

DEPARTMENT OF BIOLOGICAL & AGRICULTURAL ENGINEERING

# Selecting Tractor Tires

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Tractor tires have traditionally been specified by manufacturers or dealers. The buyer simply accepted the tires that were installed at the time of purchase. Today, the tire buyer has many options. A wide range of sizes, tread designs, and load ratings is available in either radial- or bias-ply tires. Selecting the proper tractor tire requires careful evaluation of the conditions in which it will operate. The first factor to consider is the type of load the tractor will pull. Will the tractor be used primarily for heavy tillage or utility work?

Soil type is another important factor. Will the tractor be used mainly on sticky clay, a sandy soil, or some other soil type? Will the tractor be driven in road gear on hard surfaces often? Is soil compaction a concern? The type of tractor (two-wheel-drive, front-wheel-drive, or four-wheel-drive) and tire configuration (single or dual) also should influence the decision. Finally, the price and expected life of the tire should be considered.

Getting the best performance for the investment is the main issue in tire selection. Operators want to get as much of the tractor's power to the drawbar as possible while keeping tire costs low. Tires that fit the budget and operating conditions while allowing the tractor to operate at a desirable wheel-slip level should be selected. Operating at high wheel slip (more than 15 percent) wastes tractor power and causes excessive tire wear. However, too much traction (less than 8 percent slip) at full load can increase stress on the drive train. Allowing a minimal amount of tire slip (8 to 15 percent) provides a safety clutch for the drive train when the tractor is operating at full load. Proper tractor ballasting is essential to optimize tractor performance. For more information on proper ballasting procedures, refer to K-State Research and Extension publication MF-588, *Getting the Most from Your Tractor*.

## Tire Pressure

Air pressure is the most important factor to how well a tire performs. Air pressure should be as low as possible for the tire and the weight the tire is carrying. This increases the tire's footprint and allows the tire to perform as designed. All performance data for tires are given at the optimum pressure; if air pressure is too high, performance will suffer.

Minimum operating pressure depends on tire size and rating and the weight on the tire. It is

never less than 12 pounds per square inch for dual-configuration tires. Maximum pressure depends on tire size and rating. The outside tire pressure on duals should be about 2 pounds per square inch less than the inside tire pressure to reduce the chance of damage from the outer tire supporting the tractor. Improper pressure also can decrease tire efficiency or cause damage to the tire. Check the tables for maximum tire loads at various cold-inflation pressures for bias- and radial-ply tires. Operate within the pressure range for the specified tire size and ply, and do not exceed the maximum load.

Air pressure also has a significant effect on tire life. If tires are continually operated at less-than-optimum pressures, sidewall damage can occur, shortening their useful life. A survey by *Farm Journal* magazine found 25 percent of tractor drive tires are underinflated by at least 2 pounds per square inch. Tests have shown sidewall buckling begins on bias-ply tires when pressure is 1 to 2 pounds per square inch less than minimum. This can cut tire life by 5 percent. However, 50 percent underinflation can cut tire life in half.

The same survey found 30 percent of tractor drive tires were over inflated by at least 2 pounds per square inch. Not only does overinflation reduce performance, it increases the chance of bruising or puncturing tires.

## Tire Size

The first decision in tire selection is size, and it will depend primarily on tractor weight. How much weight will be on the tire? For best performance, match tractor weight, tire size, and pressure (see example problem). Select tires that can support the tractor's weight, then adjust tire pressure for optimum performance. It is best to choose a tire with more carrying capacity than is actually needed. This allows the tire to operate at lower pressures, which will improve performance. Try to select single tires that can operate at about 16 pounds per square inch and duals at 12 pounds per square inch.

When selecting tires for row crops, tires should be kept as narrow as possible to avoid damaging crops. However, traction and tractor performance cannot be sacrificed. Forty-six-inch tires are offered by some tractor manufacturers and tire companies, and the 54-inch tires are offered as a retrofit item. The larger diameter of taller tires allows more tire to contact the soil surface, which improves traction. Differences between similar-sized tires, say 42-inch vs. 46-inch, will be minimal, but differences between 38-inch and 46-inch tires could be significant.

