

Global Aviation Tires
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Aircraft Tire Data Book

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Notice: This Aircraft Tire Data Book effective 10/02 combines information from previous Goodyear Aircraft Tire Data Books and supercedes all previous manuals.

section 1

INTRODUCTION

Goodyear, founded in 1898, has been producing aircraft tires since 1909 and retreading aircraft tires since 1927. With more than 90 years in the aircraft tire business, Goodyear is the world's largest supplier of aircraft tires.

Goodyear aircraft tires have been selected as original equipment on virtually all current U.S. military aircraft.

Goodyear manufactures new tires in the United States, Brazil, and Thailand. Retreading facilities are located in the United States, Brazil, Thailand, the Netherlands and in Australia.

Goodyear aircraft tires meet exacting specifications, are qualified to perform safely and economically, and hold up under the stringent demands set forth by today's high performance aircraft.

Specific data on the proper tire sizes for different aircraft main and auxiliary/nose gear, speed ratings, nominal inflation pressures, dimensions, and other data needed by users to obtain the maximum service from their aircraft tires are presented in this booklet. Data are included for reference purposes for some tires that are not in the Goodyear authorized line. The data presented supersedes previously published Goodyear data.

The data and general notes for civil aircraft tires are in accordance with The Tire & Rim Association Standards. The civil aircraft tire data also conform to Federal Aviation Agency Technical Standard Order C-62d, and other standards as applicable.

The data for Military Aircraft are based on military specification MIL-PRF-5041J, unless otherwise indicated.

The tire weights given in the Data Sheets are calculated weights on the basis of specifications in effect or contemplated at the time of publication. They are subject to change and are not to be construed as guaranteed weights.

Loads shown are the recommended maximum for the indicated inflation. For loads less than maximum, the inflation pressure can be reduced proportionately.

The physical tire data and applications herein are accurate to the best of our knowledge at the time of publication. For questions regarding specific applications, please contact your Goodyear aircraft tire distributor or the aircraft manufacturer for current information.

section 2

DEFINITIONS AND ABBREVIATIONS

TIRE NAME SIZE CLASSIFICATION

- Three Part Type** All new sizes being developed are in this classification. This group was developed to meet the higher speeds and loads of today's aircraft. NOTE: Some sizes have a letter such as "H" in front of the diameter. This is to identify a tire that is designed for a higher percent deflection.
- Radial** Radial size nomenclature is the same as Three Part except an "R" replaces the "-" (dash) before the wheel/rim diameter.
- Metric Type** This size designation is the same as Three Part except the diameter and section width dimensions are in millimeters, and the wheel/rim diameter is in inches.
- Type I** Oldest type/description giving outside diameter only.

Type III This type was one of the earliest size designations used for early piston-prop type aircraft. Its characteristic is low pressure for cushioning and flotation.

Type VII This type covers most of the older sizes and was designed for today's jet aircraft with its higher load capacity.

Tire Name Type	Tire Size Example	Nominal Diameter (Inches)	Nominal Section Width (Inches)	Nominal Wheel/Rim Diameter (Inches)
Three Part	49x19.0-20	49	19.0	20
Metric	670x210-12	670(mm)	210(mm)	12(in)
Type I	27	27	—	—
Type III	8.50-10	—	8.50	10
Type VII	49x17	49	17	—
Radial	32x8.8R16	32	8.8	16

Ply Rating The term "Ply Rating" is used to identify a given tire with its maximum recommended load when used in a specific type of service. It is an index of tire strength and does not necessarily represent the number of carcass plies in the tire.

TT or TL Designates whether the tire is tube-type or tubeless construction.

Rated Speed The maximum speed to which the tire is qualified.

Rated Load The maximum load rating in lbs.

Rated Inflation The rated inflation pressure required for the tire to support the rated load.

Maximum Braking Load The maximum steady braking load which may be applied to a tire.

Maximum Bottoming Load Approximate load required to bottom the tire on the rim at rated inflation pressure.

Plant The plant at which the tire was produced. *BRA – Brazil; DAN – Danville; *LUX – Luxembourg; THL – Thailand

*Goodyear no longer manufactures aircraft tires in Luxembourg.

- Tread Design/ Trademark**
- RIB – Rib
 - SMO – Smooth
 - AW – All Weather
 - G27 – Rib All Weather
 - DT – Deflector Type
 - DDT – Dual Deflector Type
 - FLE – Flight Eagle
 - FLC II – Flight Custom II
 - FLC III – Flight Custom III
 - FLS II – Flight Special II
 - FLDR – Flight Leader
 - FLRAD – Flight Radial
 - RS700 – Red Streak 700
 - Twin Contact

Part Number The part number assigned to the tire if applicable.

Weight Calculated weight of approved construction.

Inflated Dimensions The dimensions of a new tire inflated to rated inflation pressure.

Static Loaded Radius Loaded Radius is the distance from the center of the axle to the deflected tread surface under normal load and inflation pressure.

Flat Tire Radius Flat Tire Radius is the distance from the center of the axle to the deflected tread surface when subjected to bottoming load.

Aspect Ratio Aspect Ratio is the ratio of tire section height to tire section width.

Wheel The dimensions of the wheel on which the tire is to be used.

section 3

QUALIFICATION SPECIFICATION

Below is a list of abbreviations used in following data sheets:

AIRCRAFT MANUFACTURERS

AC	Commander Division Rockwell Intl.
AMD	Dassault
AS	Aerospatiale
BAC	British Aircraft Corp.
BAe	British Aerospace
BE	Beech
BOE	Boeing Aircraft Corp.
BOM	Bombardier
CASA	Construcciones Aeronauticas SA
CES	Cessna Aircraft Co.
CON	General Dynamics – Convair Div.
DAC	Douglas Aircraft Corp.
DH	DeHavilland Aircraft Co. Ltd.
DOR	Dornier GmbH
EMB	Empresa Brasileira de Aeronautica SA (EMBRAER)
FCH	Fairchild
FOK	Fokker
GAC	Gulfstream
GDC	General Dynamics Corp.
GRU	Grumman Corp.
GUA	General Utility Aircraft
HP	Handley Page
HS	Hawker Siddeley
IAI	Israeli Aircraft Industries
ITL	Alenia
KAMAN	Kaman Helicopters
KHI	Kawasaki Heavy Industries Ltd.
LAC	Lockheed Aircraft Corp.
LTV	Ling-Temco-Vought Aeronautical
MAR	Martin Marietta
MBB	Messerschmitt-Bolkow-Blohm
McD	McDonnell-Douglas Corp.
MIT	Mitsubishi Heavy Industries Ltd.
NA	North American Rockwell
NI	Nihon
NOR	Northrop Corp.
PAN	Panavia
REP	Fairchild
SA	Sikorsky Aircraft
SAAB	SAAB Aircraft AB
SHO	Shorts
SIAI	SIA Marchetti
SWE	Swearingen
VGt	Vought
WES	Westland Helicopter

GOVERNMENT

AIR8505A	French Military of Armed Forces Spec
5041	Military Specification for Pneumatic Tires
MS	Military Specification for Navy Aircraft Tires
RAAF	Royal Australian Airforce
CF	Canadian Forces
SAF	Swedish Airforce
C62b	Technical Standard Order – FAA (Rev-b)
C62c	Technical Standard Order – FAA (Rev-c)
C62d	Technical Standard Order – FAA (Rev-d)
USAF	United States Air Force

MISCELLANEOUS

LST	Load, Speed and Time Curve
SCD	Specification Control Document
T&RA	The Tire and Rim Association
U	Universal LST Curve (TSO-C62d)

three part name sizes

SIZE	CONSTRUCTION			SERVICE RATING				TREAD DESIGN/TRADEMARK	PART NO	WEIGHT (LBS)	INFLATED DIMENSIONS (IN)						STATIC LOADED RADIUS (IN)	FLAT TIRE RAD (IN)	ASPECT RATIO	WHEEL (IN)					AIRCRAFT MANUFACTURER	QUALIFICATION SPEC
	PLY RATING	TT OR TL	RATED SPEED (MPH)	RATED LOAD (LBS)	RATED INFLATION (PSI)	MAXIMUM BRAKING LOAD (LBS)	MAXIMUM BOTTOMING LOAD (LBS)				OUTSIDE DIA		SECTION WIDTH		SHOULDER					WHEEL SIZE	WIDTH BETWEEN FLANGES	SPECIFIED RIM DIAMETER	FLANGE HEIGHT	MIN LEDGE WIDTH		
											MAX	MIN	MAX	MIN	DIA MAX	WIDTH MAX										
52X20.5-20	36	TL	225	62,500	200	93750	187500	Flight Leader	521K62-3	333.7	52	51	20.5	19.6	46.25	18.05	21.3	14.6	0.786	50x20.0-20	16.25	20	1.88	4.2	Lockheed	C62c
52x20.5-23	30	TL	235	63,700	195	95500	172000	Flight Leader	520K09-7	293.7	52	51	20.5	19.6	46.8	18.05	21.3	15.1	0.711	52x20.5-23	13	23	1.5	3.25	Douglas	C62d
50x21.0-20	30	TL	225	49,000	160	73500	132300	Flight Leader	501K02-1	279.5	50	49	21	20.05	44.6	18.5	20.2	14.2	0.719	49x17	13.25	20	1.75	3.6	Boeing	C62c
54x21.0-23	36	TL	235	68,500	223	102750	205500	Flight Leader	542K69-4	281	54	53	21	20.15	50.9	18.9	22.5	16	0.741	54x21.0-23	16.25	23	2	4.2	Airbus	C62d
H54x21.0-24	36	TL	235	72,200	212	104700	194900	Flight Leader ER	541K69-2	293.7	54	53	21	20.1	51	18.9	22.2	16	0.718	H54x21.0-24	13	24	1.8	4.25	Douglas	C62d

type I

SIZE	CONSTRUCTION			SERVICE RATING				TREAD DESIGN/TRADEMARK	PART NO	WEIGHT (LBS)	INFLATED DIMENSIONS (IN)						STATIC LOADED RADIUS (IN)	FLAT TIRE RAD (IN)	ASPECT RATIO	WHEEL (IN)					AIRCRAFT MANUFACTURER	QUALIFICATION SPEC
	PLY RATING	TT OR TL	RATED SPEED (MPH)	RATED LOAD (LBS)	RATED INFLATION (PSI)	MAXIMUM BRAKING LOAD (LBS)	MAXIMUM BOTTOMING LOAD (LBS)				OUTSIDE DIA		SECTION WIDTH		SHOULDER					WHEEL SIZE	WIDTH BETWEEN FLANGES	SPECIFIED RIM DIAMETER	FLANGE HEIGHT	MIN LEDGE WIDTH		
											MAX	MIN	MAX	MIN	DIA MAX	WIDTH MAX										
27	10	TL	120	5,500	70	7980	14850	Rib	270A01B3	30.8	27.78	26.95	9.75	—	—	—	11.6	8.8	0.728	27	8.94	14	0.69	—	—	C62b

