Data Sheet Terminology

Tire Size (Type)

	TIRE SIZE					
	Nominal Overall Diameter		Nominal Section Width	Construction Code	Nominal Rim Diameter	Ply Rating
Type III			12.50	—	16	12PR
Type VII	49	×	17			32PR
Three Part	52	×	20.5	—	23	30PR
Metric	1050	×	395	R	16	28PR

1. The tire designation is preceded by the letter "H" for 5° bead seat rims with 60 to 70 percent rim width/section width ratio.
2. Radial tires are indicated by the letter "R" in the location of the Construction Code.
3. Metric sizes are same as THREE PART except Outside Diameter and Section Width are in Millimeters.

Ply rating: PR

Indicates the maximum static (or dynamic) load of a tire used under specific conditions. Ply rating is thus an index of tire strength and does not indicate the actual number of plies.

Skid depth, mold

Depth in inches of mold tread pattern [Centermost Groove(s)].

Speed rating (M.P.H.)

Maximum permissible ground speed of a tire in MPH.

Load rating

Maximum load in pounds that a single tire is designed to support at rest.

Aspect ratio

A term used to describe the ratio of the mean "section height" of a tire to its mean "section width."

Unbalance, maximum

A tire without a rim is so balanced that its static unbalance is within specific limits. If its unbalance exceeds these limits, a balance patch is applied to the inside of the tire to bring it within the specified limits.

Note:
1. The limits on static unbalance specified in TSO-C62c&d is as follows: (in oz-inches) the moment (M) of static unbalance in inch ounces may not be greater that the value determined using the formula. Moment $(M)=0.025D^2$ rounded off to the lowest whole number.
   D=maximum outside diameter of the tire in inches.
2. A tire is stamped with a red dot on the sidewall above the beads to indicate the lightweight point of the tire.

Inflation pressure

Inflation pressure shown in the tables are for unloaded tires (that is, not mounted on the aircraft) When under load, the tire pressure increases by four percent as a result of a reduction in gas chamber volume due to tire deflection.

Note:
1. Inflation pressure should be measured when the tire is cool.
2. Example of pressure adjustment under load:
   A tire with a maximum static load capacity of 43,200 pounds and an inflation pressure of 180 psi. is adjusted in pressure when under operating static loads of 43,200 pounds and 40,000 pounds as follows:

   When operating static load is 43,200 pounds:
   Inflation pressure unloaded = 180 psi.
   Inflation pressure loaded = 180 × 1.04 = 187 psi.

   When operating static load is 40,000 pounds:

   Inflation pressure unloaded = $\frac{40,000}{43,200} \times 180 = 167$

   Inflation pressure loaded = $\frac{40,000}{43,200} \times 180 \times 1.04 = 173 psi$

3. Burst pressure: Unless otherwise specified, a tire must be able to withstand at least 4 times the rated inflation pressure for a 3 second period.

Load at maximum deflection, approx.

Approximate load in pounds needed to bottom tire on rim at designed inflation pressure.

Inflated dimensions, new tire

The inflated dimensions of a new tire are measured after it is mounted on the rim, inflated to specified rated pressure, left at room temperature for 12 hours, then readjusted to rated pressure. Inflated dimensions include the dimensions of letters, decorations, ribs, etc. on the tire.

Dimensions (Grown)

The tire dimension, including diameter, taking into account the growth or stretch of the tire fabric incurred during service.

Normal loaded radius

The distance from the center of the axle to the ground plane under normal static load.

Note: Radius of gyration

1. Tire assembly
   The radius of gyration of a new tire-tube assembly or new tubeless tire can be obtained with an accuracy of ±5%:

$$\text{Radius of Gyration} = \frac{\text{Max. (TRA) O.D. + Min. (TRA) O.D.}}{5.12} \text{ (inches)}$$

   O.D. = Outside Diameter

*TRA: Measurements given in Tire and Rim Association Inc. Yearbook.

2. Wheel assembly (rotating mass of brake included) the approximate radius of gyration of a wheel assembly can be obtained from the following formula with an accuracy of ±20%.
   Radius of gyration = 0.40 × diameter D
   Here, D is the rim ledge diameter.

Tire weight

The weights shown are average production weights.

Wheel-rim size

Rim width, rim diameter, flange height and minimum ledge width are shown in the relevant column. For further details, refer to the yearbook of the Tire and Rim Association, Inc., U.S.A.

Supplementary notes

1. Other Terminology on the Data Sheet
   • Construction represents the number of actual carcass plies, reinforcing fabric, belts or aramid cord protector.

   BIAS TIRES

N14-2RF:	Carcass plies = 14
	Reinforcing plies = 2
N22-2BR-1RF	Carcass plies = 22
	Breaker plies = 2
	Reinforcing plies = 1

   RADIAL TIRES

N06B07-F1:	Carcass plies = 6
	Belts = 7
	Aramid Cord Protector = 1

   • Tire marked with [   ] are not produced at present.
2. The following items on the Data Sheets are subject to change without notice: tread design, unbalance and tire weight.