# section 5
## DATA SECTION – TUBES AND VALVES

## 5.1 TUBE AND VALVE TECHNICAL DATA

### GOODYEAR AIRPLANE INNERTUBES ARE MANUFACTURED TO RIGID STANDARDS

- Meets or exceeds all commercial and military performance requirements.
  - – Produced to the requirements of Goodyear's quality standard QAI2525.
  - – Meets MIL-I-5014 military specification except for packaging.

    *All tubes are individually wrapped in .005 mm gauge clear plastic and cardboard boxed in various quantities.*
- Made from natural rubber which provides maximum life and meets cold temperature performance requirements.
- Factory balanced. The heavy spot is marked with a yellow stripe. If it does not have a stripe the valve is considered the heavy spot.
- The valve stem, core and cap are manufactured by Schrader for aircraft use.
  - – Designed for high and low pressure requirements.

    *High Pressure Cap = Metal (MS20813-1).*

    *Low Pressure Cap = Plastic.*
  - – All Parts meet U.S.A. military specifications.

### RECOMMENDED STORAGE

- Place in a cool, dry place out of direct sunlight. Temperatures should be between 32°F (0°C) and 85°F (30°C). Always store away from fluorescent lights, electric motors and similar electric equipment. They create ozone which has a deteriorating effect on rubber. Whenever possible they should be stored in their original cardboard carton. Never hang over nails, pegs or any object that might form a crease. It will eventually produce a crack in the rubber leading to a leak.

### RECOMMENDED AGE LIMIT

- Tubes may be placed in service, regardless of the calendar age, provided all inspection for service/ storage or individual customer imposed restrictions are met.

### RECOMMENDED USE

- A new tube should be used when installing in a new tire. Tubes, like tires, grow in service, taking a permanent set of about 25% larger. This makes a used tube too large to use in a new tire which would cause a wrinkle and lead to a leak.

### RECOMMENDED MOUNTING AND DISMOUNTING PROCEDURES

- See Goodyear's Care and Maintenance Manual (Catalog #700-862-931-538).

### VALVE BENDING

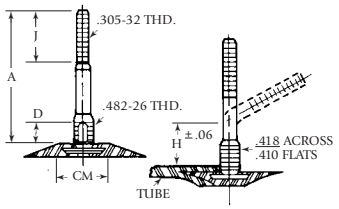
- Tube valves are bent at the tube factory to the Tire and Rim Association's recommended angle.
- For more valve information, contact Schrader World Headquarters in Monroe, NC, U.S.A. Telephone 1-800-592-2222.

# 5.1 TUBE AND VALVE TECHNICAL DATA

| TUBE SIZE DESIGNATION | TYPE | VALVE TYPE | NOMINAL TUBE SIZE | | | GROSS WEIGHT | | VALVE | |
|---|---|---|---|---|---|---|---|---|---|
| | | | OD | WIDTH | WHEEL DIA | LBS | KGS | SHAPE | LOCATION |
| 5.00-4 | REG | TR-67 | 13 | 5.00 | 4 | .9 | .428 | B90° | 0 |
| 5.00-5/15x6.00-5/380x150-5 | REG | TR-67 | 13 | 5.00 | 5 | 1.1 | .513 | B90° | 0 |
| 6.00-6/15x6.00-6 (G15/6.00-6) | REG | TR-20 | 15 | 6.00 | 6 | 1.3 | .581 | STR | 1.0" |
| 6.00-6/15x6.00-6 (G15/6.00-6) | REG | TR-67 | 15 | 6.00 | 6 | 1.3 | .602 | B90° | 1.0" |
| 6.50/7.00-8, 19.5x6.75-8 | REG | TR-15 | 19.5 | 6.50 | 8 | 2.0 | .948 | STR | .6" |
| (G19.5x6.75-8) | | | | | | | | | |
| 6.50-10 | REG | TR-25 | 22 | 6.50 | 10 | 2.2 | .991 | STR | .75" |
| 7.00/8.00-6 | REG | TR-20 | 18 | 7.00 | 6 | 1.8 | .796 | STR | 1.0" |
| 7.50-10 | REG | TR-193 | 23 | 7.50 | 10 | 2.9 | 1.294 | B90° | .8" |
| 7.50-10 | REG | TR-25 | 23 | 7.50 | 10 | 2.5 | 1.152 | STR | .8" |
| 7.50-14 | REG | TR-176A | 27.5 | 7.50 | 10 | 4.0 | 1.794 | B90° | .75" |
| 8.00-4 | REG | TR-12 | 17.5 | 8.00 | 4 | 1.7 | .783 | STR | 1.5" |
| 8.50-6 | REG | TR-20 | 21.5 | 8.50 | 6 | 2.4 | 1.110 | STR | 1.12" |
| 8.50-10 | REG | TR-25 | 25 | 8.50 | 10 | 3.1 | 1.402 | STR | .9" |
| 8.90-12.50 | REG | TR-15 | 27.5 | 8.90 | 12.5 | 5.4 | 2.471 | STR | 1.7" |
| 9.00-6 | REG | TR-69A | 22 | 9.00 | 6 | 3.4 | 1.555 | B90° | 0 |
| 10.00 | REG | TR-12 | 10 | 4.30 | 3.188 | .5 | .219 | STR | 1.0" |
| 11.00-12 | REG | TR-13CW | 31.5 | 11.00 | 12 | 6.9 | 3.148 | STR | 1.8" |
| 12.50-16 | REG | TR-101 | 38 | 12.50 | 16 | 10.9 | 4.947 | B90° | .4" |
| 17.00-16 | REG | TR-91 | 45 | 17.00 | 16 | 14.9 | 6.773 | B90° | 2.75" |
| 18x4.4 | FAB | TR-67 | 18 | 4.4 | 10 | 1.8 | .805 | B90° | 0 |
| 18x5.5 | REG | TR-15 | 18 | 5.5 | 8 | 1.4 | .653 | STR | .4" |
| 18x5.5 | REG | TR-67 | 18 | 5.5 | 8 | 1.5 | .678 | B90° | .4" |
| 22x8.0/7.00-8 | REG | TR-15 | 22 | 7.0 | 8 | 2.3 | 1.062 | STR | .8" |
| 22x7.25-11.50 | REG | TR-150CW | 22 | 7.75 | 11.5 | 3.2 | 1.471 | B70° | .5" |
| 27 | REG | TR-25 | 27 | 9.75 | 14 | 3.4 | 1.531 | STR | 1.1" |
| 29x11.0-10 | REG | TR-193 | 29 | 11.0 | 10 | 4.6 | 2.070 | B90° | 1.0" |
| 44 | REG | TR-176A | 44 | 17.2 | 22 | 15.0 | 6.816 | B85° | 4.5" |

