

# HOW TO USE THIS HANDBOOK

Follow this simple step-by-step procedure to obtain the best results from your tires.

## 1. Pick the right design for the job

On page 7 of this handbook there is an explanation of the Tire and Rim Association tire type codes. The TRA tire type codes are an excellent guide for determining the type of service for which a tire is intended. Use an R-1 tire (DT710, Dyna Torque Radial, Dyna Torque or Dyna Torque II) for general dry land farming. Use an R-1W (Super Traction Radial, DT800, DT810, or DT820 Radial) for farming in wet, moist heavy clay soils. An R-1W offers about 25% more tread depth than a conventional R-1 tire to give good traction without clogging in wet heavy clay soils. Use an R-2 for farming in wet muck and mud such as rice or sugar cane farming. An R-2 tire has twice the tread depth as an R-1 tire to dig in the mud without clogging. Using a tire for any service not listed for it will result in poor performance and/or poor tire life. An R-2 (Special Sure Grip TD-8) tire used in general dry land farming will wear more quickly, not pull as well and provide a rougher ride than the R-1 that you should be using. An R-1 used in sand service will bury itself quickly when asked to pull, whereas an All Weather (R-3) will likely be able to stay on top of loose sand.

## 2. Pick a tire to carry the load

A tire must be large enough and/or of high enough ply rating to be able to carry the maximum load that you intend to place on it. When determining maximum load, remember to include the weight of full bins or tanks, tillage tools carried on the tractor, and all ballast including liquid fill in the tires. The air in the tire enables it to carry the load – thus you get more load capacity by either using a bigger tire (more air volume) or by using a higher ply rating tire (more air pressure) or both. A ten ply rating tire operated at six ply rating pressure will only carry the load of a six ply rating tire. To get the best results, a tire should be inflated to a pressure appropriate for the load on it. See box below. For further information on how to properly inflate your tires and ballast your tractor, see the “Goodyear Optimum Tractor Tire Performance Handbook.”

## USDA AGREES!

The National Soil Dynamics Laboratory of the United States Department of Agriculture has stated, “...inflation pressure should be set at the manufacturer’s recommendation for the actual load on the tire, which actually is the minimum acceptable inflation pressure for that load. This will minimize soil stresses and compaction, and maximize efficiency. Don’t overinflate your tires.”

Source: Bailey, A.C., R.L. Raper, T.R. Way, E.C. Burt, and C.E. Johnson. 1993. *Soil stresses under tractor tires at various inflation pressures*. Proceedings of the 11th Annual Conference of ISTVS, Volume I, Incline Village, CA. Sept. 27-30, 1993.

Special cases:

COMBINES – Rear tractor tires used on the drive wheels of combines are applied using special consideration for the

cyclic loading encountered in this service. For proper loads and inflation pressures in this application refer to pages 112-113 and to the footnotes of the extended load tables on pages 94-110.

SPEEDS OTHER THAN FIELD SERVICE – Usually, transport conditions require a decrease in load. Read the notes at the bottom of the appropriate load table to find out how much.

HILLSIDE COMBINES – Increases in tire load are not permitted for tires on hillside combines. (A hillside combine is a combine designed to operate on slopes steeper than 11 degrees or 20% grade.) The inflation pressure in the downhill tire may be increased four psi for stability.

FURROW WHEELS – If you are plowing with one wheel in the furrow, you should increase the inflation pressure in that tire to four psi over the pressure shown in the tables on pages 94-110.

## 3. Pick a tire to handle the horsepower

All tires must be sized for the load requirements that they encounter, but a rear tractor tire must meet an additional requirement – it must be able to get the tractor horsepower to the ground. Each rear tractor size and ply rating has a maximum amount of pull that it can handle without shortening its life. Since the horsepower a tire transmits can be calculated from knowing its pull and travel speed, the tables on pages 119-125 show the maximum PTO horsepower that each size and ply rating will handle at different speeds – five mph and three mph. Notice that as speed decreases the amount of horsepower that a given tire will handle decreases also. Virtually all tractor manufacturers agree with Goodyear that higher plowing speeds result in less wear and tear on both tractor and tires. The best speed to pull your implement is at least 5 mph.

## 4. Check the size

Tire measurements are shown on the pages 26-93.

These measurements are useful when trying to match different sizes of tires. Section Width or SD is the overall width of the tire cross-section. Overall Diameter or OD is the diameter of a new inflated tire measured at the centerline. Static Loaded Radius or SLR is extremely important for mechanically driven front wheel assist tractors. The Loaded Section Width is important for determining whether a tire will fit between crop rows. When changing to a larger size tire, please leave about two inches of clearance between the tire and any machine parts that it comes close to. The distance between sidewalls for duals should be 1.5 inches plus 10% of the tire width (SD) for bias tires and 2.5 inches plus 10% of the tire width for radial tires.

## 5. Weight your tractor properly

A tire on a tractor can meet all of the above criteria and still not provide optimum service because the vehicle is improperly ballasted. Generally speaking, you may choose between traction or flotation – whatever you do to increase one will decrease the other. For flotation, a large

low ply rating tire operating at relatively low pressure with a light load on it is needed. Traction requires a higher ply rating tire operating at maximum pressure with a heavy load. Since the amount of pull that a tire will generate before spinning is strongly dependent on load, keeping a certain amount of flotation will require very large tires or duals. Duals can provide either flotation or traction depending on how they are weighted and inflated. Unballasted at 12 psi, duals will give good flotation. When ballasted to maximum rated load at maximum rated pressure, however, duals will produce considerably more drawbar pull than the same size single tire. Note: Be careful not to exceed the manufacturer's recommendations for total axle and/or vehicle weight.

Weight distribution is also very important in farm tractors. Recommended front/rear weight distributions for various types of tractor are shown below:

**Weight Distribution Front/Rear  
Range**

	<b>From</b>	<b>To</b>
2 wheel drive.....	35/65	25/75
Power assist front axle.....	40/60	35/65
4 wheel drive.....	60/40	51/49

These weight distributions will be suitable for most general farming applications. Consult your tractor manufacturer for special cases.

### **6. Consult your Goodyear dealer**

If you have checked all of the above points and still have questions, read the sections titled "Things You Should Know About Farm Tires" starting on page 8 and "Optimum Tractor Tire Performance" on page 20 or consult your local Goodyear Farm Tire Dealer.

# *INTRODUCTION*

This Farm Tire Handbook is designed as a convenient reference for tire dealers, tractor and implement dealers, tractor and implement manufacturers, salesmen and farmers.

The first several sections of the book are devoted to a presentation of the most popular tires designed for agricultural use. The concluding sections offer information on service and maintenance. You'll also find material on such related products as tubes, valves, and rims.

While we've attempted to make this handbook as complete and easy to use as possible, we do invite your inquiry if you have an unanswered question. Simply contact your local Goodyear Store or Dealer – or if you prefer, write us direct: Goodyear, Farm Tire Marketing Department, Akron, Ohio 44316. Either way, we'll be happy to be of service.

**\*TUBELESS DIMENSIONAL DATA &  
INFLATION TABLES**

Tubeless agricultural tires have the same outside appearance and the same dimensions as tube-type tires. Tubeless tires carry the same loads at the same inflation pressures as tube-type tires. Therefore, all tire dimensional data shown in this handbook along with the load/inflation tables, liquid fill values, etc., apply to either tubeless or tube-type tires.

# TABLE OF CONTENTS

How to Use this Handbook .....	2-3	TERRA-TIRE® High Flotation Tires .....	76-83
Tire Selection and Definition of Terms .....	5	Custom Flo-Grip .....	82-83
STAR Symbol System .....	6	SFT105 .....	80-81
Industry Standards & Tire Selection Chart .....	7	SFT115 .....	81
Things You Should Know About Farm Tires .....	8-11	Softrac .....	76-81
Millimetric Tire Size Marking .....	12	Softrac RS .....	76-77
Load Index Information .....	13	Super Terra-Grip .....	76-83
Rolling Circumference Information .....	14-19	Super Terra-Grip S .....	80-81
Goodyear Families of Radial Farm Tires .....	19	Super Terra-Grip XT .....	80-83
Optimum Tractor Tire Performance .....	20-21	Sure Grip Lug .....	76-79
Optimum Tractor Tire Performance Worksheets-		Terra Rib .....	78-79
MFWD Tractors .....	22	Tundra Grip .....	82-83
4WD Tractors .....	23	Ultra Grip Lug .....	76-79
TERRA-TIRE® Information and Characteristics .....	24-25	Skid Steer Loader Tires .....	84-85
Rear Tractor Tires (R-1 and R-1W) .....	26-45	Sure Grip Loader .....	84-85
UltraTorque Radial .....	26-27	Sure Grip Lug .....	84-85
DynaTorque Radial .....	28-29	Ultra Grip Lug .....	84-85
DT710/DT720/DT730 Radial .....	30-31	All Terrain Vehicle (ATV) Tires .....	86-91
VersaTorque Radial .....	32-33	ATV EMT Tires .....	86-87
Super Traction Radial .....	34-37	ATV MudRunner Tires .....	88-89
DT800/DT810/DT820 Radial .....	36-37	ATV Tires .....	90-91
DuraTorque .....	38-39	Golf Car Tires .....	92
Dyna Torque II .....	40-45	Special Service Tires .....	93
TI3 .....	40-43	Load and Inflation Tables .....	94-118
Special Purpose Rear Tractor Tires .....	46-55	Radial Rear Tractor Tires .....	94-107
Special Sure Grip TD-8 Radial (R-2) .....	46-47	Bias Rear Tractor Tires .....	108-110
Special Sure Grip TD-8 Bias (R-2) .....	48-49	Industrial Tractor (R-4) Tires .....	111
All Weather (R-3) .....	50-51	Cyclic Service Rear Tractor Tires .....	112-113
Softrac II .....	50-51	TERRA-TIRE® High Flotation Tires .....	114-115
Garden Tractor Tires .....	52-53	Garden Tractor Tires .....	116
IT510 Radial (R-4) .....	54-55	Skid Steer Loader Tires .....	116
IT525 (R-4) .....	54-55	Steer Wheel (Front) Tires .....	117
Steer Wheel (Front) Tractor Tires .....	56-63	Implement Tires .....	118
Dyna Rib .....	56-59	FI Highway Service Implement Tires .....	116
Four Rib .....	56-59	Horsepower Capabilities of Drive Tires .....	119-125
Super Rib .....	56-57	Tubes and Valves .....	26-85
Triple Rib HD .....	56-59	Procedures For Filling and Removing Solution .....	126
Triple Rib R/S .....	56-57	Liquid Weighting .....	127-130
Single Rib .....	60-61	Front Tractor and Implement Tires .....	127
Laborer & Multi Rib .....	62-63	Rear Tractor Tires .....	128
Implement Tires .....	64-75	Metric Size Rear Tractor Tires .....	129
Drill Rib .....	64-65	TERRA-TIRE® .....	130
Farm Utility .....	64-69	Rims .....	132-137
Farm Highway Service .....	70-71	Service and Maintenance .....	138-149
Rib Implement .....	64-67	Safety Precautions .....	138-141
Sure Grip Implement .....	72-73	Mounting Off Vehicle (Drop Center Rims) .....	142
Sure Grip Lug .....	72-73	Mounting On Vehicle (Drop Center Rims) .....	143
Sure Grip Traction Implement .....	72-73	Demounting Off Vehicle (Drop Center Rims) .....	144
Super Single Implement .....	74-75	Demounting On Vehicle (Drop Center Rims) .....	145
		Removable Flange Rims – Mounting Instructions .....	146
		Removable Flange Rims – Demounting Instructions .....	147
		Tire Mounting Lubricants .....	148
		Valve Requirements .....	149

# SELECTION OF TIRES FOR AGRICULTURAL VEHICLES AND DEFINITION OF TERMS

## TIRE SELECTION

- a) Selection of size and Ply Rating on each axle shall be based on the highest individual wheel load (as determined below) when vehicle is weighed statically.  
Maximum load per tire shall not be greater than specified in applicable tables.
- b) For sustained high torque service – Drive wheel tires on Agricultural tractors operating in the field must be selected to withstand the maximum pull of the tractor under normal operating service.
- c) Maximum speed for Agricultural tires is 25 MPH.

## DEFINITIONS OF TERMS

**Maximum Load** – Maximum loads on individual tires are determined by considering the maximum axle load on each half of the axle and dividing by the number of tires on that half. The maximum load in field service or transport is to include:

- a) **Net Weight** – defined as the actual weight of the vehicle with standard equipment, including the maximum capacity of engine fuel, oil, coolant, and operator (170#).
- b) **Accessory Weight, Optional Equipment Weight, and Special Order Modifications.**

**Accessory Weight** – means the combined weight of those installed production items not previously considered in “Net Weight” (such as air-conditioner, etc.)

**Optional Equipment Weight** – means the difference in Net Weight between the optional item and standard item replaced (such as engine, brakes, tires, etc.). This is to include the Net Weight of additional items offered by the manufacturer which are not replacements for standard items (such as cabs, sideboards, etc.)

- c) **Tire Ballast** – if used, must be included in determination of Maximum Load.
- d) **Field Modifications** – means the Net Weight change due to vehicle alterations made by those other than the original manufacturer (such as modifications for additional capacity, reinforcements, etc.)
- e) **Bin and Tank Loads** – includes total weight when full.
- f) **Implements** – includes that portion of the weight of any implement carried by the axle.
- g) **Cyclic Loading on Agricultural Harvesting Equipment** – means gradual increase of payload to maximum allowable load (see appropriate tables and notes) with unloading before off-field transport.

**Hillside Combine** – Combine intended for service on slopes above 11° (20% Grade).

**Operating Conditions** – Refer to footnotes in appropriate tables.

**Minimum Dual Spacing** – Minimum dual tire centerline to centerline measurement.

### For Tractor Drive Wheel Tires

Bias Tires – Design Section Width x 1.10 + 1.50 inches.

Radial Tires – Design Section Width x 1.10 + 2.50 inches.

**L (In Size Designation)** – Low section height agricultural tires.

**SL** – Service limited to agricultural usage.

**FI** – Tires for use only on farm implements in Agricultural Service with intermittent highway use.

**NHS** – Not for highway service

1 inch = 25.4 millimeters = 2.54 centimeters
1 foot = 30.48 centimeters = .3048 meters
1 mile = 1609.3 meters = 1.6093 kilometers
1 mile = 5280 feet = 1760 yards
1 square inch = 6.4516 square centimeters
1 square foot = 144 square inches
1 square yard = 9 square feet
1 square mile = 640 acres
1 hectare = 2.471 acres
1 gallon water = 8.3453 pounds of water
1 U.S. gallon = 3.785 liters
1 peck = 8 quarts (dry)
1 bushel = 4 pecks (U.S.)
1 lbm = .4536 kilogram
1 lbf = 4.45 Newtons
1 psi = 6.895 kilopascal (kPa) = .06895 bar

# ★ MARKED RADIAL AGRICULTURAL TRACTOR DRIVE TIRES

Construction and performance characteristics of radial agricultural tractor drive tires are considerably different from those of bias ply tires. Therefore, a different approach is needed to effectively recognize these differences. To maximize the benefits inherent in our radial tractor tires in a load/inflation program that will be different but readily understood, Goodyear has introduced "Symbol" marked radial drive tires.

All conventional sized radial agricultural tractor drive tires are marked with ★, ★★, or ★★★. The maximum load rating for ★ agricultural tractor tires in all sizes is at 18 psi inflation pressure. Maximum load for all ★★ agricultural tractor tires is at 24 psi and for all ★★★ agricultural tractor tires the maximum load is specified at 30 psi.

To clearly recognize the capabilities of the radial tractor tire, a panel cured in each sidewall will show: the symbol marking; the maximum tire load at the appropriate inflation pressure; and a notation on which bias ply rating tire(s) this radial tire will replace.

NOTE: The above descriptions associating 18 psi, 24 psi, and 30 psi with ★, ★★, and ★★★ marked tires applies to radial agricultural tractor tires only. Earthmover and All Terrain Vehicle (ATV) tires also use star symbol markings. However, different inflation pressures are used. For All Terrain Vehicle (ATV) tires, see pages 88-91.

Here is an example of how the panel will look for a radial agricultural tractor drive tire:



**"SYMBOL" MARKED REPLACEMENT CHART**

Dyna Torque Radial	USA or European Ply Rating	European Radial	Dyna Torque Radial	USA or European Ply Rating	European Radial
13.6R28	★★★	8PR	13.6R28 123A8	★★	8 & 10PR
14.9R26	★★★	10PR	14.9R26 127A8	★	6 & 8PR
14.9R28	★★★	10PR	14.9R28 128A8	★	6 & 8PR
14.9R30	★★★	10PR	14.9R30 129A8	★★	10PR
14.9R34	★★★	10PR	14.9R34 131A8	★★	10PR
14.9R46	★★★	8PR	14.9R46 137A8	★★★	
15.5R38	★	6PR	20.8R34	★	8PR
16.9R24	★★	8PR	20.8R38	★	8PR
16.9R26	★★	8PR		★★	10PR
16.9R28	★★	8PR	20.8R42	★★	10PR
16.9R30	★★	8PR	24.5R32	★	10PR
16.9R38	★	6PR	30.5LR32	★	10 & 12PR
					18.4R26 140A8
					18.4R38 146A8
					18.4R42 148A8
					18.4R46 150A8
					20.8R38 153A8
					20.8R42 155A8

# INDUSTRY STANDARDS & TIRE SELECTION CHART

## TIRE CODE

The "Ply Rating" designation used throughout this book complies with the designation adopted by the Tire and Rim Association. For all agricultural tires shown here, 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 actual number of cord plies in the tire.

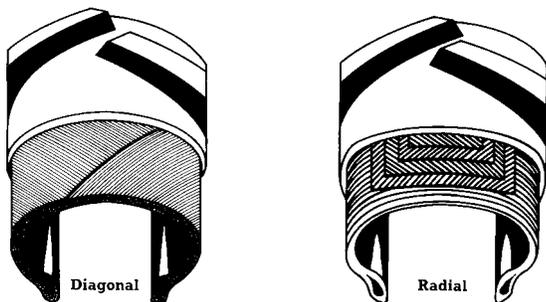
In the table below, Goodyear provides a tire selection chart and the code approved by the Tire and Rim Association for specific types of agricultural tires. (This code was created in the interest of simplifying reference to specific types of agricultural tires, regardless of the manufacturer's design name.) Goodyear agricultural tires reflect the appropriate code number on the tire sidewall, in the vicinity of the size stamping.

CODE	INDUSTRY TIRE TYPE	TIRE SERVICE	GOODYEAR NAME
F-1	Agricultural Single Rib Tread	Rice Farming	Single Rib
F-2-M	Agricultural Multiple-Rib Tread	General Farming	Dyna Rib Four Rib
F-2	Agricultural Multiple-Rib Tread		Super Rib Tripe Rib R/S / Triple Rib HD
F-3	Industrial Multiple-Rib Tread	Light Industrial Service	Multi Rib Laborer
<b>REAR TRACTOR TIRES</b>			
R-1	Drive Wheel, Regular Tread	General Farming	Ultra Torque Radial DT710/DT720/DT730 Dyna Torque Radial Dura Torque Dyna Torque II Power Torque
R-1W	Drive Wheel, Wet Traction Tread	Wet or Moist Soil	Super Traction Radial/ DT 800/DT 810/DT 820
R-2	Cane and Rice, Drive Wheel, Deep Tread	Wet Muck Sugar Cane Rice Farming	TD-8 TD-8 Radial
R-3	Drive Wheel, Shallow Tread	Sandy or Volcanic Ash Soils Orchards Highway Mowing Golf Course Work Light Industrial Service	All Weather
R-4	Industrial Tractor, Drive Wheel, Intermediate Tread	Light Industrial Service Highway Mowing	Industrial Sure-Grip Industrial Torque IT525
HF-1	High Flotation, Rib Tread	Golf Course Work	Tundra Grip, Terra Rib, Softrac
HF-2	High Flotation, Regular Lug Tread	General Farming	Super Terra Grip
HF-3	High flotation, Deep Lug Tread	Wet or Moist Soil	Super Terra-Grip XT
HF-4	High Flotation, Extra Deep Tread	Wet Muck	Custom Flo-Grip
<b>GARDEN TRACTOR TIRES</b>			
	Lug Type	Gardens	Super Sure-Grip
	Universal Type	Lawn Mowers	Lawn and Garden
<b>IMPLEMENT TIRES</b>			
I-1	Rib Tread	Free Rolling Wheels	Rib Implement Farm Service Farm Utility
I-2	Moderate Traction Implement	Drive or Free Rolling Wheels	All Weather Softrac II All Traction
I-3	Traction Tread	Drive Wheels	Sure-Grip Traction Implement
I-6	Smooth Tread		

# THINGS YOU SHOULD KNOW ABOUT FARM TIRES

## Radial vs. Bias

As the drawing below shows, radial tire construction is substantially different from bias tire construction. The crossed plies of the bias tire run diagonally from bead to bead. In a radial tire, the carcass plies run in a radial direction from one bead to another. Radial tires also have stiff belts in the tread area that restrict growth and stabilize the lugs when they contact the ground. Radial tires have more supple sidewalls than bias tires that, in combination with the stiff belts, provide traction and efficiency superior to bias tires.



## Tubeless Tires

Tubeless tires have been used for many years on combines and industrial tractors and have recently been adopted at all wheel positions by leading tractor manufacturers. They operate at the same inflation and have the same load capacity as equivalent tube type tires. Not only do tubeless tires provide higher reliability and easier puncture repair, but also lower assembly costs than tube type tires. When used with calcium chloride solution, rim corrosion is not a problem as long as you maintain the proper inflation pressure to keep the tire bead firmly on the rim's bead seat. This seals outside air away from the rim and controls corrosion. A dismounted rim will rust quickly if not rinsed with tap water immediately. For instructions on how to liquid fill tubeless and tube type tires, see page 126.

## Tire size Nomenclature

**Conventional sizing** - Probably the most common size marking system in use today. Examples would be 7.50-16, 11L-15, 13.6-28 and 18.4R38. The first number is the nominal cross-section in inches which is followed by a dash (-) to indicate bias construction or an "R" to indicate radial construction. The number after the dash or "R" is the nominal rim diameter.

**Metric sizing** - This new tire marking system has the approval of the International Standards Organization (ISO). Examples are 320/90R46 and 710/70R38. The number before the "/" is the nominal cross-section in millimeters. After the "/" is the aspect ratio, "R" indicates radial construction ("D" for bias or Diagonal), and then the nominal rim diameter. See page 12 for a more complete description of this sizing system.

## Sidewall Info

All Goodyear farm tires have on both sidewalls the name "GOODYEAR" in large letters, a size marking, a tire name such as "DT710", and a panel giving the maximum pressure for that tire, the load corresponding to that pressure, and the maximum speed for which that load is valid. If your operating conditions are different from those on the sidewall, you must consult the notes at the bottom of the extended load tables which are found on pages 94 through 118.

## Ply rating / Star marking / Load Index

The load and/or pressure capacity of a tire is shown in the ply rating (bias tires), the star marking (conventional radial tires), or the load index (metric radials). It can describe tire strength (ply rating), rated inflation capacity (star marking), or rated load capacity (load index).

**Ply Rating** - Used by bias tires and some older radials. Ply rating is an indication of carcass strength and not the actual number of fabric plies in the tire. Maximum rated loads and pressures are different for each tire size with the larger tires operating at lower pressures for a given ply rating.

**Star Marking** - Used by conventional-sized farm tractor radials. Star marking is an indication of rated inflation pressure: 1 STAR farm tractor tires are rated at 18 psi, 2 STAR farm tractor tires are rated at 24 psi, and 3 STAR farm tractor tires are rated at 30 psi. Loads vary with tire size. See page 6 for additional information.

**Load Index** - Used with metric radials. Load index is an indication of rated load with each load index number corresponding to a certain load (see table on page 13). If two tires have the same load index, they will carry the same load, but not necessarily at the same inflation pressure.

## MFWD Lead / Lag Calculation

On mechanical front wheel drive (MFWD) tractors, front and rear rolling circumference must be matched to the tractor front-to-rear gear ratio. For further details see pages 14 - 18.

## Rim Selection

It is important to always mount a tire on a rim that is approved for it. Not only must the width be correct, but also the flange contour (i.e. DW, DD, F, L, ...) must be the one recommended for the tire in question.

## Use of a rim wider than recommended

Using a wider rim results in flattening of the tread face. This effect may improve traction in some looser soil conditions. In hard soils, however, the flatter tread penetrates less effectively and tractive effort is reduced. Additional stresses concentrated in the shoulder area tend to increase the rate of shoulder treadwear. By spacing the tire beads farther apart the sidewalls are forced to flex in an area lower than normal and this can result in circumferential carcass breaks and/or separation. See pages 132 - 137 for the list of recommended and alternate rims.

# THINGS YOU SHOULD KNOW ABOUT FARM TIRES (CONT'D)

## Use of a rim narrower than recommended

This condition brings potential mounting problems because the rim shield or flange cover molded into most drive tire designs tends to interfere with the seating of the tire beads on a narrow rim. Once mounted on a narrow rim, the tire rim shield applies undue pressure on the rim flange with possible tire sidewall separation or premature rim failure at the heel radius. On a narrow rim the tread of the tire is rounded. As with the over-inflated tire, treadwear will be concentrated in the center area of the tread and traction in the field will be reduced.

## Drive Tire Designs

On page 7 of this handbook there is an explanation of the Tire and Rim Association tire type codes. The TRA tire type codes are an excellent guide for determining the type of service for which a tire is intended.

R-1 is the most common type of lug tire used in the United States and Canada and is the tire to use for general dry land farming. Goodyear R-1 tires include the DT710, Dyna Torque Radial and Dyna Torque II.

R-1W tires were introduced in Europe for the wet soils found there. They fill a gap between the R-1 and R-2 tires and provide the right tire for areas with wet, sticky soils. The "W" signifies wet soil service. R-1W tires are defined as having 20 percent deeper tread depth than an equivalent R-1 tire, but actually range from 15 to 35 percent deeper. Goodyear R-1W designs include the Super Traction Radial, DT810 and DT820.

R-2 tires are for cane and rice and other crops grown in wet muck or flooded fields. R-2 tires are about twice as deep as R-1 tires. Goodyear R-2 designs include the Special Sure Grip TD-8 and Special Sure Grip TD-8 Radial. Although R-2 tires are excellent in the service for which they are intended, the widely-spaced lugs can cause problems with wear and vibration when roaded. R-2 tires also do not pull as well as R-1 tires in the drier soils typical of crops such as corn and beans.

R-3 designs such as the Goodyear All Weather are used on turf or in sandy areas where the disturbance of an aggressive lug-type tire is not wanted. R-3s shallow, button-style treads are not designed for hard pulling but may give surprisingly good traction on smooth, dry surfaces.

R-4 tires are found on tractors with backhoes and/or front-end loaders at construction and other industrial sites. These tires have shallow, durable lugs. R-4 examples include the Goodyear IT510 Radial, IT525, Industrial Torque, and Industrial Sure Grip.

HF-1, HF-2, HF-3 and HF-4 are types of a high flotation tire referred to as TERRA-TIRE®. In comparison with conventional tires, these tires have a wider cross section, a larger air volume, and operate at lower inflation pressures. The net result is a flotation effect for go-anywhere performance – despite terrain, despite load. The HF-1 is a Rib Tread similar to an R-3 tire. The HF-2 type is a regular lug tread similar to an R-1 tire. The HF-3 type is a Deep Lug Tread similar to an R-1W tire. The HF-4 is an Extra Deep Lug Tread similar to an R-2 tire.

Tread depth is the biggest factor affecting traction in wet soils, but as the soil dries out, deep lugs turn from assets to liabilities. In soil conditions most prevalent in North America, an R-1 tire will pull better than an R-1W.

For an explanation of the type codes for steer, implement and garden tractor tires, see page 7.

## Flotation / Compaction

Flotation is defined as "the ability of a tire to resist sinkage into the soil". If a tire is not able to stay on top of the soil, it will leave a rut under which the soil texture is disturbed. It is a concern in loose, wet, or easily compacted soils. Agricultural soils need to have air and water-filled pore spaces that allow root growth, the transport of plant nutrients, and rapid absorption of rain water. Compaction is defined as a decrease in the volume of these pore spaces. There are two different concerns: 1) subsoil compaction which is dependent on the total weight of the vehicle and 2) surface disturbance which is highly related to the average pressure between the tire and soil. For a given load, the tire that will carry the load at the lowest required inflation pressure will provide the greatest flotation and the least surface disturbance and compaction. This is because the average pressure under a tire is a little higher (about 1 to 2 psi for a radial and 2 to 3 psi for a bias) than the inflation pressure in the tire. Although we publish "Gross Flat Plate" contact areas for individual tires elsewhere in this book, it is important to remember that the published contact areas are correct only at that tire's rated inflation pressure and rated load. See box on contact area below. To compare the flotation characteristics of different size tires, use the load / inflation tables on pages 94 through 118 to determine the pressure corresponding to your load per tire. If you are looking for flotation, the tire that will carry the load at the lowest required inflation pressure is best.

### A NOTE ON CONTACT AREA

The only contact area that we publish in this handbook is the "Gross Flat Plate" contact area. This is the total area contained within the ellipse of contact resulting from applying rated vertical load to a tire at rated pressure on a smooth hard surface. Previous editions of this book have also published a figure known as "penetrated area" which was all the area under a tire at the stated penetrated soil depth. It was felt that this figure was misleading because of the many assumptions made in its determination. In soft soil, the ratio between the pressure in the tire and the pressure that the soil can support determines the degree of soil deformation. This is why soil disturbance is minimized by opting for larger tires that can carry the required load at lower inflation pressures.

Terra-Tire® is a specifically designed high flotation tire. The large ground contact area of TERRA-TIRE® flotation tires effectively distributes load over a relatively broad area, providing a reduction in unit ground pressure in comparison to conventional tires. This reduction in ground pressure means less soil compaction, less ground disturbance—on the farm or on the golf course. It also means improved mobility, permitting the TERRA-TIRE® to traverse mud or snow or soft sand that would often bog down a conventional tire.

# THINGS YOU SHOULD KNOW ABOUT FARM TIRES (CONT'D)

## Singles / Duals / Triples

Duals or triples can give you increased traction or increased flotation over single tires depending on how you set them up.

If you want TRACTION, add weight to your tractor up to the published load capacity for the tire using the appropriate row (single, dual, or triple) from the tables on pages 94 through 110. Inflation pressure must be increased to match the load using the same table. Be careful not to exceed the manufacturer's maximum load rating for the axle. If flotation is not a concern, higher load capacity single tires used at higher load and pressure will increase traction and be more efficient and maneuverable than dual or triple tires.

If you want FLOTATION from your duals or triples, run your tractor at the manufacturer's minimum weight/HP ballasting recommendations and decrease inflation pressure to match the lighter load according to the tables on pages 94 through 110. See also the section above on Optimum Tractor Tire Performance on page 20.

Compared to single tires, duals and triples can allow you to both increase traction (more weight) and improve flotation (lower inflation pressure) if only moderate increases in ballasting are made. However, remember that duals and triples increase your tractor's rolling resistance and decrease traction efficiency.

## Dual Attachment Systems

While rim-mounted duals are easier to take on and off, the spacer band between the two rims decreases ground clearance. Axle-mounted duals are more flexible because they allow you to change spacing. Axle-mounted duals are also better at transmitting high torque.

## Liquid / Air Fill With Duals

A few years ago the recommendation was to put liquid only in the inner tire but new information has changed the guidelines. All tires on an axle should be filled to the same level which should not exceed 40% (4 o'clock valve stem position). Likewise, all tires on a given axle should be inflated to the same pressure. See the section on optimizing your tractor to find the current rules concerning the use of liquid ballast.

## Mixing Radial and Bias Duals / Unmatched Duals

There is no reason why you cannot mix radial and bias tires on the same axle. Of course you don't get the full benefits of radial tires when you mix them with bias, but the result is still better than dual bias tires. The radial tire would typically be mounted at the inside dual position. A guideline to follow when dealing with unmatched duals is that the larger diameter of the two unmatched duals should be at the inside position.

## Tire Overload or Underinflation

Overloading and underinflating a tire both have the effect of over-deflecting it. Under these conditions the tread on the tire will wear rapidly and unevenly, particularly in the shoulder area. Radial cracking in the upper sidewall area will be a problem. With underinflated bias drive tires in high torque applications, sidewall buckles will develop leading to carcass breaks in the sidewall. While an underinflated drive tire may pull better in some soil conditions, this is not generally true and not worth the high risk of tire damage incurred.

## Overinflation

Overinflation results in an under-deflected tire carcass. The tread is more rounded and wear is concentrated at the center. Traction is reduced in high torque service because both width and length of the ground contact area are reduced. The harder carcass - with reduced flexing characteristics - does not work as efficiently. Moreover, the tightly stretched overinflated carcass is more subject to weather checking and impact breaks.

## Pressure Adjustments For Slow Speed Operation

Higher loads are approved for intermittent service operations at reduced speed. This is shown in the footnotes under the load & inflation tables for rear and front tractor tires operated at speeds up to 5 MPH max. To carry the increased load at this speed, the pressure MUST be increased as shown in the footnotes to reduce tire deflection and assure full tire service life.

## Other Reasons To Adjust Pressure

### Furrow Drive Wheel Tires

In mold board plowing operations where tires on one side of the tractor are run in the furrow, inflation pressure in the furrow tire should be increased 4 psi over the rated value. The additional pressure compensates for the additional load being carried by the furrow tire and reduces sidewall buckling tendencies in bias tires under high torque.

### Side Hill Work

When working back and forth on the side of a hill with a slope exceeding 11 degrees (20% grade), the tires of a tractor will alternately be on the down side. It is recommended that the inflation pressure in the rear tires be increased for additional stability. For base pressures 12 psi and above, the pressure should be increased 4 psi. For base pressures below 12 psi, the pressure should be increased by 30%. When one side is continuously operated in the down slope position, it is only necessary to increase the inflation pressures on that side.

## Drawbar Pull and Tire Slip

The amount of drawbar pull available depends on the load carried by the tractor drive axle(s). For more pull, more weight should be added. The effect of added weight will be in proportion to the figures in the following table. For each 100 pounds added to the rear axle of the tractor, the average drawbar pull will be increased by:

Surface	Pull Increase (Pounds)
Concrete Road	70
Dry Clay	55
Sandy Loam	50
Dry Sand	35
Green Alfalfa	35

When the tractor is not properly weighted for drawbar load requirements, excessive wheel slippage will waste time and fuel and result in tearing of the leading edge of the lugs and spin cuts as shown in the photo at the top of page 11. For more complete information on how to set up your tractor for optimum performance see the section on "Optimum Tractor Tire Performance".