The taller tires have a greater load capacity, as shown in the tire tables. This means taller tires can carry more weight at the same pressure than a shorter tire of the same width. The extra load-carrying capacity may be needed if a heavy three-point mounted cultivator is used. Taller tires also offer more axle clearance for cultivating row crops. They will provide slightly greater ground speeds in the same gear as shorter tires due to the longer rolling radius. However, the longer rolling radius also causes an increase in axle torque at equivalent drawbar pulls.

## Radials vs. Bias-ply Tires

The most important decision facing tire buyers, once the proper size is chosen, is the choice of radial- or bias-ply tires. The two can be distinguished by appearance alone. Radial tires have slightly taller lugs, and the sidewalls bulge more at normal pressures, but there are more important differences. Radial tires cost 10 to 30 percent more and are heavier than bias-ply tires. However, radials also increase traction, last as much as 30 percent longer, ride smoother, improve flotation, and reduce soil compaction. Because of increased traction, radial tires can increase field capacity by 10 percent and fuel savings by 8 percent when compared to bias-ply tires operating under the same conditions.

Increased traction and flotation and reduced soil

compaction are the results of the radial tire's larger footprint. Because of flex in the sidewall, radial tires bulge, allowing approximately 15 percent more tire to contact the ground. Thus, the footprint is longer than that of the same size bias-ply tire. The extra length of the footprint allows more lugs to contact the ground, increasing traction.

It may seem that radial tires are the only choice, but this is not necessarily the case. The degree to which radials outperform bias-ply tires depends on operating conditions. In general, when operating conditions for bias-ply tires are good, the benefits of radial tires diminish. As the number of tires on a tractor increase (for example, a four-wheel-drive tractor with duals), the payback period for radials increases. It may be that radial tires do not perform any better than bias-ply tires for the soil type in question.

The particular situation should be evaluated before purchasing tires. If soil and operating conditions are not certain, it may be helpful to ask neighbors about recent tire purchases. Local tire dealers or Extension agents may offer some insight on the ability of radial tires to improve a tractor's performance. The added performance radial tires offer is generally under full-load conditions. When most often operated under partial load, longer life is the greatest asset of radial tires.

## Low-vibration Tires

Low-vibration (LV) tires are widely available in either radial- or bias-ply designs with various lug configurations. Low-vibration tires reduce tractor vibration by increasing the number of lugs touching the ground. This may mean some lugs are shorter than others. One such tire is the long-bar/short-bar tire, which has short bars placed between the standard longer bars. Some tires may have closer lug spacing, which increases the number of lugs on the tire. Others may have odd-shaped lugs, which remain in contact with the ground for a longer period.

Low-vibration tires also may improve performance over tires with traditional tread. While there is not enough evidence to substantiate this, some tire engineers feel it is the case. Performance aside, low-vibration tires cost about the same as traditional tread tires and reduce tractor vibration on hard soils and roads.

A common complaint with low-vibration tires is their cleaning ability in muddy soil. Closer spacing allows mud to stick between the lugs. However, some mud problems may be due to lug angle and size and how the lugs enter and leave the track. When fields are

muddy enough for soils to stick to tires, they are probably too wet to till, and compaction problems could increase severely.

The inability of low-vibration tires to grip hard soils as well as conventional tires is another complaint. The added lugs tend to make the tire ride on top of hard soils instead of allowing lugs to penetrate the surface. Traction depends on how well tires grip the surface, and when lugs do not penetrate the surface, pulling power is reduced.

Again, the situation must be considered before deciding on low-vibration or traditional tires. If a smoother ride is all that is desired, tractors with dual tires that are not of the lowvibration type can have one tire in each pair rotated to stagger the lugs. This will simulate closer lug spacing and give a smoother ride.

## Matching Tires

Matching tractor drive tires influences tractor performance. All-drive tires on a tractor should be of the same type, except, of course, for front-wheel-drive tractors. Although it is not encouraged, radial- and bias-ply tires can be combined on the drive axle but only if the tractor is running duals. Note, however, that radial- and bias-ply tires have different tractive capabilities. Radial tires offer more pull than the same size bias-ply tire, and the diameter of radial- and bias-ply tires may differ, even for the same size tires. If radial- and bias-ply drive tires are mixed, always put the radial on the inside and be sure the radial has a longer rolling radius.

