tighten to **350 - 400 Nm**. Remember to tighten the nuts "crosswise".
7. Mount the valve elongation piece from the vehicle outfit on the air tube extension and partially inflate the tyre.



*Fig. 11.21 Pressure plate nuts - installation*



**6. Assembly Tools required:**

- Hammer
- Pneumatic gun
- Spanners/ socket set
- Torque wrench etc– Will be provided by M/s. BEML
- Crane for positioning Wheel Rims– Will be provided by M/s. BEML
- Pressure Gauge and inflation Neck

**7. Quantity per Equipment:**

- 7 tyres / vehicle to be assembled – 6x6
- 9 tyres / vehicle to be assembled – 8x8

**8. Production Rate:**

1. One 6x6 Equipment requires 7 Wheel Sub Assemblies.
2. Vendor has to ensure that he supplies the assemblies at the rate of minimum 3 equipments per day.

**9. Indicative Man Power Apart from One Supervisor:**

- 1<sup>st</sup> Shift – 2 Fitters
- 2<sup>nd</sup> Shift – 2 Fitters