# THINGS YOU SHOULD KNOW ABOUT FARM TIRES (CONT'D)



## Rim Slippage

In attempting to obtain maximum tractor drawbar pull, tube valves are occasionally torn off because of slippage of the tire bead on the rim. Tubeless tires, although immune to pulled valves due to slippage, may still suffer abrasion on the base of the bead after prolonged operation with the tire slipping on the rim. Tire slippage on the rim may be caused by:

1. Low inflation pressure for load.
2. Improper seating of tire bead on rim.
3. Use of thick soap solution or improper mounting lubricant in mounting the tire beads to the rim.
4. Inadequate tire size or strength rating for the high torque requirements.
5. Undersize rim - consult Goodyear Service Department for specialized equipment needed to determine if rims are out of spec.
6. Poor rim knurling on bead seat.

When one of the first 3 conditions is responsible for the problem, tires should be demounted and tire beads and rims carefully cleaned. Tire should then be remounted and inflated to 35 psi to properly seat the tire beads on the rim. **The precautions found on pages 138 through 147 MUST be observed.** If tube type tire, the tube should then be completely deflated and then reinflated to recommended operating pressure.

Where inadequate tire size or load capacity is the problem, a change to a higher load capacity and/or larger tire size will be required. Determine tire adequacy by checking the tables on pages 94 through 118.

If it is determined that the rim is undersize or has poor knurling, then it must be replaced.

## Roading of Farm Tires

Tractor tires operate most of the time in field conditions where the lugs can penetrate the soil, and where all portions of the tread make contact with the ground. In operating on hard roads in an underinflated or over-loaded condition, the tread lugs distort and squirm excessively as they enter and leave contact. On highly abrasive or hard surfaces, this action wipes off the rubber of the tread bars



or lugs and wears them down prematurely and irregularly. On the left is a photo of a tire operated extensively on the road.

Using the correct inflation pressure from the table will even the load distribution across the face of the tread resulting in more uniform wear.

Farm tractor and implement tires are designed for low speed operations not exceeding 25 mph (some radial tires are also rated for 30 mph). If tractors or implements are towed at high speeds on the highway, high temperatures may develop under the tread bars and weaken the rubber material and cord fabric. There may be no visible evidence of damage at the time. Later, a premature failure occurs which experience shows was started by the overheated condition that developed when the unit was towed at a high speed.

## Tire storage and care

Stored tires and tires on stored implements should be protected from attack by oxygen and ozone. Although Goodyear farm tires use considerably more of the materials that protect against ozone and oxygen than car or truck tires, care should be taken in storage conditions to get full life expectancy from your tires.

Because tires readily absorb oil, grease, fuels, and other solvents, they should never be stored on oily floors or adjacent to volatile solvents. These tend to leach the protectants and will damage and weaken tires.

Mounted and unmounted tires should be stored away from motors, generators and arc welders because these are all sources of ozone. Ozone attacks rubber causing it to crack perpendicular to any applied stress. These cracks expose more surface and ozone attack can escalate until rubber degradation can cause tire carcass failure. Even minor ozone-induced surface cracks can form an access route for foreign matter to penetrate the tire when it is put back into use.

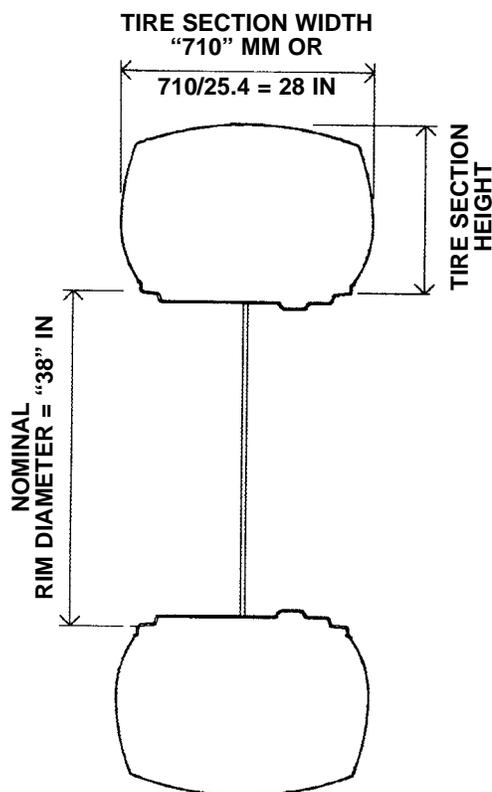
Since heat and light also degrade tires, care should be taken to make sure that they are stored in a cool, dark place. Tires should be protected from sunlight either under shelter or at least covered with an opaque tarp or black polyethylene.

To store tires mounted on rims but not on a machine, such as tractor duals, reduce inflation pressure to about 10 psi and store vertically, standing on their treads. Tires off rims can be stacked evenly on their sidewalls, but never so high as to distort the bottom tire. To protect tires on a machine in storage for six months or more, block up the machine to reduce stress on the tires. With the tires off the ground, pressure can be reduced to 10 psi. If it's not possible to elevate the tires, increase inflation pressure to 25 percent above that required for the actual load on the tire to decrease deflection. The machine should be moved from time to time to change the location of stress concentrations in the tire ground contact area. Make sure that you remember to reset inflation pressure to the recommended operating value when the machine is restored to service.

# MILLIMETRIC TIRE SIZE MARKING

Some farm tires use “millimetric” marking similar to passenger, truck, and earthmover tires. Millimetric load and speed ratings are noted in a “service description” which combines a LOAD INDEX and a SPEED SYMBOL. See below for explanations of these terms. Millimetric marking complies with an ISO standard for agricultural tires and allows tailoring a tire to specific dimensional constraints (diameter and width), load requirements, and rolling circumference targets for mechanical front wheel assist tractors.

## EXAMPLE: TIRE SIZE: 710/70R38 166A8



“710” TIRE SECTION WIDTH IN MILLIMETERS Dividing this number by 25.4 gives the width of the tire in inches.

“70” ASPECT RATIO OF TIRE Just like in a passenger tire, the aspect ratio is the ratio of section height to section width.

$$\text{ASPECT RATIO} = \frac{\text{TIRE SECTION HEIGHT}}{\text{TIRE SECTION WIDTH}} \times 100$$

“R” RADIAL CONSTRUCTION

“38” NOMINAL RIM DIAMETER IN INCHES

“166” LOAD INDEX

Load indexes are a uniform way to describe the load carrying capacity of the tire. A 166 load index means that the tire can carry 5300 kg or 11700 lbs. See page 13. Unlike a star rated tire, a load index tire does NOT correspond to a specific inflation pressure. For example, look on page 100-103 of this book. A 320/85R34 has a LI (LOAD INDEX) of 133 at 200 kPa (29.0 psi). A 133 load index means the tire can carry 2060 kg or 4540 lbs. A 480/70R28 has the same load index (same load carrying capacity) but at a different pressure, 120 kPa (17.4 psi). Always check the handbook to determine the pressure needed to carry the specified load.

“A8” SPEED SYMBOL

The speed symbol determines the maximum speed allowed for the rated load of the tire. From the table on the left, A8 means the maximum speed allowed for the rated load of the tire is 40 km/h or 25 MPH.

### INTERNATIONAL SPEED SYMBOLS

Speed Symbols	Speed Category (Km/h)	Speed Category *(MPH)
A1	5	2.5
A2	10	5
A3	15	10
A4	20	12.5
A5	25	15
A6	30	20
A7	35	22.5
A8	40	25
B	50	30
C	60	35
D	65	40
E	70	43
F	80	50
G	90	55

\*For information only.

**SEE PAGES 14-19  
FOR MORE INFORMATION  
ON METRIC SIZE  
TIRES**

**INTERNATIONAL LOAD INDEX NUMBERS  
KILOGRAM LOADS, AND T&RA EQUIVALENT POUND LOADS  
(NOT applicable to Passenger Car Tires)**

LOAD INDEX (LI)	kg	lbs	LOAD INDEX (LI)	kg	lbs	LOAD INDEX (LI)	kg	lbs
80	450	990	110	1060	2340	140	2500	5520
81	462	1020	111	1090	2400	141	2575	5680
82	475	1050	112	1120	2470	142	2650	5840
83	487	1070	113	1150	2540	143	2725	6000
84	500	1100	114	1180	2600	144	2800	6150
85	515	1140	115	1215	2680	145	2900	6400
86	530	1170	116	1250	2760	146	3000	6600
87	545	1200	117	1285	2830	147	3075	6800
88	560	1230	118	1320	2910	148	3150	6950
89	580	1280	119	1360	3000	149	3250	7150
90	600	1320	120	1400	3080	150	3350	7400
91	615	1360	121	1450	3200	151	3450	7600
92	630	1390	122	1500	3300	152	3550	7850
93	650	1430	123	1550	3420	153	3650	8050
94	670	1480	124	1600	3520	154	3750	8250
95	690	1520	125	1650	3640	155	3875	8550
96	710	1570	126	1700	3740	156	4000	8800
97	730	1610	127	1750	3860	157	4125	9100
98	750	1650	128	1800	3960	158	4250	9350
99	775	1710	129	1850	4080	159	4375	9650
100	800	1760	130	1900	4180	160	4500	9900
101	825	1820	131	1950	4300	161	4625	10200
102	850	1870	132	2000	4400	162	4750	10500
103	875	1930	133	2060	4540	163	4875	10700
104	900	1980	134	2120	4680	164	5000	11000
105	925	2040	135	2180	4800	165	5150	11400
106	950	2090	136	2240	4940	166	5300	11700
107	975	2150	137	2300	5080	167	5450	12000
108	1000	2200	138	2360	5200	168	5600	12300
109	1030	2270	139	2430	5360	169	5800	12800

# ROLLING CIRCUMFERENCE

Rolling circumference is the distance a tire travels in one revolution. With the growing number of mechanical front wheel drive (MFWD) tractors, the rolling circumference of the tires play an important role in determining the correct setup for your tractor. In MFWD tractors, both the front and rear tires do the work. Since the front tires are smaller than the rear tires, the front tires have to rotate faster to cover the same distance as the rear. The mechanical gearbox in the tractor accomplishes this task. Typical Front/Rear gear ratios range from 1.2 to 1.5. When selecting tires for your MFWD tractors, be sure to maintain the proper ratio of rolling circumference for your tractor. Typical tractor setups maintain a positive front tire slippage or overrun from +1 to +5%\*.

\*Consult vehicle manufacturer for recommended range for your particular unit.

This positive slippage maintains good steering ability for the user and reduces tire wear. (Positive slippage-front tires pulling, or leading, the rear tires. Negative slippage-front tires resisting, or lagging, the rear tires.) Too much positive slippage would cause the front tires to try to do too much work, and they become less efficient. Too much negative slippage would have a braking effect on the front and reduce steering ability.

Revs/Mile can be determined from Rolling Circumference as follows:

$$\frac{\text{Revs}}{\text{Mile}} = \frac{63360}{\text{Rolling Circumference (in)}}$$

Rolling circumference of tires play an important role in maintaining the correct setup of your tractor. When choosing a different size or type of tire, make sure the rolling circumference of the tire is close to the rolling circumference of the old tire being replaced. An example of this procedure is the following:

**GIVEN:** FRONT: 14.9R30 Dyna Torque Radial  
 REAR: 18.4R42 Dyna Torque Radial  
 Front/Rear Gear Ratio: 1.333 (available thru tractor dealer)

**FIND WHICH OTHER FRONT TIRES WOULD FIT ON THIS TRACTOR AND STILL MAINTAIN A POSITIVE SLIPPAGE OR LEAD IN THE RANGE OF +1 TO +5%.**

1. Determine the rolling circumference of both front and rear tires: Look on pages 16-18 to find the rolling circumference for each size. (Sizes are sorted by rolling circumference.)

14.9R30 Dyna Torque Radial Rolling Circumference = 167.4 in  
 18.4R42 Dyna Torque Radial Rolling Circumference = 220.5 in  
 Front/Rear Gear Ratio: 1.333 (available thru tractor dealer)

## CURRENTLY:

$$\begin{aligned} \text{Slippage} &= \frac{\text{Front Tire Rolling Circumference} \times \text{FRONT/REAR Gear Ratio}}{\text{Rear Tire Rolling Circumference}} \\ &= \frac{167.4 \times 1.333}{220.5} \\ &= 1.012 \text{ IF THIS NO. } > 1 \text{ MEANS POSITIVE SLIPPAGE} \\ &\quad \text{IF THIS NO. } < 1 \text{ MEANS NEGATIVE SLIPPAGE} \end{aligned}$$

## TO FIND PERCENTAGE SLIPPAGE:

$$\begin{aligned} (1.012-1) &= .012 \\ \times 100 &= 1.2\% \text{ SLIPPAGE (GOOD; WITHIN +1 to +5\% RANGE)} \end{aligned}$$

## NEW TIRE:

Now find a tire on page 16 with approximately the same rolling circumference (167.4 in) as the 14.9R30 front tire. Select 16.9R26 Super Traction Radial as a possible replacement. It has a rolling circumference of 161.8 in.

Now check to see if this tire matches with the rear to maintain a positive slippage of +1 to +5%.

16.9R26 Super Traction Radial Rolling Circumference = 161.8 in  
 18.4R42 Dyna Torque Radial Rolling Circumference = 220.5 in  
 Front/Rear Gear Ratio: 1.333 (available thru tractor dealer)

$$\begin{aligned} \text{Slippage} &= \frac{\text{Front Tire Rolling Circumference} \times \text{FRONT/REAR Gear Ratio}}{\text{Rear Tire Rolling Circumference}} \\ &= \frac{161.8 \times 1.333}{220.5} \\ &= .978 \text{ IF THIS NO. } > 1 \text{ MEANS POSITIVE SLIPPAGE} \\ &\quad \text{IF THIS NO. } < 1 \text{ MEANS NEGATIVE SLIPPAGE} \end{aligned}$$

## TO FIND PERCENTAGE SLIPPAGE:

$$\begin{aligned} (.978-1) &= -.022 \\ \times 100 &= -2.2\% \text{ SLIPPAGE (NOT ACCEPTABLE; NOT WITHIN +1 TO +5\% RANGE)} \end{aligned}$$

**TRY ANOTHER TIRE WITH A ROLLING CIRCUMFERENCE CLOSER TO THE 14.9R30 DYNA TORQUE RADIAL OF 167.4 in.**

## NEW TIRE:

Now find a tire on page 16 with approximately the same rolling circumference (167.4 in) as the 14.9R30 front tire. Select 16.9R28 DT 710 as possible replacement. It has a rolling circumference of 169.3 in.

Now check to see if this tire matches with the rear to maintain a positive slippage of +1 to +5%.

16.9R28 DT 710 Rolling Circumference = 169.3 in  
 18.4R42 Dyna Torque Radial Rolling Circumference = 220.5 in  
 Front/Rear Gear Ratio: 1.333 (available thru tractor dealer)

$$\begin{aligned} \text{Slippage} &= \frac{\text{Front Tire Rolling Circumference} \times \text{FRONT/REAR Gear Ratio}}{\text{Rear Tire Rolling Circumference}} \\ &= \frac{169.3 \times 1.333}{220.5} \\ &= 1.023 \text{ IF THIS NO. } > 1 \text{ MEANS POSITIVE SLIPPAGE} \\ &\quad \text{IF THIS NO. } < 1 \text{ MEANS NEGATIVE SLIPPAGE} \end{aligned}$$

# ROLLING CIRCUMFERENCE (CONT'D)

## TO FIND PERCENTAGE SLIPPAGE:

$$(1.023-1) = .023$$

$$\times 100 = 2.3\% \text{ SLIPPAGE (GOOD; WITHIN +1 to +5\% RANGE)}$$

AFTER DETERMINING IF THE FRONT MATCHES, LOOK AT THE OVERALL DIAMETER AND OVERALL WIDTH TO COMPARE TO CURRENT TIRE FOR CLEARANCE PURPOSES. NEXT, DETERMINE IF THE NEW TIRE CAN CARRY THE LOAD ON YOUR TRACTOR. FINALLY, SEE PAGES 132-135 TO SELECT THE CORRECT RIM FOR THE NEW TIRE.

## EXAMPLE #2:

Find front and rear tires for row crop planting purposes.

**GIVEN:** 14.9R30 Dyna Torque Radial Rolling Circumference = 167.4 in  
 18.4R42 Dyna Torque Radial Rolling Circumference = 220.5 in  
 Front/Rear Gear Ratio: 1.333 (available thru tractor dealer)

From the previous example, it is known that a 14.9R30 front and an 18.4R42 rear gives a good match. If we find similar row crop sizes, (narrow width tires to allow for clearance between rows) as the 14.9R30 and 18.4R42 respectively, these new tires should have a good front to rear match. Look on page 16 to find the 14.9R30 Dyna Torque Radial rolling circumference of 167.4 in. The next two sizes above this tire are the 290/95R34 DT730 (overall width = 11.1 in) and the 320/85R34 Dyna Torque Radial (overall width = 12.6 in). Both tires are good candidates because of the narrow width and similar rolling circumference as the existing tire (14.9R30). Now look on page 18 to find the 18.4R42 Dyna Torque Radial rolling circumference of 220.5 in. Find a narrow width tire with about the same rolling circumference as the 18.4R42. The 320/90R50 DT800 fits the criteria (overall width = 12.6 in and rolling circumference of 219.0 in). Now check to see if the front & rear combination is within the acceptable +1 to +5% positive slippage.

FRONT: 290/95R34 DT730 Rolling Circumference = 166.9 in  
 REAR: 320/90R50 DT800 Rolling Circumference = 219.0 in  
 Front/Rear Gear Ratio: 1.333 (available thru tractor dealer)

$$\text{Slippage} = \frac{\text{Front Tire Rolling Circumference} \times \text{FRONT/REAR Gear Ratio}}{\text{Rear Tire Rolling Circumference}}$$

$$= \frac{166.9 \times 1.333}{219.0}$$

$$= 1.016 \text{ IF THIS NO. } > 1 \text{ MEANS POSITIVE SLIPPAGE}$$

$$\text{IF THIS NO. } < 1 \text{ MEANS NEGATIVE SLIPPAGE}$$

## TO FIND PERCENTAGE SLIPPAGE:

$$(1.016-1) = .016$$

$$\times 100 = 1.6\% \text{ SLIPPAGE (GOOD; WITHIN +1 to +5\% RANGE)}$$

AFTER DETERMINING IF THE NEW TIRES MATCH, LOOK AT THE OVERALL DIAMETER AND OVERALL WIDTH TO COMPARE TO CURRENT TIRE FOR CLEARANCE PURPOSES. NEXT, DETERMINE IF THE NEW TIRES CAN CARRY THE LOAD ON YOUR TRACTOR. FINALLY, SEE PAGES 132-135 TO SELECT THE CORRECT RIMS FOR THE NEW TIRES.

## WORKSHEET:

FRONT TIRE SIZE: \_\_\_\_\_ Rolling Circumference = \_\_\_\_ in

REAR TIRE SIZE: \_\_\_\_\_ Rolling Circumference = \_\_\_\_ in

Front/Rear Gear Ratio: \_\_\_\_ (available thru tractor dealer)

$$\text{Slippage} = \frac{\text{Front Tire Rolling Circumference} \times \text{FRONT/REAR Gear Ratio}}{\text{Rear Tire Rolling Circumference}}$$

$$= \frac{\quad \times \quad}{\quad}$$

= \_\_\_\_\_ IF THIS NO. > 1 MEANS POSITIVE SLIPPAGE  
 IF THIS NO. < 1 MEANS NEGATIVE SLIPPAGE

## TO FIND PERCENTAGE SLIPPAGE:

$$(\quad - 1) = \quad$$

$$\times 100 = \quad \% \text{ SLIPPAGE (WITHIN +1 to +5\% RANGE ?)}$$

**RADIAL TIRE SIZES  
SORTED BY ROLLING CIRCUMFERENCE**

<b>SIZE</b>	<b>DESIGN</b>	<b>ROLLING CIRC. (IN)</b>	<b>OVERALL DIAMETER (IN)</b>	<b>OVERALL WIDTH (IN)</b>
240/70R16	DT810 Radial	87.4	29.2	9.6
260/70R16	DT810 Radial	91.1	30.5	10.2
250/80R16	Super Traction Radial	97.5	32.6	10.3
250/80R18	Super Traction Radial	103.7	34.6	10.1
260/80R20	Super Traction Radial	112.0	37.4	10.3
11.2R20	Super Traction Radial	117.6	39.4	11.5
380/70R20	DT810 Radial	126.3	42.4	15.0
320/70R24	DT810 Radial	129.7	43.2	12.1
320/75R24	DT710 Radial	130.3	43.4	12.3
380/70R24	DT810 Radial	139.8	46.8	14.8
13.6R24	Super Traction Radial	141.4	47.0	13.8
420/70R24	DT810 Radial	146.2	49.0	16.6
14.9R24	Super Traction Radial	146.4	48.7	15.4
14.9R24	DT710 Radial	149.1	49.8	15.7
380/70R28	DT810 Radial	152.0	50.7	15.1
13.6R28	Super Traction Radial	153.2	51.0	13.8
16.9R24	Super Traction Radial	154.4	51.9	17.7
13.6R28	DT710 Radial	155.0	51.6	14.3
13.6R28	Dyna Torque Radial	155.4	51.8	14.0
14.9R26	Dyna Torque Radial	155.6	52.0	14.8
16.9R24	Dyna Torque Radial	157.1	52.7	17.5
420/70R28	DT810 Radial	158.7	52.9	16.9
14.9R28	Super Traction Radial	158.8	52.9	15.2
250/95R34	DT800 Radial	159.7	53.1	9.9
380/85R28	UltraTorque Radial	160.1	53.4	15.0
14.9R28	Dyna Torque Radial	161.2	53.8	15.2
14.9R28	DT710 Radial	161.5	53.8	15.7
16.9R26	Super Traction Radial	161.8	53.9	17.6
16.9R26	Dyna Torque Radial	163.1	54.6	17.0
14.9R30	Super Traction Radial	164.7	54.9	15.2
290/95R34	DT730 Radial	166.9	55.4	11.1
320/85R34	Dyna Torque Radial	166.9	55.4	12.6
14.9R30	Dyna Torque Radial	167.4	55.8	15.2
14.9R30	DT710 Radial	167.6	55.8	15.7
480/70R28	DT810 Radial	167.9	56.1	19.1
380/85R30	UltraTorque Radial	168.0	56.0	15.0
16.9R28	Super Traction Radial	168.1	56.1	17.6
420/85R28	UltraTorque Radial	168.3	56.2	17.0
16.9R28	Dyna Torque Radial	168.7	56.4	17.2
16.9R28	DT710 Radial	169.3	56.5	18.1
18.4R26	Super Traction Radial	170.2	56.8	19.2
18.4R26	DT710 Radial	170.9	57.2	19.4
18.4R26	Dyna Torque Radial	171.5	57.5	19.0
540/65R30	DT820 Radial	172.7	57.6	20.9

*(Continued On Next Page)*

**RADIAL TIRE SIZES**  
**SORTED BY ROLLING CIRCUMFERENCE** *(Continued)*

<b>SIZE</b>	<b>DESIGN</b>	<b>ROLLING CIRC. (IN)</b>	<b>OVERALL DIAMETER (IN)</b>	<b>OVERALL WIDTH (IN)</b>
16.9R28	Special Sure Grip TD8 Radial	173.0	58.2	16.9
16.9R30	Super Traction Radial	173.4	57.9	17.6
480/70R30	DT810 Radial	174.8	58.4	18.9
16.9R30	Dyna Torque Radial	175.2	58.5	17.2
600/65R28	DT820 Radial	175.2	58.7	23.3
16.9R30	DT710 Radial	175.4	58.5	18.1
380/85R34	DT800 Radial	176.8	58.9	15.0
13.6R36	Super Traction Radial	176.9	59.1	13.8
420/90R30	UltraTorque Radial	177.3	59.2	17.0
380/85R34	UltraTorque Radial	177.4	59.0	15.0
16.9R30	Special Sure Grip TD8 Radial	179.0	60.2	16.9
14.9R34	Dyna Torque Radial	179.7	59.8	15.2
385/85R34MPT	Dyna Torque Radial	179.7	59.8	15.2
18.4R30	Super Traction Radial	182.0	60.8	19.2
13.6R38	Super Traction Radial	183.4	61.3	13.8
18.4R30	DT710 Radial	183.4	61.2	19.4
15.5R38	DT710 Radial	185.1	61.4	16.0
16.9R34	Super Traction Radial	185.7	62.0	17.6
480/70R34	DT810 Radial	186.8	62.2	19.2
380/80R38	DT800 Radial	187.1	62.2	15.0
620/75R26	DT820 Radial	187.8	62.8	23.9
28LR26	Super Traction Radial	189.3	63.3	28.3
750/65R26	DT820 Radial	190.4	64.4	30.1
18.4R34	Super Traction Radial	193.8	64.8	19.2
18.4R34	DT710 Radial	195.8	65.2	19.4
480/85R34	UltraTorque Radial	196.8	65.6	18.9
320/90R42	DT800 Radial	196.9	65.4	12.6
16.9R38	Super Traction Radial	197.3	66.0	17.6
16.9R38	DT710 Radial	200.1	66.5	18.1
18.4R38	Super Traction Radial	205.2	68.7	19.2
320/90R46	DT800 Radial	206.8	68.6	12.6
250/95R50	DT800 Radial	207.0	68.5	9.9
480/80R38	UltraTorque Radial	207.0	68.9	18.9
18.4R38	Dyna Torque Radial	207.6	69.1	19.0
18.4R38	DT710 Radial	208.1	69.2	19.4
24.5R32	Dyna Torque Radial	211.9	70.9	24.9
18.4R38	Special Sure Grip TD8 Radial	212.4	71.2	18.4
320/90R46	Special Sure Grip TD8 Radial	213.0	70.8	12.6
340/85R46	Special Sure Grip TD8 Radial	213.0	70.8	13.6
650/75R32	DT820 Radial	213.4	71.4	24.2
800/65R32	Super Traction Radial	213.5	71.5	30.1
30.5LR32	Dyna Torque Radial	213.6	71.5	29.8
20.8R38	Super Traction Radial	215.7	72.2	21.6
580/70R38	DT810 Radial	216.4	72.2	23.1

*(Continued On Next Page)*

**RADIAL TIRE SIZES**  
**SORTED BY ROLLING CIRCUMFERENCE** *(Continued)*

<b>SIZE</b>	<b>DESIGN</b>	<b>ROLLING CIRC. (IN)</b>	<b>OVERALL DIAMETER (IN)</b>	<b>OVERALL WIDTH (IN)</b>
14.9R46	Dyna Torque Radial	216.5	71.8	15.2
18.4R42	Super Traction Radial	216.8	72.1	18.4
20.8R38	Dyna Torque Radial	216.8	72.2	21.2
18.4R42	DT710 Radial	216.9	72.1	19.2
650/75R34	DT820 Radial	217.0	72.6	26.8
20.8R38	DT710 Radial	217.4	72.4	21.4
420/80R46	Dyna Torque Radial	218.4	72.5	16.5
520/85R38	UltraTorque Radial	218.6	72.8	20.3
320/90R50	DT800 Radial	219.0	72.6	12.6
380/90R46	DT800 Radial	219.0	72.7	15.0
480/80R42	UltraTorque Radial	219.0	72.8	18.9
18.4R42	Dyna Torque Radial	220.5	73.3	18.7
20.8R38	Special Sure Grip TD8 Radial	221.7	74.5	21.7
18.4R42	Special Sure Grip TD8 Radial	224.6	75.0	18.4
650/65R42	DT820 Radial	226.3	75.3	25.4
20.8R42	Super Traction Radial	227.6	76.2	21.6
710/70R38	DT820 Radial	227.6	76.0	28.0
20.8R42	Dyna Torque Radial	229.1	76.2	21.2
900/50R42	DT830 Radial	229.7	76.6	34.9
20.8R42	DT710 Radial	229.8	76.4	21.4
380/90R50	DT800 Radial	230.0	76.3	15.0
480/80R46	UltraTorque Radial	230.0	76.4	18.9
520/85R42	UltraTorque Radial	230.0	76.5	20.3
710/70R38	DT720 Radial	230.0	76.6	28.6
620/70R42	DT820 Radial	230.3	76.7	24.6
18.4R46	Dyna Torque Radial	232.2	77.1	19.0
20.8R42	Special Sure Grip TD8 Radial	233.5	78.2	20.8
18.4R46	Special Sure Grip TD8 Radial	233.7	77.9	18.4
520/85R46	Super Traction Radial	242.1	80.6	21.3
710/70R42	DT820 Radial	243.1	81.1	28.2

# OPTIMUM TRACTOR TIRE PERFORMANCE

Testing and field experience have shown that small adjustments in tractor weight split, ballast type, and tire inflation pressures to optimize your tractor for each job will allow you to reap significant benefits from improved tractor performance. Our primary focus is on adjusting your tractor for use in heavy tillage operations or when it

is subjected to high static loads on the rear when carrying heavy 3 point hitch implements or from a towed implement that places a high down-load on the tractor drawbar. A few minutes of your time will be required to manage these adjustments for each job, but you will find them very worthwhile. They will result in:

- Significantly Improved Traction (Reduced Slip and Higher Fuel Efficiency)
- Reduced Compaction
- Improved Flotation
- Improved Ride
- Reduced Tire Wear
- Improved Side Hill Stability
- Improved Penetration Resistance
- Better Control of Power Hop

The fundamental principle that applies to all farm tires and especially radial drive tires is this: **Tire inflation pressure must match tire load.** A properly inflated radial drive tire will have “cheeks”. That is, the sidewalls will bulge noticeably.

The major items to be considered in achieving optimum performance from your tractor are:

- Appropriate tire size and number of tires
- Total tractor weight and static weight split (% of static weight on the front and on the rear axles)
- Type of ballast used (Cast Weight and Liquid)
- Tire inflation pressures

## Tire Size Selection

Select big, tall radial tires for use on 4WD tractors and on the rear of MFWD tractors - tires that are large enough to carry the static weight of the tractor with inflation pressures in the 6 to 14 psi range (lower pressure provides a better, “softer” ride). The bigger the tire, the lower the inflation pressure required to support a given axle load. This will provide the best tractive performance, the best ride, and improve control of power hop. Soil compaction will also be reduced since the average soil contact pressure under a radial tire is approximately equal to the inflation pressure plus 1 or 2 psi. Thus, the lower the inflation pressure, the less compaction.

## Tractor Ballasting (Weight and Weight Split)

For best efficiency, tractor horsepower should be used to pull a moderate load at higher field speeds rather than a heavy load at low speeds. Pulling a lighter load at a higher speed means that the tractor can be ballasted to fewer

LBS/HP which prolongs the life of bearings, gears, and tires. General ranges are provided here - check with your tractor dealer for specific tractor brand recommendations. The tractor dealer can usually estimate weights and weight splits for your tractor from tables of data provided by the tractor manufacturer. Since the weight split of a 4WD tractor is especially important in achieving optimum performance and controlling power hop, accurate front and rear axle weights are needed. If these weights are not available from the tractor dealer, the unit must be weighed. Use platform scales to weigh front and rear axle separately. Accurate tire pressure recommendations can only be made by using accurate weights and weight splits. It is also important that you consider the type of ballast used (cast weights and/or liquid) when setting up your tractor for optimum performance - see the next section for

further details.	Total Tractor Weight	Percent on Front Axle
<b>4WD</b>	85-125 pounds per engine horsepower	For towed implements, use 51-55%. This is very important to help in control of power hop. With no hitch, PTO, or ballast, the front will be 60% or more out of the factory. For hitch mounted implements, use 55-60%. For towed implements with very high downward loads on drawbars, use 55-65%.
<b>MFWD</b>	120-145 pounds per PTO horsepower. 130 is most common.	35-40% for all types of implements. Power hop is easier to control as front split is reduced.
<b>2WD Row Crop</b>	Same as MFWD	25-35%. Use higher percentage with heavy hitch-mounted implements.

## Ballast Type

Liquid ballast should be avoided since it has a stiffening effect that degrades ride and generally reduces ability to control power hop. If liquid ballast is used in the rear of 4WD tractors or MFWD tractors, **all tires on the axle must be filled to the same level which should not exceed 40% fill** (4 o'clock valve stem position). Use 50% fill when desired weight split cannot be met by other means. Do not use liquid in 4WD fronts unless ballasting is needed for heavy hitch-mounted ripper or scraper applications. Up to 75% fill may be used in MFWD fronts if needed for weight and/or to provide stiffness to assist in power hop control.

## Tire Inflation Pressures

When radial drive tires can be operated at lower pressures (generally below 14 psi), the tractive performance of

A tire should be inflated to a pressure appropriate for the load on it. Correct inflation pressure for the individual tire load is provided in the tables on pages 94 through 107 in this book. **Never operate with pressures lower than these.**

Individual tire loads are determined by dividing the axle load by the number of tires per axle. Axle loads can be determined from your tractor dealer, from tractor manufacturer's handbooks, or by weighing the front and rear on a platform scale. Rear pressures must be raised with heavy hitch-mounted implements. On extremely steep hillsides (steeper than 20% grade) or where lateral stability is needed, increase rear pressures 4 psi above the pressure found in the table. **All tires on an axle must have the same pressure.** Do not over inflate or under inflate. Use a pencil type or dial gauge that is accurate in the lower pressure ranges. Pencil type gauges for ATV tires calibrated from 0-20 psi in half psi increments can be used for most rear tires. (They are not designed for liquid ballast.)

**TIRE INFLATION PRESSURE SHOULD BE CHECKED REGULARLY BEFORE WORK WHEN TIRES ARE COOL. TIRE PRESSURES CHANGE SEASONALLY AS OUTSIDE TEMPERATURE CHANGES.**

## POWER HOP CONTROL

Under some field conditions when pulling towed implements, MFWD and 4WD tractors can experience a type of vibration or bounce called power hop. If power hop occurs after following all of the foregoing guidelines on tire size, weight split, ballast type, and inflation pressures, make the following adjustments to inflation pressures:

### MFWD

Raise **front** inflation pressure in 2 psi increments until it stops. Usually 6 to 8 psi above the correct inflation pressure for the load will suffice. Rear tire inflation pressures should remain at the correct pressures for the load. The maximum front pressure should not exceed 6 psi above the maximum rated pressure for either radial or bias tires. If the tractor still hops, use 75% liquid fill in front tires and remove an equivalent amount (or more) of front cast ballast. If the tractor still hops, remove any liquid ballast in rear tires and replace with cast weight equivalents.