type III

SIZE	CONSTRUCTION			SERVICE RATING				TREAD DESIGN/TRADEMARK	PART NO	WEIGHT (LBS)	INFLATED DIMENSIONS (IN)						STATIC LOADED RADIUS (IN)	FLAT TIRE RAD (IN)	ASPECT RATIO	WHEEL (IN)					AIRCRAFT MANUFACTURER	QUALIFICATION SPEC
	PLY RATING	TT OR TL	RATED SPEED (MPH)	RATED LOAD (LBS)	RATED INFLATION (PSI)	MAXIMUM BRAKING LOAD (LBS)	MAXIMUM BOTTOMING LOAD (LBS)				OUTSIDE DIA		SECTION WIDTH		SHOULDER					WHEEL SIZE	WIDTH BETWEEN FLANGES	SPECIFIED RIM DIAMETER	FLANGE HEIGHT	MIN LEDGE WIDTH		
											MAX	MIN	MAX	MIN	DIA MAX	WIDTH MAX										
5.00-4	6	TT	120	1,200	55	1740	3200	Rib	504C61-2	4.3	13.25	12.7	5.05	4.75	11.6	4.3	5.2	3.8	0.916	5.00-4	3.50	4	0.75	0.80	Beech	C62b USAF
5.00-4	14	TL	120	2,550	115	3700	6900	Rib	504T41-2	6.4	13.25	12.7	5.05	4.75	11.6	4.3	5.2	4	0.916	5.00-4	3.50	4	0.75	1.10	Sikorsky	C62c
5.00-4.5	6	TL	120K	1,650	78	2390	4500	Twin Contact	545M6CB1	7.4	13.45	13.0	5.30	5	13.3	3.6	5.3	4	0.845	5.00-4.5	4.00	4.5	0.65	0.94	—	5041G
5.00-5	4	TT	120	800	31	1160	2200	Flight Special II	505C41-4	4.9	14.2	13.7	4.95	4.65	12.6	4.2	5.65	4.3	0.930	5.00.5	3.50	5	0.75	0.80	GUA	C62b
5.00-5	4	TT	160	800	31	1160	2200	Flight Custom III	505C46-4	6.6	14.2	13.65	4.95	4.65	12.55	4.19	5.65	4.3	0.930	5.00.5	3.50	5	0.75	0.80	GUA	C62d
5.00-5	6	TT	120	1,285	50	1860	3500	Flight Special II	505C61-8	4.9	14.2	13.7	4.95	4.65	12.6	4.2	5.65	4.3	0.930	5.00.5	3.50	5	0.75	0.80	Cessna	C62c 5041G

type III

SIZE	CONSTRUCTION			SERVICE RATING				TREAD DESIGN/ TRADEMARK	PART NO	WEIGHT (LBS)	INFLATED DIMENSIONS (IN)						STATIC LOADED RADIUS (IN)	FLAT TIRE RAD (IN)	ASPECT RATIO	WHEEL (IN)					AIRCRAFT MANUFACTURER	QUALIFICATION SPEC
	PLY RATING	TT OR TL	RATED SPEED (MPH)	RATED LOAD (LBS)	RATED INFLATION (PSI)	MAXIMUM BRAKING LOAD (LBS)	MAXIMUM BOTTOMING LOAD (LBS)				OUTSIDE DIA		SECTION WIDTH		SHOULDER					WHEEL SIZE	WIDTH BETWEEN FLANGES	SPECIFIED RIM DIAMETER	FLANGE HEIGHT	MIN LEDGE WIDTH		
											MAX	MIN	MAX	MIN	DIA MAX	WIDTH MAX										
8.50-10	12	TL	139K	8,000	100	11600	21600	Rib	461B-3388-TL	28	25.65	24.7	8.70	8.2	22.8	7.4	10.2	7.1	0.898	8.50-10	6.25	10	0.81	1.50	Grumman	USAF 5041G
8.50-10	14	TL	120	8,700	110	12600	23500	Rib	850G4A-1	23.6	25.65	24.7	8.70	8.2	22.8	7.4	10.2	7.1	0.898	8.50-10	6.25	10	0.81	1.15	Westland	C62c
8.50-10	16	TL	104K	9,900	129	14900	26700	Flight Custom II	850G6A-1	35	25.65	24.7	8.70	8.2	22.8	7.4	10.2	7.6	0.898	8.50-10	6.25	10	1.13		Sikorsky	USN MS
8.90-12.50	6	TL	160	4,200	50	6090	11300	Rib All Weather	892C61B1	24.1	27.7	27.3	9.00	8.67	25.0	7.65	11.35	8	0.849	8.90-12.50	6.75	12.5	0.88	1.20	—	C62b
8.90-12.50	6	TL	160	4,200	50	6090	11300	Rib	892C66B1	28.8	27.7	27.3	9.00	8.67	25.0	7.65	11.35	8	0.849	8.90-12.50	6.75	12.5	0.88	1.20	—	C62c
9.00-6	10	TL	120	4,500	58	6530	12100	Rib	906T06-1	20.6	22.4	21.4	9.25	8.55	19.5	7.85	8.45	5.1	0.893	9.00-6	6.75	6	0.88	1.45	Shorts	C62c
9.25-12	8	TL	160	5,600	60	8120	15100	Rib DDT	922T86G1	40.8	28.2	27.4	9.50	9	25.3	8.1	11.45	8.1	0.854	9.25-12	7.00	12	0.88	1.12	Fokker	C62b
9.25-12	8	TL	160	5,600	60	8120	15100	Flight Leader	922C86T1	35.4	28.2	27.4	9.50	9	25.3	8.1	11.45	8	0.854	9.25-12	7.00	12	0.88	1.12	Fokker	C62b
9.25-12/28x9.00-12	8	TL	160	5,950	65	8630	16100	Rib	982T86G1	34.5	28.3	27.4	9.40	8.9	25.4	8	11.4	8	0.866	28x9.0-12	6.63	12	0.75	1.50	Fokker	C62b
9.25-12/28x9.00-12	12	TL	160	8,850	100	12800	23800	Rib	982T26G1	39.9	28.3	27.4	9.40	8.9	25.4	8	11.4	8	0.866	28x9.0-12	6.63	12	0.75	1.50	Bae	C62c
9.50-16	12	TL	160	11,200	110	16240	30200	Flight Leader	956C26-1	58.1	33.35	32.5	9.70	9.1	30.3	8.25	13.85	10.4	0.900	9.50-16	7.00	16	1.00	1.75	Fairchild	C62b
11.00-12	10	TL	160	8,200	60	11890	22100	Rib	112T06-3	44	32.2	31.0	11.20	10.5	28.6	9.5	12.7	8.1	0.903	11.00-12	8.25	12	1.00	1.40	GUA	C62d
12.50-16	10	TL	160	10,600	60	15370	28600	Rib	126G06G1	69.8	38.45	37.5	12.75	12	34.4	10.85	15.6	10.5	0.888	12.50-16	10.00	16	1.25	1.80	Northrop, Douglas	5041E
12.50-16	12	TL	160	12,800	75	18560	34600	Rib	461B-1876-TL	75.1	38.45	37.5	12.75	12	34.4	10.85	15.6	10.7	0.888	12.50-16	10.00	16	1.25	1.90	GenDyn, Lockheed	USAF 64F1880B
13.0/85-16	32	TL	5	—	—	—	—	Smooth	12377516	104.3	—	—	—	—	—	—	—	—	—	39x13	10.00	16	1.88		Airbridge	—
15.00-12	14	TL	160	12,700	65	18410	34300	Rib	152T46-1	59.4	36.3	35.4	14.70	13.95	32.0	12.5	14.1	8.4	0.832	15.00-12	11.00	12	1.00	2.50	DeHavilland	C62c
15.00-16	10	TL	160	12,200	53	17690	32900	Rib	156G06G1	87.2	42.4	41.4	15.30	14.4	37.7	13	16.8	10.6	0.872	15.00-16	11.25	16	1.19	1.75	Snias, MBB, Fokker	5041F
15.00-16	16	TL	160	19,700	80	28560	53200	Rib	156T66G1	94.9	42.4	41.4	15.30	14.4	37.7	13	16.8	11	0.872	15.00-16	11.25	16	1.38	1.90	Canadair	C62b
15.50-20	14	TT	139K	20,500	90	29730	55400	Rib	461B-920-TT	112.3	45.25	44.3	16.00	15.05	40.7	13.6	18.6	12.9	0.798	17.00-20	13.25	20	1.63	2.20	Douglas, Fairchild	USAF 5041B
17.00-16	12	TT	160	16,000	60	23200	43200	Rib	176C26B1	97.6	45.05	43.7	17.40	16.35	39.8	14.8	17.7	10.6	0.841	17.00-16	13.25	16	1.38	2.00	—	C62b
20.00-20	26	TL	174K	46,500	125	67420	125600	Rib	461B-2598-TL	264.6	56	54.3	20.10	19.2	49.5	17.1	22.1	13.8	0.894	20.00-20	15.50	20	2.00	3.50	Lockheed	USAF 65D1542J

SIZE	CONSTRUCTION			SERVICE RATING				TREAD DESIGN/TRADEMARK	PART NO	WEIGHT (LBS)	INFLATED DIMENSIONS (IN)						STATIC LOADED RADIUS (IN)	FLAT TIRE RAD (IN)	ASPECT RATIO	WHEEL (IN)					AIRCRAFT MANUFACTURER	QUALIFICATION SPEC
	PLY RATING	TT OR TL	RATED SPEED (MPH)	RATED LOAD (LBS)	RATED INFLATION (PSI)	MAXIMUM BRAKING LOAD (LBS)	MAXIMUM BOTTOMING LOAD (LBS)				OUTSIDE DIA		SECTION WIDTH		SHOULDER					WHEEL SIZE	WIDTH BETWEEN FLANGES	SPECIFIED RIM DIAMETER	FLANGE HEIGHT	MIN LEDGE WIDTH		
											MAX	MIN	MAX	MIN	DIA MAX	WIDTH MAX										
360x135-6	12	TL	235	2,925	168	4610	8775	Rib	461B-3701-TL	7.7	14	13.6	5.25	4.95	13.1	4.9	6.1	5.1	0.76	14.5x5.5-6	4.25	6	0.88	1.5	Dassault	—
380x150/15x6	6	TL	120	1,600	45	2320	4300	Rib	385M61-1	7.9	15.2	14.72	5.91	5.59	13.4	5.3	5.9	4.1	0.866	380x150	3.75	5	0.51	—	GUA	C62c
380x150-4	8	TL	179K	1,855	58	2780	5560	Rib DDT	AP-87-045M1	10.7	15.43	14.76	6.1	5.7	13.62	5.51	6	3.8	0.94	380x150-4	5.04	4	0.71	0.98	Dassault	5041G AIR8505A
605x155-13	10	TL	233	6,610	164	9580	17800	Rib	605M09G1	27.7	24.13	23.38	6.46	6.02	22.28	5.83	10.3	8.6	0.862	605x155-13	5.43	13	0.8	1.58	Dassault	—
450x190-5	10	TL	190	3,600	75	5400	10800	Flight Leader	459M08-2	15	18.31	17.52	7.68	7.28	15.94	6.89	7.1	4.3	0.85	450x190-5	6.3	5	0.71	1.38	Aeritalia	C62c
450x190-5	10	TL	230	3,822	90	5730	11500	Rib	459M09B1	15.4	18.11	17.32	7.72	7.24	15.87	6.81	7.05	4.5	0.85	450x190-5	6.3	5	0.71	1.38	Dassault	5041G
450x190-5	22	TL	206	8,880	225	13320	26640	Rib	459M23B1	22.1	18.11	17.32	7.72	7.24	15.87	6.81	7.15	5.1	0.85	450x190-5	6.3	5	0.94	2.6	IAI	5041G
670x210-12	18	TL	200K	13,700	205	20550	41100	Rib	670M8FB1	37.2	26.77	25.79	8.46	7.87	24.21	7.48	11.1	8.1	0.874	670x210-12	6.93	12	0.79	2.05	Aeritalia	5041G
670x210-12	10	TL	160	6,800	95	9860	18400	Rib	670M06-2	33.4	26.77	25.79	8.46	7.87	24.09	7.44	10.9	7.9	0.874	670x210-12	6.93	12	0.79	2.05	Embraer	C62d
615x225-10	12	TL	244	8,000	123	12000	24000	Rib	612M2GG1	28.8	24.61	23.82	9.06	8.66	21.26	7.68	10.24	7.2	0.803	615x225-10	7.87	10	0.89	1.58	BAC, Sepecat	C62d 5041G
750x230-15	14	TL	262	13,151	152	19730	39500	Rib	753M47G2	50.3	29.96	29.09	9.33	8.78	27.2	8.15	12.75	10.1	0.802	750x230-15	7	15	0.95	2.16	Dassault	AIR8505A
750x230-15	22	TL	257	15,620	232	23430	46900	Rib	753M25G3	61.1	29.96	29.09	9.33	8.78	27.2	8.15	12.75	10.2	0.802	750x230-15	7	15	0.95	2.16	IAI	AIR8505A