If the tractor is equipped with duals, the tires should be the same size and from the same manufacturer. If dual tires are not the same size, the larger tire will support most of the weight. The larger tire also will wear faster and, if mounted on the outside, could cause excessive bending movement on the axle. Tires made by different manufacturers may vary in size, even if the sidewall markings are the same. If tires of slightly different sizes are used, remember the larger tire belongs on the inside. When replacing only one dual, always put the new tire on the inside. Tread on the older tire will be worn, which results in a smaller diameter.

## Consider the Tractor

The size and type of tractor, and its primary use, should influence decisions when selecting tires. Is the tractor large enough to benefit from dual-configuration tires?

Are heavy loads usually pulled? Some tire configurations work well on some tractors but not others.

Know the options, and choose the one that best suits the determined needs.

*Two-wheel-drive tractors:* The size and use of two-wheel-drive (2WD) tractors will determine the best tire configuration. Light-duty tractors (less than 90 horsepower) normally do not need dual tires. Radials could improve performance on heavy soils and sod or for heavy loads, but the improvement may not be enough to justify the extra expense. Bias-ply tires are probably the most economical choice for these tractors. Low-vibration tires also should be considered for light-duty tractors that are often operated on hard surfaces and roads. Midrange (90 to 130 horsepower) tractors that usually pull light loads or are used mainly for power take-off have tire needs similar to light-duty tractors.

Mid-range and higher (90 to 200 horsepower) tractors used for tillage work will benefit greatly from dual-configuration, bias-ply tires. Dual tires will increase tractor stability, reduce compaction, and improve flotation in tilled soils. Single, radial tires on the same tractor will provide more pull than bias-ply singles and about the same pull as bias-ply duals in some cases. Dual radials will offer even more pulling power but could be an expensive investment. Dual radials should be spaced 4 to 6 inches apart to allow the tires to bulge on the side. A little extra space will reduce problems of soil and rocks lodging between the tires.

*Front-wheel-drive tractors:* Front-wheel-drive (FWD) tractors are unique in that the front tires are not only responsible for steering but also pull a portion of the load. Front tires on front-wheel-drive tractors also create a better path than two-wheel-drive tractors to help rear tires operate more efficiently. As the front tires pass through tilled ground, the soil is packed and rolling resistance of the rear tires is reduced. The packed soil also increases traction for the rear tires.

Although front-wheel-drive tractors often are fitted with dual tires, this practice is controversial. It is not recommended for front-wheel-drive tractors with less than 140 power take-off horsepower. When front-wheel-drive tractors are equipped with duals, the inside tire operates in the compacted track of the front tire while the outside tire is left to pack its own track. The rolling resistance of the outside tire is higher since it must climb over additional soil. The outside tire also may lift the inside tire slightly and reduce its ability to benefit from the firm track left by the front tire. Front-wheel-drive tractors with more than 140 power takeoff horsepower can benefit from dual rear tires. In fact,

duals may be required to carry the weight needed to transfer this horsepower to the ground. Duals also will improve stability and ride. If a front-wheel-drive tractor is equipped with duals, select wider front tires, and center them between the duals so both rear tires benefit from the front tire track. Front duals on front-wheel-drive tractors probably will not improve performance much and may hurt handling. Check with the manufacturer before adding them to a tractor.

When replacing tires on front-wheel-drive tractors, be sure they are the same size as the original tires. These tractors, especially mechanically driven models, are designed to use tires with proportional diameters. If uncertain about the proper size, check the owner’s manual or consult a tractor dealer.

*Four-wheel-drive tractors:* Buying tires for four-wheel-drive (4WD) tractors can be an expensive ordeal, especially if the tractor is equipped with duals. Four-wheel-drive tractors have high field capacities and pull

heavy loads, magnifying the importance of tire selection.