### 4WD

Raise **either** the **front** or the **rear** inflation pressures from the correct inflation by 6 psi, then 8 psi if hop continues. Whether raising the front works best or the rear works best depends on soil conditions, type of implement, operating speed and use of liquid ballast. If raising the front pressure fails to control hop, then reset the front tires to the correct pressure for the load and raise the rears. It is very important that one of the two axles remain at the correct pressure for its load. If liquid is used in the rear, raising rear pressures usually works best. On extremely steep hillside operations, keep the fronts at the correct pressure for the load and raise the rear pressures.

## MONITORING YOUR TRACTOR'S PERFORMANCE

After adjusting your tractor to achieve optimum tractive performance following the guidelines here, it is important that you monitor tractor behavior especially under high draft load conditions such as tillage and scraper operations.

When performing field operations that load the tractor close to a traction or power limit you should continuously monitor:

**Wheel Slip** (radar monitor recommended) – Should be no more than 15% in normal tillage conditions - typically 5-12%. If wheel slip is less than 5% with your highest draft implement and hardest pulling conditions, you are over ballasted if ground speeds are slow or under utilizing your tractor if ground speeds are high. If slip is greater than 15%, you should either add weight or reduce your drawbar requirements - implement is too big for tractor.

**Engine Speed** – The engine should operate in the speed range specified by the manufacturer. Under normal conditions at full throttle, the speed should be near rated but may drop a few hundred rpm during short duration, high draft conditions. You may also "shift up and throttle back" if this does not cause the engine to labor. **Check your tractor manufacturer's recommendation.**

**Ground Speed** (A radar monitor is recommended) – 5 mph or higher is preferred, but no less than 4 mph continuously. **Check your tractor manufacturer's recommendation.**

If the tractor can maintain engine and ground speed within these limits but the slip is high, you should do one or more of the following:

1. Reduce draft by reducing implement working depth or width.
2. Add ballast but maintain correct weight split.
3. Consider larger diameter tires.

If the tractor is unable to maintain a minimum of 4 mph and the slip is within the acceptable range, you should reduce draft by reducing implement working depth or width.

### Please Note

It is important to note that when tractors are optimized for one service category, switching operations to another category **may** require ballast changes and **will** require inflation pressure changes.

**See Optimum Tractor Tire Performance Worksheets on pages 22 and 23.**

### 2WD

For **two wheel drive row crop tractors**, the same guidelines as for MFWD tractors can be followed with these significant differences:

1. Only 25-35% of the static weight should be on the front - use higher percentages with heavy hitch-mounted implements as recommended by your tractor manufacturer.
2. Liquid ballast to 75% fill can be used in rear tires, but ride will be best if cast wheel weights or partial liquid fills are used instead.
3. The correct inflation pressures from the tables will also provide optimum tractive performance for your 2WD tractor.

# OPTIMUM TRACTOR TIRE PERFORMANCE WORKSHEET – MECHANICAL FRONT WHEEL DRIVE TRACTORS

## 1. DETERMINE INITIAL VALUES:

DATE: \_\_\_\_\_

Farmer Name: \_\_\_\_\_ Address \_\_\_\_\_ PH (\_\_\_\_) \_\_\_\_\_

Tractor Make & Model \_\_\_\_\_ PTO-HP \_\_\_\_\_ Implement used \_\_\_\_\_

Front Tire Size \_\_\_\_\_ singles duals triples Front Ply/Star Rating \_\_\_\_\_ liquid fill none 25% 40% 75% \_\_\_\_\_

Rear Tire Size \_\_\_\_\_ singles duals triples Rear Ply/Star Rating \_\_\_\_\_ liquid fill none 25% 40% 75% \_\_\_\_\_

Front Tractor Axle Weight \_\_\_\_\_ Front Weight/Total Weight = \_\_\_\_\_ %.

Rear Tractor Axle Weight \_\_\_\_\_ Rear Weight/Total Weight = \_\_\_\_\_ %.

Total Weight \_\_\_\_\_ Total Weight/PTO-HP = \_\_\_\_\_ #/PTO-HP

*Weight should be 120-145 pounds per PTO horsepower. (130 is most common.)*

*Weight split should be 35-40% on front axle.*

## 2. ADJUST WEIGHT & WEIGHT SPLIT IF NECESSARY

(Comments: \_\_\_\_\_)

Front weight added: (cast/liquid) \_\_\_\_\_ Front Tractor Axle Weight \_\_\_\_\_ Front Weight/Total Wt. = \_\_\_\_\_ %

Rear weight added: (cast/liquid) \_\_\_\_\_ Rear Tractor Axle Weight \_\_\_\_\_ Rear Weight/Total Wt. = \_\_\_\_\_ %

Total Weight \_\_\_\_\_ Total Weight/PTO-HP = \_\_\_\_\_

## 3. DETERMINE CORRECT INFLATION PRESSURE FOR THE LOAD

*For MFWD Tractors with Standard Towed High Draft Implements (Disks, Chisel Plows, Field Cultivators, Mulch Tillers, Towed Rippers, etc.)*

Front Tractor Axle Weight \_\_\_\_\_

Rear Tractor Axle Weight \_\_\_\_\_

**or**

*For MFWD Tractors with Rear Hitch Mounted Implements (Rollover Plows, PTO Rototillers, Mounted Rippers, Row Crop Cultivators, etc.)*

Front Tractor Axle Weight with implement **lowered** \_\_\_\_\_

Rear Tractor Axle Weight with implement **attached and raised** \_\_\_\_\_

**or**

*For MFWD Tractors with Towed Implements That Impose High Downward Loads on Tractor Drawbars (Scrapers, Potato and Beet Harvester, Grain Carts, Slurry Tanks, etc.)*

Front Tractor Axle Weight with implement **detached** \_\_\_\_\_

Rear Tractor Axle Weight with **fully loaded implement attached** \_\_\_\_\_

Front Static Tire Load = Front Weight/Number of Front Tires = \_\_\_\_\_

Rear Static Tire Load = Rear Weight/Number of Rear Tires = \_\_\_\_\_

*From the appropriate inflation pressure tables,*

Required Front Tire Inflation Pressure \_\_\_\_\_

Required Rear Tire Inflation Pressure \_\_\_\_\_

## 4. Determine Hop Control Inflation Pressure

*If power hop occurs, raise **front** inflation pressure in 2 psi increments until it stops. Usually **6 to 8 psi** above correct inflation pressure for the load will suffice. Rear tire inflation pressures should remain at the correct pressures for the load. The maximum front pressure should not exceed 30 psi for a 2\* or 36 psi for a 3\* radial; for a bias tire, the maximum front inflation pressure should not exceed 6 psi above the maximum rated pressure. If tractor still hops, use 75% liquid fill in front tires and remove an equivalent amount (or more) of front cast ballast.*

Required Hop Control Front Tire Inflation Pressure \_\_\_\_\_

Required Hop Control Rear Tire Inflation Pressure \_\_\_\_\_

Comments \_\_\_\_\_

Please send a copy of this sheet along with comments to Farm Tire Eng., D/460H, Goodyear Tire & Rubber Company, P.O. Box 3531, Akron, OH 44309 or fax 330-796-9135

# OPTIMUM TRACTOR TIRE PERFORMANCE WORKSHEET – 4WD TRACTORS

## 1. DETERMINE INITIAL VALUES:

DATE: \_\_\_\_\_

Farmer Name \_\_\_\_\_ Address \_\_\_\_\_ PH (\_\_\_\_) \_\_\_\_\_

Tractor Make & Model \_\_\_\_\_ Engine-HP \_\_\_\_\_ Implement used \_\_\_\_\_

Front Tire Size \_\_\_\_\_ singles duals triples Front Ply/Star Rating \_\_\_\_\_ liquid fill none 25% 40% 75% \_\_\_\_\_

Rear Tire Size \_\_\_\_\_ singles duals triples Rear Ply/Star Rating \_\_\_\_\_ liquid fill none 25% 40% 75% \_\_\_\_\_

Front Tractor Axle Weight \_\_\_\_\_ Front Weight/Total Weight = \_\_\_\_\_ %.

Rear Tractor Axle Weight \_\_\_\_\_ Rear Weight/Total Weight = \_\_\_\_\_ %.

Total Weight \_\_\_\_\_ Total Weight/Engine-HP = \_\_\_\_\_ #/Engine-HP

*Weight should be 85-125 pounds per engine horsepower. For towed implements, use 51-55% on front axle. For hitch mounted implements, use 55-60% on front axle. For towed implements with very high downward loads on drawbars, use 55-65%.*

## 2. ADJUST WEIGHT & WEIGHT SPLIT IF NECESSARY

(Comments: \_\_\_\_\_)

Front weight added: (cast/liquid) \_\_\_\_\_ Front Tractor Axle Weight \_\_\_\_\_ Front Weight/Total Wt. = \_\_\_\_\_ %

Rear weight added: (cast/liquid) \_\_\_\_\_ Rear Tractor Axle Weight \_\_\_\_\_ Rear Weight/Total Wt. = \_\_\_\_\_ %

Total Weight \_\_\_\_\_ Total Weight/Engine-HP = \_\_\_\_\_

## 3. DETERMINE CORRECT INFLATION PRESSURE FOR THE LOAD

*For 4WD Tractors with Standard Towed High Draft Implements (Disks, Chisel Plows, Field Cultivators, Mulch Tillers, Towed Rippers, etc.)*

Front Tractor Axle Weight \_\_\_\_\_

Rear Tractor Axle Weight \_\_\_\_\_

**or**

*For 4WD Tractors with Rear Hitch Mounted Implements (Rollover Plows, PTO Rototillers, Mounted Rippers, Row Crop Cultivators, etc.)*

Front Tractor Axle Weight with implement **lowered** \_\_\_\_\_

Rear Tractor Axle Weight with implement **attached and raised** \_\_\_\_\_

**or**

*For 4WD Tractors with Towed Implements That Impose High Downward Loads on Tractor Drawbars (Scrapers, Potato and Beet Harvesters, Grain Carts, Slurry Tanks, etc.)*

Front Tractor Axle Weight with implement **detached** \_\_\_\_\_

Rear Tractor Axle Weight with **fully loaded implement attached** \_\_\_\_\_

Front Static Tire Load = Front Weight/Number of Front Tires = \_\_\_\_\_

Rear Static Tire Load = Rear Weight/Number of Rear Tires = \_\_\_\_\_

*From the appropriate inflation pressure tables,*

Required Front Tire Inflation Pressure \_\_\_\_\_

Required Rear Tire Inflation Pressure \_\_\_\_\_

## 4. Determine Hop Control Inflation Pressure

*If power hop occurs, raise **either** the **front** or the **rear** inflation pressure by **6 to 8 psi** above the correct inflation pressure for the tire load. Whether raising the front works best or the rear works best depends on soil conditions, type of implement, operating speed and use of liquid ballast. If raising the front pressure fails to control hop, then reset the front tires to the correct pressure for the load and raise the rears. It is very important that one of the two axles remain at the correct pressure for its load. If liquid is used in the rear, raising rear pressures usually works best.*

Required Hop Control Front Tire Inflation Pressure \_\_\_\_\_

Required Hop Control Rear Tire Inflation Pressure \_\_\_\_\_

Comments \_\_\_\_\_

Please send a copy of this sheet along with comments to Farm Tire Eng., D/460H, Goodyear Tire & Rubber Company, P.O. Box 3531, Akron, OH 44309 or fax 330-796-9135

# TERRA-TIRE® FLOTATION TIRE INFORMATION

## Description

TERRA-TIRE® is a high flotation tire. In comparison with conventional tires, they have a wider cross section, a larger air volume, a more flexible carcass, and operate at lower inflation pressures. This unique design gives them a large “footprint” in contact with the ground and distributes load over a large area at low unit pressure. The net result is a flotation effect for go-anywhere performance – despite terrain, despite load.

Different styles of TERRA-TIRE® high flotation tires are available in a variety of sizes for use on all-terrain vehicles. A separate line of estate TERRA-TIRE® low pressure

tires is available for golf carts and similar small-sized utility vehicles in a variety of sizes for virtually unlimited application versatility.

All TERRA-TIRE® FLOTATION TIRES are of tubeless construction, and all are made with 3-T–(triple-tempered) cord to set the cord at peak strength and resilience. Tread designs include smooth, rib, and traction-lug types, permitting considerable latitude in matching tire to application.

## Advantages

**(1) Lower Unit Ground Pressure:** The large ground contact area of TERRA-TIRE® flotation tires effectively distributes load over a relatively broad area, providing a reduction in unit ground pressure in comparison with conventional tires. On a typical golf cart, for example, unit pressure is only about 5 pounds per square inch. In contrast, the walking pressure of a golfer is on the order of 24 pounds per square inch.

This reduction in ground pressure means less soil compaction, less ground disturbance – on the farm or on the golf course. It also means improved mobility, permitting the TERRA-TIRE® to traverse mud or snow or soft sand that would often bog down a conventional tire. And since these tires operate at relatively low inflation pressures they literally envelop rocks, stumps and other obstacles. This go-anywhere capability is as adaptable to farming, logging, and exploration as it is to the golf course.

**(2) Improved Shock Absorption:** The carcass of a TERRA-TIRE® is very flexible. This design characteristic, coupled with low inflation pressures, provides for high level energy absorption. The resulting air-cushion effect means less wear on equipment, reduced fatigue for the operator. In fact, for many applications the TERRA-TIRE® low pressure tire, is actually mounted without the use of springs. This offers a significant reduction in initial installation cost.

**(3) Increased Pay Load To Vehicle Weight:** The enveloping and cushioning effect of the TERRA-TIRE® permits both a strength and a weight reduction in vehicle design. The net result in designing a vehicle for a given load capacity is an effective increase in the ratio of pay load to vehicle weight. It is axiomatic that this design capability introduced by TERRA-TIRE® also results in a net savings in construction costs.

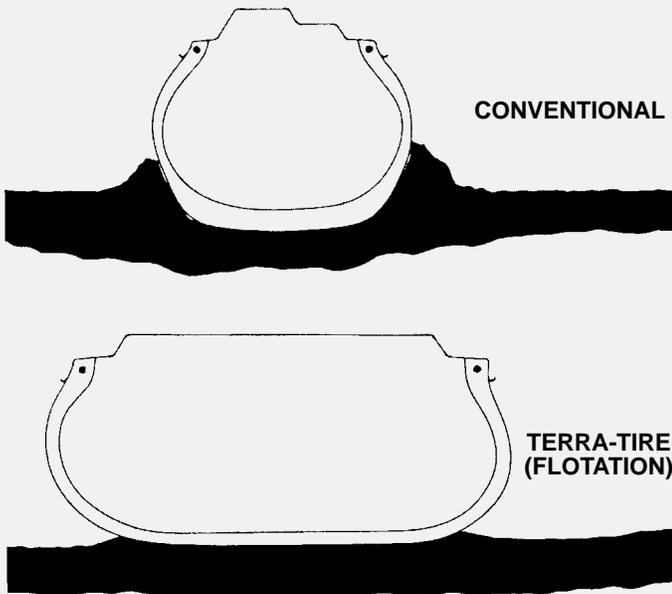
**(4) Reduced Rolling Resistance:** Large ground contact area, flexibility of carcass, and low inflation pressure work together to reduce rolling resistance. On sand, for example, a typical coefficient of rolling resistance for a TERRA-TIRE®, high flotation tire, is .078, compared with .275 for a truck tire. Golf courses report that carts equipped with TERRA-TIRE® tires often provide an extra 9 holes of operation on a single battery charge.

**(5) Cost-Saving Replacement of Duals:** One TERRA-TIRE® does the work of two conventional tires. The weight of a TERRA-TIRE® and rim is less than the weight of the dual wheels and tires it replaces. In addition to this net weight saving, these tires provide improved flotation, yet service and maintenance costs are generally lower.

® Registered Trademark

# PHYSICAL CHARACTERISTICS

## TIRE PENETRATION COMPARISON



**6.00-6 60 PASSES (INDUSTRIAL TIRE)**  
(INFL. 12 PSI)

**18 x 9.50-8 60 PASSES (TERRA-TIRE)**  
(INFL. 7 PSI)

**16 x 11.50-6 60 PASSES (TERRA-TIRE)**  
(INFL. 7 PSI)

## ROLLING RESISTANCE

	TERRA-TIRE	Truck Tire	Track
Hard Surface	16	10	85
Sod	24	85	170
Mud	40	130	—
Soft Sand	78	275	—

Rolling resistance is the force required to roll a loaded tire and wheel assembly over a level surface at a constant speed. The rolling resistance listed in the table represents the resistance force for each 1000 pounds of load on the tire.

This force varies in a direct proportion with the resistance to flexing of the tire carcass and inversely with an increase in tire width.

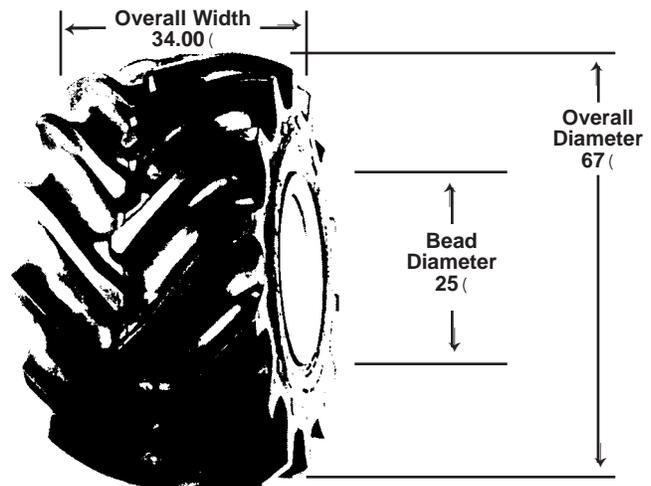
The TERRA-TIRE® high flotation tire has lower rolling resistance than the conventional tire.

The rolling resistance values listed in this table are intended only for making a relative comparison between types of tires over various terrain conditions.

## SIZE DESCRIPTION

TERRA-TIRE® size describes the tire dimensions in order of (1) overall diameter (2) overall width (3) bead diameter.

For example, as illustrated at the right, the 67 x 34.00-25 Custom Flo-Grip TERRA-TIRE® has a nominal overall diameter of 67", nominal overall width of 34.00" and nominal bead diameter of 25". Actual inflated tire dimensions are listed in the tire dimension data tables.



# LOAD & INFLATION TABLE (LBS.@PSI)

**Radial Ply - Symbol Marked**

**Conventional Size Agricultural Tractor Drive Wheel Tires**

**Used in Field Service and Speeds Up To 25 MPH**

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 25 MPH

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)																
	Inflation (psi)	6	7	8	9	10	12	14	16	18	20	22	24	26	28	30	35
	Symbol									★			★★			★★★	
13.6R24	LI/ss									114 A8			121 A8				
	SINGLE (LBS.)	1390	1520	1650	1760	1870	2090	2270	2470	2600	2760	3000	3200				
	DUAL (LBS.)	1220	1340	1450	1550	1650	1840	2000	2170	2290	2430	2640	2820				
	TRIPLE (LBS.)	1140	1250	1350	1440	1530	1710	1860	2030	2130	2260	2460	2620				
13.6R28	LI/ss									117 A8			123 A8				126 A8
	SINGLE (LBS.)	1480	1610	1760	1870	1980	2200	2400	2600	2830	3000	3200	3420	3520	3640	3740	
	DUAL (LBS.)	1300	1420	1550	1650	1740	1940	2110	2290	2490	2640	2820	3010	3100	3200	3290	
	TRIPLE (LBS.)	1210	1320	1440	1530	1620	1800	1970	2130	2320	2460	2620	2800	2890	2980	3070	
14.9R24	LI/ss									120 A8			126 A8				130 A8
	SINGLE (LBS.)	1650	1820	1930	2090	2200	2470	2680	2910	3080	3300	3520	3740	3860	4080	4180	
	DUAL (LBS.)	1450	1600	1700	1840	1940	2170	2360	2560	2710	2900	3100	3290	3400	3590	3680	
	TRIPLE (LBS.)	1350	1490	1580	1710	1800	2030	2200	2390	2530	2710	2890	3070	3170	3350	3430	
14.9R26	LI/ss									121 A8			127 A8				132 A8
	SINGLE (LBS.)	1710	1870	2040	2150	2270	2540	2760	3000	3200	3420	3640	3860	3960	4180	4400	
	DUAL (LBS.)	1500	1650	1800	1890	2000	2240	2430	2640	2820	3010	3200	3400	3480	3680	3870	
	TRIPLE (LBS.)	1400	1530	1670	1760	1860	2080	2260	2460	2620	2800	2980	3170	3250	3430	3610	
14.9R28	LI/ss									122 A8			128 A8				133 A8
	SINGLE (LBS.)	1760	1930	2090	2200	2340	2600	2910	3080	3300	3520	3740	3960	4180	4300	4540	
	DUAL (LBS.)	1550	1700	1840	1940	2060	2290	2560	2710	2900	3100	3290	3480	3680	3780	4000	
	TRIPLE (LBS.)	1440	1580	1710	1800	1920	2130	2390	2530	2710	2890	3070	3250	3430	3530	3720	
14.9R30	LI/ss									123 A8			129 A8				134 A8
	SINGLE (LBS.)	1820	1980	2150	2270	2470	2680	3000	3200	3420	3640	3860	4080	4300	4400	4680	
	DUAL (LBS.)	1600	1740	1890	2000	2170	2360	2640	2820	3010	3200	3400	3590	3780	3870	4120	
	TRIPLE (LBS.)	1490	1620	1760	1860	2030	2200	2460	2620	2800	2980	3170	3350	3530	3610	3840	
14.9R34	LI/ss									125 A8			131 A8				136 A8
	SINGLE (LBS.)	1930	2090	2270	2470	2600	2910	3200	3420	3640	3860	4080	4300	4540	4680	4940	
	DUAL (LBS.)	1700	1840	2000	2170	2290	2560	2820	3010	3200	3400	3590	3780	4000	4120	4350	
	TRIPLE (LBS.)	1580	1710	1860	2030	2130	2390	2620	2800	2980	3170	3350	3530	3720	3840	4050	
14.9R46	LI/ss									131 A8			137 A8				142 A8
	SINGLE (LBS.)	2270	2470	2680	2830	3080	3420	3740	3960	4300	4540	4800	5080	5360	5520	5840	
	DUAL (LBS.)	2000	2170	2360	2490	2710	3010	3290	3480	3780	4000	4220	4470	4720	4860	5140	
	TRIPLE (LBS.)	1860	2030	2200	2320	2530	2800	3070	3250	3530	3720	3940	4170	4400	4530	4790	
15.5R38	LI/ss									125 A8							
	SINGLE (LBS.)	1930	2090	2270	2470	2600	2910	3200	3420	3640							
	DUAL (LBS.)	1700	1840	2000	2170	2290	2560	2820	3010	3200							
	TRIPLE (LBS.)	1580	1710	1860	2030	2130	2390	2620	2800	2980							
16.9R24	LI/ss									126 A8			134 A8				
	SINGLE (LBS.)	1980	2200	2340	2540	2680	3000	3300	3520	3740	4080	4300	4680				
	DUAL (LBS.)	1740	1940	2060	2240	2360	2640	2900	3100	3290	3590	3780	4120				
	TRIPLE (LBS.)	1620	1800	1920	2080	2200	2460	2710	2890	3070	3350	3530	3840				
16.9R26	LI/ss									128 A8			135 A8				
	SINGLE (LBS.)	2040	2270	2470	2600	2760	3080	3420	3640	3960	4180	4400	4800				
	DUAL (LBS.)	1800	2000	2170	2290	2430	2710	3010	3200	3480	3680	3870	4220				
	TRIPLE (LBS.)	1670	1860	2030	2130	2260	2530	2800	2980	3250	3430	3610	3940				

NOTE: LI/ss - Load Index/Speed Symbol.

# LOAD & INFLATION TABLE (KG@kPa)

**Radial Ply - Symbol Marked**

**Conventional Size Agricultural Tractor Drive Wheel Tires**

**Used in Field Service and Speeds Up To 40 KPH**

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 40 KPH (25 MPH)

Tire Size		TIRE LOAD LIMITS (KG) AT VARIOUS COLD INFLATION PRESSURES (kPa)																
		Inflation (kPa)	40	50	55	60	70	80	100	110	120	140	150	160	180	190	210	240
		Inflation (bar)	0.4	0.5	0.55	0.6	0.7	0.8	1.0	1.1	1.2	1.4	1.5	1.6	1.8	1.9	2.1	2.4
		Symbol									★			★★			★★★	
13.6R24	LI/ss									114 A8			121 A8					
	SINGLE (KG)	630	690	750	800	850	950	1030	1120	1180	1250	1360	1450					
	DUAL (KG)	555	605	660	705	750	835	905	985	1040	1100	1195	1275					
	TRIPLE (KG)	515	565	615	655	695	780	845	920	970	1025	1115	1190					
13.6R28	LI/ss									117 A8			123 A8			126 A8		
	SINGLE (KG)	670	730	800	850	900	1000	1090	1180	1285	1360	1450	1550	1600	1650	1700		
	DUAL (KG)	590	640	705	750	790	880	960	1040	1130	1195	1275	1365	1410	1450	1495		
	TRIPLE (KG)	550	600	655	695	740	820	895	970	1055	1115	1190	1270	1310	1355	1395		
14.9R24	LI/ss									120 A8			126 A8			130 A8		
	SINGLE (KG)	750	825	875	950	1000	1120	1215	1320	1400	1500	1600	1700	1750	1850	1900		
	DUAL (KG)	660	725	770	835	880	985	1070	1160	1230	1320	1410	1495	1540	1630	1670		
	TRIPLE (KG)	615	675	720	780	820	920	995	1080	1150	1230	1310	1395	1435	1515	1560		
14.9R26	LI/ss									121 A8			127 A8			132 A8		
	SINGLE (KG)	775	850	925	975	1030	1150	1250	1360	1450	1550	1650	1750	1800	1900	2000		
	DUAL (KG)	680	750	815	860	905	1010	1100	1195	1275	1365	1450	1540	1585	1670	1760		
	TRIPLE (KG)	635	695	760	800	845	945	1025	1115	1190	1270	1355	1435	1475	1560	1640		
14.9R28	LI/ss									122 A8			128 A8			133 A8		
	SINGLE (KG)	800	875	950	1000	1060	1180	1320	1400	1500	1600	1700	1800	1900	1950	2060		
	DUAL (KG)	705	770	835	880	935	1040	1160	1230	1320	1410	1495	1585	1670	1715	1815		
	TRIPLE (KG)	655	720	780	820	870	970	1080	1150	1230	1310	1395	1475	1560	1600	1690		
14.9R30	LI/ss									123 A8			129 A8			134 A8		
	SINGLE (KG)	825	900	975	1030	1120	1215	1360	1450	1550	1650	1750	1850	1950	2000	2120		
	DUAL (KG)	725	790	860	905	985	1070	1195	1275	1365	1450	1540	1630	1715	1760	1865		
	TRIPLE (KG)	675	740	800	845	920	995	1115	1190	1270	1355	1435	1515	1600	1640	1740		
14.9R34	LI/ss									125 A8			131 A8			136 A8		
	SINGLE (KG)	875	950	1030	1120	1180	1320	1450	1550	1650	1750	1850	1950	2060	2120	2240		
	DUAL (KG)	770	835	905	985	1040	1160	1275	1365	1450	1540	1630	1715	1815	1865	1970		
	TRIPLE (KG)	720	780	845	920	970	1080	1190	1270	1355	1435	1515	1600	1690	1740	1835		
14.9R46	LI/ss									131 A8			137 A8			142 A8		
	SINGLE (KG)	1030	1120	1215	1285	1400	1550	1700	1800	1950	2060	2180	2300	2430	2500	2650		
	DUAL (KG)	905	985	1070	1130	1230	1365	1495	1585	1715	1815	1920	2025	2140	2200	2330		
	TRIPLE (KG)	845	920	995	1055	1150	1270	1395	1475	1600	1690	1790	1885	1995	2050	2175		
15.5R38	LI/ss									125 A8								
	SINGLE (KG)	875	950	1030	1120	1180	1320	1450	1550	1650								
	DUAL (KG)	770	835	905	985	1040	1160	1275	1365	1450								
	TRIPLE (KG)	720	780	845	920	970	1080	1190	1270	1355								
16.9R24	LI/ss									126 A8			134 A8					
	SINGLE (KG)	900	1000	1060	1150	1215	1360	1500	1600	1700	1850	1950	2120					
	DUAL (KG)	790	880	935	1010	1070	1195	1320	1410	1495	1630	1715	1865					
	TRIPLE (KG)	740	820	870	945	995	1115	1230	1310	1395	1515	1600	1740					
16.9R26	LI/ss									128 A8			135 A8					
	SINGLE (KG)	925	1030	1120	1180	1250	1400	1550	1650	1800	1900	2000	2180					
	DUAL (KG)	815	905	985	1040	1100	1230	1365	1450	1585	1670	1760	1920					
	TRIPLE (KG)	760	845	920	970	1025	1150	1270	1355	1475	1560	1640	1790					

NOTE: LI/ss - Load Index/Speed Symbol.

# LOAD & INFLATION TABLE (LBS.@PSI)

**Radial Ply - Symbol Marked**

**Conventional Size Agricultural Tractor Drive Wheel Tires**

**Used in Field Service and Speeds Up To 25 MPH**

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 25 MPH

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)																
	Inflation (psi)	6	7	8	9	10	12	14	16	18	20	22	24	26	28	30	35
	Symbol									★			★★			★★★	
16.9R28	LI/ss									129 A8			136 A8				
	SINGLE (LBS.)	2150	2340	2540	2680	2910	3200	3520	3740	4080	4300	4540	4940				
	DUAL (LBS.)	1890	2060	2240	2360	2560	2820	3100	3290	3590	3780	4000	4350				
	TRIPLE (LBS.)	1760	1920	2080	2200	2390	2620	2890	3070	3350	3530	3720	4050				
16.9R30	LI/ss									130 A8			137 A8			141 A8	144 A8
	SINGLE (LBS.)	2200	2400	2600	2760	3000	3300	3640	3860	4180	4400	4680	5080	5200	5360	5680	6150
	DUAL (LBS.)	1940	2110	2290	2430	2640	2900	3200	3400	3680	3870	4120	4470	4580	4720	5000	5410
	TRIPLE (LBS.)	1800	1970	2130	2260	2460	2710	2980	3170	3430	3610	3840	4170	4260	4400	4660	5040
16.9R38	LI/ss									134 A8			141 A8				
	SINGLE (LBS.)	2470	2680	2910	3080	3300	3740	4080	4400	4680	4940	5360	5680				
	DUAL (LBS.)	2170	2360	2560	2710	2900	3290	3590	3870	4120	4350	4720	5000				
	TRIPLE (LBS.)	2030	2200	2390	2530	2710	3070	3350	3610	3840	4050	4400	4660				
18.4R26	LI/ss									134 A8			140 A8				
	SINGLE (LBS.)	2470	2680	2910	3080	3300	3740	4080	4400	4680	4940	5360	5520				
	DUAL (LBS.)	2170	2360	2560	2710	2900	3290	3590	3870	4120	4350	4720	4860				
	TRIPLE (LBS.)	2030	2200	2390	2530	2710	3070	3350	3610	3840	4050	4400	4530				
18.4R30	LI/ss									136 A8			142 A8				
	SINGLE (LBS.)	2600	2910	3080	3300	3520	3960	4300	4680	4940	5360	5680	5840				
	DUAL (LBS.)	2290	2560	2710	2900	3100	3480	3780	4120	4350	4720	5000	5140				
	TRIPLE (LBS.)	2130	2390	2530	2710	2890	3250	3530	3840	4050	4400	4660	4790				
18.4R34	LI/ss									139 A8			144 A8				
	SINGLE (LBS.)	2830	3080	3300	3520	3740	4180	4540	4940	5360	5680	6000	6150				
	DUAL (LBS.)	2490	2710	2900	3100	3290	3680	4000	4350	4720	5000	5280	5410				
	TRIPLE (LBS.)	2320	2530	2710	2890	3070	3430	3720	4050	4400	4660	4920	5040				
18.4R38	LI/ss									141 A8			146 A8				
	SINGLE (LBS.)	3000	3200	3520	3740	3960	4400	4800	5200	5680	6000	6400	6600				
	DUAL (LBS.)	2640	2820	3100	3290	3480	3870	4220	4580	5000	5280	5630	5810				
	TRIPLE (LBS.)	2460	2620	2890	3070	3250	3610	3940	4260	4660	4920	5250	5410				
18.4R42	LI/ss									143 A8			148 A8				
	SINGLE (LBS.)	3080	3420	3740	3960	4180	4680	5080	5520	6000	6400	6600	6950				
	DUAL (LBS.)	2710	3010	3290	3480	3680	4120	4470	4860	5280	5630	5810	6120				
	TRIPLE (LBS.)	2530	2800	3070	3250	3430	3840	4170	4530	4920	5250	5410	5700				
18.4R46	LI/ss									144 A8			150 A8			155 A8	
	SINGLE (LBS.)	3300	3640	3860	4180	4400	4940	5360	5840	6150	6600	6950	7400	7850	8050	8550	
	DUAL (LBS.)	2900	3200	3400	3680	3870	4350	4720	5140	5410	5810	6120	6510	6910	7080	7520	
	TRIPLE (LBS.)	2710	2980	3170	3430	3610	4050	4400	4790	5040	5410	5700	6070	6440	6600	7010	
20.8R34	LI/ss									145 A8							
	SINGLE (LBS.)	3420	3740	3960	4300	4540	5080	5520	6000	6400							
	DUAL (LBS.)	3010	3290	3480	3780	4000	4470	4860	5280	5630							
	TRIPLE (LBS.)	2800	3070	3250	3530	3720	4170	4530	4920	5250							
20.8R38	LI/ss									147 A8			153 A8				
	SINGLE (LBS.)	3640	3960	4300	4540	4800	5360	5840	6400	6800	7150	7600	8050				
	DUAL (LBS.)	3200	3480	3780	4000	4220	4720	5140	5630	5980	6290	6690	7080				
	TRIPLE (LBS.)	2980	3250	3530	3720	3940	4400	4790	5250	5580	5860	6230	6600				

NOTE: LI/ss - Load Index/Speed Symbol.