radial

SIZE	CONSTRUCTION			SERVICE RATING				TREAD DESIGN/TRADEMARK	PART NO	WEIGHT (LBS)	INFLATED DIMENSIONS (IN)						STATIC LOADED RADIUS (IN)		WHEEL (IN)					AIRCRAFT MANUFACTURER	QUALIFICATION SPEC		
	PLY RATING	TT OR TL	RATED SPEED (MPH)	RATED LOAD (LBS)	RATED INFLATION (PSI)	MAXIMUM BRAKING LOAD (LBS)	MAXIMUM BOTTOMING LOAD (LBS)				OUTSIDE DIA		SECTION WIDTH		SHOULDER		GROWN MIN	GROWN MAX	WHEEL SIZE	WIDTH BETWEEN FLANGES	SPECIFIED RIM DIAMETER	FLANGE HEIGHT	MIN LEDGE WIDTH				
											NEW MIN	NEW MAX	GROWN MAX	NEW MIN	NEW MAX	GROWN MAX										DIA MAX	WIDTH MAX
26x6.6R14	12	TL	190	8,600	185	12900	25800	Flight Radial	266Q82-1	25.8	25.05	25.75	26.32	6.25	6.65	6.92	24.02	6.08	11.15	11.60	26x6.6	5.00	14.0	1.000	1.70	Cessna	TSO-C62d
26x6.6R14	14	TL	225	10,000	225	15000	30000	Flight Radial	266Q42-1	26.2	—	—	26.32	—	—	6.92	24.02	6.08	11.15	11.60	26x6.6	5.00	14.0	1.000	1.70	Cessna, Falcon	TSO-C62d
25.75x6.75R14	14	TL	210	10,300	199	14930	27800	Flight Radial	256Q43-1	26.0	—	—	26.35	—	—	7.05	25.15	6.35	11.20	11.60	26x6.6	5.00	14.0	1.000	1.70	Canadair	TSO-C62d
26x7.75R13	10	TL	230	8,100	125	12150	21200	Flight Radial	461B-3598-TL	26.8	—	—	27.36	—	—	8.32	24.47	7.54	10.60	11.39	26x7.75-13	6.50	13.0	0.700	1.60	Navair	USN MS14483
27x7.75R15	12	TL	225	9,650	200	14475	28950	Flight Radial	275Q22-1	37.4	—	—	27.70	—	—	8.10	25.40	7.15	11.75	12.20	29x7.7	6.00	15.0	1.000	1.65	Boeing	TSO-C62d
25.5x8.0R14	20	TL	217K	16,200	310	23500	36500	Flight Radial	AP-92-053M1	39.7	—	—	26.65	—	—	8.04	23.28	6.89	10.94	11.35	25.5x8.0-14	5.75	14.0	1.000	2.10	Lockheed	16VL028
27.75x8.75R14.5	24	TL	225K	21,500	320	31175	58050	Flight Radial	461B-3568-TL	51.1	—	—	28.68	—	—	9.19	25.31	7.85	11.85	12.30	H27.75x8.75-14.5	6.00	14.5	1.200	2.35	Lockheed	16VL032
27.75x8.75R14.5	24	TL	225K	21,500	320	31175	58050	Flight Radial	461B-3676-TL	53.2	—	—	28.68	—	—	9.19	25.31	7.85	11.85	12.30	H27.75x8.75-14.5	6.00	14.5	1.200	2.35	Lockheed	16VL032
30x8.8R15	16	TL	225	14,200	199	21300	42680	Flight Radial	309Q62-2	52.0	29.49	30.39	31.10	8.35	8.90	9.30	29.50	8.30	12.90	13.50	30x8.8	7.00	15.0	1.125	2.10	Airbus	TSO-C62d
32x8.8R16	12	TL	190	11,000	140	16500	29700	Flight Radial	328Q28-2	43.2	—	—	31.80	—	—	9.25	28.70	8.53	13.00	13.60	32x8.8	7.00	16.0	1.125	1.65	Alenia	TSO-C62d
H34x10.0R16	14	TL	190	13,400	130	20100	36180	Flight Radial	346Q48-3	56.4	—	—	34.85	—	—	10.40	32.95	9.35	14.00	14.75	32x8.8	7.00	16.0	1.125	2.15	Alenia	TSO-C62d
30x11.5R14.5	24	TL	205K	27,600	335	41400	74525	Flight Radial	461B-3708-TL	60.9	—	—	30.75	—	—	11.96	27.82	10.50	12.00	12.65	30x11.5-14.5	9.75	14.5	1.250	2.75	Panavia	DASA
30x11.5R14.5	24	TL	205K	25,000	243	36250	67500	Flight Radial	461B-3583-TL	65.6	—	—	30.75	—	—	11.96	27.82	10.50	12.00	12.65	30x11.5-14.5	9.75	14.5	1.250	2.75	Panavia	DASA
46x17.0R20	30	TL	225	46,000	222	69000	138000	Flight Radial	467Q02-3	180.8	44.76	45.98	47.50	15.98	17.00	17.70	44.75	15.95	19.20	20.15	46x16	13.25	20.0	1.875	3.70	Airbus	TSO-C62d
1050x395R16	28	TL	235	34,200	190	51300	102600	Flight Radial	109Q89-1	130.1	40.59	41.34	42.65	14.53	15.55	16.15	40.00	14.20	16.60	17.55	40.5x15.5-16	11.50	16.0	1.750	3.50	Airbus	TSO-C62d
1400x530R23	40	TL	235	74,950	249	112425	224850	Flight Radial	140Q09-1	314.0	—	—	56.85	—	—	21.70	53.45	19.10	22.35	23.60	54x21.0-23	16.25	23.0	2.000	4.20	Airbus	TSO-C62d

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

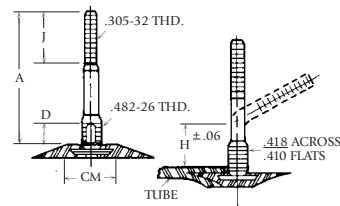
- Tube valves are bent at the tube factory to the Tire and Rim Association's recommended angle.
- For more valve information, contact Schrader World Headquarters in Monroe, NC, U.S.A. Telephone 1-800-592-2222.

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 (G19.5x6.75-8)	REG	TR-15	19.5	6.50	8	2.0	.948	STR	.6"
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"

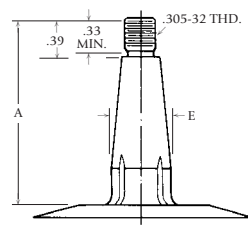
Note: 1. Tube size designation is same as tire size designation which assures proper fit. For multiple size marked tubes, the tube was designed to fit correctly in all the identified sizes. A certain amount of tube stretch is required for maximum performance.
 2. REG = Regular or all rubber tube (Except 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



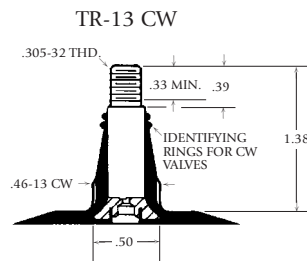
VALVE CORE-TR C4 METAL STEM

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

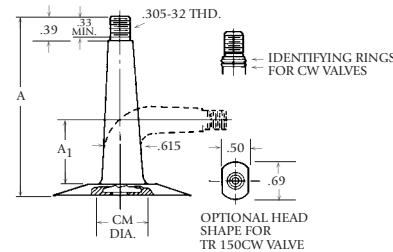
TR VALVE NBR	A	E
12	1.56	.48
15	1.38	.65
20	1.75	.49
25	1.94	.65



TR-13 CW

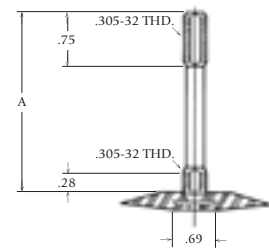
VALVE CORE-TR C1

RUBBER COVERED WITH METAL STEM

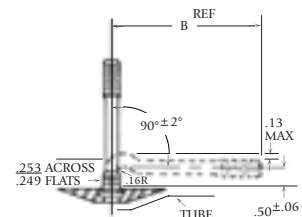


RUBBER COVERED WITH METAL STEM

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

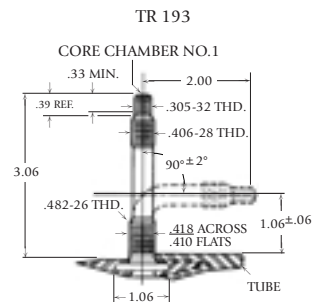


VALVE CORE-TR C4



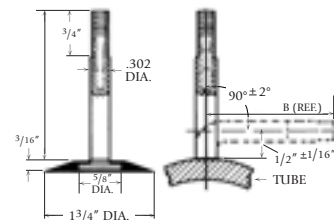
METAL STEM

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



VALVE CORE-TR C4

METAL STEM



METAL STEM

TR VALVE NBR	A	B
88	1.97	1.63

section 6

AIRCRAFT TIRES SERIAL NUMBER CODES

6.1 ALL COMMERCIAL AND MILITARY

All serials consist of eight (8) characters.

Example: YJJJNNNN

Position 1 (Y) represents the year of production

Positions 2, 3 and 4 (JJJ) signify day of year (Julian Date)

Note: Positions 1 through 4 fulfill requirements of MIL-PRF-5041J for military tires.

