



ANDHRA PRADESH STATE ROAD TRANSPORT CORPORATION

No.TR1/815(31)/2008-MED

O/o The VC & MD,
Hyderabad-624.

CIRCULAR NO.20/2008 - MED, Dt : 15.09.2008

SUB : **TYRES** - Utilization of **Radial Tyres** - Deriving maximum benefits of Radialisation - Reg.

- REF : 1) Circular No.30/2003, dated 26.08.2003.
2) Circular No.11/2005, dated 26.09.2005.
3) Circular No.03/2006, dated 04.02.2006.
4) Circular No.04/2006, dated 04.02.2006.
5) Circular No.05/2006, dated 04.02.2006.
6) Lr.No.TR1/815(2)/2008-MED, dated 30.01.2008.
7) Circular No.12/2008, dated 16.06.2008.

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Realising the cost benefit, the Corporation has gone for extensive radialisation in the recent past. All the special type vehicles and Pallevelugu vehicles running on plain routes to the extent of **1582** were radialised in addition to full radialisation of **8** depots. At present the **Radial tyre operated kilometers** are more than **40%** of total operated kilometers.

The **CPK on Radial Tyres** is proved to be less than that of Nylon Tyres in addition to **HSD KMPL improvement to the extent of 3%** on the vehicles fitted with the **Radial Tyres**. Further the Radial Tyres are **puncture resistant** and with less retreads & higher mileages, the **vehicle down time is less** in addition to **less CPK** i.e., less by around **4 paise/km** when compared to that of Nylon (Cross ply) tyres. The **KMPL improvement to the extent of 3%** results in **reduction in CPK on HSD** by around **13 paise**.

Radial Tyres are more sensitive in responding to bad maintenance practices due to its inherent constructional features. Thus the **Radial Tyres** in one way, caution the maintenance wing to take immediate remedial action to rectify the mechanical defects.

As observed from the field, the advantages of Radial Tyres are not being extracted to the full extent. There is **wide variation** in the performance of Radial Tyres among the Regions as shown below.

| SL NO | Parameter | Lowest | | 2 nd Lowest | | Highest | |
|-------|-----------------|--------|-------------|------------------------|-------------|---------|-------------|
| | | Region | Performance | Region | Performance | Region | Performance |
| 1 | New Tyre Life | RR | 38921 kms | TPT | 62568 kms | GNT | 102757 kms |
| 2 | RC Tyre Life | RR | 31346 kms | MDK | 37317 kms | KRMR | 77431 kms |
| 3 | Total Tyre Life | RR | 137516 kms | MDK | 150444 kms | NEC | 209593 kms |
| 4 | RT Factor | MDK | 1.35 | KRMR | 1.49 | VSP | 2.46 |

This clearly indicates that there is lot of scope at most of the Regions to improve the Radial Tyre performance. As far as Total Tyre Life is concerned, there are only 3 Regions (NEC, EG and KRMR) with more than 2.00 lakh kms and only 6 Regions (NZZ, GNT, KMM, WL, TPT and VJA) between 1.90 to 2.00 lakh kms. Hence, a comprehensive approach is required at the other Regions at least to reach the performance of above 9 Regions.

Guidelines are already existing on the measures to be taken at Depot level and also at TRS level to extract maximum mileage out of the tyres in General. The same are applicable to Radial Tyres also. Some important aspects are reiterated hereunder for immediate action at the Depots and Tyre Retreading Shops.

ACTION AT DEPOTS :

- New Radial Tyres must be fitted with New Radial Tube and New Flap only.
- Radial Tyre must be used along with Radial Tubes of same make only.
- Even in case of Fit for Front & I RC Radials the above guidelines are to be adhered to.
- All the tyres including the spare tyre on the vehicle must be Radials and in any case cross ply tyres shall not be used along with Radials.
- Radial tyres shall be inspected for Deep/through cuts exposing the steel belt/steel wires which, if neglected results in rusting of steel wires. The rusting weakens the casing and ultimately results in “burst” failures. Such tyres shall be immediately withdrawn for Repairs/Recapping at TRS.
- Before the fitment of Radial tyres on to the vehicle, it shall be ensured that all the mechanical defects are attended.
- If mechanical defects are observed, rotation of Radial Tyres must be done as prescribed without waiting for Sch-III duly attending the mechanical defects on such vehicles.
- The recommended inflation pressures as given below shall be maintained and ensured twice in a week.