# LOAD & INFLATION TABLE (KG@kPa)

**Radial Ply - Symbol Marked**

**Conventional Size Agricultural Tractor Drive Wheel Tires**

**Used in Field Service and Speeds Up To 40 KPH**

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 40 KPH (25 MPH)

Tire Size	TIRE LOAD LIMITS (KG) AT VARIOUS COLD INFLATION PRESSURES (kPa)																
	Inflation (kPa)	40	50	55	60	70	80	100	110	120	140	150	160	180	190	210	240
	Inflation (bar)	0.4	0.5	0.55	0.6	0.7	0.8	1.0	1.1	1.2	1.4	1.5	1.6	1.8	1.9	2.1	2.4
	Symbol									★			★★			★★★	
16.9R28	LI/ss									129 A8			136 A8				
	SINGLE (KG)	975	1060	1150	1215	1320	1450	1600	1700	1850	1950	2060	2240				
	DUAL (KG)	860	935	1010	1070	1160	1275	1410	1495	1630	1715	1815	1970				
	TRIPLE (KG)	800	870	945	995	1080	1190	1310	1395	1515	1600	1690	1835				
16.9R30	LI/ss									130 A8			137 A8			141 A8	144 A8
	SINGLE (KG)	1000	1090	1180	1250	1360	1500	1650	1750	1900	2000	2120	2300	2360	2430	2575	2800
	DUAL (KG)	880	960	1040	1100	1195	1320	1450	1540	1670	1760	1865	2025	2075	2140	2265	2465
	TRIPLE (KG)	820	895	970	1025	1115	1230	1355	1435	1560	1640	1740	1885	1935	1995	2110	2295
16.9R38	LI/ss									134 A8			141 A8				
	SINGLE (KG)	1120	1215	1320	1400	1500	1700	1850	2000	2120	2240	2430	2575				
	DUAL (KG)	985	1070	1160	1230	1320	1495	1630	1760	1865	1970	2140	2265				
	TRIPLE (KG)	920	995	1080	1150	1230	1395	1515	1640	1740	1835	1995	2110				
18.4R26	LI/ss									134 A8			140 A8				
	SINGLE (KG)	1120	1215	1320	1400	1500	1700	1850	2000	2120	2240	2430	2500				
	DUAL (KG)	985	1070	1160	1230	1320	1495	1630	1760	1865	1970	2140	2200				
	TRIPLE (KG)	920	995	1080	1150	1230	1395	1515	1640	1740	1835	1995	2050				
18.4R30	LI/ss									136 A8			142 A8				
	SINGLE (KG)	1180	1320	1400	1500	1600	1800	1950	2120	2240	2430	2575	2650				
	DUAL (KG)	1040	1160	1230	1320	1410	1585	1715	1865	1970	2140	2265	2330				
	TRIPLE (KG)	970	1080	1150	1230	1310	1475	1600	1740	1835	1995	2110	2175				
18.4R34	LI/ss									139 A8			144 A8				
	SINGLE (KG)	1285	1400	1500	1600	1700	1900	2060	2240	2430	2575	2725	2800				
	DUAL (KG)	1130	1230	1320	1410	1495	1670	1815	1970	2140	2265	2400	2465				
	TRIPLE (KG)	1055	1150	1230	1310	1395	1560	1690	1835	1995	2110	2235	2295				
18.4R38	LI/ss									141 A8			146 A8				
	SINGLE (KG)	1360	1450	1600	1700	1800	2000	2180	2360	2575	2725	2900	3000				
	DUAL (KG)	1195	1275	1410	1495	1585	1760	1920	2075	2265	2400	2550	2640				
	TRIPLE (KG)	1115	1190	1310	1395	1475	1640	1790	1935	2110	2235	2380	2460				
18.4R42	LI/ss									143 A8			148 A8				
	SINGLE (KG)	1400	1550	1700	1800	1900	2120	2300	2500	2725	2900	3000	3150				
	DUAL (KG)	1230	1365	1495	1585	1670	1865	2025	2200	2400	2550	2640	2770				
	TRIPLE (KG)	1150	1270	1395	1475	1560	1740	1885	2050	2235	2380	2460	2585				
18.4R46	LI/ss									144 A8			150 A8			155 A8	
	SINGLE (KG)	1500	1650	1750	1900	2000	2240	2430	2650	2800	3000	3150	3350	3550	3650	3875	
	DUAL (KG)	1320	1450	1540	1670	1760	1970	2140	2330	2465	2640	2770	2950	3125	3210	3410	
	TRIPLE (KG)	1230	1355	1435	1560	1640	1835	1995	2175	2295	2460	2585	2745	2910	2995	3180	
20.8R34	LI/ss									145 A8							
	SINGLE (KG)	1550	1700	1800	1950	2060	2300	2500	2725	2900							
	DUAL (KG)	1365	1495	1585	1715	1815	2025	2200	2400	2550							
	TRIPLE (KG)	1270	1395	1475	1600	1690	1885	2050	2235	2380							
20.8R38	LI/ss									147 A8			153 A8				
	SINGLE (KG)	1650	1800	1950	2060	2180	2430	2650	2900	3075	3250	3450	3650				
	DUAL (KG)	1450	1585	1715	1815	1920	2140	2330	2550	2705	2860	3035	3210				
	TRIPLE (KG)	1355	1475	1600	1690	1790	1995	2175	2380	2520	2665	2830	2995				

NOTE: LI/ss - Load Index/Speed Symbol.

# LOAD & INFLATION TABLE (LBS.@PSI)

**Radial Ply - Symbol Marked**

**Conventional Size Agricultural Tractor Drive Wheel Tires**

**Used in Field Service and Speeds Up To 25 MPH**

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 25 MPH

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)																
	Inflation (psi)	6	7	8	9	10	12	14	16	18	20	22	24	26	28	30	35
	Symbol									★			★★			★★★	
20.8R42	LI/ss									149 A8			155 A8				
	SINGLE (LBS.)	3740	4180	4540	4800	5080	5680	6150	6800	7150	7600	8050	8550				
	DUAL (LBS.)	3290	3680	4000	4220	4470	5000	5410	5980	6290	6690	7080	7520				
	TRIPLE (LBS.)	3070	3430	3720	3940	4170	4660	5040	5580	5860	6230	6600	7010				
23.1R26	LI/ss									147 A8			153 A8				
	SINGLE (LBS.)	3520	3860	4180	4540	4800	5360	5840	6400	6800	7150	7600	8050				
	DUAL (LBS.)	3100	3400	3680	4000	4220	4720	5140	5630	5980	6290	6690	7080				
	TRIPLE (LBS.)	2890	3170	3430	3720	3940	4400	4790	5250	5580	5860	6230	6600				
24.5R32	LI/ss									154 A8			159 A8				
	SINGLE (LBS.)	4300	4680	5080	5520	5840	6400	7150	7600	8250	8800	9100	9650				
	DUAL (LBS.)	3780	4120	4470	4860	5140	5630	6290	6690	7260	7740	8010	8490				
	TRIPLE (LBS.)	3530	3840	4170	4530	4790	5250	5860	6230	6770	7220	7460	7910				
28LR26	LI/ss									152 A8			157 A8			162 A8	165 A8
	SINGLE (LBS.)	4080	4540	4800	5200	5520	6150	6800	7400	7850	8250	8800	9100	9650	10200	10500	11400
	DUAL (LBS.)	3590	4000	4220	4580	4860	5410	5980	6510	6910	7260	7740	8010	8490	8980	9240	10030
	TRIPLE (LBS.)	3350	3720	3940	4260	4530	5040	5580	6070	6440	6770	7220	7460	7910	8360	8610	9350
30.5LR32	LI/ss									159 A8							
	SINGLE (LBS.)	5080	5680	6150	6600	6950	7600	8550	9100	9650							
	DUAL (LBS.)	4470	5000	5410	5810	6120	6690	7520	8010	8490							
	TRIPLE (LBS.)	4170	4660	5040	5410	5700	6230	7010	7460	7910							

- NOTES
- For shipping purposes, tire inflation pressures may be increased to 30 psi (consult tire manufacturer for minimum tire shipping pressure). Inflation pressure must be reduced to operating inflation before the tractor is removed from the carrier.
  - For above tires used in cyclic loading service (excluding hillside combines) without sustained high torque with speeds up to 5 MPH, above loads may be increased 70% (with 6 psi increase in inflation pressure). This load increase is also applicable to tires used on vehicles with mechanism capable of maintaining tires and wheels in a vertical position on slopes up to 11° (20% grade). Due to higher pressure specified for these tires, the rim and wheel manufacturers must be consulted.
  - For transport service and operations which do not require sustained high torque, the following load limits at various speeds apply with no change in inflation pressure:

MAXIMUM SPEED	% CHANGE IN LOADS IN ABOVE TABLE
10 MPH	+34% (except Hillside Combines)
15 MPH	+11% (except Hillside Combines)
20 MPH	+7%
25 MPH	NONE

- For R-4 service see Radial R-4 table on Page 111.
- LI/ss - Load Index/Speed Symbol.

# LOAD & INFLATION TABLE (KG@kPa)

**Radial Ply - Symbol Marked**

**Conventional Size Agricultural Tractor Drive Wheel Tires**

**Used in Field Service and Speeds Up To 40 KPH**

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 40 KPH (25 MPH)

Tire Size	TIRE LOAD LIMITS (KG) AT VARIOUS COLD INFLATION PRESSURES (kPa)																
	Inflation (kPa)	40	50	55	60	70	80	100	110	120	140	150	160	180	190	210	240
	Inflation (bar)	0.4	0.5	0.55	0.6	0.7	0.8	1.0	1.1	1.2	1.4	1.5	1.6	1.8	1.9	2.1	2.4
	Symbol									★			★★			★★★	
20.8R42	LI/ss									149 A8			155 A8				
	SINGLE (KG)	1700	1900	2060	2180	2300	2575	2800	3075	3250	3450	3650	3875				
	DUAL (KG)	1495	1670	1815	1920	2025	2265	2465	2705	2860	3035	3210	3410				
	TRIPLE (KG)	1395	1560	1690	1790	1885	2110	2295	2520	2665	2830	2995	3180				
23.1R26	LI/ss									147 A8			153 A8				
	SINGLE (KG)	1600	1750	1900	2060	2180	2430	2650	2900	3075	3250	3450	3650				
	DUAL (KG)	1410	1540	1670	1815	1920	2140	2330	2550	2705	2860	3035	3210				
	TRIPLE (KG)	1310	1435	1560	1690	1790	1995	2175	2380	2520	2665	2830	2995				
24.5R32	LI/ss									154 A8			159 A8				
	SINGLE (KG)	1950	2120	2300	2500	2650	2900	3250	3450	3750	4000	4125	4375				
	DUAL (KG)	1715	1865	2025	2200	2330	2550	2860	3035	3300	3520	3630	3850				
	TRIPLE (KG)	1600	1740	1885	2050	2175	2380	2665	2830	3075	3280	3385	3590				
28LR26	LI/ss									152 A8			157 A8			162 A8	165 A8
	SINGLE (KG)	1850	2060	2180	2360	2500	2800	3075	3350	3550	3750	4000	4125	4375	4625	4750	5150
	DUAL (KG)	1630	1815	1920	2075	2200	2465	2705	2950	3125	3300	3520	3630	3850	4070	4180	4530
	TRIPLE (KG)	1515	1690	1790	1935	2050	2295	2520	2745	2910	3075	3280	3385	3590	3795	3895	4225
30.5LR32	LI/ss									159 A8							
	SINGLE (KG)	2300	2575	2800	3000	3150	3450	3875	4125	4375							
	DUAL (KG)	2025	2265	2465	2640	2770	3035	3410	3630	3850							
	TRIPLE (KG)	1885	2110	2295	2460	2585	2830	3180	3385	3590							

- NOTES
- For shipping purposes, tire inflation pressures may be increased to 30 psi (consult tire manufacturer for minimum tire shipping pressure). Inflation pressure must be reduced to operating inflation before the tractor is removed from the carrier.
  - For above tires used in cyclic loading service (excluding hillside combines) without sustained high torque with speeds up to 5 MPH, above loads may be increased 70% (with 6 psi increase in inflation pressure). This load increase is also applicable to tires used on vehicles with mechanism capable of maintaining tires and wheels in a vertical position on slopes up to 11° (20% grade). Due to higher pressure specified for these tires, the rim and wheel manufacturers must be consulted.
  - For transport service and operations which do not require sustained high torque, the following load limits at various speeds apply with no change in inflation pressure:

MAXIMUM SPEED	% CHANGE IN LOADS IN ABOVE TABLE
10 MPH	+34% (except Hillside Combines)
15 MPH	+11% (except Hillside Combines)
20 MPH	+7%
25 MPH	NONE

- For R-4 service see Radial R-4 table on Page 111.
- LI/ss - Load Index/Speed Symbol.

# LOAD & INFLATION TABLE (LBS.@PSI)

**Radial Ply - Symbol Marked**

**Metric Size Agricultural Tractor Drive Wheel Tires**

**Used in Field Service and Speeds Up To 25 MPH**

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 25 MPH

Tire Size	Inflation (psi)	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)															
		6	7	9	10	12	13	15	17	20	23	26	29	32	35	41	46
250/95R34	LI/ss								111 A8		119 A8						
	SINGLE (LBS.)	1360	1480	1610	1760	1870	2040	2150	2400	2680	3000						
	DUAL (LBS.)	1200	1300	1420	1550	1650	1800	1890	2110	2360	2640						
	TRIPLE (LBS.)	1120	1210	1320	1440	1530	1670	1760	1970	2200	2460						
250/95R50	LI/ss								119 A8		125 A8		128 A8		131 A8		137 A8
	SINGLE (LBS.)	1650	1820	1980	2150	2340	2470	2680	3000	3300	3640	3860	3960	4180	4300	4680	5080
	DUAL (LBS.)	1450	1600	1740	1890	2060	2170	2360	2640	2900	3200	3400	3480	3680	3780	4120	4470
	TRIPLE (LBS.)	1350	1490	1620	1760	1920	2030	2200	2460	2710	2980	3170	3250	3430	3530	3840	4170
290/95R34	LI/ss								119 A8		125 A8		132 A8				
	SINGLE (LBS.)	1650	1820	2040	2200	2340	2540	2680	3000	3300	3640	4080	4400				
	DUAL (LBS.)	1450	1600	1800	1940	2060	2240	2360	2640	2900	3200	3590	3870				
	TRIPLE (LBS.)	1350	1490	1670	1800	1920	2080	2200	2460	2710	2980	3350	3610				
320/75R24	LI/ss								111 A8		118 A8						
	SINGLE (LBS.)	1360	1480	1610	1760	1870	2040	2150	2400	2680	2910						
	DUAL (LBS.)	1200	1300	1420	1550	1650	1800	1890	2110	2360	2560						
	TRIPLE (LBS.)	1120	1210	1320	1440	1530	1670	1760	1970	2200	2390						
320/85R34	LI/ss								121 A8		127 A8		133 A8				
	SINGLE (LBS.)	1760	1930	2150	2270	2470	2680	2830	3200	3520	3860	4300	4540				
	DUAL (LBS.)	1550	1700	1890	2000	2170	2360	2490	2820	3100	3400	3780	4000				
	TRIPLE (LBS.)	1440	1580	1760	1860	2030	2200	2320	2620	2890	3170	3530	3720				
320/90R42	LI/ss								126 A8		133 A8		136 A8		139 A8		
	SINGLE (LBS.)	2090	2270	2470	2680	2910	3080	3300	3740	4180	4540	4800	4940	5200	5360		
	DUAL (LBS.)	1840	2000	2170	2360	2560	2710	2900	3290	3680	4000	4220	4350	4580	4720		
	TRIPLE (LBS.)	1710	1860	2030	2200	2390	2530	2710	3070	3430	3720	3940	4050	4260	4400		
320/90R46	LI/ss								127 A8		135 A8		141 A8		146 A8		
	SINGLE (LBS.)	2150	2400	2600	2830	3000	3300	3420	3860	4300	4800	5200	5680	6000	6600		
	DUAL (LBS.)	1890	2110	2290	2490	2640	2900	3010	3400	3780	4220	4580	5000	5280	5810		
	TRIPLE (LBS.)	1760	1970	2130	2320	2460	2710	2800	3170	3530	3940	4260	4660	4920	5410		
320/90R50	LI/ss								129 A8		136 A8		142 A8		147 A8		
	SINGLE (LBS.)	2270	2470	2760	2910	3200	3420	3640	4080	4540	4940	5520	5840	6400	6800		
	DUAL (LBS.)	2000	2170	2430	2560	2820	3010	3200	3590	4000	4350	4860	5140	5630	5980		
	TRIPLE (LBS.)	1860	2030	2260	2390	2620	2800	2980	3350	3720	4050	4530	4790	5250	5580		
340/85R46	LI/ss								129 A8		136 A8		140 A8				
	SINGLE (LBS.)	2270	2470	2760	2910	3200	3420	3640	4080	4540	4940	5200	5520				
	DUAL (LBS.)	2000	2170	2430	2560	2820	3010	3200	3590	4000	4350	4580	4860				
	TRIPLE (LBS.)	1860	2030	2260	2390	2620	2800	2980	3350	3720	4050	4260	4530				
380/85R28	LI/ss								126 A8		133 A8						
	SINGLE (LBS.)	2090	2270	2540	2680	2910	3080	3300	3740	4180	4540						
	DUAL (LBS.)	1840	2000	2240	2360	2560	2710	2900	3290	3680	4000						
	TRIPLE (LBS.)	1710	1860	2080	2200	2390	2530	2710	3070	3430	3720						
380/85R30	LI/ss								127 A8		135 A8						
	SINGLE (LBS.)	2150	2400	2600	2830	3000	3200	3420	3860	4300	4800						
	DUAL (LBS.)	1890	2110	2290	2490	2640	2820	3010	3400	3780	4220						
	TRIPLE (LBS.)	1760	1970	2130	2320	2460	2620	2800	3170	3530	3940						

NOTE: LI/ss - Load Index/Speed Symbol.

# LOAD & INFLATION TABLE (KG@kPa)

**Radial Ply - Symbol Marked**

**Metric Size Agricultural Tractor Drive Wheel Tires**

**Used in Field Service and Speeds Up To 40 KPH**

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 40 KPH (25 MPH)

Tire Size		TIRE LOAD LIMITS (KG) AT VARIOUS COLD INFLATION PRESSURES (kPa)																
		Inflation (kPa)	40	50	60	70	80	90	100	120	140	160	180	200	220	240	280	320
		Inflation (bar)	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.8	3.2
250/95R34	LI/ss								111 A8		119 A8							
	SINGLE (KG)	615	670	730	800	850	925	975	1090	1215	1360							
	DUAL (KG)	540	590	640	705	750	815	860	960	1070	1195							
	TRIPLE (KG)	505	550	600	655	695	760	800	895	995	1115							
250/95R50	LI/ss								119 A8		125 A8		128 A8		131 A8		137 A8	
	SINGLE (KG)	750	825	900	975	1060	1120	1215	1360	1500	1650	1750	1800	1900	1950	2120	2300	
	DUAL (KG)	660	725	790	860	935	985	1070	1195	1320	1450	1540	1585	1670	1715	1865	2025	
	TRIPLE (KG)	615	675	740	800	870	920	995	1115	1230	1355	1435	1475	1560	1600	1740	1885	
290/95R34	LI/ss								119 A8		125 A8		132 A8					
	SINGLE (KG)	750	825	925	1000	1060	1150	1215	1360	1500	1650	1850	2000					
	DUAL (KG)	660	725	815	880	935	1010	1070	1195	1320	1450	1630	1760					
	TRIPLE (KG)	615	675	760	820	870	945	995	1115	1230	1355	1515	1640					
320/75R24	LI/ss								111 A8		118 A8							
	SINGLE (KG)	615	670	730	800	850	925	975	1090	1215	1320							
	DUAL (KG)	540	590	640	705	750	815	860	960	1070	1160							
	TRIPLE (KG)	505	550	600	655	695	760	800	895	995	1080							
320/85R34	LI/ss								121 A8		127 A8		133 A8					
	SINGLE (KG)	800	875	975	1030	1120	1215	1285	1450	1600	1750	1950	2060					
	DUAL (KG)	705	770	860	905	985	1070	1130	1275	1410	1540	1715	1815					
	TRIPLE (KG)	655	720	800	845	920	995	1055	1190	1310	1435	1600	1690					
320/90R42	LI/ss								126 A8		133 A8		136 A8		139 A8			
	SINGLE (KG)	950	1030	1120	1215	1320	1400	1500	1700	1900	2060	2180	2240	2360	2430			
	DUAL (KG)	835	905	985	1070	1160	1230	1320	1495	1670	1815	1920	1970	2075	2140			
	TRIPLE (KG)	780	845	920	995	1080	1150	1230	1395	1560	1690	1790	1835	1935	1995			
320/90R46	LI/ss								127 A8		135 A8		141 A8		146 A8			
	SINGLE (KG)	975	1090	1180	1285	1360	1500	1550	1750	1950	2180	2360	2575	2725	3000			
	DUAL (KG)	860	960	1040	1130	1195	1320	1365	1540	1715	1920	2075	2265	2400	2640			
	TRIPLE (KG)	800	895	970	1055	1115	1230	1270	1435	1600	1790	1935	2110	2235	2460			
320/90R50	LI/ss								129 A8		136 A8		142 A8		147 A8			
	SINGLE (KG)	1030	1120	1250	1320	1450	1550	1650	1850	2060	2240	2500	2650	2900	3075			
	DUAL (KG)	905	985	1100	1160	1275	1365	1450	1630	1815	1970	2200	2330	2550	2705			
	TRIPLE (KG)	845	920	1025	1080	1190	1270	1355	1515	1690	1835	2050	2175	2380	2520			
340/85R46	LI/ss								129 A8		136 A8		140 A8					
	SINGLE (KG)	1030	1120	1250	1320	1450	1550	1650	1850	2060	2240	2360	2500					
	DUAL (KG)	905	985	1100	1160	1275	1365	1450	1630	1815	1970	2075	2200					
	TRIPLE (KG)	845	920	1025	1080	1190	1270	1355	1515	1690	1835	1935	2050					
380/85R28	LI/ss								126 A8		133 A8							
	SINGLE (KG)	950	1030	1150	1215	1320	1400	1500	1700	1900	2060							
	DUAL (KG)	835	905	1010	1070	1160	1230	1320	1495	1670	1815							
	TRIPLE (KG)	780	845	945	995	1080	1150	1230	1395	1560	1690							
380/85R30	LI/ss								127 A8		135 A8							
	SINGLE (KG)	975	1090	1180	1285	1360	1450	1550	1750	1950	2180							
	DUAL (KG)	860	960	1040	1130	1195	1275	1365	1540	1715	1920							
	TRIPLE (KG)	800	895	970	1055	1115	1190	1270	1435	1600	1790							

NOTE: LI/ss - Load Index/Speed Symbol.

# LOAD & INFLATION TABLE (LBS.@PSI)

**Radial Ply - Symbol Marked**

**Metric Size Agricultural Tractor Drive Wheel Tires**

**Used in Field Service and Speeds Up To 25 MPH**

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 25 MPH

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)																
	Inflation (psi)	6	7	9	10	12	13	15	17	20	23	26	29	32	35	41	46
380/80R38	LI/ss								130 A8		137 A8		140 A8		142 A8		
	SINGLE (LBS.)	2270	2540	2760	3000	3200	3420	3640	4180	4540	5080	5360	5520	5680	5840		
	DUAL (LBS.)	2000	2240	2430	2640	2820	3010	3200	3680	4000	4470	4720	4860	5000	5140		
	TRIPLE (LBS.)	1860	2080	2260	2460	2620	2800	2980	3430	3720	4170	4400	4530	4660	4790		
380/85R34	LI/ss								129 A8		137 A8		140 A8				
	SINGLE (LBS.)	2270	2540	2760	3000	3200	3420	3640	4080	4540	5080	5360	5520				
	DUAL (LBS.)	2000	2240	2430	2640	2820	3010	3200	3590	4000	4470	4720	4860				
	TRIPLE (LBS.)	1860	2080	2260	2460	2620	2800	2980	3350	3720	4170	4400	4530				
380/90R46	LI/ss								137 A8		144 A8		147 A8		149 A8		
	SINGLE (LBS.)	2830	3080	3300	3640	3860	4180	4400	5080	5520	6150	6400	6800	6950	7150		
	DUAL (LBS.)	2490	2710	2900	3200	3400	3680	3870	4470	4860	5410	5630	5980	6120	6290		
	TRIPLE (LBS.)	2320	2530	2710	2980	3170	3430	3610	4170	4530	5040	5250	5580	5700	5860		
380/90R50	LI/ss								138 A8		145 A8		148 A8		151 A8		
	SINGLE (LBS.)	2910	3200	3520	3740	4080	4400	4680	5200	5840	6400	6800	6950	7400	7600		
	DUAL (LBS.)	2560	2820	3100	3290	3590	3870	4120	4580	5140	5630	5980	6120	6510	6690		
	TRIPLE (LBS.)	2390	2620	2890	3070	3350	3610	3840	4260	4790	5250	5580	5700	6070	6230		
420/80R46	LI/ss								139 A8		145 A8		151 A8				
	SINGLE (LBS.)	2910	3200	3520	3860	4080	4400	4680	5360	5840	6400	7150	7600				
	DUAL (LBS.)	2560	2820	3100	3400	3590	3870	4120	4720	5140	5630	6290	6690				
	TRIPLE (LBS.)	2390	2620	2890	3170	3350	3610	3840	4400	4790	5250	5860	6230				
420/85R28	LI/ss								132 A8		139 A8						
	SINGLE (LBS.)	2470	2680	2910	3200	3420	3640	3860	4400	4940	5360						
	DUAL (LBS.)	2170	2360	2560	2820	3010	3200	3400	3870	4350	4720						
	TRIPLE (LBS.)	2030	2200	2390	2620	2800	2980	3170	3610	4050	4400						
420/90R30	LI/ss								135 A8		142 A8						
	SINGLE (LBS.)	2680	2910	3200	3420	3740	3960	4180	4800	5360	5840						
	DUAL (LBS.)	2360	2560	2820	3010	3290	3480	3680	4220	4720	5140						
	TRIPLE (LBS.)	2200	2390	2620	2800	3070	3250	3430	3940	4400	4790						
440/80R28	LI/ss								132 A8		140 A8						
	SINGLE (LBS.)	2470	2760	3000	3200	3520	3740	3960	4400	4940	5520						
	DUAL (LBS.)	2170	2430	2640	2820	3100	3290	3480	3870	4350	4860						
	TRIPLE (LBS.)	2030	2260	2460	2620	2890	3070	3250	3610	4050	4530						
480/70R28	LI/ss								133 A8		140 A8						
	SINGLE (LBS.)	2540	2760	3000	3300	3520	3740	4080	4540	5080	5520						
	DUAL (LBS.)	2240	2430	2640	2900	3100	3290	3590	4000	4470	4860						
	TRIPLE (LBS.)	2080	2260	2460	2710	2890	3070	3350	3720	4170	4530						
480/70R30	LI/ss								134 A8		141 A8		147 A8		152 A8		
	SINGLE (LBS.)	2600	2830	3080	3420	3640	3960	4180	4680	5200	5680	6150	6800	7400	7850		
	DUAL (LBS.)	2290	2490	2710	3010	3200	3480	3680	4120	4580	5000	5410	5980	6510	6910		
	TRIPLE (LBS.)	2130	2320	2530	2800	2980	3250	3430	3840	4260	4660	5040	5580	6070	6440		
480/80R38	LI/ss								142 A8		149 A8						
	SINGLE (LBS.)	3300	3640	3960	4300	4540	4940	5200	5840	6600	7150						
	DUAL (LBS.)	2900	3200	3480	3780	4000	4350	4580	5140	5810	6290						
	TRIPLE (LBS.)	2710	2980	3250	3530	3720	4050	4260	4790	5410	5860						

NOTE: LI/ss - Load Index/Speed Symbol.

# LOAD & INFLATION TABLE (KG@kPa)

**Radial Ply - Symbol Marked**

**Metric Size Agricultural Tractor Drive Wheel Tires**

**Used in Field Service and Speeds Up To 40 KPH**

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 40 KPH (25 MPH)

Tire Size	TIRE LOAD LIMITS (KG) AT VARIOUS COLD INFLATION PRESSURES (kPa)																
	Inflation (kPa)	40	50	60	70	80	90	100	120	140	160	180	200	220	240	280	320
	Inflation (bar)	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.8	3.2
380/80R38	LI/ss								130 A8		137 A8		140 A8		142 A8		
	SINGLE (KG)	1030	1150	1250	1360	1450	1550	1650	1900	2060	2300	2430	2500	2575	2650		
	DUAL (KG)	905	1010	1100	1195	1275	1365	1450	1670	1815	2025	2140	2200	2265	2330		
	TRIPLE (KG)	845	945	1025	1115	1190	1270	1355	1560	1690	1885	1995	2050	2110	2175		
380/85R34	LI/ss								129 A8		137 A8		140 A8				
	SINGLE (KG)	1030	1150	1250	1360	1450	1550	1650	1850	2060	2300	2430	2500				
	DUAL (KG)	905	1010	1100	1195	1275	1365	1450	1630	1815	2025	2140	2200				
	TRIPLE (KG)	845	945	1025	1115	1190	1270	1355	1515	1690	1885	1995	2050				
380/90R46	LI/ss								137 A8		144 A8		147 A8		149 A8		
	SINGLE (KG)	1285	1400	1500	1650	1750	1900	2000	2300	2500	2800	2900	3075	3150	3250		
	DUAL (KG)	1130	1230	1320	1450	1540	1670	1760	2025	2200	2465	2550	2705	2770	2860		
	TRIPLE (KG)	1055	1150	1230	1355	1435	1560	1640	1885	2050	2295	2380	2520	2585	2665		
380/90R50	LI/ss								138 A8		145 A8		148 A8		151 A8		
	SINGLE (KG)	1320	1450	1600	1700	1850	2000	2120	2360	2650	2900	3075	3150	3350	3450		
	DUAL (KG)	1160	1275	1410	1495	1630	1760	1865	2075	2330	2550	2705	2770	2950	3035		
	TRIPLE (KG)	1080	1190	1310	1395	1515	1640	1740	1935	2175	2380	2520	2585	2745	2830		
420/80R46	LI/ss								139 A8		145 A8		151 A8				
	SINGLE (KG)	1320	1450	1600	1750	1850	2000	2120	2430	2650	2900	3250	3450				
	DUAL (KG)	1160	1275	1410	1540	1630	1760	1865	2140	2330	2550	2860	3035				
	TRIPLE (KG)	1080	1190	1310	1435	1515	1640	1740	1995	2175	2380	2665	2830				
420/85R28	LI/ss								132 A8		139 A8						
	SINGLE (KG)	1120	1215	1320	1450	1550	1650	1750	2000	2240	2430						
	DUAL (KG)	985	1070	1160	1275	1365	1450	1540	1760	1970	2140						
	TRIPLE (KG)	920	995	1080	1190	1270	1355	1435	1640	1835	1995						
420/90R30	LI/ss								135 A8		142 A8						
	SINGLE (KG)	1215	1320	1450	1550	1700	1800	1900	2180	2430	2650						
	DUAL (KG)	1070	1160	1275	1365	1495	1585	1670	1920	2140	2330						
	TRIPLE (KG)	995	1080	1190	1270	1395	1475	1560	1790	1995	2175						
440/80R28	LI/ss								132 A8		140 A8						
	SINGLE (KG)	1120	1250	1360	1450	1600	1700	1800	2000	2240	2500						
	DUAL (KG)	985	1100	1195	1275	1410	1495	1585	1760	1970	2200						
	TRIPLE (KG)	920	1025	1115	1190	1310	1395	1475	1640	1835	2050						
480/70R28	LI/ss								133 A8		140 A8						
	SINGLE (KG)	1150	1250	1360	1500	1600	1700	1850	2060	2300	2500						
	DUAL (KG)	1010	1100	1195	1320	1410	1495	1630	1815	2025	2200						
	TRIPLE (KG)	945	1025	1115	1230	1310	1395	1515	1690	1885	2050						
480/70R30	LI/ss								134 A8		141 A8		147 A8		152 A8		
	SINGLE (KG)	1180	1285	1400	1550	1650	1800	1900	2120	2360	2575	2800	3075	3350	3550		
	DUAL (KG)	1040	1130	1230	1365	1450	1585	1670	1865	2075	2265	2465	2705	2950	3125		
	TRIPLE (KG)	970	1055	1150	1270	1355	1475	1560	1740	1935	2110	2295	2520	2745	2910		
480/80R38	LI/ss								142 A8		149 A8						
	SINGLE (KG)	1500	1650	1800	1950	2060	2240	2360	2650	3000	3250						
	DUAL (KG)	1320	1450	1585	1715	1815	1970	2075	2330	2640	2860						
	TRIPLE (KG)	1230	1355	1475	1600	1690	1835	1935	2175	2460	2665						

NOTE: LI/ss - Load Index/Speed Symbol.