Positions 5, 6, 7 and 8 (NNNN) signify the Individual Tire ID Number

Danville's Tire ID's range from 0001 to 4999

Thailand's production ranges from 5000 to 5999

Brazil's production ranges from 7000 to 7999

For production prior to January 1, 2001, tires produced in Thailand showed a 'T' in the 5th position, and tires produced in Brazil had a 'B' in the 5th position. Tire IDs for both plants (positions 6, 7 and 8) were 001 through 999. Danville tire IDs have always been 0001 through 4999.

EXAMPLES

2001

Danville

1019 1234

JULIAN DAY

TIRE ID

2002

Thailand

2019 5123

JULIAN DAY

TIRE ID

2003

Brazil

3019 7123

JULIAN DAY

TIRE ID

7.1 GENERAL AVIATION/BUSINESS AIRCRAFT

MANUFACTURER	MODEL	NAME	MAIN TIRE		AUXILIARY TIRE	
			TIRE SIZE	PLY RATING	TIRE SIZE	PLY RATING
Gulfstream Aerospace	—	Gulfstream II	34x9.25-16	18 TL	21x7.25-10 DT	12 TL
	—	Gulfstream III, IV	34x9.25-16	18 TL	21x7.25-10 DT	12 TL
	—	Gulfstream IVSP	H34x9.25-18	18 TL	21x7.25-10 DT	12 TL
	—	Gulfstream V	H35x11.0-18	20 PR	21x7.25-10 DT	12 TL
	AA-1B	Trainer	6.00-6	4	5.00-5	4
	AA-5	Tiger	6.00-6	4	5.00-5	4
	—	Tiger	6.00-6	6	5.00-5	4
	—	Cheeta	6.00-6	4	5.00-5	4
	GA-7	Cougar	6.00-6	6	15x6.00-6	6
	AE-200	Commander	7.00-6	6	6.00-6	4
	AE-500, B, U, S	Commander	8.50-10	8 TL	6.00-6	6 TL
	AE-560, 560A	Commander	8.50-10	6 TL	6.00-6	6 TL
	AE-560E, F	Commander	8.50-10	8 TL	6.00-6	6 TL
	AE-680, 680E	Commander	8.50-10	8 TL	6.00-6	6 TL
	AE-680F	Commander	8.50-10	8 TL	6.00-6	6 TL
	AE-680FP	Commander	8.50-10	8 TL	6.00-6	6 TL
	AE-680FL	Grand Commander	8.50-10	8 TL	6.00-6	6 TL
	AE-680FLP	Grand Commander P	8.50-10	8 TL	6.00-6	6 TL
Helio	H-250	Courier	8.00-6	4	10.00	8
	H-250	Courier II	8.00-6	4	10.00	8
	H-250	Courier (XWD)	6.50-8	6	10.00	8
	H-295	Super Courier	8.00-6	6	10.00	8
	H-295	Super Courier (XWD)	6.50-8	6	10.00	8
	H-550A	Stallion	7.50-10	8	5.00-5	4
H634	Twin Stallion	7.50-10	8	5.00-5	4	
Israel Aircraft Industries	1121, AE, 1121	Jet Commander	24x7.7	14/16/18 TL	16x4.4	4 TL
	1123	Westwind	24x7.7	18 TL	16x4.4	4 TL
	1124	Westwind	B24x9.50-10.5	18 TL	16x4.4	4 TL
	1125	Astra	23x7.00-12	12 TL	16x4.4 DT	6
Lake Aircraft	LA-4	Buccaneer	6.00-6	4	5.00-4	4
	LA-250	Renegade/Seafury	6.00-6	6	5.00-5	4
	LAp4-200	Amphibian	6.00-6	6	5.00-4	4
Bombardier	LR-23	Learjet	18x5.5	10 TL	18x4.4 DDT	10 TL
	LR-24	Learjet	18x5.5	10 TL	18x4.4 DDT	10 TL
	LR-25	Learjet	18x5.5	10 TL	18x4.4 DDT	10 TL
	LR-35/36, 35A, 36A	Learjet	17.5x5.75-8	12 TL	18x4.4 DDT	10 TL
	LR-54, 55, 56	Learjet	17.5x5.75-8	14 TL	18x4.4 DDT	10 TL
	LR-60	Learjet	17.5x5.75-8	14 TL	18x4.4 DDT	10 TL
Lockheed	—	Jet Star	26x6.6	14 TL	18x4.4 DT	10 TL
	—	Jet Star II	26x6.6	14 TL	18x4.4 DT	12 TL
	SA-60	Azacarte-60	6.50-8	4	6.00-6	4
Maule Air	MX-7-160	—	7.00-6	4/6	280/250-4	4
	MXT-7-160	—	7.00-6	4/6	280/250-4	4
	M-8-235	—	7.00-6	4/6	280/250-4	4
	MX7-420	—	7.00-6	4/6	280/250-4	4
Mitsubishi	MU-2B	—	8.50-10	8	5.00-4 (PreSB072)	6
	MU-2B	—	8.50-10	8	5.00-5 (PostSB072)	6
	MU-2B-10/15	—	8.50-10	8	5.00-4 (S/N101-115)	6
	MU-2B-10/15	—	8.50-10	8	5.00-5 (S/N116-120)	6
	MU-2B-20, 25	—	8.50-10	8	5.00-5	6
	MU-2B-26, 30, 35, 36, 40, 60	—	8.50-10	10	5.00-5	6
MU-3 DIAMOND I (See Beech)	—	—	—	—	—	
Mooney	MO-20	Ranger	6.00-6	6	5.00-5	4/6
	MO-21C	Super	6.00-6	6	5.00-5	4/6
	MO-22	Mustang	6.00-6	6	15x6.00-6	6
	MO-20E	Chapparral	6.00-6	6	5.00-5	4
	MO-20F	Executive	6.00-6	6	5.00-5	6
	MO-20J	201	6.00-6	6	5.00-5	6
	MO-20K	Turbo 231	6.00-6	6	5.00-5	6
	M-20K	TSE	6.00-6	6	5.00-5	4
	M-20M	Bravo	6.00-6	6	5.00-5	6
	M-20S	Eagle	6.00-6	6	5.00-5	6
	M-20R	Ovation	6.00-6	6	5.00-5	6
Partenavia	P68C	—	6.00-6	6	5.00-5	6

7.1 GENERAL AVIATION/BUSINESS AIRCRAFT

MANUFACTURER	MODEL	NAME	MAIN TIRE		AUXILIARY TIRE	
			TIRE SIZE	PLY RATING	TIRE SIZE	PLY RATING
Piper	J3	Cub	8.00-4	4	8.00"SC	Solid
	PA18-135	Super Cub	6.00-6	4	8.00"SC	Solid
	PA18-150	Super Cub	6.00-6	4	6x2.00	Solid
	PA22	Tri Pacer	6.00-6	6	6.00-6	6
	PA23, 160-235	Apache	7.00-6	6	6.00-6	4
	PA23-250	Aztec	7.00-6	8	6.00-6	4
	PA24-180	Commanche	6.00-6	4	6.00-6	4
	PA24, 250, 260, 400	Commanche	6.00-6	6	6.00-6	4/6
	PA25-150	Pawnee	7.00-6	4	8x3.00-4	4
	PA25, 236, 260	Pawnee	8.00-6	4	8x3.00-4	4
	PA28R-201	Arrow	6.00-6	6	5.00-5	4
	PA28-140	Cherokee	6.00-6	4	6.00-6	4
	PA28-150	Cherokee	6.00-6	4	6.00-6	4
	PA28-151, 161	Warrior	6.00-6	4	5.00-5	4
	PA28-160	Cherokee	6.00-6	4	6.00-6	4
	PA28-180	Cherokee	6.00-6	4	6.00-6	4
	PA28-181	Archer	6.00-6	4	5.00-5	4
	PA28-235	Cherokee	6.00-6	4	6.00-6	4
	PA30	Twin Commanche	6.00-6	4	6.00-6	6
	PA31	Navajo	6.50-10	8	6.00-	6
	PA31	Chieftain	6.50-10	8	6.00-6	6
	PA31T	Navajo	6.50-10	10	6.00-6	6
	PA31P	Pressurized Navajo	6.50-10	8	6.00-6	8
	PA31T-500	Cheyenne 1A	6.50-10	10	6.00-6	6
	PA32	6-300	6.00-6	6	6.00-6	6
	PA32RT300	Lance	6.00-6	8	6.00-6	4
	PA31P-350	Mojave	6.50-10	8	17.5x6.25-6	10
	PA34-220	Seneca	6.00-6	8	6.00-6	6
	PA36	Brave	8.50-10	6	10x3.5-4	6
	PA38	Tomahawk	6.00-6	6	5.00-5	6
	PA42	Cheyenne IIIA	6.50-10	12 TL	17.5x6.25-6	10
	PA44-180	Seminole	6.00-6	6	6.00-6	6
	600/601B (PA60)	Aerostar	6.50-8	TL	6.00-6	6
601P (PA60-601 P)	Aerostar	6.50-8	8 TL	6.00-6	6	
602P (PA60-602 P)	Aerostar	6.50-8	8 TL	6.00-6	6	
700P (PA60-700 P)	Aerostar	6.50-8	8 TL	6.00-6	6	
PA46-350P	Malibu Mirage	6.00-6	8	5.00-5	6	
PA34-270T	Seneca V	6.00-6	8	6.00-6	8	
PA44-180	Seminole	6.00-6	8	5.00-5	6	
PA32R-301	Saratoga II HP	6.00-6	8	5.00-5	6	
PA32R-301T	Saratoga II TC	6.00-6	8	5.00-5	6	
PA28-181	Archer III	6.00-6	4/6	6.00-6	4	
PA28-161	Warrior III	6.00-6	4	5.00-5	4	
PZL-MIELIC	I-22	Iryda	6.70x210-12	18 TL	6.70x210-12	18 TL
	M-26	Iskierka	6.00-6	8 TT	6.00-6	6 TT
	M-20	Mewa	6.00-6	8 TT	6.00-6	6 TT
	M-28	Skytruck	—	—	6.50-10	12 TL
Sabreliner	NA-40/60	Sabreliner	26x6.6	14 TL	18x4.4 DT	10 TL
	NA-40/60	Sabreliner	26x6.75-14	14 TL	18x4.4 DT	10 TL
	NA-60A/65	Sabreliner	26x6.75-14	16 TL	18x4.4 DT	10 TL
	NA-75/75A	Sabreliner	22x5.75-12	10 TL	18x4.4 DT	10 TL
Sino Swearingen	SJ-30-2	—	16x4.4	12 TL	16x4.4	6 DT
	—	—	—	—	—	—
Socata	TB 10/200	—	6.00-6	6 TT	5.00-5	6 TT
	TB9/20/21/30	—	15x6.00-6	6 TT	5.00-4	6 TT
	Rallye	—	6.00-6.5	4 TT	5.00-4	6 TT
	TBM700	—	18x5.5	8 TL	5.00-5	10 TL
TB360	Tangara	6.00-6	6 TT	15x6.00-6	6 TT	
Taylorcraft	A, B, BC, D (L2M), BC12-D	—	6.00-6	4 TT	6x2	—
	F-19, F-21, F-21A	—	6.00-6	4 TT	6x2	—
	F-22	—	6.00-6	4 TT	8.00-3	TT
	F-22A	—	6.00-6	4 TT	5.00-5	4 TT
	F-22B	—	6.00-6	4 TT	8.00-3	TT
	F-22C	—	6.00-6	4 TT	5.00-5	4 TT