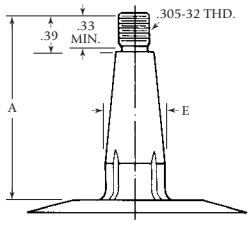
Note: 1. Tube size designation is same as tire size designation which assures proper fit. For multiple size marked tubes, the tube was designed to fit correctly in all the identified sizes. A certain amount of tube stretch is required for maximum performance.
2. REG = Regular or all rubber tube (Except valve stem).
FAB = Fabric base tube to eliminate wheel chafing during high performance operations. All other parts same as regular.
3. These are Schrader valve assemblies. Contact their World Headquarters, Monroe, NC, U.S.A. Telephone 1-800-592-2222 for additional information.
4. The nominal tube size reflects the minimum inflated outside tire dimensions and wheel diameter that the tube will properly operate.
(O.D. = outside diameter at center line, width = overall tire width at widest point, wheel dia = nominal diameter of wheel, tire bead and tube opening).
5. Valve Shape: B = Bent, STR = Straight.
6. Valve Location is the distance the centerline of the valve is located from the centerline of the tube.

# 5.2 TUBE VALVE TYPES AND TECHNICAL DATA




VALVE CORE-TR C4
METAL STEM

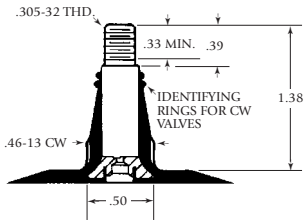
| TR VALVE NBR | A | D | J | H |
|---|---|---|---|---|
| 14M | 1.88 | 1.42 | .38 | – |
| 91 | 4.41 | .44 | 1.25 | 1.25 |
| 92 | 5.41 | .44 | .75 | 1.00 |
| 101 | 5.75 | .44 | 1.25 | 1.00 |
| 176A | 3.53 | .44 | .38 | 1.25 |




VALVE CORE-TR C4
RUBBER COVERED WITH METAL STEM

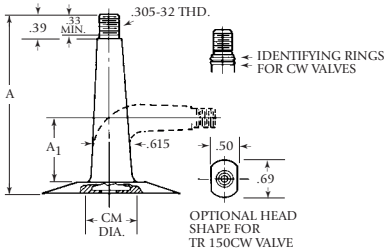
| TR VALVE NBR | A | E |
|---|---|---|
| 12 | 1.56 | .48 |
| 15 | 1.38 | .65 |
| 20 | 1.75 | .49 |
| 25 | 1.94 | .65 |

TR-13 CW



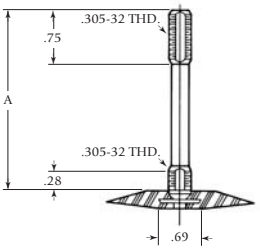

VALVE CORE-TR C1

RUBBER COVERED WITH METAL STEM

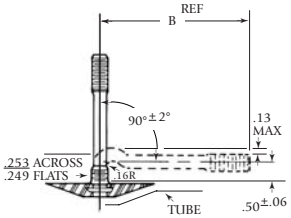



RUBBER COVERED WITH METAL STEM

| TR VALVE NBR | A | A1 | CM DIA. |
|---|---|---|---|
| 150CW | 3.69 | .70MIN 1.25MAX | .69 |



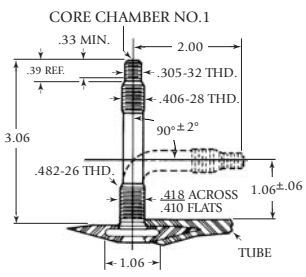

VALVE CORE-TR C4




METAL STEM

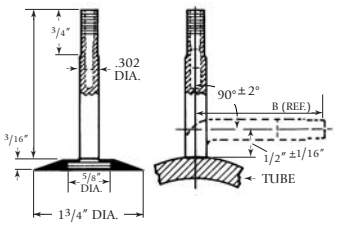
| TR VALVE NBR | A | B |
|---|---|---|
| 60 | 2.25 | 1.50 |
| 67 | 2.75 | 2.25 |
| 68 | 3.75 | 3.25 |
| 69 | 4.75 | 4.25 |

TR 193




VALVE CORE-TR C4

METAL STEM




METAL STEM

| TR VALVE NBR | A | B |
|---|---|---|
| 88 | 1.97 | 1.63 |