# LOAD & INFLATION TABLE (LBS.@PSI)

**Radial Ply - Symbol Marked**

**Metric Size Agricultural Tractor Drive Wheel Tires**

**Used in Field Service and Speeds Up To 25 MPH**

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 25 MPH

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)																
	Inflation (psi)	6	7	9	10	12	13	15	17	20	23	26	29	32	35	41	46
480/80R42	LI/ss								144 A8		151 A8						
	SINGLE (LBS.)	3420	3740	4080	4400	4800	5200	5520	6150	6950	7600						
	DUAL (LBS.)	3010	3290	3590	3870	4220	4580	4860	5410	6120	6690						
	TRIPLE (LBS.)	2800	3070	3350	3610	3940	4260	4530	5040	5700	6230						
480/80R46	LI/ss								145 A8		152 A8		155 A8		158 A8		
	SINGLE (LBS.)	3640	3960	4300	4680	5080	5360	5680	6400	7150	7850	8250	8550	9100	9350		
	DUAL (LBS.)	3200	3480	3780	4120	4470	4720	5000	5630	6290	6910	7260	7520	8010	8230		
	TRIPLE (LBS.)	2980	3250	3530	3840	4170	4400	4660	5250	5860	6440	6770	7010	7460	7670		
480/85R34	LI/ss								142 A8		149 A8						
	SINGLE (LBS.)	3300	3640	3960	4300	4540	4940	5200	5840	6600	7150						
	DUAL (LBS.)	2900	3200	3480	3780	4000	4350	4580	5140	5810	6290						
	TRIPLE (LBS.)	2710	2980	3250	3530	3720	4050	4260	4790	5410	5860						
520/85R38	LI/ss								148 A8		155 A8						
	SINGLE (LBS.)	3860	4300	4680	5080	5520	5840	6150	6950	7850	8550						
	DUAL (LBS.)	3400	3780	4120	4470	4860	5140	5410	6120	6910	7520						
	TRIPLE (LBS.)	3170	3530	3840	4170	4530	4790	5040	5700	6440	7010						
520/85R42	LI/ss								150 A8		157 A8						
	SINGLE (LBS.)	4080	4540	4940	5360	5680	6150	6600	7400	8250	9100						
	DUAL (LBS.)	3590	4000	4350	4720	5000	5410	5810	6510	7260	8010						
	TRIPLE (LBS.)	3350	3720	4050	4400	4660	5040	5410	6070	6770	7460						
520/85R46	LI/ss								151 A8		158 A8						
	SINGLE (LBS.)	4300	4680	5080	5520	6000	6400	6800	7600	8550	9350						
	DUAL (LBS.)	3780	4120	4470	4860	5280	5630	5980	6690	7520	8230						
	TRIPLE (LBS.)	3530	3840	4170	4530	4920	5250	5580	6230	7010	7670						
540/65R30	LI/ss								138 A8		143 A8		147 A8		150 A8		
	SINGLE (LBS.)	2830	3080	3420	3740	3960	4300	4540	5200	5680	6000	6400	6800	6950	7400		
	DUAL (LBS.)	2490	2710	3010	3290	3480	3780	4000	4580	5000	5280	5630	5980	6120	6510		
	TRIPLE (LBS.)	2320	2530	2800	3070	3250	3530	3720	4260	4660	4920	5250	5580	5700	6070		
600/65R28	LI/ss								142 A8		147 A8						
	SINGLE (LBS.)	3300	3520	3860	4180	4540	4940	5200	5840	6400	6800						
	DUAL (LBS.)	2900	3100	3400	3680	4000	4350	4580	5140	5630	5980						
	TRIPLE (LBS.)	2710	2890	3170	3430	3720	4050	4260	4790	5250	5580						
620/70R42	LI/ss								153 A8		160 A8						
	SINGLE (LBS.)	4540	4940	5360	5840	6400	6800	7150	8050	9100	9900						
	DUAL (LBS.)	4000	4350	4720	5140	5630	5980	6290	7080	8010	8710						
	TRIPLE (LBS.)	3720	4050	4400	4790	5250	5580	5860	6600	7460	8120						
620/75R26	LI/ss								148 A8		153 A8		157 A8		160 A8		166 A8
	SINGLE (LBS.)	3860	4300	4680	5080	5520	5840	6150	6950	7850	8050	8550	9100	9350	9900	11000	11700
	DUAL (LBS.)	3400	3780	4120	4470	4860	5140	5410	6120	6910	7080	7520	8010	8230	8710	9680	10300
	TRIPLE (LBS.)	3170	3530	3840	4170	4530	4790	5040	5700	6440	6600	7010	7460	7670	8120	9020	9590
650/65R42	LI/ss								153 A8		158 A8		162 A8		165 A8		170 A8
	SINGLE (LBS.)	4400	4940	5360	5840	6150	6600	7150	8050	8800	9350	9900	10500	11000	11400	12300	13200
	DUAL (LBS.)	3870	4350	4720	5140	5410	5810	6290	7080	7740	8230	8710	9240	9680	10030	10820	11620
	TRIPLE (LBS.)	3610	4050	4400	4790	5040	5410	5860	6600	7220	7670	8120	8610	9020	9350	10090	10820

NOTE: LI/ss - Load Index/Speed Symbol.

# LOAD & INFLATION TABLE (KG@kPa)

**Radial Ply - Symbol Marked**

**Metric Size Agricultural Tractor Drive Wheel Tires**

**Used in Field Service and Speeds Up To 40 KPH**

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 40 KPH (25 MPH)

Tire Size	TIRE LOAD LIMITS (KG) AT VARIOUS COLD INFLATION PRESSURES (kPa)																
	Inflation (kPa)	40	50	60	70	80	90	100	120	140	160	180	200	220	240	280	320
	Inflation (bar)	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.8	3.2
480/80R42	LI/ss								144 A8		151 A8						
	SINGLE (KG)	1550	1700	1850	2000	2180	2360	2500	2800	3150	3450						
	DUAL (KG)	1365	1495	1630	1760	1920	2075	2200	2465	2770	3035						
	TRIPLE (KG)	1270	1395	1515	1640	1790	1935	2050	2295	2585	2830						
480/80R46	LI/ss								145 A8		152 A8		155 A8		158 A8		
	SINGLE (KG)	1650	1800	1950	2120	2300	2430	2575	2900	3250	3550	3750	3875	4125	4250		
	DUAL (KG)	1450	1585	1715	1865	2025	2140	2265	2550	2860	3125	3300	3410	3630	3740		
	TRIPLE (KG)	1355	1475	1600	1740	1885	1995	2110	2380	2665	2910	3075	3180	3385	3485		
480/85R34	LI/ss								142 A8		149 A8						
	SINGLE (KG)	1500	1650	1800	1950	2060	2240	2360	2650	3000	3250						
	DUAL (KG)	1320	1450	1585	1715	1815	1970	2075	2330	2640	2860						
	TRIPLE (KG)	1230	1355	1475	1600	1690	1835	1935	2175	2460	2665						
520/85R38	LI/ss								148 A8		155 A8						
	SINGLE (KG)	1750	1950	2120	2300	2500	2650	2800	3150	3550	3875						
	DUAL (KG)	1540	1715	1865	2025	2200	2330	2465	2770	3125	3410						
	TRIPLE (KG)	1435	1600	1740	1885	2050	2175	2295	2585	2910	3180						
520/85R42	LI/ss								150 A8		157 A8						
	SINGLE (KG)	1850	2060	2240	2430	2575	2800	3000	3350	3750	4125						
	DUAL (KG)	1630	1815	1970	2140	2265	2465	2640	2950	3300	3630						
	TRIPLE (KG)	1515	1690	1835	1995	2110	2295	2460	2745	3075	3385						
520/85R46	LI/ss								151 A8		158 A8						
	SINGLE (KG)	1950	2120	2300	2500	2725	2900	3075	3450	3875	4250						
	DUAL (KG)	1715	1865	2025	2200	2400	2550	2705	3035	3410	3740						
	TRIPLE (KG)	1600	1740	1885	2050	2235	2380	2520	2830	3180	3485						
540/65R30	LI/ss								138 A8		143 A8		147 A8		150 A8		
	SINGLE (KG)	1285	1400	1550	1700	1800	1950	2060	2360	2575	2725	2900	3075	3150	3350		
	DUAL (KG)	1130	1230	1365	1495	1585	1715	1815	2075	2265	2400	2550	2705	2770	2950		
	TRIPLE (KG)	1055	1150	1270	1395	1475	1600	1690	1935	2110	2235	2380	2520	2585	2745		
600/65R28	LI/ss								142 A8		147 A8						
	SINGLE (KG)	1500	1600	1750	1900	2060	2240	2360	2650	2900	3075						
	DUAL (KG)	1320	1410	1540	1670	1815	1970	2075	2330	2550	2705						
	TRIPLE (KG)	1230	1310	1435	1560	1690	1835	1935	2175	2380	2520						
620/70R42	LI/ss								153 A8		160 A8						
	SINGLE (KG)	2060	2240	2430	2650	2900	3075	3250	3650	4125	4500						
	DUAL (KG)	1815	1970	2140	2330	2550	2705	2860	3210	3630	3960						
	TRIPLE (KG)	1690	1835	1995	2175	2380	2520	2665	2995	3385	3690						
620/75R26	LI/ss								148 A8		153 A8		157 A8		160 A8		166 A8
	SINGLE (KG)	1750	1950	2120	2300	2500	2650	2800	3150	3550	3650	3875	4125	4250	4500	5000	5300
	DUAL (KG)	1540	1715	1865	2025	2200	2330	2465	2770	3125	3210	3410	3630	3740	3960	4400	4665
	TRIPLE (KG)	1435	1600	1740	1885	2050	2175	2295	2585	2910	2995	3180	3385	3485	3690	4100	4345
650/65R42	LI/ss								153 A8		158 A8		162 A8		165 A8		170 A8
	SINGLE (KG)	2000	2240	2430	2650	2800	3000	3250	3650	4000	4250	4500	4750	5000	5150	5600	6000
	DUAL (KG)	1760	1970	2140	2330	2465	2640	2860	3210	3520	3740	3960	4180	4400	4530	4930	5280
	TRIPLE (KG)	1640	1835	1995	2175	2295	2460	2665	2995	3280	3485	3690	3895	4100	4225	4590	4920

NOTE: LI/ss - Load Index/Speed Symbol.

# LOAD & INFLATION TABLE (LBS.@PSI)

**Radial Ply - Symbol Marked**

**Metric Size Agricultural Tractor Drive Wheel Tires**

**Used in Field Service and Speeds Up To 25 MPH**

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 25 MPH

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)																
	Inflation (psi)	6	7	9	10	12	13	15	17	20	23	26	29	32	35	41	46
650/75R32	LI/ss								154 A8		160 A8		164 A8		167 A8		172 A8
	SINGLE (LBS.)	4540	5080	5520	6000	6400	6950	7400	8250	9100	9900	10700	11000	11400	12000	12800	13900
	DUAL (LBS.)	4000	4470	4860	5280	5630	6120	6510	7260	8010	8710	9420	9680	10030	10560	11260	12230
	TRIPLE (LBS.)	3720	4170	4530	4920	5250	5700	6070	6770	7460	8120	8770	9020	9350	9840	10500	11400
650/75R34	LI/ss								155 A8		162 A8						
	SINGLE (LBS.)	4680	5200	5680	6150	6600	7150	7600	8550	9350	10500						
	DUAL (LBS.)	4120	4580	5000	5410	5810	6290	6690	7520	8230	9240						
	TRIPLE (LBS.)	3840	4260	4660	5040	5410	5860	6230	7010	7670	8610						
710/70R38	LI/ss								159 A8		166 A8						
	SINGLE (LBS.)	5360	5840	6400	6950	7400	8050	8550	9650	10700	11700						
	DUAL (LBS.)	4720	5140	5630	6120	6510	7080	7520	8490	9420	10300						
	TRIPLE (LBS.)	4400	4790	5250	5700	6070	6600	7010	7910	8770	9590						
710/70R42	LI/ss								160 A8		168 A8						
	SINGLE (LBS.)	5520	6150	6600	7150	7850	8250	8800	9900	11000	12300						
	DUAL (LBS.)	4860	5410	5810	6290	6910	7260	7740	8710	9680	10820						
	TRIPLE (LBS.)	4530	5040	5410	5860	6440	6770	7220	8120	9020	10090						
800/65R32	LI/ss								159 A8		167 A8		169 A8		172 A8		
	SINGLE (LBS.)	5360	6000	6600	6950	7600	8050	8800	9650	10700	12000	12300	12800	13600	13900		
	DUAL (LBS.)	4720	5280	5810	6120	6690	7080	7740	8490	9420	10560	10820	11260	11970	12230		
	TRIPLE (LBS.)	4400	4920	5410	5700	6230	6600	7220	7910	8770	9840	10090	10500	11150	11400		
900/50R42	LI/ss								161 A8		168 A8						
	SINGLE (LBS.)	5680	6150	6800	7400	7850	8550	9100	10200	11400	12300						
	DUAL (LBS.)	5000	5410	5980	6510	6910	7520	8010	8980	10030	10820						
	TRIPLE (LBS.)	4660	5040	5580	6070	6440	7010	7460	8360	9350	10090						

- NOTES
- For shipping purposes, tire inflation pressures may be increased to 30 psi (consult tire manufacturer for minimum tire shipping pressure). Inflation pressure must be reduced to operating inflation before the tractor is removed from the carrier.
  - For above tires used in cyclic loading service (excluding hillside combines) without sustained high torque with speeds up to 5 MPH, above loads may be increased 70% (with 6 psi increase in inflation pressure). This load increase is also applicable to tires used on vehicles with mechanism capable of maintaining tires and wheels in a vertical position on slopes up to 11° (20% grade). Due to higher pressure specified for these tires, the rim and wheel manufacturers must be consulted.
  - For transport service and operations which do not require sustained high torque, the following load limits at various speeds apply with no change in inflation pressure:

MAXIMUM SPEED	% CHANGE IN LOADS IN ABOVE TABLE
10 MPH	+34% (except Hillside Combines)
15 MPH	+11% (except Hillside Combines)
20 MPH	+7%
25 MPH	NONE

4. LI/ss - Load Index/Speed Symbol.

# LOAD & INFLATION TABLE (KG@kPa)

**Radial Ply - Symbol Marked**

**Metric Size Agricultural Tractor Drive Wheel Tires**

**Used in Field Service and Speeds Up To 40 KPH**

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 40 KPH (25 MPH)

Tire Size	TIRE LOAD LIMITS (KG) AT VARIOUS COLD INFLATION PRESSURES (kPa)																
	Inflation (kPa)	40	50	60	70	80	90	100	120	140	160	180	200	220	240	280	320
	Inflation (bar)	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.8	3.2
650/75R32	LI/ss								154 A8		160 A8		164 A8		167 A8		172 A8
	SINGLE (KG)	2060	2300	2500	2725	2900	3150	3350	3750	4125	4500	4875	5000	5150	5450	5800	6300
	DUAL (KG)	1815	2025	2200	2400	2550	2770	2950	3300	3630	3960	4290	4400	4530	4795	5105	5545
	TRIPLE (KG)	1690	1885	2050	2235	2380	2585	2745	3075	3385	3690	4000	4100	4225	4470	4755	5165
650/75R34	LI/ss								155 A8		162 A8						
	SINGLE (KG)	2120	2360	2575	2800	3000	3250	3450	3875	4250	4750						
	DUAL (KG)	1865	2075	2265	2465	2640	2860	3035	3410	3740	4180						
	TRIPLE (KG)	1740	1935	2110	2295	2460	2665	2830	3180	3485	3895						
710/70R38	LI/ss								159 A8		166 A8						
	SINGLE (KG)	2430	2650	2900	3150	3350	3650	3875	4375	4875	5300						
	DUAL (KG)	2140	2330	2550	2770	2950	3210	3410	3850	4290	4665						
	TRIPLE (KG)	1995	2175	2380	2585	2745	2995	3180	3590	4000	4345						
710/70R42	LI/ss								160 A8		168 A8						
	SINGLE (KG)	2500	2800	3000	3250	3550	3750	4000	4500	5000	5600						
	DUAL (KG)	2200	2465	2640	2860	3125	3300	3520	3960	4400	4930						
	TRIPLE (KG)	2050	2295	2460	2665	2910	3075	3280	3690	4100	4590						
800/65R32	LI/ss								159 A8		167 A8		169 A8		172 A8		
	SINGLE (KG)	2430	2725	3000	3150	3450	3650	4000	4375	4875	5450	5600	5800	6150	6300		
	DUAL (KG)	2140	2400	2640	2770	3035	3210	3520	3850	4290	4795	4930	5105	5410	5545		
	TRIPLE (KG)	1995	2235	2460	2585	2830	2995	3280	3590	4000	4470	4590	4755	5045	5165		
900/50R42	LI/ss								161 A8		168 A8						
	SINGLE (KG)	2575	2800	3075	3350	3550	3875	4125	4625	5150	5600						
	DUAL (KG)	2265	2465	2705	2950	3125	3410	3630	4070	4530	4930						
	TRIPLE (KG)	2110	2295	2520	2745	2910	3180	3385	3795	4225	4590						

- NOTES
- For shipping purposes, tire inflation pressures may be increased to 30 psi (consult tire manufacturer for minimum tire shipping pressure). Inflation pressure must be reduced to operating inflation before the tractor is removed from the carrier.
  - For above tires used in cyclic loading service (excluding hillside combines) without sustained high torque with speeds up to 5 MPH, above loads may be increased 70% (with 6 psi increase in inflation pressure). This load increase is also applicable to tires used on vehicles with mechanism capable of maintaining tires and wheels in a vertical position on slopes up to 11° (20% grade). Due to higher pressure specified for these tires, the rim and wheel manufacturers must be consulted.
  - For transport service and operations which do not require sustained high torque, the following load limits at various speeds apply with no change in inflation pressure:

MAXIMUM SPEED	% CHANGE IN LOADS IN ABOVE TABLE
10 MPH	+34% (except Hillside Combines)
15 MPH	+11% (except Hillside Combines)
20 MPH	+7%
25 MPH	NONE

4. LI/ss - Load Index/Speed Symbol.

# LOAD & INFLATION TABLE

**Diagonal (Bias) Ply Tires**

**Agricultural Tractor Drive Wheel Tires Used As Singles**

**Used in Field Service and Speeds Up To 25 MPH**

BASIC TIRE LOAD VALUES FOR TIRE SELECTION

## Maximum Speed - 25 MPH

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)											
	12	14	16	18	20	22	24	26	28	30	32	
8.3-16	640	715	760	825	880	935(4)	965	1020	1070	1100	1140	1200@34(6)
8.3-24	880	965	1020	1100	1170	1230(4)						
9.5-16	825	910	965	1050	1100(4)	1170	1230	1280	1360	1390(6)		
9.5-24	1100	1200	1280	1390	1480(4)	1570	1650	1710	1820	1870(6)		
11.2-24	1320	1430	1570	1650(4)	1760	1870	1980	2090(6)				
11.2-28	1390	1520	1650	1760(4)								
11.2-36	1570	1760	1870	2040(4)								
11.2-38	1650	1760	1930	2090(4)								
12.4-16	1200	1320	1430	1520	1650	1710	1820	1930	1980	2090	2150(8)	2760@48(12)
12.4-24	1570	1710	1870(4)	1980	2150	2270	2400(6)	2470	2600	2680	2830(8)	
12.4-28	1710	1870	1980(4)									
12.4-38	1980	2150	2340(4)	2470	2600	2760	2910(6)					
12.4-42	2040	2270	2470(4)	2600	2760	2910	3080(6)					
13.6-24	*1870	2040(4)	2200	2340	2540	2680(6)	2830	2910	3080(8)			
13.6-28	*1980	2200(4)	2340	2540	2680	2830(6)	3000	3080	3300(8)	3420	3520	3740@36(10)
13.6-38	*2340	2540(4)	2760	2910	3080	3300(6)						
14.9-24	*2200	2400	2600	2830	3000(6)	3200	3300	3520(8)	3640	3740	3960	4400@38(12)
14.9-26	*2270	2540	2680	2910	3080(6)	3300	3420	3640	3740	3960	4080(10)	
14.9-28	*2340	2600	2830	3000	3200(6)	3420	3520	3740(8)	3860	4080	4180(10)	
14.9-30	*2470	2680	2910	3080	3300(6)	3520	3640	3860(8)	3960	4180	4300(10)	
14.9-38	*2760	3000	3300	3520	3740(6)							
15.5-38	*2600	2830	3080	3300	3520(6)							
16.9-24	*2680	*2910	3200	3420(6)	3640	3860	4080(8)	4300	4400(10)			
16.9-26	*2760	*3080	3300	3520(6)	3740	3960	4180	4400	4540(10)			
16.9-28	*2910	*3200	3420	3640(6)	3860	4080	4300(8)	4540	4680(10)			
16.9-30	*3000	*3300	3520	3740(6)	3960	4180	4400(8)	4680	4940(10)			
16.9-34	*3200	*3420	3740	3960(6)	4300	4540	4680(8)	4940	5200(10)			
16.9-38	*3300	*3640	3960	4180(6)	4540	4800	4940(8)					
18.4-16.1	*2150	*2340	2540(6)	2680	2910(8)							
18.4-24	*3200	*3520	3860(6)	4080	4400(8)	4540	4800	5080(10)	5360	5520	5680(12)	
18.4-26	*3300	*3640	3960(6)	4180	4540	4800	4940	5200(10)				
18.4-28	*3420	*3740	4080(6)	4400	4680(8)	4940	5200	5360(10)	5680	5840	6150(12)	
18.4-30	*3520	*3860	4180(6)	4540	4800(8)	5080	5360	5520(10)				
18.4-34	*3740	*4180	4400(6)	4800	5080(8)							
18.4-38	*3960	*4400	4680(6)	5080	5360(8)	5680	6000	6400(10)	6600	6800	7150(12)	
18.4-42	*4180	*4680	4940	5360	5680(8)	6000	6400	6600(10)				
20.8-34	*4540	*4940	5360	5840(8)	6150	6600(10)						
20.8-38	*4800	*5360	5680	6150(8)	6600	6950(10)	7150	7600	7850	8250	8550(14)	
20.8-42	*5080	*5520	6000	6400	6950	7400(10)						
23.1-26	*4800	*5200	5680(8)	6000	6400(10)	6800	7150(12)	7600	7600	7850(14)		
23.1-30	*5080	*5520	6000(8)	6400	6800(10)							
23.1-34	*5360	*5840	6400(8)	6800	7400(10)							
24.5-32	*5840	*6400	6800	7400	7850(10)	8250	8800(12)					

# LOAD & INFLATION TABLE

## Diagonal (Bias) Ply Tires

### Agricultural Tractor Drive Wheel Tires Used As **Singles** Used in Field Service and Speeds Up To 25 MPH

BASIC TIRE LOAD VALUES FOR TIRE SELECTION

## Maximum Speed - 25 MPH

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)										
	12	14	16	18	20	22	24	26	28	30	
17.5L-24	*2600	*2830	3080(6)	3300	3520	3640(8)	3860	4080	4180(10)		
19.5L-24	*3080	*3420	3640	3860	4180(8)	4400	4680(10)	4800	5080	5200(12)	
21L-24	*3640	*3960	4300	4540	4800	5080(10)	5360	5680	5840(12)	6150	6800@36(16)
28L-26	*5520	*6000	6600	6950(10)	7400(12)						
30.5L-32	*6950	*7600	8250(10)	8800	9350(12)	9900(14)	10500	11000(16)			

\*Values at these inflation pressures are for determination of Dual Loads only.

- NOTES
- Figures in parentheses denote ply rating for which loads and inflations are maximum.
  - When used as duals, tire loads must be reduced. Multiply figures in above table by .88.
  - When used as triples, tire loads must be reduced. Multiply figures in above table by .82.
  - For shipping purposes, tire inflation pressures may be increased to 30 psi (consult tire manufacturer for minimum tire shipping pressure). Inflation pressure must be reduced to operating inflation before the tractor is removed from the carrier.
  - For R-3 tires used in free rolling service at speeds up to 10 MPH maximum, above loads may be increased 50% with a 4 psi increase in inflation pressure.
  - For R-4 tires in transport service, see Load & Inflation Table "Agricultural R-4 Drive Wheel Tires Used on Industrial Tractors".
  - For above tires used in cyclic loading service (excluding hillside combines) without sustained high torque with speeds up to 5 MPH, above loads may be increased 87% (with 30% psi increase in inflation pressure). This load increase is also applicable to tires used on vehicles with mechanism capable of maintaining tires and wheels in a vertical position on slopes up to 11' (20% grade). Due to higher pressure specified for these tires, the rim and wheel manufacturers must be consulted.
  - For FIELD SERVICE at high torque (i.e. tillage), basic tire loads in the above table may be increased 11% ONLY IF THE TRACTOR TRANSPORT SPEED CAPABILITY IS 20 MPH OR LESS.
  - For R-1, R-2 and R-3 tires in transport service and operations which do not require sustained high torque, the following load limits at various speeds apply:

MAXIMUM SPEED	% CHANGE IN LOADS IN ABOVE TABLE	CHANGE IN INFL. PRESS
10 MPH	+33% (except Hillside Combines)	None
15 MPH	+22% (except Hillside Combines)	None
20 MPH	+11% (except Hillside Combines)	None
25 MPH	SAME AS ABOVE TABLE	None

- For above tires used in irrigation service @ creep speed (less than 200 ft. in a 30 minute period) above loads may be increased 78% (with a 4 psi increase in inflation pressure).

# LOAD & INFLATION TABLE

## Diagonal Bias Ply

### Agricultural Tractor Drive Wheel Tires Used as **Duals**

### Used in Field Service and Speeds Up To 25 MPH

(TIRE MUST ALSO MEET TIRE PTO HORSEPOWER CAPACITY, SEE TABLE OF CONTENTS)

## Maximum Speed - 25 MPH

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)										
	12	14	16	18	20	22	24	26	28	30	32
18.4-34	3290	3680	3870 (6)	4220	4470 (8)						
18.4-38	3480	3870	4120 (6)	4470	4720 (8)	5000	5280	5630 (10)	5810	5980	6290 (12)
18.4-42	3680	4120	4350	4720	5000 (8)	5280	5630	5810 (10)			
20.8-34	4000	4350	4720	5140 (8)	5410	5810 (10)					
20.8-38	4220	4720	5000	5410 (8)	5810	6120 (10)	6290	6690	6910	7260	7520 (14)
20.8-42	4470	4860	5280	5630	6120	6510 (10)					
23.1-26	4220	4580	5000 (8)	5280	5630 (10)	5980	6290 (12)				
23.1-30	4470	4860	5280 (8)	5630	5980 (10)						
23.1-34	4720	5140	5630 (8)	5980	6510 (10)						
24.5-32	5140	5630	5980	6510	6910 (10)	7260	7740 (12)				
28L-26	4860	5280	5810	6120 (10)	6510 (12)						
30.5L-32	6120	6690	7260 (10)	7740	8230 (12)	8710 (14)					

- NOTES:
1. Figures in parentheses denote ply rating for which loads and inflations are maximum.
  2. For shipping purposes, tire inflation pressure may be increased to 30 psi. Inflation pressure must be reduced to operation inflation before the tractor is removed from the carrier.
  3. For above tires used in cyclic loading service (excluding hillside combines) without sustained high torque with speeds up to 5 MPH, above loads may be increased 87% (with 30% psi increase in inflation pressure). This load increase is also applicable to tires used on vehicles with mechanism capable of maintaining tires and wheels in a vertical position on slopes up to 11' (20% grade). Due to higher pressure specified for these tires, the rim and wheel manufacturers must be consulted.
  4. For R-1, R-2 and R-3 tires in transport service and operations which do not require sustained high torque, the following load limits at various speeds apply:

MAXIMUM SPEED	% CHANGE IN LOADS IN ABOVE TABLE	CHANGE IN INFL. PRESS
10 MPH	+33% (except Hillside Combines)	None
15 MPH	+22% (except Hillside Combines)	None
20 MPH	+11% (except Hillside Combines)	None
25 MPH	SAME AS ABOVE TABLE	None

# LOAD & INFLATION TABLE

## Radial Ply

### Agricultural R-4 Drive Wheel Tires Used On Industrial Tractors

Tires Used As Singles With No Sustained High Torque

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)								
	20	23	26	29	32	35	38	41	44
16.9R24	4300	4800	5200	5680	6150	6600	<b>6950 (148 A8)</b>	7400	<b>7600 (151 A8)</b>
16.9R28	4540	5080	5680	6150	6600	6950	<b>7400 (150 A8)</b>	7850	<b>8250 (154 A8)</b>
17.5LR24	4080	4540	5080	5520	5840	6150	<b>6600 (146 A8)</b>	6950	<b>7400 (150 A8)</b>
19.5LR24	4940	5520	6000	6600	6950	7400	<b>7850 (152 A8)</b>	8250	<b>8800 (156 A8)</b>

NOTE: 1. Bold face denotes maximum load for the Service Description (Load Index Speed Symbol) in parenthesis.  
 2. Above loads and inflation pressures are for transport service @ speeds up to 25 MPH.  
 3. For field or other usage refer to table on Pages 94-97.

## Diagonal Bias Ply

### Agricultural R-4 Drive Wheel Tires Used On Industrial Tractors

Tires Used As Singles With No Sustained High Torque

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)								
	18	20	22	24	26	28	30	32	
14.9-24	3520	3740	4080	<b>4300<sup>6</sup></b>	4540	4800	<b>5080<sup>8</sup></b>	5200	<b>6400<sup>12</sup>@42</b>
14.9-28	3740	4080	4300	<b>4680<sup>6</sup></b>	4940	5080	<b>5360<sup>8</sup></b>	5680	<b>6150<sup>10</sup>@36</b>
16.9-24		4680	<b>4940<sup>6</sup></b>	5200	5520	<b>5840<sup>8</sup></b>	6150	<b>6400<sup>10</sup></b>	
16.9-28		4940	<b>5200<sup>6</sup></b>	5680	6000	<b>6150<sup>8</sup></b>	6600	<b>6800<sup>10</sup></b>	
18.4-24		<b>5520<sup>6</sup></b>	5840	<b>6400<sup>8</sup></b>	6600	6950	<b>7400<sup>10</sup></b>	7600	<b>8250<sup>12</sup>@36</b>
18.4-28		<b>5840<sup>6</sup></b>	6400	<b>6800<sup>8</sup></b>	7150	7400	<b>7850<sup>10</sup></b>	8250	<b>8800<sup>12</sup>@36</b>
17.5L-24		<b>4400<sup>6</sup></b>	4680	5080	<b>5360<sup>8</sup></b>	5520	5840	<b>6150<sup>10</sup></b>	
19.5L-24		5200	5680	<b>6000<sup>8</sup></b>	6400	<b>6600<sup>10</sup></b>	6950	7400	<b>7600<sup>12</sup>@34</b>
21L-24		6150	<b>6600<sup>8</sup></b>	6950	<b>7400<sup>10</sup></b>	7850	8050	<b>8550<sup>12</sup></b>	<b>9900<sup>16</sup>@40</b>

NOTES: 1. The small index numbers denote ply rating for which the accompanying loads and inflations are maximum.  
 2. Above loads and inflation pressures are for transport service @ speeds up to 25 MPH.  
 3. For field or other usage refer to table on Pages 108-109.

## Diagonal Bias Ply

### Agricultural R-2 Drive Wheel Tires (Single)

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)						
	30	35	40	45	50	55	60
VA500/95D32							
15 MPH	14080	15410	16660	17850	18980	20070	21120
5 MPH	17600	19260	20830	22310	23730	25090	26400

# CYCLIC SERVICE LOAD & INFLATION TABLE

**RADIAL PLY AGRICULTURAL DRIVE WHEEL TIRES  
USED IN CYCLIC LOADING FIELD SERVICE**

**(EXCLUDING HILLSIDE COMBINES)**

**TIRES USED AS SINGLES**

## Maximum Speed - 5 MPH

Tire Size	Load Indicator/ Ply Rating	MAXIMUM LOAD RATING			
		LOAD		INFLATION PRESSURE	
		LBS.	KG	PSI	kPa
18.4R38	★	9660	4380	24	160
18.4R38	★★	11220	5100	30	210
18.4R42	★	10200	4635	24	160
18.4R42	★★	11820	5355	30	210
20.8R38	★	11560	5230	24	160
20.8R38	★★	13690	6205	30	210
20.8R42	★	12160	5525	24	160
20.8R42	★★	14540	6590	30	210
24.5R32	★	14030	6375	24	160
30.5LR32	★	16410	7440	24	160
600/65R28	147	11560	5230	29	200
650/75R32	167	20400	9265	41	280
650/75R32	172	23630	10710	52	360
750/65R26	158	15900	7225	29	200
750/65R26	166	19890	9010	41	280
800/65R32	167	20400	9265	29	200
800/65R32	172	23630	10710	41	280

- NOTES
1. For tires used in dual service, above tire load limits must be reduced. Multiply figures in above table by .88.
  2. The load ratings in the above table reflect a different operating duty cycle when compared to agricultural tractors. This cyclic service is intended for use on a vehicle with a minimal requirement for torque transmission and with appreciable total weight fluctuations; e.g., combine grain tanks which are repeatedly filled and emptied. Unloading is to occur before off-field transport.
  3. Due to the higher pressure specified for these tires, the rim and wheel manufacturers must be consulted.
  4. The above loads are also applicable to tires used on vehicles with mechanism capable of maintaining tires and wheels in a vertical position on slopes up to 11' (20% grade).

# CYCLIC SERVICE LOAD & INFLATION TABLE

**DIAGONAL (BIAS) PLY  
AGRICULTURAL DRIVE WHEEL TIRES  
USED IN CYCLIC LOADING FIELD SERVICE  
(EXCLUDING HILLSIDE COMBINES)  
TIRES USED AS SINGLES**

## Maximum Speed - 5 MPH

Tire Size	Ply Rating	MAXIMUM LOAD RATING			
		LOAD		INFLATION PRESSURE	
		LBS.	KG	PSI	kPa
14.9-24	6	5620	2540	26	180
14.9-24	8	6600	2990	34	230
14.9-26	6	5760	2620	26	180
14.9-26	10	7700	3460	42	290
14.9-28	6	5980	2710	26	180
14.9-28	8	7000	3180	34	230
14.9-28	10	7800	3560	42	290
14.9-30	6	6150	2810	26	180
16.9-24	6	6400	2900	24	170
16.9-24	8	7600	3460	32	220
16.9-24	10	8200	3740	36	250
16.9-26	6	6600	2990	24	170
16.9-26	10	8500	3860	36	250
16.9-28	6	6800	3080	24	170
16.9-28	8	8000	3640	32	220
16.9-28	10	8800	3960	36	250
16.9-28	12	10000	4540	44	300
16.9-30	6	7000	3180	24	170
16.9-30	8	8200	3740	32	220
16.9-30	10	9200	4180	36	250
18.4-16.1	8	5440	2470	26	180
18.4-16.1	10	6400	2900	34	230
18.4-16.1	12	7000	3180	42	290
18.4-26	10	9700	4420	34	230
18.4-30	8	9000	4080	26	180

Tire Size	Ply Rating	MAXIMUM LOAD RATING			
		LOAD		INFLATION PRESSURE	
		LBS.	KG	PSI	kPa
18.4-30	10	10300	4680	34	230
18.4-38	8	10000	4540	26	180
18.4-38	10	12000	5420	34	230
18.4-38	12	13400	6080	42	290
18.4-42	8	10600	4820	26	180
18.4-42	10	12300	5620	34	230
20.8-34	8	10900	4960	24	170
20.8-34	10	12300	5620	28	190
20.8-38	8	11500	5240	24	170
20.8-38	10	13000	5900	28	190
20.8-38	14	16000	7250	42	290
20.8-42	10	13800	6250	28	190
23.1-26	10	12000	5420	26	180
23.1-26	12	13400	6100	32	220
23.1-26	14	14700	6650	36	250
23.1-30	10	12700	5760	26	180
23.1-34	10	13800	6250	26	180
24.5-32	10	14700	6650	26	180
24.5-32	12	16500	7500	32	220
28L-26	10	13000	5900	24	170
28L-26	12	13800	6260	26	180
30.5L-32	10	15400	7000	24	170
30.5L-32	12	17500	7950	26	180
30.5L-32	14	18500	8400	28	190
30.5L-32	16	20600	9350	34	230

- NOTES
1. For tires used in dual service, above tire load limits must be reduced. Multiply figures in above table by .88.
  2. The load ratings in the above table reflect a different operating duty cycle when compared to agricultural tractors. This cyclic service is intended for use on a vehicle with a minimal requirement for torque transmission and with appreciable total weight fluctuations; e.g., combine grain tanks which are repeatedly filled and emptied. Unloading is to occur before off-field transport.
  3. Due to the higher pressure specified for these tires, the rim and wheel manufacturers must be consulted.
  4. The above loads are also applicable to tires used on vehicles with mechanism capable of maintaining tires and wheels in a vertical position on slopes up to 11' (20% grade).