7.2 COMMERCIAL AIRCRAFT

MANUFACTURER	MODEL	NAME	SPEED	MAIN TIRE		AUXILIARY TIRE	
				TIRE SIZE	PLY RATING	TIRE SIZE	PLY RATING
Dornier	DO-228	100	LS	25.5x8.75-10	10	6.00-6	8 TT
	DO-228	200	LS	25.5x8.75-10	12	6.00-6	8 TT
	DO-328	—	190	24x7.7	14	19.5x6.75-8	10
	DO-328	(Flotation)	190	25.5x8.75-10	14	19.5x6.75-8	10
	DO-328 Jet	—	210	25.75x6.75-14	14	19.5x6.75-8	10
	DO-728	—	210	H38x12.0-19	18	21x7.25-10	12
Douglas	DC-3	—	LS	17.00-16	10 TT/TL	9.00-6	10 TT
	DC-4	—	LS	15.50-20	14/16 TT	44" SC	12 TT
	DC-6B & 7	—	LS	15.50-20	20 TT	44" SC	14 TT
	DC-7C	—	LS	17.00-20	20/22/24	15.00-16	14
	DC-8	—	210	44x16	26	34x11	18
	DC-8	HV/50F	225	44x16	28	34x11	20/22
	DC-8	61	225	44x16	30	34x11	22
	DC-8	62	225	44x16	30/32	34x11	22
	DC-8	62H	225	44.5x16.5-18	30	34x11	22
	DC-8	63	225	44x16	32	34x11	22
	DC-8	63	225	44.5x16.5-18	30	34x11	22
	DC-9	10 (11-12-14-15)	210/225	40x14	20	26x6.6	10 DT
	DC-9	30 (31)	210/225	40x14	22	26x6.6	10 DT
	DC-9	30 (32)	225	40x14	24	26x6.6	10 DT
	DC-9	30 (33-41)	225	40x14	22/24	26x6.6	10 DT
	DC-9	(Flotation)	210	42x15	22	26x6.6	10 DT
	DC-9	50	225	41x15.0-18	22/24	26x6.6	10 DT
	MD-80/82/88	(DC-9-80)	225	H44.5x16.5-20	24/26	26x6.6	12
	MD-83	—	225	H44.5x16.5-20	28	26x6.6	12
	MD-90	—	225	H44.5x16.5-21	26	26x6.6	12
	DC-10	10	225	50x20.00-20	32/34	37x14.0-14	24
DC-10	30/40	235	52x20.5-23	28/30	40x15.5-16	26/28	
MD-11	—	235	H54x21.0-24	36	40x15.5-16	28	
Embraer	EMB-110	Bandeirante	160	670x210-12	10	6.50-8	8 TT
	EMB-120	Brasilia	190/210	24x7.25-12	12	18x5.5	8/10
	EMB-121	Xingu	160/210	670x210-12	10	16x4.4	6 TT
	ERJ-135	Regional Jet	210	30x9.5-14	16	19.5x6.75-8	8 DT
	ERJ-140	Regional Jet	210	30x9.5-14	16	19.5x6.75-8	8 DT
	ERJ-145 ER	Regional Jet	210	30x9.5-14	16	19.5x6.75-8	8 DT
	ERJ-145 LR	Regional Jet	210	H30x9.5-16	16	19.5x6.75-8	8 DT
	ERJ-135 Corporate	Legacy	210	H30x9.5-16	16	19.5x6.75-8	8 DT
	ERJ-170	Airliner	210	H38x13.0-18	18	24x7.7	12
	ERJ-190	Airliner	210	H41x15.0-19	20	24x7.7	14
ERJ-145 XR	Airliner	225	H30x9.5-16	16	19.5x6.75-8	10 DT	
Fairchild Aircraft Corp.	SA227	Metro III	190	19.5x6.75-8	10	18x4.4	10 DT
	SA226H	Merlin IV	160	19.5x6.75-8	10	16x4.4	4/6
Fairchild-Hiller	F-27(J)/FH227	—	LS	9.50-16	12	8.50-10	10
	—	(Optional)	—	39x13	14	24x7.7	10
Fokker	F-27	Friendship	190	34x10.75-16	10	9.25-12	8
	F-27 (Flotation)	Friendship	190	37x11.75-16	10/14/16	9.25-12	8 DDT
	F-28	Fellowship	210	39x13	14/16	9.25-12	8 DT
	F-28 (Flotation)	Fellowship	210	40x14	16	24.5x8.5	10 DT
	F-28 MK2000	—	—	—	—	—	—
	15000/6000	Fellowship	210	40x14	16	24.5x8.5	10 DT
	F-50	—	190	34x10.75-16	12	24x7.7	6
F-70	—	225	H40x14.0-19	20	24x7.7	12 DT	
F-100	—	225	H40x14.0-19	20	24x7.7	10 DT	
Hawker-Siddeley	HS 748	Avro	LS	32x10.75-14	12	8.50-10	10 TT
	1C	Trident	210	34x9.50-18	14	29x8.00-15	12 TT
	1E/2E/3B	Trident	210	36x10.00-18	16	29x8.00-15	12 TT
Ilyushin	IL96M/T	—	235	H49X19.0-22	32 TL	H49X19.0	32 TL
Tupolev	TU204-120	—	225	H40X14.5-19	24 TL	—	—
Let	410/420	—	—	29x11.00-10	10 TL	900-6	10 TL
	610	—	—	1500-16	16 TL	29x11.00-10	10 TL
Lockheed	L-18	Lodestar	LS	13.50-16	24	7.50-14	10
	L-188	Electra	210	40x14	24	26x7.7	10/14
	L-382	Herc	210	56x20.0-20	24	39x13	14
	049/1049	Constellation	150	17.00-20	24 TT/TL	34x9.9	10
	1649	Constellation	150	17.00-20	24TL	34x9.9	10TL
	L-1011-1	TRI-STAR	225	50x20.0-20	32	36x11	20/22
	L-1011	—	225	50x20.0-20	34	36x11	22
	L-1011-14,15	—	225	52x20.5-20	34/36	37x13.0-16	26
Nihon	YS-11	—	LS	39x13	14	24x7.7	10
	400,600	—	LS	12.50-16	12	24x7.7	10
Nord	262	Airliner	LS	39x13	14	9.00-6	10

7.2 COMMERCIAL AIRCRAFT

MANUFACTURER	MODEL	NAME	SPEED	MAIN TIRE		AUXILIARY TIRE	
				TIRE SIZE	PLY RATING	TIRE SIZE	PLY RATING
Pliatus Britten-Norman	BN 2A	Islander	LS	7.00-6	6	6.00-6	6
	BN 2A MKIII	Trislander	LS	8.00-6	6	6.00-6	6
Saab	Saab 340	Airliner	190	24x7.7	12/14	17.5x6.25-6	8
	Saab 2000	—	210	32x8.8	14	18.5.5	8
Short Brothers (Bombardier)	SD3-30	330	LS	34x10.75-16	10	9.00-6	10
	SD3-60	360	LS	34x10.75-16	12	9.00-6	10

7.3 MILITARY AIRCRAFT

IMPORTANT – READ THIS LEGEND FIRST Code: TT = Tube Type TL = Tubeless SC = Smooth Contour

MANUFACTURER	MODEL	NAME	MAIN TIRE		AUXILIARY TIRE		
			TIRE SIZE	PLY RATING	TIRE SIZE	PLY RATING	
Beech (Raytheon)	T34B	Mentor	6.50-8	6 TT	5.00-5	6 TT	
	U87	Seminole	8.50-10	8 TT	6.50-10	6 TT	
	T42A	Cochise	6.50-8	6 TL	5.00-5	6 TL	
	VC6A	King Air	8.50-10	8 TL	6.50-10	6 TL TT	
	T-1A	Jayhawk	24x7.7	16 TL	18x4.4 DDT	10 TL	
	T-6A	JPATS	20x4.4	14 TL	16x4.4	8 TL	
Boeing	B52F, G, H	Stratofortress	56x15	38 TL	32x8.8	12 TT	
	VC137C	—	46x16	28 TL	39x13	16 TL	
	E3A	AWACS	46x16	28 TL	39x13	16 TL	
	E4A	747	49x17	30 TL	49x17	30 TL	
	T43A	737	40x14	24 TL	24x7.7	14 TL	
	KC135	—	49x17	26 TL	38x11	14 TL	
Cessna (Textron)	O-1E	Bird Dog	8.00-6/7.00-6	6 TL	3x3.0-4	4 TT	
	T37B	—	20x4.4	12 TL	16x4.4	6 TT	
	A37	Dragon Fly	7.00-8	16 TL	6.00-6	6 TT	
	T41A	Skyhawk	6.00-6	4 TL	5.00-5	4 TL	
	U3B	Blue Canoe	6.50-10	6 TT	6.00-6	6 TT	
	U17A	Skywagon	6.00-6	6 TT	10" SC	8 TT	
DeHavilland (Bombardier)	CV-2B	Caribou	11.00-12	8 TL	7.50-10	6 TL	
	CV-7A	Buffalo	15.00-12	10 TL	8.90-12.50	6 TL	
	U-1A	Otter	11.00-12	6 TT	6.00-6	6 TT	
	U-6A	Beaver	8.50-10	6 TT	5.50-4	6 TT	
	Fairchild	F-105	Thunder Chief	36x11	24 TL	24x7.7	14 TL
		A-10A	Thunder Bolt II	36x11	22 TL	24x7.7	14 TL
Lockheed (General Dynamics)	F-16A, B	Fighting Falcon	25.5x8.0-14	18 TL	18x5.5	14 TL	
	F-16C, D	Fighting Falcon	25.5x8.0-14	20 TL	18x5.75-8	18 TL	
	F111A	Aardvark	47x18.0-18	30 TL	21x7.25-10	18 TL	
	FB111A	Aardvark	47x18.0-18	36 TL	21x7.25-10	20 TL	
	FB-111B	Aardvark	47x18.0-18	36 TL	21x7.25-10	20 TL	
	F117A	Knighthawk	32x9.75-18	22 TL	22x6.6-10	18 TL	
Grumman	A6A/E	Intruder	36x11	24 TL	20x5.5	12 TL	
	E6B	Intruder	36x11	24 TL	20x5.5	16 TL	
	OV-1C	Mohawk	8.50-10	12 TL	6.50-8	8 TL	
	S-2D	Tracker	34x9.9	14 TT	18x5.5	12 TL	
	F-14A	Tomcat	37x11.50-16	28 TL	22x6.6-10	20 TL	
	E-1B	Tracer	34x9.9	14 TT	18x5.5	12 TT	
	E-2A	Hawkeye	36x11	24 TL	20x5.5	12 TL	
	C-1A	Trader	34x9.9	14 TT	18x5.5	12 TT	
	C-2A	Greyhound	36x11	24 TL	20x5.5	12 TL	
	HU-16E	Albatross	40x12	14 TT	26x6	10 TT	
Helio	U10A	Courier	6.50-8	6 TT	10" SC	8 TT	

