

Wheels, Axles & Bearings

Pages 6 & 7 of the 1935 Fairmont Bulletin 316A gives information on old and modern insulation and some measurements, which might be of interest.

JACK HOOVER COLLECTION

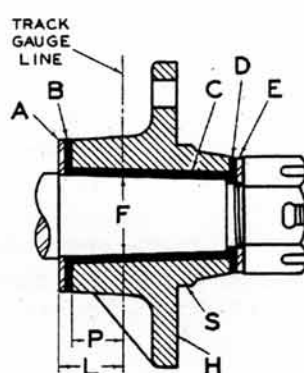
Fairmont Insulation Reduces Wheel Stocks

| AXLE SIZE, ACTUAL | SYMBOL, ASSEMBLY COMPLETE | SYMBOL OF FIBER SLEEVE (C) (U) | SYMBOLS OF FIBER WASHERS (B) (D) | SYMBOLS OF WROUGHT WASHERS (A) (E) | DIMENSIONS IN INCHES (P) (L) | | Axle di- ameter at Track Gauge Line | Thick- ness of Insu- lation Sleeve | TYPE OF AXLE FITTED |
|-------------------------|---------------------------------|--------------------------------------|--|--|------------------------------------|------|---|--|---------------------------|
| 1 3/8" | M6334 | M6880 | M6001 | F1615 | 1.06 | 1.25 | G 1.111 | .123 | Universal |
| 1 7/8" | M8509 | M8510 | M4460 | M4442 | .88 | 1.07 | G 1.368 | .101 | Universal |
| 1 1/2" | M8674 | M8675 | M4460 | M4458 | 1.00 | 1.19 | G 1.609 | .101 | Universal |
| 1 3/8" | M10861 | M10862 | M4637 | M4636 | .94 | 1.13 | G 1.796 | .125 | Universal |
| 1 1/2" | M19836 | M19369 | M4637 | M4636 | .94 | 1.13 | G 1.859 | .125 | Universal |
| 1 1/8" | M4480 | M4439 | M4446 | M4460 | .88 | 1.19 | F 1.321 | .124 | Shoulder |
| 1 1/8" | M4481 | M4456 | M4459 | M4460 | 1.00 | 1.31 | F 1.562 | .124 | Shoulder |

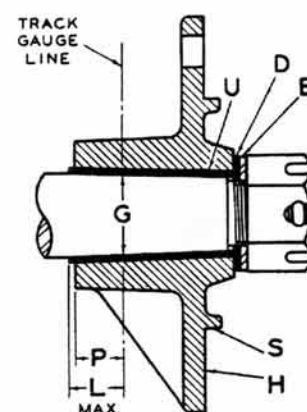
INSULATING sleeves cost less to stock and are easier to handle than complete riveted wheels or demountable hubs.

For that reason, and to enable railroads to use wheels then in stock, Fairmont changed the fiber bushing instead of the wheel bore when thrust collars and 3-piece insulation replaced 5-piece insulation and loose spacing washers which were liable to cut the axle.*

As a result, Fairmont cars 18 years old, that started with shoulder type axles, Hyatt bearings and no thrust collars, are fitted by the same wheels as the latest models with universal axles and long sleeve bearings.



5-Piece Insulation.



Modern 3-Piece* Insulation.

SHOULDER type axles and 5-piece insulation were in wide use before Fairmont "inherited" them. Within a few years however, Fairmont's introduction of badly needed thrust collars for the Hyatt bearings then in use, removed the necessity for 5-piece insulation and shoulder on one end of the axle, for cars using these safer thrust collars.

During the 12 years since that improvement, all Fairmont motor cars, push cars and trailers have had the non-shoulder axle which fits 3-piece insulation and has both tapered ends identical.

The old style axle was turned smaller on one end to fit 5-piece insulation with bushing in no case more than .023" thicker than the "3-piece" bushing. This provided a shoulder to stop the inner steel and fiber washers that are eliminated from 3-piece insulation.

No change or addition to existing wheel stocks was made by the non-shoulder axle. Eliminating two washers, only one piece is new—a fiber bushing slightly thinner than the previous "5-piece" sleeve.

The same wheels which fit modern 3-piece insulation also fit the old 5-piece. Thus an old shoulder type axle may be

replaced by a modern non-shoulder axle simply by using the new thinner bushing in the wheels bored for insulation. If out of universal axles, the old shoulder type with 5-piece insulation can be used.

INTERCHANGEABILITY of axles in each size was made universal by 3-piece insulation as follows:

(1) Either end of the non-shoulder or "universal" axle fits all three wheels that could be used anywhere on the car: the bronze bushed loose wheel; the "loose or tight" non-insulated wheel; and the insulated wheel with 3-piece insulation.

(2) As a universal axle is fitted by an insulated wheel on either or both ends, it is easy to keep two insulated wheels on the same side of the car, which is necessary with steel or aluminum frame cars to prevent setting electric signals.

(3) The universal type is also preferable as a drive axle for it can be turned end for end if necessary and a new key-seat cut for the pulley bushing to adapt it to some other make or model of car on short notice. The insulated wheel can be put on the correct end, or if three per car are used, no signal trouble is possible.

* "L MAX." must not be less than "P."

QUALITY of Fairmont fiber insulating bushings and washers is the best obtainable, most highly resistant to atmospheric moisture. The seamless sleeve permits reaming. When applied as illustrated, and with two insulated wheels on the same side of car, Fairmont dependability is assured.



WHEEL REAMERS save much time in bringing wheel and axle assemblies to gauge; remove burrs at the end of bore, paint, rust etc.

Each is amply long to ream hubs either non-insulated or bored for insulation, as well as the fiber bushing, of the size indicated below. Stock is sufficient for several regrindings when dull; centers are provided at each end.

| Symbol | Axle | Taper | Description | Pounds |
|--------|--------------------------|-------|-------------|--------|
| M7666 | 1 3/8" | .875" | Hand Reamer | 2 3/4 |
| M7667 | 1 7/8" | .750" | Hand Reamer | 3 3/4 |
| M7668 | 1 1/2" | .750" | Hand Reamer | 6 |
| M7669 | { 1 3/8" } { 1 1/2" } | .750" | Hand Reamer | 8 |

• Recommended Fairmont Stock, page 8.

See page 24 on Thrust Collars.