# LOAD & INFLATION TABLE

## High Flotation Tires Used In Agricultural, Logging And Off-the-Road Service

MAXIMUM SPEED – 30 MPH

Tire Size	30 MPH TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)										
	10	15	20	25	30	35	40	45	50	55	60
25x7.50-15NHS	505	640	760	855	965 <sup>4</sup>	1050	1140	1230 <sup>6</sup>	1280	1360	1430 <sup>8</sup>
25x12.50-15NHS	550	695	825 <sup>4</sup>	935	1050 <sup>6</sup>						
27x8.50-15NHS	640	805 <sup>2</sup>	965	1100	1230 <sup>4</sup>	1320	1430	1570 <sup>6</sup>			
27x9.50-15NHS	660	855	990	1140	1280 <sup>4</sup>	1390	1480	1610 <sup>6</sup>	1710	1820	1870 <sup>8</sup>
27x10.50-15NHS	695	880	1020	1170	1320	1430	1520	1650 <sup>6</sup>			
29x12.50-15NHS	880 <sup>2</sup>	1140	1320 <sup>4</sup>								
31x12.50-15NHS	1100	1430	1650 <sup>4</sup>								
31x13.50-15NHS	1100	1390	1650 <sup>4</sup>	1870	2090						
31x15.50-15NHS	1140 <sup>2</sup>	1430	1710 <sup>4</sup>	1930	2150 <sup>6</sup>	2340	2540	2760 <sup>8</sup>			
33x12.50-15NHS	1390	1760	2090 <sup>4</sup>								
36x13.50-15NHS	1760	2200	2600 <sup>4</sup>								
38x14.00-20NHS	1390	1760	2090	<b>2340<sup>4</sup></b>							
38x18.00-20NHS	1430	1820	2150	2400	2680	<b>3000<sup>8</sup></b>					
38x20.00-16.1NHS	2090	2680	<b>3200<sup>4</sup></b>	3640	<b>3960<sup>6</sup></b>	<b>4400<sup>8</sup></b>	4800	<b>5080<sup>10</sup></b>			
41x14.00-20NHS	1820	2340	2760	<b>3080<sup>4</sup></b>							
42x25.00-20NHS	1980	2540	3000	3420	<b>3740<sup>8</sup></b>	<b>4180<sup>10</sup></b>	4400	<b>4800<sup>12</sup></b>			
44x18.00-20NHS	2270	2830	<b>3420<sup>4</sup></b>								
44x41.00-20NHS	2680	3420	3960	<b>4540<sup>10</sup></b>							
48x20.00-24NHS	2540	3200	3740	4300	4800	<b>5200<sup>8</sup></b>					
48x25.00-20NHS	3000	3740	<b>4400<sup>6</sup></b>	5080	<b>5680<sup>8</sup></b>	<b>6150<sup>10</sup></b>	6600	7150	<b>7600<sup>14</sup></b>		
48x31.00-20NHS	3080	3960	<b>4680<sup>6</sup></b>	<b>5360<sup>8</sup></b>	<b>5840<sup>10</sup></b>	6400	<b>6950<sup>12</sup></b>	<b>7400<sup>14</sup></b>			
54x31.00-26NHS	3520	<b>4540</b>	<b>5360<sup>6</sup></b>	<b>6150<sup>8</sup></b>	<b>6800<sup>10</sup></b>						
66x43.00-25NHS	5840	<b>7400<sup>6</sup></b>	<b>8800<sup>8</sup></b>	<b>9900<sup>10</sup></b>	<b>11000<sup>12</sup></b>						
66x44.00-25NHS	6000	7600 <sup>6</sup>	9100	10200 <sup>10</sup>	11400	12800	13600 <sup>16</sup>				
67x34.00-25NHS	5840	7400	8800	10200 <sup>8</sup>	11400 <sup>10</sup>	12300 <sup>12</sup>	13200 <sup>14</sup>				
67x34.00-26NHS	5840	7400	8800	9900 <sup>8</sup>	11000 <sup>10</sup>	12000 <sup>12</sup>	13200 <sup>14</sup>				
67x34.00-30NHS	5200	6600	7850	8800 <sup>8</sup>	9900 <sup>10</sup>	11000 <sup>12</sup>					
VA73x44.00-32	6800	8550	10200	11700	12800 <sup>12</sup>	14300	15200 <sup>16</sup>				

NOTES: 1: The small index numbers denote ply rating for which accompanying loads and inflations are maximum.

2: For operations at other speeds with no change in inflation pressure, the loads in the above table may be changed as follows:

MAXIMUM SPEED (mph)	% CHANGE IN LOADS
20	+12
10	+32
5	+58
*CREEP	+100
STATIONARY	+165

\* Creep speed is a travel rate of not over 200 feet in a 30 minute period.

3: For variable loading operations where loads increase or decrease, the load per tire when the vehicle is empty must be less than 40 percent of the load on the tire when the vehicle is fully loaded. Maximum load may not be carried for more than one mile before unloading operation starts. Loading or unloading must be completed within one mile. The following factors apply to the loads and inflation pressures in the above load & inflation table:

MAXIMUM SPEED (mph)	% CHANGE IN LOADS	CHANGE IN (COLD) INFL. PRESSURE (PSI)
20	+50	+5
15	+70	+5
10	+85	+5

# TERRA-TIRE SPECIAL SERVICE LOAD & INFLATION TABLE

**Max distance 10 Miles\***

**Operation – Transport Over Maintained Surface\***

MAXIMUM SPEED – 30 MPH\*      LOADS (lbs.) AT VARIOUS INFLATION PRESSURES (psi-cold)

Tire Size	15	20	25	30	35	40	45	50	55
66x43.00-25 NHS	7605	9640 <sup>6</sup>	11410 <sup>8</sup>	13660 <sup>10</sup>	15200 <sup>12</sup>	16630	17980	19260	20480 <sup>20</sup>
66x44.00-25NHS	7850	9950 <sup>6</sup>	11780	14100	15690	17160	18560 <sup>16</sup>		
67x34.00-25 NHS	7670	9740	11530 <sup>8</sup>	13810 <sup>10</sup>					

(Pressures Have Been Increased 5 psi Over Rated)

\*CAUTION – Tire failure could occur if recommended is exceeded.

## LOGGING SERVICE

UP TO 10 MPH      LOADS (lbs.) AT VARIOUS INFLATION PRESSURES (psi-cold)

Tire Size	10	15	20	25	30	35	40	45	50	55
42x25.00-20 NHS	2625	3330	3940	4490	4995	5465	5910 <sup>12</sup>			
66x43.00-25 NHS	7800	9885	11700	13330	14830 <sup>12</sup>					
67x34.00-25NHS	7885	9995	11830	13480 <sup>10</sup>						
73x44.00-32 NHS	9090	11520	13635	15535	17285	18915	20450 <sup>16</sup>			

\*Flange Cover Bead Shape Available on All Tires by Jan. 1984

SEE FLANGE RECOMMENDATION PAGE 135.

# LOAD & INFLATION TABLE

## Garden Tractor Tires – Maximum Speed – 10 Miles Per Hour

Tire Size	10 MPH TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)														
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
5-12	175	210	240	265	290	315 <sup>2</sup>	335	360	380	400	420	435	455	470	490 <sup>4</sup>
6-12	240	285	325	360	395 <sup>2</sup>	430	460	490	515	545	570	595 <sup>4</sup>			
7-12	320	380	435	485 <sup>2</sup>	530	570	615	650	690	725 <sup>4</sup>					
7-14							660	710	750	790	815 <sup>4</sup>				
7-16	390	455	515	575 <sup>2</sup>											
8-16	555	660	750 <sup>2</sup>	835	915	990	1060 <sup>4</sup>								

## FARM IMPLEMENT (FI) TIRES FOR HIGHWAY AND AGRICULTURAL SERVICE

**Note:** This Load & Inflation Table for FI-Tires only.  
See Page 118 for Bias Ply Implement Load & Inflation Table.

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)														
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
9.5L-15FI	1410	1600	1780(B)	1950	2110	2260(C)	2400	2540	2670(D)						
11L-15FI	1640	1870	2080(B)	2280	2470	2640(C)	2810	2970	3120(D)	3270	3420	3560(E)	3700	3830	3960(F)
12.5L-15FI	1940	2210	2460(B)	2690	2910	3120(C)	3320	3510	3690(D)						

- Note:** 1. FI-Tires for use only on farm implements in Agricultural Service with intermittent highway use.  
2. For service not exceeding 25 MPH, above load may be increased 20% at the same inflation pressure.

## Diagonal (Bias) Ply Tires Used For Skid-Steer/Mini-Loader Service

### Maximum Speed - 5 MPH

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)													
	20	25	30	35	40	45	50	55	60	65	70	75	80	
10-16.5NHS			2760(4)	3020	3260	3500(6)	3720	3930	4140(8)					
12-16.5NHS			3560	3900	4220(6)	4520	4810(8)	5080	5350	5600(10)	5850	6090	6330(12)	
14-17.5NHS			4820(6)	5270	5700(8)	6110	6490	6870(10)						
15-19.5NHS			6130(6)	6710	7250(8)	7770	8260(10)	8740	9190(12)					
31X15.50-15NHS	2700(4)	3050	3395(6)	3695	4015	4360(8)								

- NOTES 1. Figures in parentheses denote ply rating for which loads and inflations are maximum.  
2. For 10 MPH service, the above loads must be reduced 21% at the same inflation pressures.

# LOAD & INFLATION TABLE

## Diagonal Bias Ply

## Agricultural Tractor Steering Wheel Tires Used In Field Service

### Including Hillside Combines Tires Used As Singles

Tire Size	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)											
	24	28	32	36	40	44	48	52	56	60	64	68
4.00-12 SL	300	330	365	395	420	440	465	495 <sup>4</sup>				
4.00-15 SL	355	395	430	465	495	535	565	585 <sup>4</sup>				
4.00-19 SL	420	480	520	565	600	640	675	715 <sup>4</sup>				
5.00-15 SL	480	535	585	640	675	715 <sup>4</sup>						
5.50-16 SL	600	660	715	785	855 <sup>4</sup>	910	935	990	1050 <sup>6</sup>			
6.00-14 SL	615	695	740	805	880	935	965	1020 <sup>6</sup>				
6.00-16 SL	675	760	825	910 <sup>4</sup>	965	1020	1070	1140 <sup>6</sup>	1200	1230	1280	1360 <sup>8</sup>
6.50-16 SL	785	855	935	1020 <sup>4</sup>	1100	1140	1230 <sup>6</sup>					
7.50-16 SL	990	1100	1200	1320	1390	1480 <sup>6</sup>	1570	1650	1710 <sup>8</sup>			
7.50-18 SL	1070	1200	1320	1430	1520	1610 <sup>6</sup>						
7.50-20 SL	1170	1280	1390 <sup>4</sup>	1520	1610	1710 <sup>6</sup>						
8.00-16 SL	1070	1200	1320	1430	1520 <sup>6</sup>	1610	1710	1820	1870	1980	2040 <sup>10</sup>	
9.50-20 SL	1650	1870	2040	2200	2340	2470 <sup>8</sup>						
10.00-16 SL	1570	1760	1930 <sup>6</sup>	2090	2200	2340 <sup>8</sup>						
11.00-16 SL	1870	2090	2270 <sup>6</sup>	2470	2600 <sup>8</sup>	2760	2910	3080	3300	3420 <sup>12</sup>		
11.00-24 SL	2400	2680	2910	3200	3420 <sup>8</sup>	3640	3860 <sup>10</sup>					

### LOW SECTION HEIGHT

7.5L-15 SL	965	1070	1170	1280	1360	1430 <sup>6</sup>						
9.5L-15 SL	1170	1280	1430	1520 <sup>6</sup>	1650	1760	1870 <sup>8</sup>					
11L-15 SL	1390	1570	1710 <sup>6</sup>	1870	1980	2090 <sup>8</sup>	2200	2340 <sup>10</sup>				
11L-16 SL	1480	1650	1760 <sup>6</sup>	1930	2090	2200 <sup>8</sup>	2340	2470 <sup>10</sup>	2540	2680	2760 <sup>12</sup>	
14L-16.1 SL	2270	2540 <sup>6</sup>	2830	3000 <sup>8</sup>	3200	3420 <sup>10</sup>						
16.5L-16.1 SL	2910	3200	3520 <sup>8</sup>	3860	4080 <sup>10</sup>							
14.5/75-16.1 SL	2270	2540	2760	3000	3200 <sup>10</sup>							

- NOTES: 1. The small index numbers denote ply rating for which the accompanying loads are maximum.  
 2. Maximum shipping pressures are the maximum inflation pressures for the tire sizes and ply ratings shown.  
 3. For above tires used in cyclic loading service (excluding hillside combines) with speeds up to 5 MPH, above loads may be increased 67%. This load increase is also applicable to tires used on vehicles with mechanism capable of maintaining tires and wheels in a vertical position on slopes up to 11° (20% grade).  
 4. Tire Load limits at various speeds with no change in pressure:

MAX. SPEED	% INCREASE TO LOADS IN ABOVE TABLE
10 MPH	+50% (except Hillside Combines)
15 MPH	+28% (except Hillside Combines)
20 MPH	+11%
25 MPH	SAME AS ABOVE TABLE

# LOAD & INFLATION TABLE

## Bias Ply Implement Tires

MAXIMUM TIRE LOAD RATINGS FOR SPEEDS 25 MPH AND UNDER

Tire Size Designation	TIRE LOAD LIMITS (LBS.) AT VARIOUS COLD INFLATION PRESSURES (PSI)										
	24	28	32	36	40	44	48	52	56	60	64
4.00-9 SL	365	410	440	480	520	550(4)					
4.00-12 SL	440	495	535	585	640	675(4)					
4.00-15 SL	535	585	640	695	740	785(4)					
4.00-18 SL	585(2)	660	715	785	825	880(4)					
5.00-15 SL	715	805	880	965(4)							
5.50-16 SL	910	990	1100	1170(4)							
5.90-15 SL	855	935	1050	1140(4)							
6.00-16 SL	1020	1140	1230(4)	1360	1430	1520(6)					
6.40-15 SL	965	1070	1170(4)	1280	1360	1430	1520(6)				
6.50-16 SL	1140	1280	1390	1520	1610	1710(6)					
6.70-15 SL	1070	1170	1280(4)	1390	1520	1610(6)					
7.50-10 SL	1100	1230	1360	1480(6)							
7.50-14 SL	1230	1360(4)									
7.50-16 SL	1480	1650(4)	1820	1930	2090	2200	2340	2470	2600	2680(10)	
7.50-18 SL	1520	1710	1870	2040(6)							
7.50-20 SL	1610	1760(4)	1930	2090(6)							
7.50-24 SL	1650	1870(4)									
7.60-15 SL	1230	1390(4)	1520	1650	1760(6)	1870	1980	2090(8)			
9.00-10 SL	1480(4)	1650	1820	1980	2090	2200	2340	2470(10)			
9.00-16 SL	1980	2200	2400	2600	2760	2910(8)	3080	3300(10)			
9.00-24 SL	2540	2830(6)	3080	3300	3520(8)						
10.00-15 SL	2270	2540	2760	3000	3200(8)						
11.25-24 SL	3300	3640	4080(8)								
11.25-28 SL	3420	3860	4180	4540	4800	5080	5360(12)				
13.50-16.1 SL	3520(6)	3860	4300(8)								

Low Section Height Tires											
8.5L-14 SL	1390	1570	1710	1870(6)							
9.5L-14 SL	1570(4)	1760	1930(6)	2090	2200	2400(8)					
9.5L-15 SL	1650	1820	2040(6)	2200	2340	2470(8)					
11L-14 SL	1870	2040(6)									
11L-15 SL	1930	2150(6)	2340	2540(8)	2760	2910(10)	3080	3200(12)			
11L-16 SL	2040	2270(6)	2470	2680(8)	2830	3000(10)					
12.5L-15 SL	2270	2540(6)	2760	3000(8)	3200	3420(10)	3640	3860(12)			
12.5L-16 SL	2400	2680	2910	3080(8)	3300	3520	3740	3960(12)	4180(14)		
14L-16.1 SL	3200(6)										
16.5L-16.1 SL	3960(6)	4400(8)	4800	5200(10)							
19L-16.1 SL	4940	5520	6000(10)								
21.5L-16.1 SL	6000(8)	6600(10)	7150(12)	7850(14)							

- NOTES: 1. Figures in parentheses denote ply rating for which bold face loads and inflations are maximum.  
2. Maximum shipping pressures are the maximum inflation pressures for the tire sizes and ply ratings shown.  
3. For speeds not exceeding 10 MPH, above loads may be increased 15%.

# HORSEPOWER CAPABILITIES OF DRIVE TIRES USED ON TWO WHEEL DRIVE AND FRONT AXLE ASSIST TRACTORS AT VARIOUS SPEEDS

Take time to carefully match the recommended tire size to your power unit and field operating speed to obtain maximum efficiency and tire life.

Tractor manufacturers recommend operation of their equipment at field speeds of 5 mph and above. Tire sizes fitted to most tractors are selected assuming field operation in this speed range. If speed is reduced below this recommended range for prolonged time periods, tire and/or equipment problems can be expected.

Excessive tire wear, slippage, and excessive fuel consumption are problems that may be encountered when a tire's horsepower capacity is exceeded. These problems may be eliminated by careful evaluation of your equipment's horsepower capabilities, drive tire loads and inflation pressure, and the speed at which you operate your equipment. Increasing or decreasing your continuous operating speed by small increments in the critical field speed range will make a significant change in tire requirements, tire performance, and in overall efficiency and performance of your equipment.

The following tables (next few pages) provide you with an easy way to be sure that you have the right size tires for your operation. As this table shows, field tillage speeds less than the recommended 5 MPH may require a larger tire size. It also may help you to determine whether singles, duals, or triples should be used. Since the horsepower capability of a tire depends on the inflation pressure in the tire, the table below shows horsepower ratings for radial tires at a range of pressures from 6 PSI up to rated pressure. Bias tires cannot be used below 12 PSI, so only 12 PSI and above are shown for them. Four-wheel drive (all tires same size) tractors are not shown because current size selection criteria result in adequate tire horsepower capability.

**TO USE THIS TABLE:** Find the size of interest in the left-hand column and select the operating pressure determined by load considerations\*. Follow that row across to the right until you come to the type of tractor and tillage speed that you use. For front wheel assist tractors, horsepower capacity is based on rear drive tire size and inflation. The number shown in the table is the maximum PTO horsepower the tires can transmit when duals (four tires per axle) are used on the tractor. To obtain the horsepower ratings for singles (two tires per axle) and triples (six tires per axle), multiply the horsepower ratings by 0.568 and 1.397 respectively. Please note that tillage speeds below 5 MPH are not recommended by tractor manufacturers. The reference horsepower in the table must be greater than your tractor PTO horsepower. If the tractor PTO horsepower exceeds the amount shown in the table then you must either use a tire with a higher horsepower capacity or else decrease the drawbar pull requirements to enable a higher tillage speed. **NOTE:** The higher the operating speed, the more horsepower a tire can handle.

*\*See section titled "How To Use This Handbook".*

# HORSEPOWER CAPACITIES AS DUALS

Main Drive Tire Size	Load Indicator/ Ply Rating	Inflation Pressure (PSI)	RECOMMENDED 5 MPH		3 MPH	
			2WD	Front Assist	2WD	Front Assist
14.9R46		6	118	139	71	84
14.9R46		12	178	210	107	126
14.9R46	★	18	224	264	135	158
14.9R46	★★	24	265	312	159	187
14.9R46	★★★	30	305	358	183	215
15.5-38		12	136	160	81	96
15.5-38	6	20	184	216	110	130
15.5R38		6	101	118	60	71
15.5R38		12	152	179	91	107
15.5R38	★	18	190	223	114	134
16.9-38		12	172	202	103	121
16.9-38	6	18	218	256	131	154
16.9-38	8	24	258	303	155	182
16.9R38		6	129	152	77	91
16.9R38		12	195	229	117	138
16.9R38	★	18	244	287	146	172
16.9R38	★★	24	296	348	178	209
16.9R38	141	24	296	348	178	209
16.9R38	★★★	30	334	393	200	236
18.4-34		12	195	229	117	138
18.4-34	6	16	229	270	138	162
18.4-34	8	20	265	312	159	187
18.4-34	12	32	344	405	207	243
18.4R34		6	148	174	89	104
18.4R34		12	218	256	131	154
18.4R34	★	18	280	329	168	197
18.4R34	★★	24	321	377	192	226
18.4R34	144	24	321	377	192	226
18.4-38		12	207	243	124	146
18.4-38	6	16	244	287	146	172
18.4-38	8	20	280	329	168	197
18.4-38	10	26	334	393	200	236
18.4-38	12	32	373	439	224	263
18.4R38		6	156	184	94	110
18.4R38		12	229	270	138	162
18.4R38	★	18	296	348	178	209
18.4R38	★★	24	344	405	207	243
18.4R38	146	24	344	405	207	243
18.4-42		12	218	256	131	154
18.4-42	8	20	296	348	178	209
18.4-42	10	26	344	405	207	243
18.4R42		6	161	189	96	113
18.4R42		12	244	287	146	172
18.4R42	★	18	313	368	188	221
18.4R42	★★	24	362	426	217	256
18.4R42	148	24	362	426	217	256

Note: For single tires, multiply the above horsepower rating by 0.568. For triples, multiply the above horsepower rating by 1.397.

# HORSEPOWER CAPACITIES AS DUALS

Main Drive Tire Size	Load Indicator/ Ply Rating	Inflation Pressure (PSI)	RECOMMENDED 5 MPH		3 MPH	
			2WD	Front Assist	2WD	Front Assist
18.4R46		6	172	202	103	121
18.4R46		12	258	303	155	182
18.4R46	★	18	321	377	192	226
18.4R46	★★	24	386	454	232	272
18.4R46	★★★	30	446	525	268	315
20.8-34		12	237	279	142	167
20.8-34	8	18	305	358	183	215
20.8-34	10	22	344	405	207	243
20.8-34	14	32	420	494	252	296
20.8R34		6	178	210	107	126
20.8R34		12	265	312	159	187
20.8R34	★	18	334	393	200	236
20.8-38		12	250	294	150	177
20.8-38	8	18	321	377	192	226
20.8-38	10	22	362	426	217	256
20.8-38	14	32	446	525	268	315
20.8R38		6	190	223	114	134
20.8R38		12	280	329	168	197
20.8R38	★	18	355	417	213	250
20.8R38	★★	24	420	494	252	296
20.8R38	153	24	420	494	252	296
20.8-42		12	265	312	159	187
20.8-42	10	22	386	454	232	272
20.8R42		6	195	229	117	138
20.8R42		12	296	348	178	209
20.8R42	★	18	373	439	224	263
20.8R42	★★	24	446	525	268	315
20.8R42	155	24	446	525	268	315
23.1-34		12	280	329	168	197
23.1-34	8	16	334	393	200	236
23.1-34	10	20	386	454	232	272
24.5-32		12	305	358	183	215
24.5-32	10	20	409	482	246	289
24.5-32	12	24	459	540	275	324
24.5-32	16	30	516	607	310	364
24.5R32		6	224	264	135	158
24.5R32		12	334	393	200	236
24.5R32	★	18	430	506	258	304
24.5R32	★★	24	503	592	302	355
30.5L-32		12	362	426	217	256
30.5L-32	10	16	430	506	258	304
30.5L-32	12	20	488	574	293	344
30.5L-32	14	22	516	607	310	364
30.5L-32	16	26	574	675	344	405

Note: For single tires, multiply the above horsepower rating by 0.568. For triples, multiply the above horsepower rating by 1.397.

# HORSEPOWER CAPACITIES AS DUALS

Main Drive Tire Size	Load Indicator/ Ply Rating	Inflation Pressure (PSI)	RECOMMENDED 5 MPH		3 MPH	
			2WD	Front Assist	2WD	Front Assist
30.5L-32VA	16	26	574	675	344	405
30.5L-32VA	24	38	709	834	426	501
30.5LR32		6	265	312	159	187
30.5LR32		12	396	466	238	280
30.5LR32	★	18	503	592	302	355
250/95R50		6	86	101	52	61
250/95R50		12	122	144	73	86
250/95R50		17	156	184	94	110
250/95R50	125	23	190	223	114	134
250/95R50	128	29	207	243	124	146
250/95R50	131	35	224	264	135	158
250/95R50	137	46	265	312	159	187
320/85R34		6	92	108	55	65
320/85R34		12	129	152	77	91
320/85R34	121	17	167	196	100	118
320/85R34	127	23	201	237	121	142
320/85R34	★★★	29	237	279	142	167
320/85R34	133	29	237	279	142	167
320/90R42		6	109	128	65	77
320/90R42		12	152	179	91	107
320/90R42		17	195	229	117	138
320/90R42		23	237	279	142	167
320/90R42		29	258	303	155	182
320/90R42	139	35	280	329	168	197
320/90R46		6	112	132	67	79
320/90R46		12	156	184	94	110
320/90R46	127	17	201	237	121	142
320/90R46	135	23	250	294	150	177
320/90R46	141	29	296	348	178	209
320/90R46	146	35	344	405	207	243
320/90R50		6	118	139	71	84
320/90R50		12	167	196	100	118
320/90R50	129	17	213	250	128	150
320/90R50	136	23	258	303	155	82
320/90R50	142	29	305	358	183	215
320/90R50	147	35	355	417	213	250
340/85R46		6	118	139	71	84
340/85R46		12	167	196	100	118
340/85R46	129	17	213	250	128	150
340/85R46		23	258	303	155	182
340/85R46	140	29	288	339	173	203

Note: For single tires, multiply the above horsepower rating by 0.568. For triples, multiply the above horsepower rating by 1.397.

# HORSEPOWER CAPACITIES AS DUALS

Main Drive Tire Size	Load Indicator/ Ply Rating	Inflation Pressure (PSI)	RECOMMENDED 5 MPH		3 MPH	
			2WD	Front Assist	2WD	Front Assist
380/80R38		6	118	139	71	84
380/80R38		12	167	196	100	118
380/80R38	130	17	218	256	131	154
380/80R38	137	23	265	312	159	187
380/80R38	140	29	288	339	173	203
380/80R38	142	35	305	358	183	215
380/90R46		6	148	174	89	104
380/90R46		12	201	237	121	142
380/90R46		17	265	312	159	187
380/90R46		23	321	377	192	226
380/90R46		29	355	417	213	250
380/90R46	149	35	373	439	224	263
380/90R50		6	152	179	91	107
380/90R50		12	213	250	128	150
380/90R50		17	271	319	163	191
380/90R50		23	334	393	200	236
380/90R50		29	362	426	217	256
380/90R50	151	35	396	466	238	280
420/80R46		6	152	179	91	107
420/80R46		12	213	250	128	150
420/80R46	139	17	280	329	168	197
420/80R46	145	23	334	393	200	236
420/80R46	★★★	29	396	466	238	280
420/80R46	151	29	396	466	238	280
480/70R34	143	23	313	368	188	221
480/85R34		6	172	202	103	121
480/85R34		12	237	279	142	167
480/85R34		17	305	358	183	215
480/85R34	149	23	373	439	224	263
480/80R38		6	172	202	103	121
480/80R38		12	237	279	142	167
480/80R38		17	305	358	183	215
480/80R38	149	23	373	439	224	263
480/80R42		6	178	210	107	126
480/80R42		12	250	294	150	177
480/80R42		17	321	377	192	226
480/80R42	151	23	396	466	238	280
480/80R46		6	190	223	114	134
480/80R46		12	265	312	159	187
480/80R46	145	17	334	393	200	236
480/80R46	152	23	409	482	246	289
480/80R46	155	29	446	525	268	315
480/80R46	158	35	488	574	293	344

Note: For single tires, multiply the above horsepower rating by 0.568. For triples, multiply the above horsepower rating by 1.397.

# HORSEPOWER CAPACITIES AS DUALS

Main Drive Tire Size	Load Indicator/ Ply Rating	Inflation Pressure (PSI)	RECOMMENDED 5 MPH		3 MPH	
			2WD	Front Assist	2WD	Front Assist
520/85R38		6	201	237	121	142
520/85R38		12	288	339	173	203
520/85R38	148	17	362	426	217	256
520/85R38	155	23	446	525	268	315
520/85R42		6	213	250	128	150
520/85R42		12	296	348	178	209
520/85R42	150	17	386	454	232	272
520/85R42	157	23	475	558	285	335
520/85R46		6	224	264	135	158
520/85R46		12	313	368	188	221
520/85R46		17	396	466	238	280
520/85R46	158	23	488	574	293	344
540/65R30	150	35	386	454	232	272
580/70R38	155	23	446	525	268	315
620/70R42		6	237	279	142	167
620/70R42		12	334	393	200	236
620/70R42	153	17	420	494	252	296
620/70R42	160	23	516	607	310	364
650/65R42		6	229	270	138	162
650/65R42		12	321	377	192	226
650/65R42	153	17	420	494	252	296
650/65R42	158	23	488	574	293	344
650/65R42	162	29	548	644	329	387
650/65R42	165	35	594	699	357	420
650/65R42	170	46	688	810	413	486
650/75R32		12	334	393	200	236
650/75R32		17	430	506	258	304
650/75R32	160	23	516	607	310	364
650/75R32		29	574	675	344	405
650/75R32	167	35	626	736	375	442
650/75R32	172	46	725	853	435	512
650/75R34		6	244	287	146	172
650/75R34		12	344	405	207	243
650/75R34	155	17	446	525	268	315
650/75R34	162	23	548	644	329	387

Note: For single tires, multiply the above horsepower rating by 0.568. For triples, multiply the above horsepower rating by 1.397.

# HORSEPOWER CAPACITIES AS DUALS

Main Drive Tire Size	Load Indicator/ Ply Rating	Inflation Pressure (PSI)	RECOMMENDED 5 MPH		3 MPH	
			2WD	Front Assist	2WD	Front Assist
710/70R38		6	280	329	168	197
710/70R38		12	386	454	232	272
710/70R38		17	503	592	302	355
710/70R38	166	23	610	718	366	431
710/70R42		6	288	339	173	203
710/70R42		12	409	482	246	289
710/70R42	160	17	516	607	310	364
710/70R42	168	23	641	755	385	453
800/65R32		12	396	466	238	280
800/65R32		17	503	592	302	355
800/65R32	167	23	626	736	375	442
800/65R32	169	29	667	785	400	471
800/65R32	172	35	725	853	435	512
900/50R42		6	296	348	178	209
900/50R42		12	409	482	246	289
900/50R42		17	532	626	319	375
900/50R42	168	23	641	755	385	453

Note: For single tires, multiply the above horsepower rating by 0.568. For triples, multiply the above horsepower rating by 1.397.

# PROCEDURES FOR FILLING & REMOVING SOLUTION

WARNING: NEVER EXCEED RECOMMENDED OPERATING PRESSURE WHEN FILLING TIRE WITH SOLUTION OR REMOVING SOLUTION FROM TIRE.

## Tube Type or Tubeless Tires

### MIXING SOLUTION

Prepare the calcium chloride mixture by pouring the calcium chloride into the water (never the water into calcium chloride, as considerable heat is generated in this mixing process). The solution should be allowed to cool to atmospheric temperature before pumping in the tire. The pump can be used to mix and cool this solution by circulating it through the pump and back into the barrel with the pump running and handle moved right to fill position.

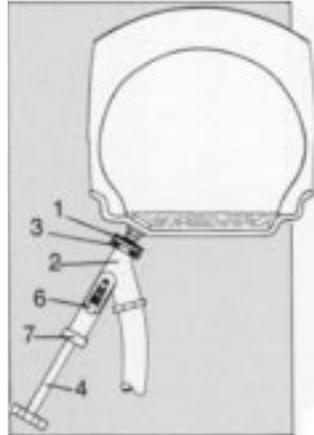


FIGURE 1

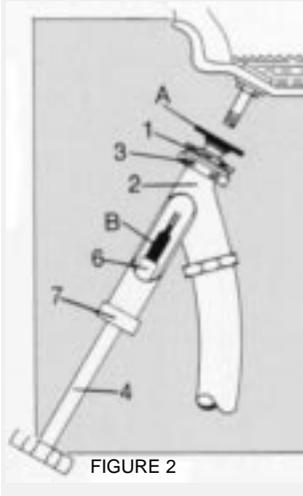


FIGURE 2

### CONNECTING TO VALVE STEM

The following connections should be made when the pump is not running and with control handle in the vertical or check position: To connect liquid fill core ejector to 2 piece style rear tractor valves TR-218A, TR-618A, (figure 1), unscrew union (1) from core ejector body (2) screw on valve stem finger tight. Screw core ejector body on union (1) making sure rubber gasket (3) is in place, with handle (4) of core ejector pulled out. Push handle (4) of core ejector in until it makes contact with the core housing of the valve, then hold the core ejector in left hand, strike the handle (4) with the right hand to force the core housing in ejector chuck (6). Turn handle (4) to the left to unscrew the core housing, pushing inward lightly so you can feel the threads disengage when completely unscrewed. Then pull handle (4) out as far as it will go to retract core housing into ejector body. The handle will pull out easier if rotated while pulling, as packing nut (7) should be tight enough to prevent air or liquid leaks.

To connect liquid fill core ejector to 1 piece style front tractor valves TR415, TR413 (figure 2), screw adapter (A) and gasket to union (1). Insert large end of core remover (B) securely into chuck of core housing ejector (6). Screw adapter and union assembly on valve stem finger tight. Screw ejector union and adapter assembly to core ejector body making sure gasket is in place. The rest of the operation is the same as with the above 2 piece valve as described above.

### REMOVING SOLUTION FROM TUBE-TYPE OR TUBELESS TIRE

Jack up tractor until tire is slightly deflected and valve is at the bottom. Connect core housing ejector and union to valve stem as previously described. Unscrew and retract core housing into ejector body with control handle at check position.