7.3 MILITARY AIRCRAFT

MANUFACTURER	MODEL	NAME	MAIN TIRE		AUXILIARY TIRE	
			TIRE SIZE	PLY RATING	TIRE SIZE	PLY RATING
Vought	A7A, B, E	Corsair II	28x9.0-12	22 TL	22x5.5	12 TL
	A7D	Corsair II	28x9.0-14	22 TL	22x5.5	10 TL
	F8H, J	Crusader	26x6.6	16 TL	20x5.5	14 TL
Lockheed	F104C, D, J, DJ	Starfighter	25x6.75	18 TL	18x5.5	14 TT
	F104G	Starfighter	25x6.76	18 TL	18x5.5	14 TT
	F104G	Starfighter	26x8.0-14	16 TL	18x5.5	14 TL
	SR71	Blackbird	27.5x7.5-16	22 TL	25x6.75	16 TL
	P2H	Neptune	56" SC	20 TL	34x9.9	14 TL
	P3A	Orion	40x14	26 TL	28x7.7	14 TL
	P3B, C	Orion	40x14	28 TL	28x7.7	14 TL
	F-22	Raptor	37x11.50-18	30 TL	23.5x7.5-10	22 TL
	C130, A, B, D, E	Hercules	20.00-20	26 TT	12.50-16	12 TT
	S3A	Viking	30x11.5-14.5	26 TL	22x6.75-10	18 TL
	C130H	Hercules	20.00-20	26 TL	12.50-16	12 TT/TL
	C140A	Jetstar	26x6.6	14 TL	18x4.4 DT	10 TL
	C141	Starlifter	44x16	28 TL	36x11	22 TL
	T33	Shooting Star	26x6.6	14 TL	22x7.25-11.50	8 TL
	C5A, B	Galaxy	49x17	26 TL	49x17	26 TL
	McDonnell-Douglas Co.	A4	Skyhawk	24x5.5	16 TT	18x5.5
AV-8B		Harrier II	26x7.75-13	10 TL	26x8.75-11	16 TL
—		(Alt.)	26x7.75-13	10	—	—
—		Outrigger	—	—	13.5x6.0-14	14 TL
C-17		Globemaster II	50x21.0-20	30 TL	40x16	26 TL
C9A		Nightingale	40x14	24 TL	26.4-6CH	10 TL
F4B		Phantom I	30x8.0-16	26 TL	18x5.7-8	14 TL
F4C, D, E		Phantom II	30x11.5-14.5	24/26 TL	18x5.5	14 TL
F4J		Phantom II	30x11.5-14.5	26 TL	18x5.78	14 TL
F-15A, B, C, D		Eagle	34.5x9.75-18	26 TL	22x6.6-10	18 TL
F5E		Eagle	36x11-18	30 TL	22x7.75-9	26 TL
F-18		Hornet	30x11.5-14.5	26 TL	22x6.6-10	20 TL
KC10		Extender	52x20.5-23	30 TL	40x15.5-16	28 TL
Rockwell Int.	B-1B	Lancer	B46x16.0-23.5	30 TL	35x11.5-16	22 TL
	B-2	Spirit	43x16.0-20	28 TL	34x14.0-14	26 TL
	OV10A	Bronco	29x11.00-10	10 TL	7.50-10 CT	12 TL
	U4A	Aero Commander	8.50-10	6 TT	6.00-16	6 TT
	T-2B	Buckeye	24x5.5	12 TL	20x4.4	10 TL
	T-28D	Trojan	24x7.7	10 TT	24x7.7	10 TL
	T-39	Sabreliner	26x6.6	14 TL	18x4.4	6 TL
	Shuttle	—	44.5x16.0-21	34 TL	32x8.8	20 TL
Northrop	F5A, B	Freedom Fighter	22x8.5-11	16 TL	18x6.5-8	12 TL
	F5E	Tiger II	24x8.0-13	18 TL	18x6.5-8	12 TL
	T38A	Talon	20x4.4	12/14 TL	18x4.4	6 TL
	F-20	Tiger Shark	24x8.0-13	18 TL	18x6.5-8	12 TL
Piper	U7A	—	8.00-4	4 TT	TAILSKID	—
	U11A	Aztec	7.00-6	8 TT	6.00-6	4 TT

7.4 INTERNATIONAL MILITARY AIRCRAFT

MANUFACTURER	MODEL	NAME	MAIN TIRE		AUXILIARY TIRE		
			TIRE SIZE	PLY RATING	TIRE SIZE	PLY RATING	
Alenia	G222	—	39x13	14/16 TL	29x11.00-12	10 TL	
	AMX	—	670-210-12	18	18x5.5-8	10	
Aermacchi	A129	—	545x1.75-12	12	380-150-4	6	
British Aerospace	GR-5	Harrier	26x7.75-13	12 TL	26x8.75-11	16 TL	
		Harrier Outrigger	—	—	13.5x6.00-4	14 TL	
		Strikemaster	21x6.75-9	10 TL	6.00-4	12	
		Jaguar	615x225-10	12 TL	550-250-6	—	
Dassault Aviation	—	Hawk	6.50-10	14 TL	—	—	
		Mirage I	605x155-13	10	360-135-6	—	
		Mirage III	750x230-15	14 TL	450x190-5	10	
		Mirage V	750x230-15	14 TL	450x190-5	10	
		Mirage 2000	750x230-15	14 TL	360x135-6	—	
		Atlantique	39x13	22	26x8.00-13	—	
Embraer	—	Alpha Jet	615x225-10	12 TL	380-150-4	—	
		EMB-121	Xingu	670x210-12	10 TL	16x4.4	6 TT
		EMB-326	Xavante	21.5x7.00-10	12 TL	5.00-4.5	6 TL
		EMB-111	Patrulha	670x210-12	10 TL	6.50-8	8 TT
		EMB-312	Tucano	6.50-10	8 TT	5.00-5	8/10TT
GAF	—	AM-X	670x210-12	18 TL	18x5.5	10 TL	
		Nomad	8.00-6	8	8.00-6	8	
IAI	—	Arava	11.00-12	10 TL	9.00-6	10 TL	
		Kfir	750-230-15	22 TL	450x190-5	22 TL	
Panavia	—	Tornado	30x11.50R14.5 or	24 TL	18x5.5	12 TL	
		—	30x11.5-14.5	—	—	—	
Plaggio	P188	—	8.50-8	8 TL	6.00-6	8 TL	
Pilatus	—	Turbo Porter	7.60-10	6 TL	5.00-4	—	
		PC-6	—	—	—	—	
		PC-7	—	—	—	—	
		PC-9	—	—	—	—	
Saab	—	PC-12	8.50-10	10 TL	17.5x6.75-6	8 DT	
		JA-37	Viggen	26x6.6	14 TL	18x5.5	12 TL
		J32B	Lancen	32x9.50-16	14 TL	24x7.25-12	10 TL
		J35A	Draken	30x7.7	18 TL	22x5.5	10 TL
SIAI Marchetti	—	JAS39	25.5x8.0-14	16 TL	14.5x5.5-6	8 TL	
		S211	—	6.50-8	8 TL	5.00-5 DDT	10 TL

section 8

ENGINEERING AND TECHNICAL INFORMATION

7.5 COMMERCIAL ROTARY WING AIRCRAFT

MANUFACTURER	MODEL	NAME	MAIN TIRE		AUXILIARY TIRE	
			TIRE SIZE	PLY RATING	TIRE SIZE	PLY RATING
Aerospatiale	SA360	—	355x150-4	—	260-80-4	—
	SA365N	Dauphin II	380-150-6	6 TT	13x5.00-4	—
	—	—	15x6.00-6	6 TT	—	—
Bell	214	—	19.5x6.75-8	10 TT	5.00-5	10 TT
	222	—	6.00-6	TT	5.00-5	10 TT
Boeing Vertol	234	Chinook	8.50-10	10/12 RTL	8.50-10	10/12 TL
	BB 609	—	17.5x5.75-8	12 TL	5.00-4	14 TL
Sikorsky	S76A	—	14.5x5.5-8	12 TL	5.00-4	12 TL
	S76B	—	14.5x5.5-6	14 TL	5.00-4	14 TL
	S70	—	26x10.0-11	12 TL	15x6.00-6	6 TT
	S58	—	11.00-12	8 TT	6.00-6	6 TT
	S61	—	6.50-10	6 TL	6.00-6	8 TT
	S62	—	—	—	—	—
Westland	W30EMB-121	—	8.50-10	6 TL	5.00-5	4 TT

7.6 MILITARY ROTARY WING AIRCRAFT

MANUFACTURER	MODEL	NAME	MAIN TIRE		AUXILIARY TIRE	
			TIRE SIZE	PLY RATING	TIRE SIZE	PLY RATING
Kamen	HH-43B	Huskie	5.00-5	10 TT	5.00-5	10 TT
	HH-43F	Huskie	5.00-5	10 TT	5.00-5	10 TT
	UH-2C	SeaSprite	17.5x6.25-11	8 TL	5.00-5	6 TT
	HH-2D	SeaSprite	17.5x6.25-11	8 TL	5.00-5	6 TT
	SH-2D	SeaSprite	17.5x6.25-11	8 TL	5.00-5	6 TT
	SH-2F	SeaSprite	17.5x6.25-11	8 TL	5.00-5	6 TT
Sikorsky	H-33, D, E	SeaKing	6.50-10	6 TL	6.00-6	8 TT
	HH-52A	—	6.50-10	6 TL	5.00-5	6 TT
	H-54A	Skycrane	12.50-16	12 TL	8.50-10	10 TL
	H-54B	Skycrane	8.50-10	12 TL	8.50-10	12 TL
	UH-60A	Blackhawk	26x10.0-11	12 TL	15x6.00-6	6 TT
	SH60B	Seahawk	26x10.0-11	10 TL	6.00-6	8 TT
	CH-53A, D	Sea Stallion	8.50-10	10 TL	8.50-10	10 TL
	HH-53B, C, H	Sea Stallion	8.50-10	10 TL	8.50-10	10 TL
	CH-53E	Super Stallion	8.50-10	12 TL	8.50-10	12 TL
	H34	Choctaw	11.00-12	12 TL	6.00-6	6 TT
Boeing Vertol	CH-46F	Sea Knight	18x5.5	8 TL	18x5.5	8 TL
	CH-47A	Chinook	22x5.5	12 TL	16x4.4	8 TT
	CH-47B	Chinook	8.50-10	8 TT	8.50-10	8 TT
	CH-47C	Chinook	8.50-10	12 TT	8.50-10	12 TT
	V-22	Osprey	8.50-10	12 TL	18x5.7-8	14 TL
McD/Hughes	AH-64A	Apache	8.50-10	10 TL	5.00-4	14 TL

7.7 INTERNATIONAL ROTARY WING AIRCRAFT

MANUFACTURER	MODEL	NAME	MAIN TIRE		AUXILIARY TIRE	
			TIRE SIZE	PLY RATING	TIRE SIZE	PLY RATING
Agusta	109A	—	380x135-6	12 TL	SOLID	—
	109A	—	14.5x5.5-6	14 TL	SOLID	—
	A129	—	8.50-10	6 TL	SOLID	—
Aerospatiale (Eurocopter)	330	Puma	700-6	10 TL	7.00-6	10 TL
	332 MKI/II	Superpuma	615x225-10	12 TL	7.00-6	10 TL
	SA319	Alouette III	355x150	TT	355x150	TT
	SA360C/365C	Dauphin	260x80	4 TT	15x6.0-6	10 TL
	SA365N/366G	Dauphin N	15x6.0-6	10 TL	500-4	6 TT
	SA321	Super Frelon	700-6	10 TL	700-6	10 TL
—	Tiger	—	23x9.0-8	10 TL	500-5	8 TL

Whether designing aircraft tires or simply talking about them, standardization of terms is vitally important to ensure a common understanding between user, supplier and manufacturer.