| Position | Inflation in kg/cm ² (PSI) | | | | | |
|----------|---|-----------|------------------|---------------------|-----------------------|-----------------------------|
| | LPO 55 / VIKING | LP 52 | VOLVO 11.00 R 20 | Kinglong 10.00 R 20 | Kinglong 11.00 R 22.5 | VOLVO Tubelss 295/80 R 22.5 |
| Front | 7.35 (105) | 6.30 (90) | 7.70 (110) | 7.70 (110) | 7.70 (110) | 7.70 (110) |
| Rear | 7.00 (100) | 5.60 (80) | 7.35 (105) | 7.35 (105) | 7.35 (105) | 7.35 (105) |

- **Non-removal of tyres on time** for further process is much **more dangerous** in case of Radials. Withdrawal of Tyres for recapping shall be ensured with minimum **2 mm leftover NSD**.
- In case of **Tubeless Tyres**, special care must be taken to **utilise special tools to remove and to fit the tyre onto the Rim so as to avoid any damage to the Beed**.
- Tyres being sent to TRS shall be inspected by the Depot Manager and in case of **low mileages**, the reasons shall be recorded and corrective action shall be taken.
- The elaborate guidelines given in **Cir.No.30/2003, Cir.No.11/2005 and Cir. No.12/2008** shall be followed scrupulously.

ACTION AT TYRE RETREADING SHOPS :

- All the Radial tyres **must be inspected on the spreader** for the identification of all injuries and their correct sizes.
- Radial Tyres shall be taken for process immediately. **Idling/Waiting for process for longer periods shall be avoided**.
- For process tyres shall never be exposed to air, water etc., for longer periods. **Tarpaulins** may be used for the protection from direct exposure to heat and moisture.
- **The buffed contour shall be as flat as possible** to have maximum area of contact and to have less stress induction in the sidewalls. The **buffing tread arc must be 24 and more in any case**.
- **Minimum original rubber** shall be removed during the course of buffing and if necessary the **rasping** shall be utilised for this purpose.
- The **texture of buffing** shall give spongy feeling and shall not be too smooth or excessive rough which will **affect the adhesiveness**.
- **All the loose wires shall be trimmed properly**. No single loose wire shall be left before the tyre is taken for coating/solutioning.
- **Proper Radial tools** along with high speed pneumatic guns shall be made available at any point of time. **There shall not be any stock out of Radial tools**.
- **Air shall not be used for cleaning the buffed/rasped surface** as the moisture present in the air is more dangerous for the exposed wires. **Brush or Vaccum cleaner shall be utilised for this purpose**.
- **No venting** is needed in Radial tyres.
- **Specialisation** shall be developed in attending to the Radial Tyres. It is also necessary to **train** all the workmen utilizing the services of Tyre Manufacturers Service Personnel to meet the increasing demand in processing the Radial Tyres.
- As such Radial Tyres **require more attention and more skilled work than the Cross ply Tyres**. The **Tubeless Tyres** require **much more attention** than the normal Radial Tyres, as they have to withstand higher speeds and temperatures.
- The tyre performance statements shall be generated in all aspects for **Nylon and Radial Tyres separately at TRS** for further transmission to the Depots so as to enable **exclusive review** of Radial Tyre performance.

The **Depot Managers** and **AMEs(T)** are advised to prune the maintenance and Recapping/Repairing practices as stated above, immediately without further loss of time to derive maximum benefits from the Radialisation process.

The **Dy.CMEs** and **WMs** are advised to verify and streamline the above aspects during their inspections to the Units.

Executive Directors (Zones) and the **Regional Managers** are advised to review the above aspects on priority basis during their **PRC meetings and Review meetings** to make the Units to reach the **highest performance in case of Radial Tyres**.

Vice Chairman & Managing Director

Copy to : Dir.(V&S), ED(E&IT), ED(A&P), ED(O), FA, CAO and ED(T&C) for information.

Copy to : All EDs(Zone) for information and necessary action.

Copy to : CCOS, CME(O), CME(C&B) & CE(E&IT) for information and necessary action.

Copy to : All Regional Managers for information and necessary action.

Copy to : All WMs/COSs for information and necessary action.

Copy to : All Dy.CAOs & AOs for information.

Copy to : Dy.CME(O), Dy.CME(C&B), Dy.CME(IEU) for information.

Copy to : Principals, TA/HPT & all ZSTCs.

Copy to : All Depot Managers for information and necessary action.

Copy to : All Maintenance in-charges of Depots for necessary action.

Copy to : All Production in-charges of TRSs for necessary action.