Start pump and turn control handle to evacuate position and run until tire is completely evacuated. Turn control handle to check position, stop pump and disconnect core ejector after replacing core housing in valve stem.

In case of a tubeless tire unseat beads and demount front bead

from rim and pump remaining solution from tire.

### FILLING TUBE-TYPE OR TUBELESS TIRES WITH SOLUTION

To fill a tire 75% with water or solution: First inflate tire to 35 psi after beads have been fully seated in mounting procedure. Jack up the wheel, if done on a tractor, and turn to bring valve to top position. Then lower jack until tire is slightly deflected. With pump not running and control handle at check position, connect ejector and remove core housing as described above.

After connection is made, bleed pressure down to about 5 lbs. (to keep the beads seated on the rim) by moving control handle to left or evacuate position.

When this point is reached, start pump and move control handle to right or fill position. Start hydroinflating tire. Check pressure in tire every few minutes with pump gauge by placing pump in neutral or check position. If pressure exceeds 20 psi move handle to evacuate until pressure is bled back to not less than 5 psi. After pressure is lowered, continue pumping. Repeat above steps as often as may be necessary to fill until water or solution weight added to assembly is equal to that shown in the tables on previous pages.

Replace core housing in valve stem by pushing handle in until contact is made and turn to right until core housing is screwed tight in valve stem. Then withdraw handle, turn handle to evacuate, and pump all liquid from hose. Finally, shut off pump, then unscrew ejector body (2) and union (1) from valve.

To assure fully-seated beads inflate tire to 35 psi inflation pressure using a standard air line, and then with valve stem at the top, bleed pressure — and excess water or solution — down to 1-2 psi above recommended inflation.

Set final working pressure after tire has been mounted on tractor with weight on tire and valve at bottom, using an air-water gauge.

### PUMP CARE AND MAINTENANCE

**Drain Pump:** If water or a weak solution of calcium chloride has been used, the pump should be removed from the barrel to prevent it from freezing.

**Siphon Valve:** To avoid solution or vacuum leakage, keep nut opposite handle tight to a point where handle will turn just a little hard.

**Core Ejector:** Packing nut (7) on plunger should be kept fairly tight to avoid leaks. However, do not set it so tight that plunger cannot be easily pushed into position. When not in use over long periods of time, keep items (2), (1), (A), and (B) in a bucket of clear water.

**Solution in Pump:** Do not pump all solution out of barrel. A small amount of solution is required to keep air out of pump and thus

# LIQUID WEIGHTING OF TRACTOR TIRES

## Tube Type or Tubeless Tractor Tires

The traction or pulling power which a tire can exert is in proportion to the weight it carries. The greater the load on the tire, the more tractive effort it can exert. The way to secure more traction and reduce tire slip-page and treadwear is add weight to the rear axle.

Filling tires with liquid is one of the most widely used methods of adding weight to the drive axle of a tractor because of its economy and simplicity. Plain water may be used where freezing never occurs. In colder climates where freezing temperatures occur, calcium chloride flake can be added at the strengths of 3.5 lbs. per gallon of water. For extremely cold climates, 5 lbs. of calcium chloride per gallon of water is used. Note that the calcium chloride not only provides freezing protection but also increases the weight added by 20% and 28% for 3.5 lb./gal. and 5 lb./gal. respectively. The following tables are for front and rear tractor tires filled to 75% or "valve-level" (valve at 12 o'clock position). Use of fill levels greater than this are not recommended because the tire becomes more susceptible to impact breaks. For a softer ride and better control of power hop, it is recommended that 40% fill (4 o'clock

valve position) not be exceeded. Weights and amounts of fill for the 40% level are approximately half of those shown in the tables below. Liquid fill has a stiffening effect on tire deflection, especially at lower inflation pressures. Because of this, use of liquid fill may make controlling power hop more difficult. For information on optimizing your tractor and eliminating power hop, see the section on Optimum Tractor Tire Performance.

Either tube-type or tubeless tires may be filled with calcium chloride solution. Rim corrosion is not a problem with tubeless tires as long as the tire is always kept inflated. This keeps outside air sealed away from the rim and restrains corrosion. A rim used tubeless with calcium chloride solution must be rinsed with tap water *immediately* after dismounting to prevent extremely rapid corrosion.

These tables are based on the use of Type 1-77% commercial calcium chloride flake. If type 2-94% calcium chloride flake is used, reduce the weight of calcium chloride added by 25%. Where anti-freeze protection is needed, the 3.5 lb./gal (420 g/l) solution is slush free

### Front Tractor Tires

Tire Size	Water		3½ lbs./420 g CaCl <sub>2</sub>			5 lbs./600 g CaCl <sub>2</sub>		
	Gal./Liters	Weight Lbs./Kg.	Water Gal./Liters	CaCl <sub>2</sub> Lbs./Kg.	Total Wt. Lbs./Kg.	Water Gal./Liters	CaCl <sub>2</sub> Lbs./Kg.	Total Wt. Lbs./Kg.
4.00-12	2/8	17/7.7	1.7/7	6/2.7	20/9.1	1.6/6	8/3.6	21/9.5
4.00-15	2.5/10	21/9.5	2/8	7/3.2	24/11	2/8	10/4.5	27/12
5.00-15	4/15	33/15	3/12	10/4.5	35/16	3/12	15/6.8	40/18
5.50-16	5/19	42/19	4/15	14/6.4	47/21	4/15	20/9.1	53/24
6.00-14	6/23	50/23	5/19	18/8.2	60/27	5/19	25/11	67/30
6.00-16	6/23	50/23	5/19	18/8.2	60/27	5/19	25/11	67/30
6.50-16	7/27	58/26	6/23	21/9.5	71/32	5.5/21	28/13	74/34
7.50-10	6/23	50/23	5/19	18/8.2	60/27	4.8/18	24/11	64/29
7.5L-15	8.5/33	71/32	7/27	24/11	82/37	7/27	35/16	93/42
7.50-16	10/38	83/38	8.5/33	30/14	101/46	8/28	40/18	107/49
7.50-18	11/42	92/42	9.5/37	33/15	112/51	9/35	45/20	120/54
7.50-20	12/46	100/45	10/38	35/16	118/54	9.5/37	48/22	127/58
9.00-10	9/35	75/34	7.5/29	26/12	89/40	7.2/28	36/16	96/44
9.5L-15	11/42	92/42	9.5/37	33/15	112/51	9/35	45/20	120/54
9.50-15	18/69	150/68	16/62	56/25	189/86	15/58	75/34	200/91
9.50-20	18/69	150/68	16/62	56/25	189/86	15/58	72/33	200/91
9.50-24	20/77	167/77	17/65	60/27	202/92	16/62	80/36	213/97
10.00-16	18/69	150/68	16/62	56/25	189/86	15/58	69/31	184/84
11L-15	14/54	117/53	12/46	42/19	142/64	11/42	53/24	147/67
11L-16	15/58	123/56	13/50	46/21	155/70	12/46	60/27	160/73
11.00-15	24/92	200/91	20/77	70/32	237/108	19/73	95/43	253/115
11.00-16	25/96	208/94	22/85	77/35	260/118	20/77	93/42	267/121
14L-16.1	28/108	233/106	24/92	84/38	284/129	23/88	110/50	307/139
16.5L-16.1	41/158	342/155	35/135	122/55	414/188	33/127	167/76	440/200

## Rear Tractor Tires

Tire Size	Water		3½ lbs./420 g CaCl <sub>2</sub>			5 lbs./600 g CaCl <sub>2</sub>		
	Gal./Liters	Weight	Water	CaCl <sub>2</sub>	Total Wt.	Water	CaCl <sub>2</sub>	Total Wt.
		Lbs./Kg.	Gal./Liters	Lbs./Kg.	Lbs./Kg.	Gal./Liters	Lbs./Kg.	Lbs./Kg.
7.2-16	7/26	58/26	6/23	21/9.5	71/32	5/19	25/11	67/30
8.3-16	9/34	75/34	8/30	28/13	95/43	8/30	40/18	107/48
9.5-16	12/45	100/45	10/38	35/16	118/54	10/38	50/23	133/61
11.2-16	18/68	150/68	15/57	53/24	178/81	14/53	70/32	187/85
12.4-16	21/79	175/79	18/68	63/29	213/97	17/64	85/39	227/103
13.6-16.1	31/117	258/117	26/98	91/41	308/139	25/95	125/57	333/152
18.4-16.1	49/185	409/186	42/159	147/67	497/226	39/148	195/88	520/236
8.3-24	13/49	108/49	11/42	39/18	131/60	10/38	50/23	133/61
9.5-24	17/64	142/64	15/57	53/24	178/81	14/53	70/32	187/85
11.2-24	24/91	200/91	20/76	70/32	237/108	19/72	95/43	253/115
12.4-24	30/114	250/113	26/98	91/41	308/139	25/95	125/57	333/152
13.6-24	38/144	317/144	32/121	112/51	379/172	30/114	150/68	400/182
14.9-24	47/178	392/178	40/151	140/64	474/215	38/144	190/86	507/230
16.9-24	61/231	509/231	52/197	182/83	616/280	49/185	245/111	654/296
17.5L-24	55/208	459/208	47/178	165/75	557/253	45/170	225/102	600/272
19.5L-24	69/261	575/265	60/227	210/95	710/322	56/212	280/127	747/339
21L-24	87/329	725/329	74/280	259/117	876/397	70/265	350/159	934/424
14.9-26	48/182	400/181	41/155	144/65	486/220	39/148	195/88	520/236
16.9-26	65/246	542/246	56/212	196/89	663/301	52/197	260/118	694/315
18.4-26	79/299	659/299	68/257	238/108	805/365	64/242	320/145	854/387
23.1-26	128/485	1068/485	109/413	328/173	1291/586	103/390	515/234	1374/624
28L-26	157/594	1309/594	134/507	469/213	1587/720	127/481	635/288	1694/769
11.2-28	27/102	225/102	24/91	84/38	284/129	22/83	110/50	293/133
12.4-28	35/132	292/132	30/114	105/48	355/162	28/106	140/64	374/170
13.6-28	43/163	359/163	37/140	130/59	439/199	35/132	175/79	467/211
14.9-28	53/201	442/201	46/174	161/73	545/247	43/163	215/98	574/261
16.9-28	69/261	575/261	59/223	207/94	699/317	56/212	280/127	747/339
18.4-28	84/318	701/318	72/273	252/114	852/387	68/257	340/154	907/412
21L-28	97/367	809/367	83/314	291/132	982/446	79/299	395/179	1054/478
14.9-30	57/216	475/216	48/182	168/76	568/258	46/174	230/104	614/278
16.9-30	73/276	609/276	63/238	221/100	746/338	59/223	292/132	787/355
18.4-30	89/337	742/337	77/291	270/123	912/414	72/273	360/163	960/436
23.1-30	143/541	1193/541	123/466	431/196	1457/662	116/439	580/263	1547/702
24.5-32	170/643	1418/643	146/553	511/232	1729/785	138/522	690/313	1841/835
30.5L-32	217/821	1809/821	186/704	651/295	2202/999	176/666	880/399	2347/1065
35.5L-32	313/1287	2609/1287	291/1101	1019/462	3446/1563	275/1041	1375/624	3669/1665
14.9-34	63/238	525/238	54/204	189/86	639/290	51/193	255/116	680/309
16.9-34	82/310	684/310	70/265	245/111	829/376	66/250	330/150	880/400
18.4-34	100/379	834/378	85/322	298/135	1007/457	81/307	405/184	1081/491
20.8-34	128/485	1068/485	109/413	328/173	1291/586	103/390	515/234	1374/624
23.1-34	159/602	1326/602	136/515	476/216	1610/731	128/485	640/290	1708/775
13.9-36	51/193	425/193	44/167	154/70	521/237	42/159	210/95	560/254
13.6-38	57/216	475/216	49/185	172/78	581/263	46/174	230/104	614/278
15.5-38	66/250	550/250	56/212	196/89	663/301	53/201	265/120	707/321
16.9-38	90/341	751/341	77/291	270/123	912/414	73/276	365/166	974/442
18.4-38	110/416	917/416	94/356	329/149	1113/505	89/337	445/202	1187/539
20.8-38	140/530	1168/530	120/454	420/191	1421/645	114/431	570/259	1521/690
18.4-42	115/435	959/435	98/371	343/156	1160/527	93/352	465/211	1240/563
20.8-42	148/560	1234/560	127/481	444/202	1503/682	120/454	600/272	1600/726
14.9-46	80/303	667/303	68/257	238/108	805/365	65/246	325/147	867/393
18.4-46	129/488	1075/488	111/420	389/176	1314/596	105/397	525/238	1400/635
20.8-46	150/568	1251/568	128/384	448/203	1515/687	121/458	605/274	1614/732
<b>Sure Grip Loader SS</b>								
10-16.5	12/46	97/44	10/38	35/16	119/54	10/38	50/23	134/61
12-16.5	15/58	126/57	13/50	46/21	154/70	13/50	65/30	173/78
14-17.5	22/85	185/84	19/73	67/30	227/103	18/68	90/41	240/109
15-19.5	29/112	240/109	25/96	87/39	294/133	24/91	120/54	320/145

**Metric Size Tires:**

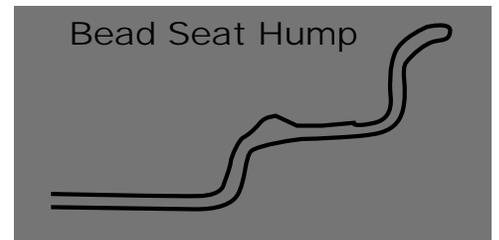
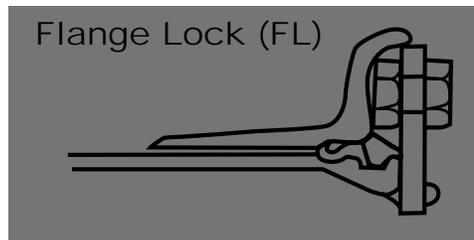
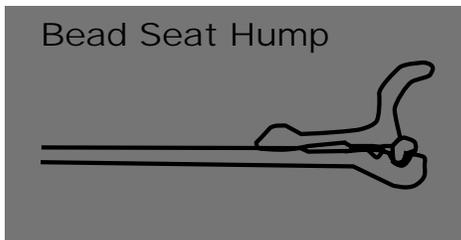
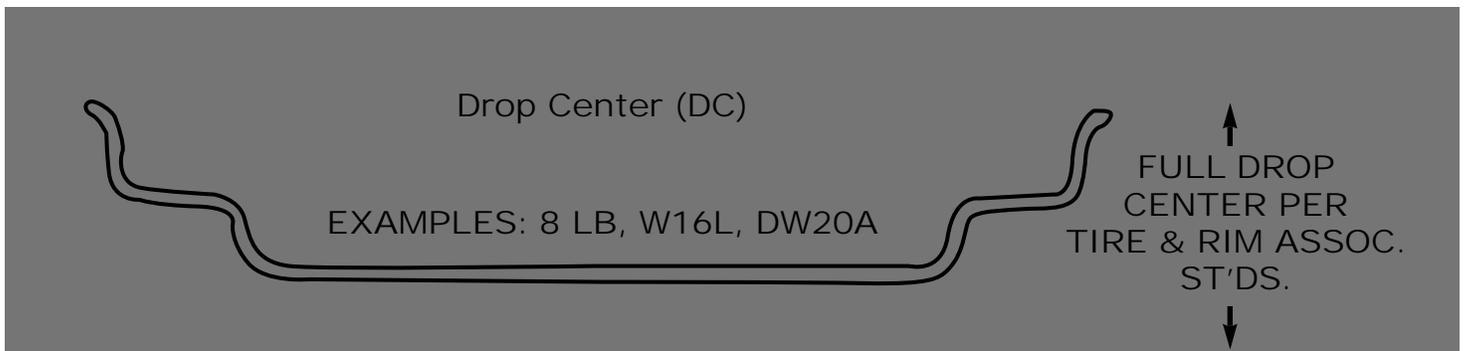
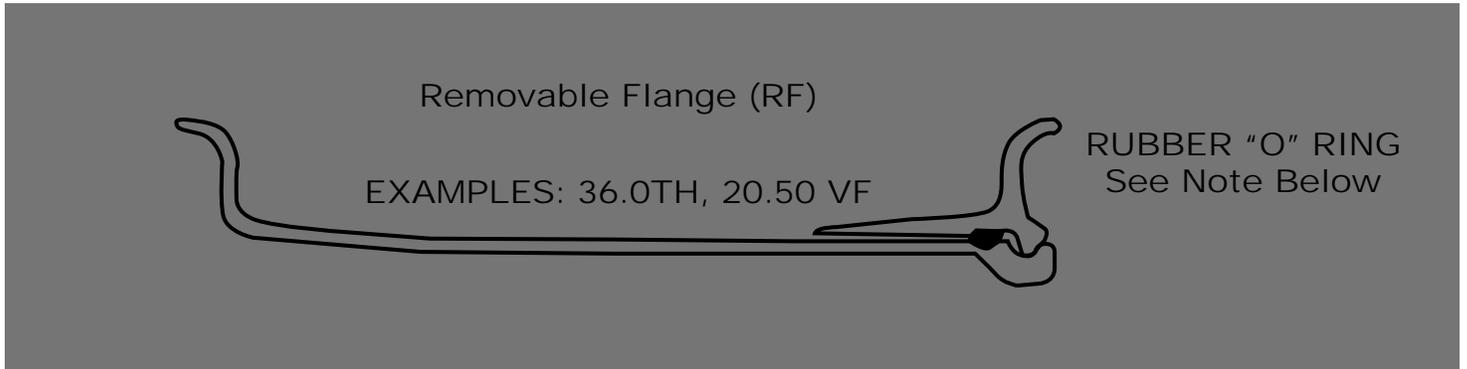
Tire Size	Water				3-1/2 lbs./420 g CaCl <sub>2</sub>						5 lbs./600 g CaCl <sub>2</sub>					
			Weight		Water		CaCl <sub>2</sub>		Total Wt.		Water		CaCl <sub>2</sub>		Total Wt.	
	Gal.	Liters	Lbs.	Kg.	Gal.	Liters	Lbs.	Kg.	Lbs.	Kg.	Gal.	Liters	Lbs.	Kg.	Lbs.	Kg.
240/70R16	8	29	65	29	7	26	25	11	83	38	6	23	30	14	80	36
250/80R16	12	46	101	46	10	38	35	16	118	54	10	38	50	23	133	60
250/80R18	13	49	108	49	11	42	39	17	130	59	11	42	55	25	147	67
250/95R34	24	90	197	90	20	76	70	32	237	107	19	72	95	43	253	115
250/95R50	32	119	263	119	27	102	95	43	320	145	26	98	130	59	347	157
260/70R16	10	37	81	37	8	30	28	13	95	43	8	30	40	18	107	48
260/80R20	15	57	126	57	13	49	46	21	154	70	12	45	60	27	160	73
290/95R34	34	130	287	130	29	110	102	46	343	156	28	106	140	64	373	169
320/70R24	23	87	192	87	20	76	70	32	237	107	19	72	95	43	253	115
320/75R24	25	95	210	95	22	83	77	35	260	118	20	76	100	45	267	121
320/85R34	38	144	316	144	33	125	116	52	391	177	31	117	155	70	413	188
320/90R42	49	186	409	186	42	159	147	67	497	226	40	151	200	91	533	242
320/90R46	52	195	430	195	44	167	154	70	521	236	42	159	210	95	560	254
320/90R50	55	210	462	210	47	178	165	75	556	252	45	170	225	102	600	272
340/80R18	27	101	223	101	23	87	81	37	272	123	22	83	110	50	293	133
340/85R46	57	214	472	214	49	185	172	78	580	263	46	174	230	104	614	278
380/70R20	31	117	258	117	27	102	95	43	320	145	25	95	125	57	333	151
380/70R24	36	136	299	136	31	117	109	49	367	166	29	110	145	66	387	175
380/70R28	41	155	342	155	35	132	123	56	414	188	33	125	165	75	440	200
380/85R28	50	188	414	188	43	163	151	68	509	231	40	151	200	91	533	242
380/85R30	54	205	452	205	46	174	161	73	545	247	44	167	220	100	587	266
380/85R34	56	213	470	213	48	182	168	76	568	258	46	174	230	104	614	278
380/80R38	56	212	468	212	48	182	168	76	568	258	46	174	230	104	614	278
380/90R46	76	287	631	287	65	246	228	103	769	349	61	231	305	138	814	369
380/90R50	79	300	660	300	68	257	238	108	805	365	64	242	320	145	854	387
385/85R34MPT	60	226	497	226	51	193	179	81	604	274	48	182	240	109	640	290
420/70R24	47	176	388	176	40	151	140	64	473	215	38	144	190	86	507	230
420/70R28	53	200	441	200	45	170	158	71	533	242	43	163	215	98	573	260
420/80R46	86	325	715	325	74	280	259	117	876	397	70	265	350	159	934	423
420/85R28	66	249	549	249	56	212	196	89	663	301	53	201	265	120	707	321
420/90R30	72	274	604	274	62	235	217	98	734	333	59	223	295	134	787	357
480/70R28	71	268	590	268	61	231	214	97	722	328	57	216	285	129	760	345
480/70R30	75	284	625	284	64	242	224	102	758	344	61	231	305	138	814	369
480/70R34	83	314	691	314	71	269	249	113	840	381	67	254	335	152	894	405
480/80R38	105	397	875	397	90	341	315	143	1065	483	85	322	425	193	1134	514
480/80R42	113	427	941	427	97	367	340	154	1148	521	92	348	460	209	1227	557
480/80R46	119	451	993	451	102	386	357	162	1207	548	97	367	485	220	1294	587
480/85R34	99	376	829	376	85	322	298	135	1006	456	81	307	405	184	1080	490
VA500/95D32	138	521	1147	521	118	447	413	187	1397	634	112	424	560	254	1494	678
520/85R38	133	504	1111	504	114	431	399	181	1349	612	108	409	540	245	1440	653
520/85R42	142	537	1183	537	122	462	427	194	1444	655	115	435	575	261	1534	696
520/85R46	153	580	1278	580	131	496	459	208	1551	703	124	469	620	281	1654	750
540/65R30	80	304	671	304	69	261	242	110	817	370	65	246	325	147	867	393
580/70R38	142	536	1181	536	121	458	424	192	1432	650	115	435	575	261	1534	696
600/65R28	99	374	824	374	85	322	298	135	1006	456	80	303	400	181	1067	484
620/75R26	125	475	1046	475	108	409	378	171	1278	580	102	386	510	231	1360	617
620/70R42	169	641	1412	641	145	549	508	230	1716	779	137	519	685	311	1827	829
650/75R32	162	613	1350	613	139	526	487	221	1645	746	131	496	655	297	1747	793
650/75R34	185	699	1539	699	158	598	553	251	1870	848	150	568	750	340	2001	907
650/65R42	164	619	1364	619	140	530	490	222	1657	752	133	503	665	302	1774	805
710/70R38	201	763	1680	763	173	655	606	275	2048	929	163	617	815	370	2174	986
710/70R42	228	863	1901	863	195	738	683	310	2308	1047	185	700	925	420	2467	1119
750/65R26	168	635	1398	635	144	545	504	229	1705	773	136	515	680	308	1814	823
800/65R32	202	766	1687	766	173	655	606	275	2048	929	164	621	820	372	2187	992
900/50R42	235	888	1956	888	201	761	704	319	2379	1079	190	719	950	431	2534	1149

## Terra-Tires

Tire Size	Water		3½ lbs./420 g CaCl <sub>2</sub>			5 lbs./600 g CaCl <sub>2</sub>		
	Gal./Liters	Weight	Water	CaCl <sub>2</sub>	Total Wt.	Water	CaCl <sub>2</sub>	Total Wt.
		Lbs./Kg.	Gal./Liters	Lbs./Kg.	Lbs./Kg.	Gal./Liters	Lbs./Kg.	Lbs./Kg.
23x8.50-12NHS	6/23	50/23	5/19	18/8	60/27	5/19	25/11	67/30
23x10.50-12NHS	7/26	58/26	5/19	21/10	71/32	6/23	30/14	80/36
26x12.00-12NHS	10/38	83/38	9/34	31/14	106/48	8/30	40/18	107/49
25x7.50-15NHS	6/23	50/23	5/19	18/8	60/27	5/19	25/11	67/30
25x10.50-15NHS	7/26	58/26	6/23	21/10	71/32	6/23	30/14	80/36
25x12.50-15NHS	8/30	67/30	7/26	25/11	83/38	7/26	35/16	93/42
27x8.50-15NHS	7/26	58/26	6/23	21/10	71/32	6/23	30/14	80/36
27x9.50-15NHS	9/34	75/34	8/30	28/13	94/43	7/26	35/16	93/42
27x10.50-15NHS	10/38	83/38	9/34	32/15	106/48	8/30	40/18	107/49
29x12.50-15NHS	14/53	116/53	12/45	42/19	142/64	11/42	55/25	146/66
31x12.50-15NHS	18/68	149/68	15/57	52/24	177/80	14/53	70/32	186/84
31x13.50-15NHS	19/72	158/72	16/61	56/25	189/86	18/68	75/34	200/91
31x15.50-15NHS	20/76	166/75	17/64	60/27	201/91	16/61	80/36	213/97
33x12.50-15NHS	22/83	183/83	19/72	66/30	224/102	18/68	90/41	239/108
36x13.50-15NHS	30/114	250/113	26/98	91/41	308/140	24/91	120/54	320/145
38x20.00-16.1NHS	42/159	349/158	36/136	126/57	425/193	34/129	170/77	452/205
38x14.00-20NHS	30/114	249/113	26/98	91/41	307/139	24/91	120/54	320/145
41x14.00-20NHS	32/121	267/121	27/102	95/43	320/145	26/98	130/59	347/157
42x25.00-20NHS	66/250	548/249	57/216	200/91	673/305	53/201	265/120	705/320
44x18.00-20NHS	56/212	476/216	48/182	168/76	566/257	45/170	225/102	548/249
44x41.00-20NHS	110/416	913/414	94/356	329/149	1109/503	88/333	440/200	1170/531
48x25.00-20NHS	92/348	764/347	79/299	277/126	933/423	74/280	370/168	984/446
48x31.00-20NHS	125/473	1038/471	107/405	375/170	1263/573	100/378	500/227	1330/603
48x20.00-24NHS	54/204	450/204	46/174	161/73	545/247	43/163	215/98	573/260
54x31.00-26NHS	117/443	975/442	100/378	350/159	1184/537	95/360	475/215	1267/575
66x43.00-25NHS	327/1238	2714/1231	280/1060	980/445	3304/1499	263/995	1315/596	3498/1587
66x44.00-25NHS	347/1313	2880/1306	298/1128	1043/473	3516/1595	279/1056	1395/633	3711/1683
67x34.00-25NHS	224/848	1859/843	192/727	672/305	2266/1028	180/681	900/408	2394/1086
67x34.00-26NHS	220/833	1826/828	188/712	659/299	2220/1007	176/666	882/400	2343/1063
67x34.00-30NHS	202/765	1677/761	173/655	606/275	2041/926	162/613	810/367	2155/978
73x44.00-32NHS	372/1408	3088/1401	318/1204	1113/505	3895/1767	299/1132	1495/678	3977/1804

# RIM TYPES

Goodyear tires are designed to be used with rims having the dimensions of those shown as "approved rims" for the tire size in the Tire and Rim Association yearbook, current at the time of tire manufacture. Usage of other rims must be specifically approved by the Goodyear Tire and Rubber Company.



## RIM TYPES:

1. Removable Flange (RF) Drop Center (DC) - These are conventional type rims used with tire sizes as specified on Pages 133-135. When available in both types, the RF rim is recommended for heavier loads and more severe service.
2. Flange Lock (FL) - Driving mechanism and flange locking device on (RF) rims, for use with a high torque application and/or low pressure (below 10 psi) to maintain air seal.
3. Bead Seat Hump - Available when specified on drop center and removable flange rims. For TERRA-TIRE® sizes which operate on side-slopes or rough terrain at inflation pressures of 10 psi or less.

NOTE: Rubber "O" Ring - 20" Dia. Rim Part #OR20JM★, 25" Dia. Rim Part #OR25T★, 32" Dia. Rim Part #OR32T★  
(★-Goodyear Part Number)

# Approved Rim Contours

## For Agricultural Drive Wheel Tires (R1 thru R4)

Tire Size	Recommended Rim	Alternate Rim
7.2-16	6.00F	-
7.2-30	W6	-
8.3-16	W7	6.00F
8.3-24	W7	-
9.5-16	W8L, 8LB	-
9.5-24	W8, W8H	W7
9.5-36	W8	-
9.5-42	DW8	-
9.5-20	W8	W7
11.2-16	W10L, 10LB	-
11.2-24	W10, W10H	W9
11.2-28	W10, W10H	W9
11.2-34	W10	-
11.2-36	W9*	-
11.2-38	W10	-
12.4-16	W10L*, 10LB*	-
12.4-24	W11	W10, W10H
12.4-28	W11	W10, W10H
12.4-36	DW11A	DW11
12.4-38	W11, DW11A	W10, DW11
12.4-42	W9*	-
13.6-16.1	W11C*	-
13.6-24	W12	W11
13.6-26	DW12A	W11, DW11, DW12
13.6-28/13.6R28	W12	W11
13.6R28	W12	W11
13.6-38	W12, DW12A	W11, DW12
13.9-36	W12	-
14.9-24/14.9R24	W13	W12
14.9-26	W12*, DW12A*	DW12
14.9R26	W12*, DW12A*	DW12
14.9-28	W13	W12
14.9R28	W13	W12
14.9-30	W13	-
14.9R30	W13	-
14.9R34	W12*	-
14.9-38	W12*, DW12A*	DW12
14.9R46	W13	W12
15.5-38	W14L, DW14A	DW14
15.5R38	W14L, DW14A	DW14
16.9-24	W15L	-
16.9R24	W15L	-
16.9-26	W15L	DW14, DW14A
16.9R26	W15L	DW14, DW14A
16.9-28	W15L	W14L
16.9R28	W15L	W14L
16.9-30	W15L, DW15A	W14L, DW14, DW15
16.9R30	W15L, DW15A	W14L, DW14, DW15
16.9-34	W15L	DW14
16.9-38	W15L	W14L, DW14A, DW14
16.9R38	W15L	W14L, DW14A, DW14
16.9R38	W15L	W14L, DW14A, DW14
16.9R46	W15L	W14L, DW14A
17.5L-24	W15L	-
17.5LR24	W15L	-

Tire Size	Recommended Rim	Alternate Rim
18.4-16.1	16.1x16LB, 16.1xW16C	-
18.4-24	W16L	W15L
18.4-26	DW16A	W15L, DW16
18.4R26	DW16A	W15L, DW16
18.4-28	W16L	W15L
18.4-30	DW16A	W15L, DW15, DW16
18.4-34	W16L, DW16A	W15L, DW16
18.4R34	W16L, DW16A	W15L, DW16
18.4-38	W16A, 16DD	W15L, W16L
18.4R38	W16A, 16DD	W15L, W16L
18.4-42	W16A, 16DD	W16L
18.4R42	W16A, 16DD	W16L
18.4R46	W16A, 16DD	-
19.5L-24	W16L (NOT 12PR), DW16L	-
19.5LR24	DW16L	-
20.8-34	W18L	-
20.8R34	W18L	-
20.8-38	W18A, 18DD	W18L
20.8R38	W18A, 18DD	W18L
20.8-42	W18A, 18DD	W18LH
20.8R42	W18A, 18DD	W18LH
21L-24	W18L (10 PR), DW18L (10, 12, 16)	-
21L-28	W18L (10 PR), DW18L (14 PR)	-
23.1-26	DW20A-8, 10 PR	DW20-8PR DW20TB-8, 10 PR
23.1-30	DW20A	DW20
23.1-34	DW20A	DW20
24.5-32	DW21A-12 PR, DH21-12 & 16 PR	DW21TB-12 PR
24.5R32	DW21A, DH21	DW21TB
28L-26	DW25A	DW25-12 PR & UNDER, DW25TB
30.5L-32	DW27A, DH27	DW27-12 PR & DOWN, DW27TB-12 PR
30.5L-32VA	27.00 VA, (NO DW OR DH!)	-
30.5LR32	DW27A, DH27	DW27, DW27TB

\*- Not Design Rim Width

**IMPORTANT:** Rim dimensions are standardized by The Tire and Rim Association for size and contour only, and particular tire and rim combinations are designated to assure proper mounting and fit of the tire to the rim. The load and cold inflation pressure imposed on the rim and wheel must not exceed the rim and wheel manufacturer's recommendations even though the tire may be approved for a higher load or inflation. Rims and wheels may be identified (stamped) with a maximum load and maximum cold inflation rating. For rims and wheels not so identified or for service conditions exceeding the rated capacities, consult the rim and wheel manufacturers to determine rim and wheel capacities for the intended service.

# Approved Rim Contours

## For Metric Size Agricultural Drive Wheel Tires (R1 thru R4)

Tire Size	Recommended Rim	Alternate Rim
240/70R16	W8	W9
250/80R16	W8	W7, W9
250/80R18	W8	W7, W9
250/95R34	W8H	
250/95R50	W8H	
260/70R16	W8	W9
260/80R20	W8	
290/95R34	W9	W10
320/70R24	W10	
320/75R24	W10	
320/85R34	W10L	
320/90R42	W10	
320/90R46	W10	
320/90R50	W10	
340/80R18	W9	W11
340/85R46	W12	
380/70R20	W12	W11, W13
380/70R24	W12	W11, W13
380/70R28	W12	W11, W13
380/80R38	W12	
380/85R28	W12	W13
380/85R30	W12	W13
380/85R34	W12	
380/90R46	W12	
380/90R50	W12	
385/85R34MPT	W12	
420/70R24	W13	W12, W14L
420/70R28	W13	W12, W14L
420/80R46	W13	W12
420/85R28	W13	W14L, W15L
420/90R30	W13	W14L, W15L

Tire Size	Recommended Rim	Alternate Rim
480/70R28	W15L	
480/70R30	W15L	
480/70R34	W15L	
480/80R38	W15L	16DD, W16A
480/80R42	W15L	16DD, W16A
480/80R46	W15L	W16A
480/85R34	W15L	W16L, DW16A
VA500/95D32	13.00VA	
520/85R38	W16A	18DD, W18A
520/85R42	W16A	18DD, W18A
520/85R46	W16A	16DD
540/65R30	W16L	W18L, W15L
580/70R38	W18L	
600/65R28	W18L	
620/70R42	DW20A	
620/75R26	DW20A	
650/65R42	DW20A	
650/75R32	DW21A	
650/75R34	DW20A	DW20
710/70R38	MW23A	
710/70R42	MW23A	
750/65R26	DW25A	DW23A
800/65R32	DW27A	DW25A
900/50R42	DW27A	

**IMPORTANT:** Rim dimensions are standardized by The Tire and Rim Association for size and contour only, and particular tire and rim combinations are designated to assure proper mounting and fit of the tire to the rim. The load and cold inflation pressure imposed on the rim and wheel must not exceed the rim and wheel manufacturer's recommendations even though the tire may be approved for a higher load or inflation. Rims and wheels may be identified (stamped) with a maximum load and maximum cold inflation rating. For rims and wheels not so identified or for service conditions exceeding the rated capacities, consult the rim and wheel manufacturers to determine rim and wheel capacities for the intended service.