8.1 TIRE SIZE SELECTION

MAIN WHEEL TIRES In the selection of tires for a newly designed aircraft, allowances should be made to provide an increase in loading capability.

Aircraft growth is generally experienced during the complete life of the aircraft starting from the prototype to the first production units and progressing to heavier weight versions to meet the requirements dictated by the operators of the aircraft. The selection of a tire that permits an increased load rating capability will avoid the costly necessity of a change in tire size or wheel details required to support the heavier version aircraft.

The main wheel tire requirements should be based upon the most aft center of gravity location and the ground operational load-speed-time history considered to be the most severe during normal service operations. Consideration should be given to operations at high elevation airports and also high ambient temperature.

NOSE WHEEL TIRES It is important that the selection of a nose wheel tire be reviewed from both a static load requirement and also a dynamic braking condition. Care should be taken during initial selection of the tire to program allowances for loading growth to avoid possible retrofitting in the future.

In the case of the nose wheel tire, the load should be based upon the most forward center of gravity location.

To enable the aircraft tire manufacturer to lend technical assistance in the selection of the main/nose gear tires, the forms on the next page are provided listing the essential requirements for an engineering review to be conducted.

8.2 INFLATION UNDER LOAD

The inflation pressures shown are for unloaded tires. When tires are inflated under load, the applicable pressures should be increased four percent. For example:

Rated static load and inflation	38,300 lb at 185 psi
Operating static load	—Case 1 38,300 lb
	—Case 2 37,000 lb
For Case 1, inflate tire	—If unloaded 185 psi
	—If loaded 185 x 1.04 = 192 psi
For Case 2, inflate tire	—If unloaded $\frac{37,000}{38,300} \times 185 = 179$ psi
	—If loaded $\frac{37,000}{38,300} \times 185 \times 1.04 = 186$ psi

8.3 TIRE MEASUREMENT PROCEDURE

Before a tire can be measured, it must be mounted on its proper rim, inflated to the pressure given in the applicable table of the Tire Data section, allowed to stand at least 12 hours at ambient room temperature, and the pressure checked. The outside diameter of the tire should be determined by measuring circumferentially:

$$OD = \frac{\text{Circumference}}{3.1416}$$

8.4 OPERATING TIRE TEMPERATURES

Aircraft tires shown in this handbook are not recommended for usage where tire surface temperatures exceed 225°F (107°C), or where brake heat results in temperatures that exceed 300°F (149°C) at wheel surfaces adjacent to the tire and tube. Consult Goodyear for operation outside these limits.

8.5 LOAD RATINGS USED FOR HELICOPTERS

Special load ratings have been set up for tires used on helicopters.

When used on helicopters, standard aircraft tires may be rated up to a factor of 1.50 for both load and inflation.

Maximum permissible inflation is usually 1.5 times normal aircraft inflation, but limited cases may be 1.8 times normal aircraft inflation.

These factors are to be applied to ratings shown in the tables for standard aircraft tires.

Maximum allowable dimensions for new tires used on helicopters are 4 percent larger than maximum aircraft tire dimensions. (In calculating maximum outside and shoulder diameters, rim diameters are deducted before applying the 4 percent.)

8.6 RADIUS OF GYRATION

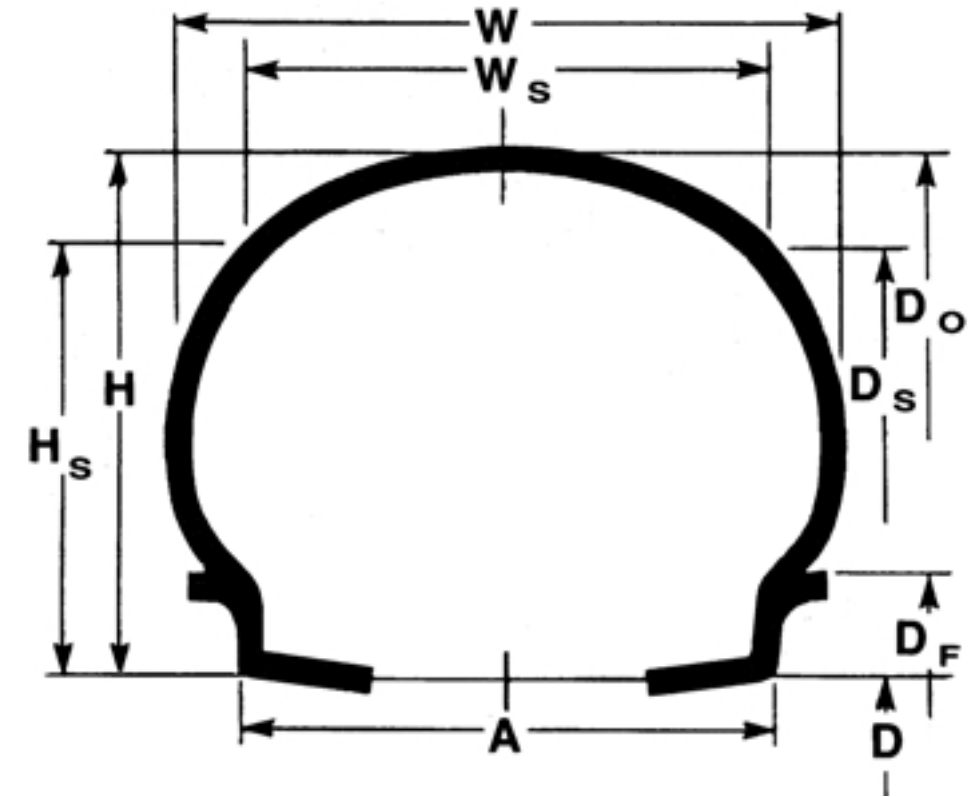
TIRE ASSEMBLIES The approximate values for the radius of gyration of tire assemblies are calculated by using the following formula:

$$\text{Radius of gyration} = \frac{\text{Max O.D.} + \text{Min O.D.}}{5.12}$$

WHEEL ASSEMBLIES Approximate values for radii of gyration of wheel assemblies are calculated by using the following formula:

(Including rotating brake parts) Radius of gyration = 0.40 x "D" ("D" = rim ledge diameter). (The above formula is accurate to ± 20 percent.)

8.7 AIRCRAFT TIRE DIMENSIONS AND DEFLECTION



- D = Rim Ledge Diameter
 - D_F = Rim Flange Outer Diameter
 - D_O = Outside Diameter
 - D_S = Shoulder Diameter
 - W = Cross Section Width
 - W_S = Shoulder Width
 - H = Section Height
 - H_S = Shoulder Section Width
 - Maximum dimensions of new, unused inflated tires (after 12 hours stretch minimum).
- W_S (max) = .90 W (max)
 - D_S (max) = 2 (.90 H (max)) + D
 - H = $\frac{D_o - D}{2}$
 - H_S = $\frac{D_S - D}{2}$

METHOD OF CALCULATION

$$SLR = \frac{D_M}{2} - d \left[\frac{(D_M - D_F)}{2} \right]$$

SLR = Static Load Radius

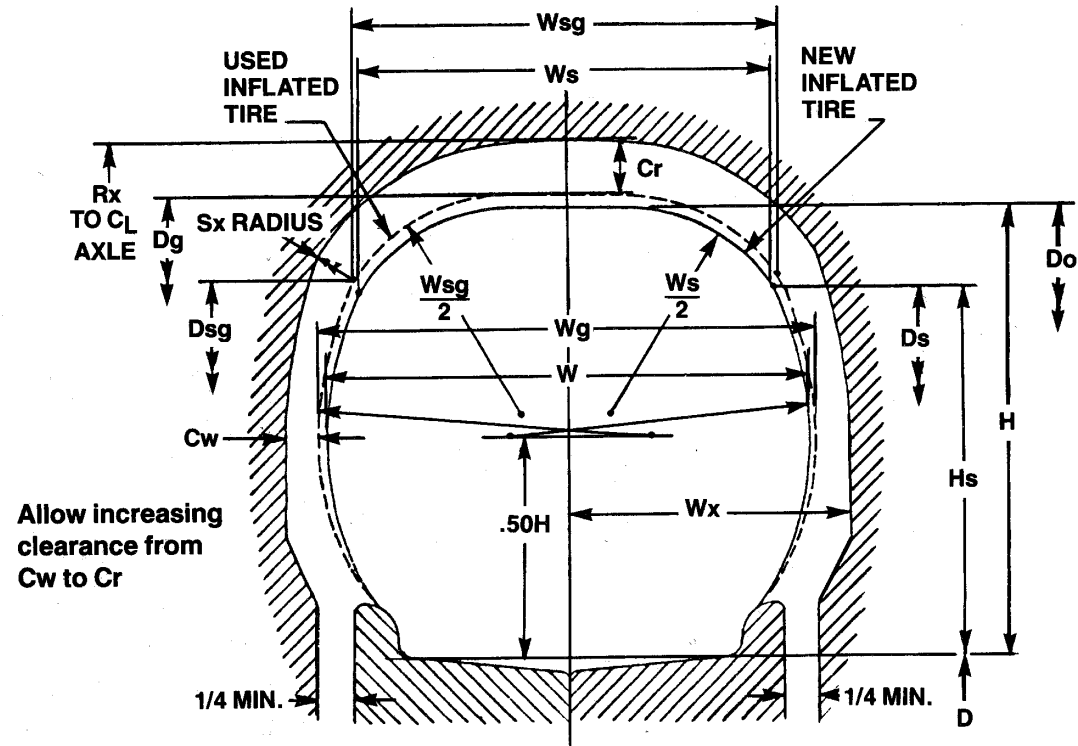
D_M = Mean Overall Tire Diameter @ C/L

D_F = Rim Flange Outer Diameter

d = Percent Tire Deflection (in Decimal Form)

8.8 GROWTH AND MINIMUM CLEARANCE ALLOWANCE

A. An allowance on the maximum tire dimensions shown in the tables must be made to compensate for the growth or stretch of the tire fabric during service. It is important that the following rules be observed by anyone using aircraft tire dimensions.



Note: Radii $W_s/2$ and $W_{sg}/2$ are drawn through their respective shoulder points tangent to D_o and D_g respectively. Radii below the shoulder points pass through the shoulder points and are tangent to W and W_g respectively.

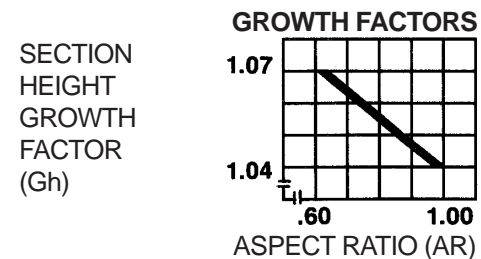
- D = Rim Ledge Diameter
- * D_o = Maximum Outside Diameter
- *H = Maximum Section Height
- *W = Maximum Cross Section Width
- * D_s = Maximum Shoulder Diameter
- * H_s = Maximum Shoulder Height
- * W_s = Maximum Shoulder Width
- W_g = Maximum Growth Section Width
- D_g = Maximum Growth Outside Diameter
- W_{sg} = Maximum Growth Shoulder Width
- D_{sg} = Maximum Growth Shoulder Diameter
- *Dimensions of new, unused inflated tire.

Obtain new tire dimensions D_o , D_s , W and W_s shown in the tire tables as maximum.

Note: Dimensions "W" and "Wg" include all protective side ribs, lettering, bars and decorations.

Determine "grown" dimensions as follows: (use appropriate growth factor from graph)

- $W_g = G_w (W)$
- $D_g = D + 2 (G_h) (H)$
- $W_{sg} = G_w (W_s)$
- $D_{sg} = D + 2(G_h)(H_s)$
- $H = (D_o - D)/2$
- $H_s = (D_s - D)/2$



Section Width Growth Factor $G_w = 1.04$
 Section Height Growth Factor $G_h = 1.115 - (.075 \times AR)$

8.8 GROWTH AND MINIMUM CLEARANCE ALLOWANCE

B. Clearance allowances between the tire and the adjacent parts of the aircraft must be made by the aircraft manufacturer. These allowances are to be based on the maximum overall tire dimensions shown in the tables, plus growth allowance due to service, plus the increase in diameter due to centrifugal force. Minimum distances to adjacent parts of the aircraft are determined as follows:

- Determine maximum grown tire envelope as instructed in note 8.8A on page 42. (This is the dotted line labeled "used inflated tire.")
- Obtain radial clearance C_r and lateral clearance C_w from the following formulae:

$$C_r = .073 W_g + 0.4 \text{ for 250 MPH} \quad C_w = .019 W_g + .23$$

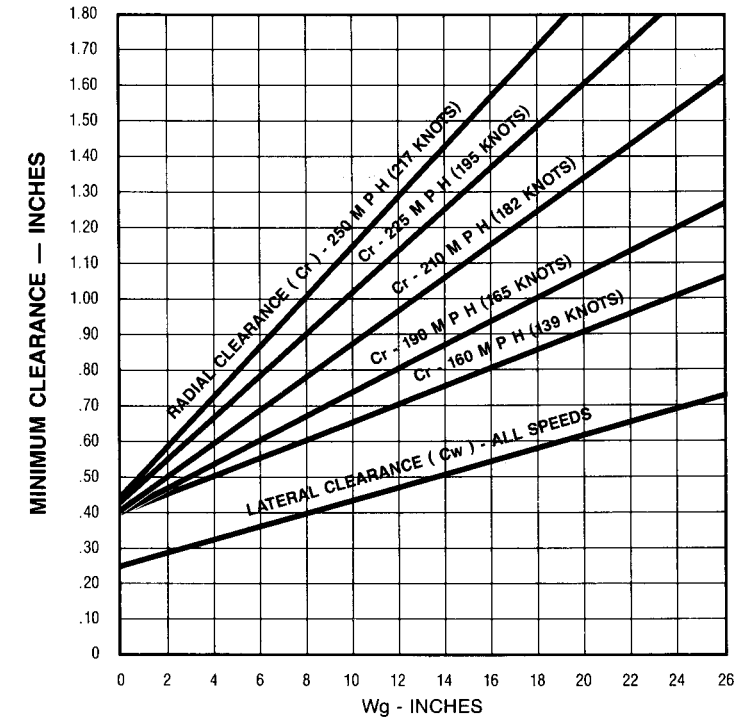
$$.060 W_g + 0.4 \text{ for 225 MPH}$$

$$.047 W_g + 0.4 \text{ for 210 MPH}$$

$$.037 W_g + 0.4 \text{ for 190 MPH}$$

$$.029 W_g + 0.4 \text{ for 160 MPH}$$

The following is a graphic representation of the above formulae:



- Determine distance to adjacent parts as follows:

$$R_x (\text{Min.}) = \text{Radial distance from axle C/L to adjacent part.} = (D_g/2) + C_r$$

$$W_x (\text{Min.}) = \text{Lateral distance from the C/L to adjacent part.} = (W_g/2) + C_w$$

$$S_x \text{ Radius (Min.)} = \text{Clearance allowed between tire shoulder area and adjacent part.} = \frac{C_w + C_r}{2}$$

8.9 AIRCRAFT TIRE OPERATING CHARACTERISTICS

Heavy loads combined with high speeds and high deflections make the operating conditions of aircraft tires extremely severe.

A. HEAT GENERATION

Heavy loads and high speeds cause the heat generation in aircraft tires to exceed that of all other tires and can have a very detrimental effect. Rubber, the major material used in a tire, is a good insulator and, therefore, dissipates heat slowly. For this reason aircraft tires can only be used intermittently.

The internal heat generation is significantly affected by taxi speed, inflation pressure or deflection, and taxi distance. High taxi speeds and improper inflation pressures will reduce the tire life substantially.

B. CENTRIFUGAL FORCES

Both heavy load and high speed contribute to the severe centrifugal forces which act on an aircraft tire. High centrifugal forces can cause traction waves to be developed and the onset of traction waves are very dependent on proper inflation pressures, which control deflection. Traction waves can lead to groove cracking, rib undercutting and tread separations.

C. TENSILE, COMPRESSION AND SHEAR FORCES

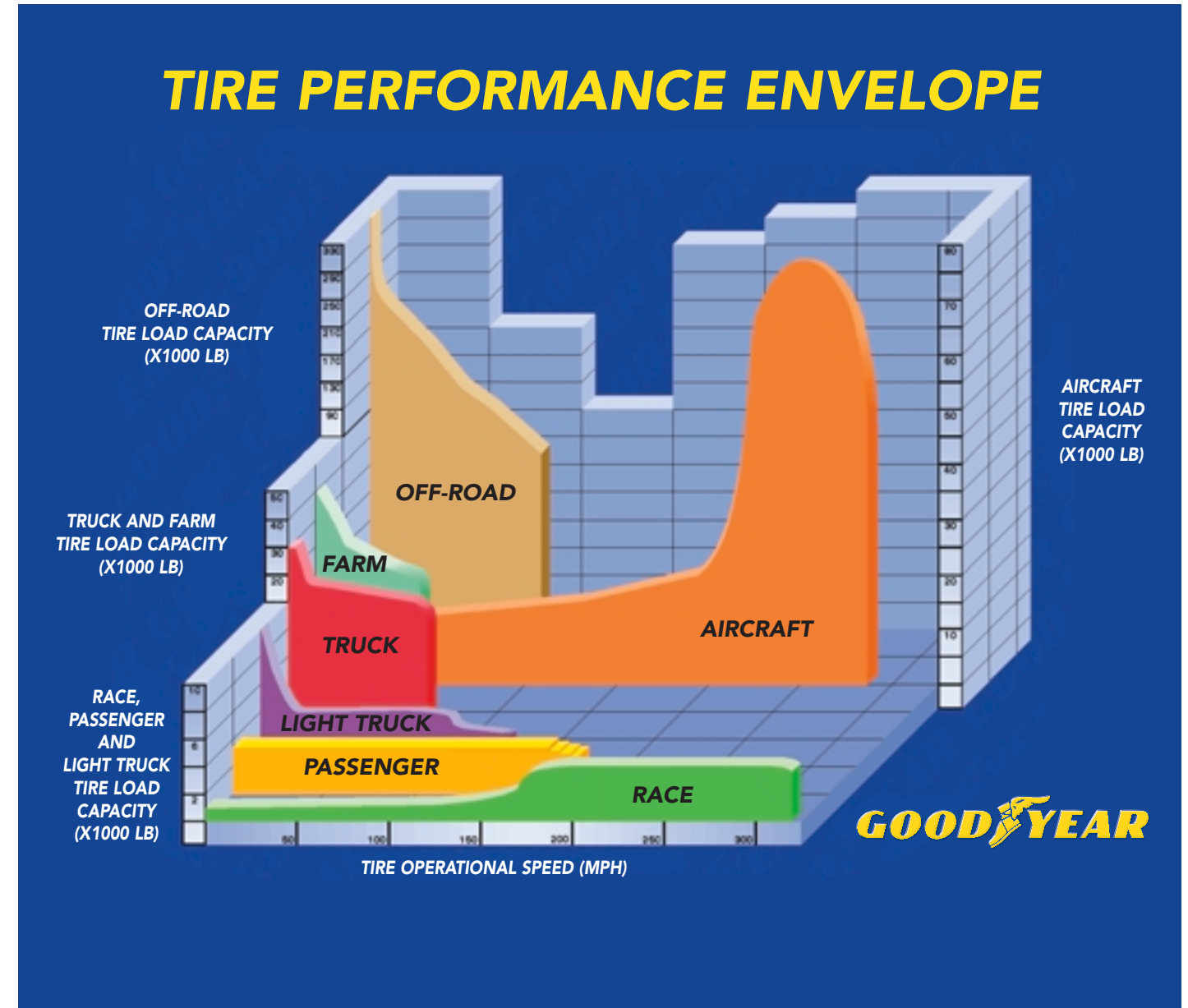
An aircraft tire is designed so that the internal tensile forces on each layer of fabric is uniform in an unloaded condition. When a tire is deflected, the tensile forces on the outer plies will be higher than those on the inner plies. Due to this gradient from outer to inner plies, shear forces are developed between the various layers of fabric. Underinflating or overloading a tire will increase these shear forces and rapidly decrease the life of the tire, causing carcass separations in the shoulders and lower sidewalls.

D. TREADWEAR

Proper inflation pressures give the best treadwear. High operating temperatures, excessive high speed braking, sharp and fast turns, long rollouts and pivoting can adversely affect treadwear significantly due to the high ground contact pressures.

8.10 TUBELESS TIRES IN PLACE OF TUBE TYPE TIRES

A Goodyear tubeless tire of the same size can be used in place of a tube type tire if the tubeless tire has an equal or higher speed and ply rating than the tube type tire it is being used to replace.



AIRCRAFT TIRE OPERATING CHARACTERISTICS

This chart shows various types of tires and their speed versus load operating ranges. The operating range for aircraft tires covers the upper right hand corner, meaning that maintenance practices and operating techniques that work fine for passenger tires are not acceptable for aircraft tires. Any deviations to the proper operating practices will have immediate consequences on the tires' performance.