# APPROVED RIMS

## FOR TERRA-TIRE® HIGH FLOTATION TIRES (HF-1 thru HF-4)

**NOTE** — Goodyear tires are designed to be used with rims having the dimensions of those shown as “approved rims” for the tire size in the Tire and Rim Association Yearbook, current at the time of tire manufacture. Usage of other rims must be specifically approved by the Goodyear Tire and Rubber Company.

Tire Size	Rim Recom'd	Alternate Rim
16 x 6.50-8 NHS	5.375 I	—
18 x 6.50-8 NHS	5.375 I	—
18 x 8.50-8 NHS	7.00 I	—
18 x 9.50-8 NHS	7.00 I	—
21 x 11.00-8 NHS	8.50 I	9.00 I
22 x 11.00-8 NHS	8.50 I	9.00 I
18 x 9.50-10 NHS	7.00 I	—
20 x 8.00-10 NHS	6.00 I	6JA
26 x 12.00-12 NHS	10.50 I	8.50 I

Tire Size	Rim Recom'd	Alternate Rim
25 x 7.50-15 NHS	6LB	—
25 x 10.50-15 NHS	8LB	—
25 x 12.50-15 NHS	10LB	—
27 x 8.50-15 NHS	7JA	—
27 x 9.50-15 NHS	7JJ	7JA
27 x 10.50-15 NHS	8LB	8JJ
29 x 12.50-15 NHS	10LB	10JJ
31 x 12.50-15 NHS	10LB	10JJ
31 x 13.50-15 NHS	10LB	—
31 x 15.50-15 NHS	13LB	13JJ
33 x 12.50-15 NHS	10LB	—
36 x 13.50-15 NHS	10LB	—
38 x 20.00-16.1 NHS	W16C	—
38 x 14.00-20 NHS	W11H	—
41 x 14.00-20 NHS	W11H	—
42 x 25.00-20 NHS	20.50VF	20.50HF
44 x 18.00-20 NHS	W14LH	—
44 x 41.00-20 NHS	36.0VF	—
48 x 25.00-20 NHS	20.50VF	20.50HF
48 x 31.00-20 NHS	26.00VF	26.00HF
66 x 43.00-25 NHS	36.0TH	—
66 x 44.00-25 NHS	36.0TH	—
67 x 34.00-25 NHS	30.0TH	—
54 x 31.00-26 NHS	DW26	—
67 x 34.00-26 NHS	DW30	—
67 x 34.00-30 NHS	DW30	—
VA73 x 44.00-32 NHS	36.0VA	—

### Flange Recommendation for 25 ( Diameter Rim

Proper bead fit on the rim is important for optimum tire performance and tire life especially for tires that are subjected to high deflections as encountered in variable load operations with spreader trucks and combines.

All 259 bead diameter Terra-Tire tires fit the Goodyear “T” rim with 1.59 flange height.\* The 1.59 flange height rim provides optimum tire performance under all service conditions including the more severe service in variable load operations.

The rim with a 1.59 flange height is the **recommended** rim for all service conditions. Flange heights less than 1.59 can be used in light service applications but could result in tire failure in severe service operations.

Beginning in Jan. 1984 all 259 bead diameter Terra-Tire tires were changed to a “flange-cover” bead shape, designed for the 1.59 flange height rim.\* The flange cover provides protection against objects lodging between the tire bead and rim flange.

# APPROVED RIMS

## For Garden Tractor Tires

Size	Recommended Rim	Alternate Rim
5-12 NHS	4JA	—
6-12	5JA	—
7-12 NHS	5JA	—
7-14	5JA	—
7-16	6.00F, 6L	6LB
8-16	6.00F, 6L	6LB

# APPROVED RIM CONTOURS

## For Agricultural Steering Wheel Tractor Tires (F-1 Thru F-3)

Size	Recommended Rim	Alternate Rim
4.00-12	3.00D	2.50C
4.00-15	3.00D	—
4.00-19	3.00D	—
5.00-15	3.00D	4J
5.50-16	4.00E	4.25KA, 4.50E, 5.00F
6.00-16 SL	4.00E	4.50E, 4.25KA
6.00-14	5KB	—
6.50-16 SL	4.50E	4.00E, 4.25KA, 5.00F
7.50-16 SL	5.50F	5.00F, 6LB
7.50-18 SL	5.50F	5.00F
7.50-20 SL	5.50F	5.00F
7.5L-15 SL	6LB, 6L	5K, 5KB
8.00-16 SL	5.50F	6.00G
9.00-10 NHS	6.00F (2 PIECE)	5.50F (2 PIECE)
9.5L-15 SL	8LB	—
9.50-20 SL	W7L	—
9.50-24 SL	W8, W8H	—
10.00-16 SL	W8L, 8LB	—
11L-15	8LB	10LB
11L-16 SL	W8L, 8LB	10LB, W10L
11.00-16 SL	W10L, 10LB	W8L, 8LB
11.00-24 SL	W10, W10H	—
14L-16.1 SL	16.1 x W11C	—
14.5/75-16.1 SL	16.1 x W11C	—
16.5L-16.1	16.1 x 14LB, 16.1 x W14C	—

\*Not Design Rim Width.

# APPROVED RIMS

## For ATV Tires

Tire Size	Rim Recom'd	Alternate Rim
AT21 x 7-10	5.5 AT	—
AT22 x 7-11	5.5 AT	—
AT22 x 9-8	8.0 AT	—
AT22 x 10-9	8.0 AT	—
AT23 x 7-10	5.5 AT	—
AT23 x 8-11	6.5 AT	—
AT24 x 8-11	6.5 AT	—
AT24 x 9-11	7.5 AT	—
AT24 x 10-11	7.5 AT, 8.0 AT	—
AT25 x 8-12	6.0 AT	—
AT25 x 11-9	9.0 AT	—
AT25 x 11-10	8.5 AT	—

# APPROVED RIMS

## For Agricultural Implement Tires (I-1 Thru I-3)

Size	Recommended Rim	Alternate Rims
4.00-9	3.00D	—
4.00-12 NHS	3.00D	2.50C
4.00-15 SL	3.00D	—
4.00-18 SL	3.00D	—
5.00-15 SL	3.00D	4J
5.50-16 SL	4.00E	4.25KA, 4.50E
5.90-15 SL	4½KB, 4½K	4J, 5K, 5KB
6.00-16 SL	4.00E	4.25KA, 4.50E
6.40-15 SL	4½KB, 4½K	4J, 5K, 5KB
6.50-16 SL	4.50E	4.00E, 4.25KA, 5.50F
6.70-15 SL	4½KB, 4½K	5K, 5KB
7.50-14 SL	5KB	5.50F
7.50-16 SL	5.50F	6LB
7.50-18 SL	5.50F	—
7.50-20 SL	5.50F	—
7.50-24 SL	W7	—
7.60-15 SL	6L, 6LB	—
8.5L-14 SL	6KB	8KB
9.00-10 NHS	6.00F (2 PIECE)	5.50F (2 PIECE)
9.00-16 SL	6 LB	5.50F, W8L, 8LB
9.00-24 SL	W8 (6 PR), W8H (6 & 8 PR)	W7 (6 PR)
9.5L-14 SL	8KB*	—
9.5L-15 SL	8LB*	—
10.00-15 SL	8LB	—
11L-14 SL	8KB	—
11L-15 SL	8LB	10LB
11L-16 SL	W8L, 8LB	10LB, W10L
11.25-24 SL	W10H, W10	W8H, W8
11.25-28 SL	W10H, W10	—
12.5L-15 SL	10LB	—
12.5L-16 SL	W10L, 10LB	—
13.50-16.1 SL	16.1XW11C	—
14L-16.1 SL	16.1XW11C	—
16.5L-16.1 SL	16.1X14LB, 16.1XW14C	—
19L-16.1 SL	16.1X16LB, 16.1XW16C	—
21.5L-16.1 SL	16.1W18C	16.1X16LB, 16.1XW16C

\*\*Consult tire manufacturers for bead/flange fit.

\*Not Design Rim Width.

Size	Recommended Rim	Alternate Rims
9.5L-15FI	8LB	
11L-15FI	8LB	10LB
12.5L-15FI	10LB	

**IMPORTANT:** Rim dimensions are standardized by The Tire and Rim Association for size and contour only, and particular tire and rim combinations are designated to assure proper mounting and fit of the tire to the rim. The load and cold inflation pressure imposed on the rim and wheel must not exceed the rim and wheel manufacturer's recommendations even though the tire may be approved for a higher load or inflation. Rims and wheels may be identified (stamped) with a maximum load and maximum cold inflation rating. For rims and wheels not so identified or for service conditions exceeding the rated capabilities, consult the rim and wheel manufacturers to determine rim and wheel capacities for the intended service.

# TIRE SERVICE & MAINTENANCE

## SAFETY PRECAUTIONS

1. NEVER reinflate a tire that has been operated in a run-flat or underinflated condition (80% or less of recommended pressure). Deflate, demount and inspect all tire and rim parts before reinflating.
2. ALWAYS use specialized tools as stated below for mounting and demounting of tires.
3. NEVER attempt to unseat beads of an inflated tire.
4. BEFORE loosening any nuts or clamps that attach the rim assembly to a vehicle, always completely deflate the tire (both tires of a dual assembly) by taking out the valve core(s). Run a wire thru valve to make sure it is clear. Never attempt to demount a tire from a rim unless you are sure that the tire is completely deflated. Failure to follow this practice can cause the assembly to burst with force sufficient to cause serious injury or death.
5. NEVER use any rim part that is bent, pitted from corrosion, cracked or worn. These are unserviceable parts and must be destroyed so that they cannot be used. Remove rust, dirt or foreign material from rim parts.
6. NEVER use a rim part unless you can positively identify it from the manufacturer's stamped markings. If you cannot identify a part, it must be destroyed.
7. ALWAYS inspect inside of tire for loose cords, cuts, penetrating objects or other casing damage. Repairable damage must be repaired before placing tire back into service. Tires with unrepairable damage should be destroyed.
8. ALWAYS clean and inspect rim.
9. NEVER rework, weld, heat, or braze rims.
10. ALWAYS check rim diameter to be sure it exactly matches rim diameter molded on tire.
11. NEVER substitute an innertube for a permissible or non-permissible repair.
12. ALWAYS replace a tire with one having the same rim diameter designation and suffix letters.
13. ALWAYS inspect inside of the tire and remove dirt, liquids, or other foreign material before mounting.
14. NEVER install tubes that have buckled or been creased.
15. ALWAYS use new tubes in new tires.
16. ALWAYS use radial tubes with radial tires.
17. NEVER use a tube in a casing larger or smaller than that for which the tube was designed by the manufacturer.
18. ALWAYS check to be sure tube is clean before installing in tire.
19. ALWAYS lubricate with only approved tire mounting lubricant or mild vegetable oil soap solution. Never use antifreeze, silicones or petroleum-base lubricants. This will damage the tire.
20. On drop center rims, do not exert excessive force prying beads over rim flange. Be sure portion of bead over rim flange is down in the well of the rim and pry only small portions of the bead over the rim flange at one time.
21. On demountable flat base rims be certain the lock ring is seated properly in rim base groove before starting inflation. Do not hammer on flange or lock ring during or after tire is inflated.
22. NEVER hit tire or rim with hammer.
23. ALWAYS inspect valve cores for proper air retention. Replace damaged or leaky cores.
24. ALWAYS inflate tire to vehicle manufacturer's recommended cold inflation pressure for the tire's intended service and make sure it does not exceed the maximum inflation pressure molded on the sidewall.
25. When inflating a tire off a vehicle, use a safety cage or other restraining device, and an extension hose with in-line air gauge and clip-on air chuck, which allows the operator to stand clear of the trajectory. See diagram on page 140.
26. For tube-type tires, inflate to service pressure without the valve core installed and then completely deflate the tire to prevent wrinkles in the tube. Insert the valve core and reinflate the tire to recommended service pressure as specified by the vehicle manufacturer.
27. ALWAYS use sealing valve caps to prevent loss of air or fluid.

### TYPICAL TOOL REQUIREMENTS

- Bead unseating tool
- Rubber mallet (for unseating beads)
- 369 tire irons (2)
- 189 tire irons (2)
- Wire brush
- Approved tire mounting lubricant
- Extension hose with in-line gauge and clip-on air chuck
- Air/water inflation gauge\*
- Restraining device

### BEFORE MOUNTING

tire on a used rim, be sure flange area (particularly the bead seat area) is clean and smooth. Remove any buildup of rust, corrosion or old rubber with a wire brush. Never mount a tire on a rim where any parts show cracks, damage, or have been repaired by welding or brazing, or where the rim or rim parts cannot be accurately identified. Thoroughly inspect inside of casing for damage or foreign material, and remove dirt, liquids, or other foreign material before mounting. Lubricate both beads with a thin solution of vegetable oil soap in water, or equivalent rubber lubricant recommended for this requirement. (Never use petroleum-base solutions or silicones.)



## WARNING!

**NEVER inflate beyond 35 pounds of pressure to seat beads.**

If beads have not seated by the time pressure reaches 35 psi, deflate the assembly, reposition the tire on the rim, re-lubricate and re-inflate. After seating beads, adjust inflation to recommended pressure. Allowing air pressure to build within the assembly in an attempt to seat the beads is a DANGEROUS PRACTICE. In seating beads, inflation beyond 35 pounds pressure may break the bead (or even the rim) with explosive force sufficient to cause SERIOUS PHYSICAL INJURY OR DEATH. Inspect both sides of the tire to be sure beads are evenly seated. If not, completely deflate tire, unseat beads and repeat entire mounting procedure.

\*For tubeless drive tires with TR618A valve use large bore air chuck, Schrader No. 4660A, Dill No. 9308 and air through spud.

# TIRE DEMOUNTING AND MOUNTING SAFETY PRECAUTIONS



## WARNING

### SERIOUS INJURY OR DEATH MAY RESULT FROM:

- EXPLOSION OF TIRE/RIM/WHEEL ASSEMBLY DUE TO IMPROPER MOUNTING – NEVER EXCEED 35 PSI (AIR PRESSURE) WHEN SEATING BEADS. – ALWAYS USE SAFETY CAGE OR OTHER RESTRAINING DEVICE AND CLIP-ON EXTENSION HOSE. ONLY SPECIALLY TRAINED PERSONS SHOULD MOUNT TIRES.
- TIRE FAILURE DUE TO MISAPPLICATION/IMPROPER INFLATION/OVERLOADING/EXCEEDING MAXIMUM SPEED – FOLLOW TIRE MANUFACTURER'S INSTRUCTIONS. CHECK INFLATION PRESSURE FREQUENTLY WITH GAUGE.
- EXPLOSION OF THE TIRE/RIM/WHEEL ASSEMBLY DUE TO WELDING THE RIM WITHOUT FIRST REMOVING THE TIRE – NEVER REWORK, WELD, HEAT OR BRAZE THE RIM OF A TIRE/RIM/WHEEL ASSEMBLY.



## WARNING

TIRE CHANGING CAN BE DANGEROUS AND SHOULD BE DONE BY TRAINED PERSONNEL USING PROPER TOOLS AND PROCEDURES. ALWAYS READ AND UNDERSTAND ANY MANUFACTURER'S WARNING CONTAINED IN THEIR CUSTOMERS' LITERATURE OR MOLDED INTO THE TIRE SIDEWALL.

Failure to comply with these procedures may result in faulty positioning of the tire and/or rim parts, and cause the assembly to burst with explosive force, sufficient to cause serious physical injury or death. Never mount or use damaged tires or rims.



## WARNING

NEVER inflate beyond 35 pounds of pressure to seat beads. NEVER stand, lean or reach over the assembly during inflation.

Inspect both sides of the tire to be sure that the beads are evenly seated. If tire is mounted on a machine that does not have a positive lock-down device to hold the wheel, inflation should be done in a safety cage or other restraining device. If both beads are not properly seated when pressure reaches 35 psi, completely deflate the assembly, reposition the tire and/or tube on the rim, relubricate and reinflate. Inflating beyond 35 psi air pressure when trying to seat the beads is a DANGEROUS PRACTICE that may break a tire bead (or even the rim) with explosive force, possibly resulting in serious injury or death. After the beads are fully seated, pressure may be increased above 35 psi to operating pressures.



## WARNING

- Reinflation of any type of tire/rim assembly that has been operated in a run-flat or underinflated condition (80% or less of recommended pressure), can result in serious injury or death. The tire may be damaged on the inside and can explode while you are adding air. The rim parts may be worn, damaged or dislodged and can explosively separate.
- NEVER rework, weld, heat, or braze the tire/wheel/rim. Heating the rim of tire/wheel/rim assembly can cause a tire to explode, causing serious injury or death.
- The use of any flammable material during tire servicing is absolutely prohibited. Use of starting fluid, ether, gasoline or any other flammable material to lubricate, seal or seat the beads of a tubeless tire can cause the tire to explode or can cause the explosive separation of the tire/rim assembly resulting in serious injury or death.
- NEVER hammer, strike or pry on any type of tire/rim assembly while the tire contains inflation pressure. Do not attempt to seat any part while the tire contains any inflation pressure. This could result in serious injury or death.

# TIRE DEMOUNTING AND MOUNTING SAFETY PRECAUTIONS

## **WARNING**

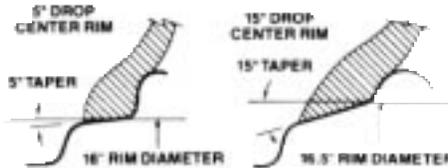
There is a danger of serious injury or death if a tire of one bead diameter is installed on a rim or wheel of a different rim diameter.

Always replace a tire with another tire of exactly the same bead diameter designation and suffix letters.

For example: A 16 $\phi$  tire goes on a 16 $\phi$  rim. Never mount a 16 $\phi$  tire on a 16.1 $\phi$  or 16.5 $\phi$  rim. A 16.1 $\phi$  tire goes on a 16.1 $\phi$  rim. Never mount a 16.1 $\phi$  tire on a 16 $\phi$  or 16.5 $\phi$  rim. A 16.5 $\phi$  tire goes on a 16.5 $\phi$  rim. Never mount a 16.5 $\phi$  tire on a 16 $\phi$  or 16.1 $\phi$  rim. For the same reason, never mount a 26 $\phi$  rim diameter tire on a 26.5 $\phi$  rim. Never mount a 30 $\phi$  rim diameter tire on a 30.5 $\phi$  rim.

While it is possible to pass a 16 $\phi$  diameter tire over the lip or flange of a 16.1 $\phi$  or 16.5 $\phi$  size diameter rim, it cannot be inflated enough to position itself against the rim flange. If an attempt is made to seat the tire bead by inflating, the tire bead will break with explosive force and could cause serious injury or death.

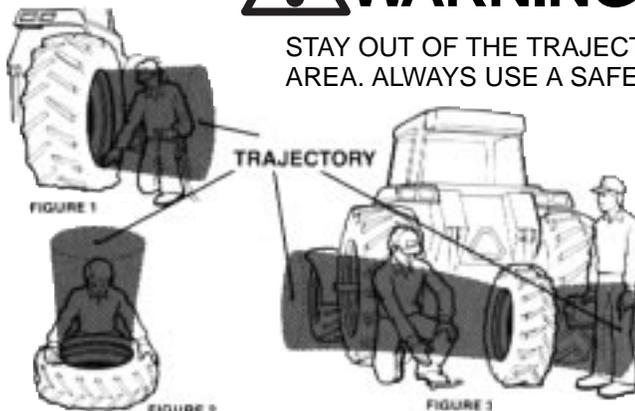
Rims of different diameters and tapers cannot be interchanged. The following diagram illustrates the difference between rims of two different tapers and diameters:



The following diagram shows how beads of a 16 $\phi$  tire will not seat on a 16.5 $\phi$  rim. The beads cannot be forced out against the rim flanges by using more air pressure because this will break the beads and the tire will explode with force sufficient to cause serious injury or death.



## **WARNING**



STAY OUT OF THE TRAJECTORY AS INDICATED BY SHADED AREA. ALWAYS USE A SAFETY CAGE OR OTHER RESTRAINING DEVICE IN COMPLIANCE WITH OSHA REGULATIONS.

Note: Under some circumstances, the trajectory may deviate from its expected path.

# TIRE DEMOUNTING AND MOUNTING SAFETY PRECAUTIONS



## 15.39 DIAMETER: 99 WIDTH EUROPEAN RIMS

Certain European farm implement equipment has been imported into North America with unique diameter rims for which no North American produced replacement tire sizes are available.

Any attempt to mount and inflate 159 nominal bead diameter tires on these rims may ultimately cause one of the tire beads to break, possibly resulting in serious physical injury or even death.

The rims in question are 15.39 in diameter and 99 wide. However, rims manufactured in 1981 and earlier are marked as 159 diameter; only those manufactured in 1982 and 1983 are marked as 15.39 diameter.

The key to avoiding this potentially dangerous situation is the 99 width. The U.S.A. (or Canada) wheel industry does not manufacture a 9" width rim for farm implement use.

The European tire sizes that may be mounted on these rims are:

10.0/75 – 15.3 (or 15)

10.5/85 – 15.3

11.5/80 – 15.3 (or 15)

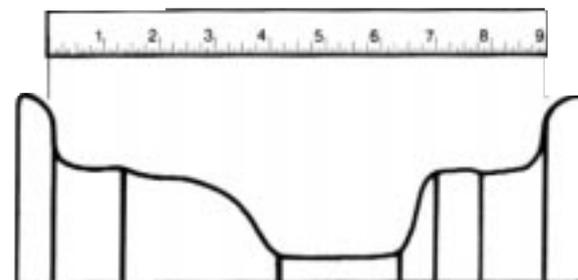
12.5/80 – 15.3

U.S.A. (OR CANADA) PRODUCED FARM IMPLEMENT TIRES ARE NOT TO BE MOUNTED ON ANY 99 WIDE FARM IMPLEMENT RIM.

## TO DETERMINE COMPATIBLE RIM WIDTH FOR TIRE SIZES

Determine the vehicle's actual rim width by measuring, in inches, the distance between the vertical bead flanges as shown. A simple ruler or yardstick may be used, as rims are manufactured in half inch increments of width.

Find permissible replacement tire sizes in RMA's Care and Service of Farm Tires Manual (available from the address below). Most tires will fit on more than one rim width.



**EXAMPLE OF A 99 RIM WIDTH**

1. Courtesy of RMA

# MOUNTING OFF THE VEHICLE & DROP CENTER RIMS



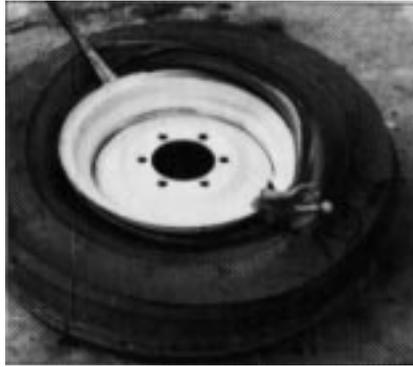
1. Lay the rim on the floor with the narrow ledge on the top. Thoroughly lubricate the tire bead area and rim flange with an approved tire mounting lubricant or a thin solution of vegetable oil soap in water. (Never use antifreeze, silicones or petroleum-base lubricants because this will damage the tire.)



2. For tube-type tires push the bottom bead over the rim flange as far as possible. Use 189 tire irons to work the first tire bead completely over the rim flange, taking **small** bites and being careful not to damage the bead.



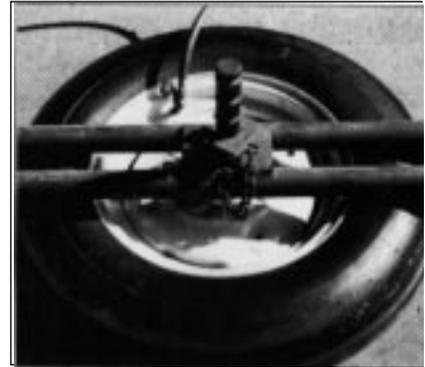
3. For tube-type tires partially inflate the tube and insert it into the tire casing with the valve located near the valve hole in the rim. Attach a valve retrieval tool to the valve and thread the tool through the valve hole. (Inserting the tube and attaching the tool may be eased by placing a block under the tire.)



4. Starting opposite the valve, use tire irons to lever the top bead over the rim flange and down into the rim well. Be careful to avoid pinching the tube with tire irons. Locking pliers may be used to "keep your place." When the bead is well started, lubricate the remaining unmounted portion of the tire bead and rim flange. Taking **small** bites, spoon the tire bead over the rim flange until the final section drops over at the valve.



5. Thoroughly lubricate the tire bead area and rim bead seats on both sides of the tire.



6. Centering the tire on the rim is extremely important to prevent broken beads. Use an extension hose with an in-line air gauge and clip-on chuck; and place tire/rim/wheel in a safety cage or other restraining device. Inflate the tire (**with the valve core removed**) to seat the beads. Do not exceed 35 psi. See WARNING. It is essential for the operator to stand clear of the tire. Check to see that both beads are seated all the way around the tire.

If the tire is tube-type, completely deflate (**to allow repositioning of the tube**) by removing the valve core housing.

For tubeless tires, mounting depends on how well the shape of the tire has been maintained. If the beads are in or near their molded position, they can be seated by inflating the tire, through the valve spud. Where the beads have been squeezed together, the use of an inflator ring (either horizontally or vertically) will be required to provide a seal between the tire bead and rim. Re-insert the valve core and re-inflate the tire to the vehicle manufacturer's recommended operating pressure.



# MOUNTING ON THE VEHICLE $\text{\textcircled{D}}$

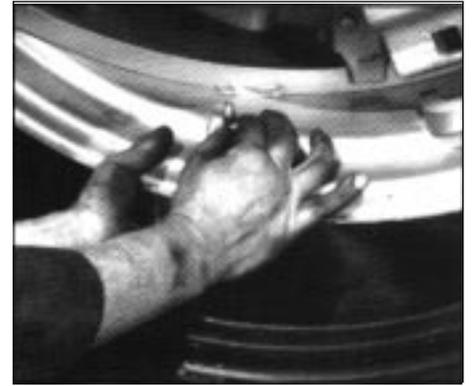
## DROP CENTER RIMS



1. Thoroughly lubricate the tire bead area and rim flange with an approved tire mounting lubricant or a thin solution of vegetable oil soap in water. (Never use antifreeze, silicones or petroleum-base lubricants because this will damage the tire.)



2. Before placing tire on rim, be sure valve hole of rim is at bottom of wheel. To put the tire on the wheel, place the inner bead over the flange at the top. Be sure the bead is not "hung up" on the bead seat, but that the bead is guided into the rim well, while the tire irons and/or rubber mallet are used to work the first bead over the rim. With the first bead on the rim, pull the tire toward the outside of the rim as far as possible to make room for the tube.



3. Before inserting a tube in a tube-type tire, be sure the valve is at the bottom of the wheel. Align the stem with the valve hole and place the tube in the tire, starting at the bottom. Place the valve in the valve hole and screw the rim nut in place. Be sure that the tube is well inside the rim before proceeding to the next step.



4. Relubricate the tire beads and rim flange. In tube-type tires the tube should be partially inflated and base area that contacts the rim should be lubricated to prevent localized stretching.



5. Starting at the top, use the tire irons to lift the outer bead up and over the rim flange, then down into the rim well. Be careful not to pinch the tube in this operation.



6. After getting the first section of the outer bead into the rim well, place one hand against that section to hold it and then pry the remainder of the bead over the flange with the tire iron in the other hand.



7. With the valve stem at the bottom, lower the jack until the tire is centered on the rim. Centering of the tire and rim assembly is extremely important to prevent broken beads. Using an extension hose with an in-line air gauge and clip-on chuck (**with valve core removed**), inflate the tire to seat the beads.

Do not exceed 35 psi. see WARNING. It is essential for the operator to stand clear of the tire. Check to see that both beads are seated all the way around the tire.

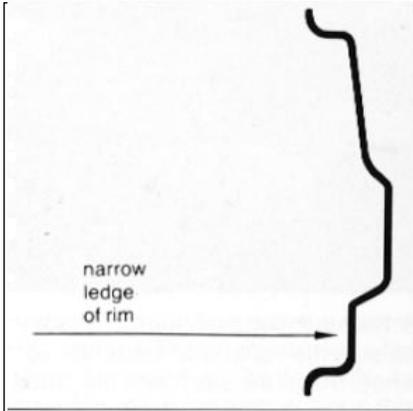
**For tubeless tires**, mounting depends on how well the shape of the tire has been maintained. If the beads are in or near their molded position, they can be seated by inflating the tire, through the valve spud. Where the beads have been squeezed together, the use of an inflator ring (either horizontally or vertically) will be required to provide a seal between the tire bead and rim.



8. Raise the vehicle and rotate wheel assembly to have the valve at the top. **If the tire is tube-type**, completely deflate by removing the valve core housing. Re-insert the valve core and re-inflate the tire to the recommended operating pressure. 143

# DEMOUNTING OFF THE VEHICLE

## DROP CENTER RIMS



1. Remove any fill from the tire. Remove the valve core and completely deflate the tire. Lay the assembly on the floor with the narrow ledge on the bottom.



2. Drive a bead unseating tool between the tire bead and rim flange, being careful not to damage the tire bead area. After the bead has been released completely around the tire, turn the tire and rim over and repeat the bead unseating procedure with the narrow ledge up (as shown above).



3. With the narrow ledge on top, thoroughly lubricate the rim flange and tire bead area with an approved tire lubricant or a thin solution of vegetable oil soap in water. (Never use antifreeze, silicones or petroleum-base lubricants.)



4. Force the part of the bead that is directly across from the valve into the well. Starting at the valve, pry the bead over the rim flange using two 18" long tire irons. Continue by taking **small** bites to avoid damage to bead until the top bead is completely over the rim flange.



5. Bring the assembly to an upright position and pull the tube out of the tire. If only the tube requires repair or replacement, this can be removed, repaired, and replaced in the tire without removing the tire completely from the rim. Thoroughly inspect the inside of the casing for damage or other foreign material. Remove any remaining fluid from inside the tire.



6. To completely remove the tire from the rim, turn assembly over so the narrow ledge is down and lubricate the second tire bead and rim flange. Be sure the one side of the bead still on the rim is in the rim well and insert the tire irons under the opposite side of the bead. Work the rim slowly out of the tire by taking **small** bites alternately using both tire irons.

# DEMOUNTING ON THE VEHICLE & DROP CENTER RIMS

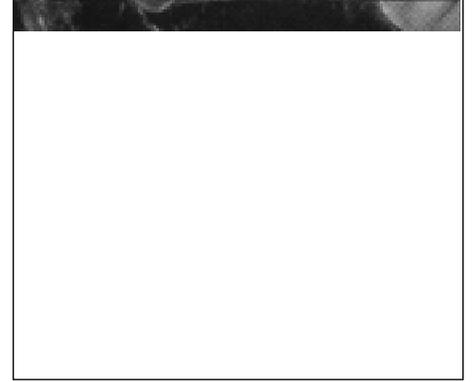
(Some steps for the following procedure may require two persons on larger size tires.)



1. Jack up the vehicle, then remove the fluid fill from the tire. Deflate the tire by removing the valve core housing. For tube-type tires, remove the rim nut and push the valve through the valve hold.



2. After the tire is completely deflated, place a hydraulic "bead unseating" tool between the tire bead and rim flange and force the bead off the bead seat. Be careful not to damage the tire's bead area. The beads should be unseated on both sides of the rim.



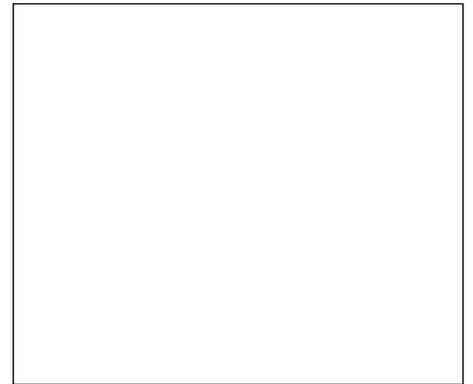
3. Thoroughly lubricate the tire bead area and rim flange with an approved tire mounting lubricant or a thin solution of vegetable oil soap in water. (Never use antifreeze, silicones or petroleum-base lubricants because this will damage the tire.)



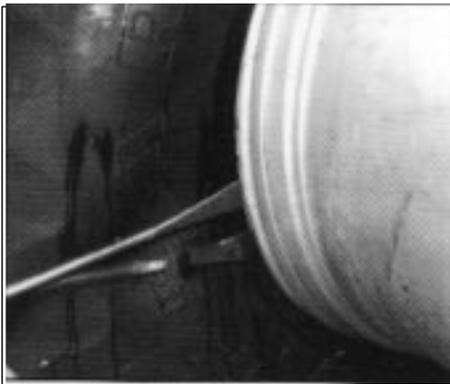
4. Lock the wheel with the valve at the top. Force the outside bead at the bottom into the well. Insert long tire irons under the bead at the top and pry the bead over the rim flange. Take **small** bites to avoid extremely hard prying, which will damage the tire bead.



5. After the first section of the bead is over the rim flange, use one tire iron to hold that section over the flange and use another tire iron to pry the next section over the flange. Do not attempt to pry too large a section of the bead over the rim flange at one time. Never release your grip on either iron, as they may spring back.



6. Pull the tube out of the casing, starting at the bottom. If only the tube requires repair or replacement, this can be removed, repaired, and replaced in the tire without removing the tire completely from the wheel. Before re-installing the tube, thoroughly inspect the inside of the casing for damage or other foreign material. Remove any remaining fluid from inside the tire.



7. To remove the tire completely from the wheel, insert tire irons under the inside bead at the side of the tire. Pry the rest of the inside bead over the rim flange. When starting this operation, be sure that the bead area on the opposite side of the tire is down in the well of the rim.