Single radials will perform better than single bias-ply tires on four-wheel-drive tractors. Dual tires, bias-ply or radial, will improve field capacity and reduce soil compaction. Fourwheel-drive tractors have high tractive efficiencies, so the benefits of radial tires are limited. Therefore, dual radials will require a longer payback period on four-wheel-drive tractors.

Triple tires are now being recommended for some large four-wheel-drive tractors to reduce ground pressure. The additional tires spread the tractor’s weight over a larger area. Ballast can be removed when triples are used since they add about 6,000 pounds to the tractor, but total tractor weight should be the same. Heavy three-point hitch loads are not recommended with triple tires.

Using Tire Tables to Select Tires

To determine tire size for a particular tractor, the weight the tires will support must be known. To

Radial-ply — Symbol-marked Agricultural Tractor Drive Tires Used in Dual Configurations

| Tire size designation | Tire load limits (lbs) at various cold-inflation pressures (psi) |      |      |                 |      |        |                 |        |        |                 |
|-----------------------|------------------------------------------------------------------|------|------|-----------------|------|--------|-----------------|--------|--------|-----------------|
|                       | 12                                                               | 14   | 16   | 18 <sup>1</sup> | 20   | 22     | 24 <sup>2</sup> | 26     | 28     | 30 <sup>3</sup> |
| 18.4R34               | 3925                                                             | 4294 | 4646 | 4998            | 5280 | 5588   | 5808            | 6213   | 6494   | 6732            |
| 18.4R38               | 4154                                                             | 4541 | 4910 | 5280            | 5588 | 5940   | 6292            | 6512   | 6820   | 7084            |
| 18.4R42               | 4382                                                             | 4787 | 5192 | 5632            | 5896 | 6248   | 6512            | 6908   | 7172   | 7524            |
| 18.4R46               | 4629                                                             | 5086 | 5482 | 5790            | 6266 | 6591   | 6970            | 7295   | 7630   | 8052            |
| 20.8R34               | 4752                                                             | 5210 | 5632 | 5984            | 6424 | 6776   | 7084            | 7533   | 7858   | 8290            |
| 20.8R38               | 5034                                                             | 5500 | 5940 | 6292            | 6776 | 7172   | 7524            | 7955   | 8334   | 8571            |
| 20.8R42               | 5324                                                             | 5808 | 6292 | 6688            | 7172 | 7568   | 8008            | 8378   | 8756   | 9090            |
| 23.1 R34              | 5650                                                             | 6169 | 6688 | 7154            | 7630 | 8052   | 8571            | 8897   | 9275   | 9601            |
| 24.5R32               | 6028                                                             | 6600 | 7128 | 7744            | 8140 | 8624   | 8976            | 9513   | 9979   | 10,358          |
| 30.5LR32              | 7216                                                             | 7876 | 8536 | 9240            | 9768 | 10,296 | 10,824          | 11,396 | 11,959 | 12,426          |

<sup>1</sup> Maximum load and inflation for tires with a single-star marking.  
<sup>2</sup> Maximum load and inflation for tires with a two-star marking.  
<sup>3</sup> Maximum load and inflation for tires with a three-star marking.

Ply Rated — Bias- and Radial-ply Agricultural Tractor Drive Tires Used in Dual Configurations

| Tire size designation | Tire-load limits (lbs) at various cold-inflation pressures (psi) |      |          |          |          |          |          |           | noted pressure |
|-----------------------|------------------------------------------------------------------|------|----------|----------|----------|----------|----------|-----------|----------------|
|                       | 12                                                               | 14   | 16       | 18       | 20       | 22       | 24       | 26        |                |
| 18.4-34               | 3687                                                             | 4039 | 4374(6)  | 4682     | 4981(8)  | 5262     | 5535     | 5808(10)  | 0              |
| 18.4-38               | 3907                                                             | 4277 | 4620(6)  | 4954     | 5271(8)  | 5570     | 5861     | 6142(10)  | 6934@32(12)    |
| 18.4-42               | 4118                                                             | 4506 | 4875(6)  | 5218     | 5553(8)  | 5870     | 6178     | 6477(10)  | 0              |
| 20.8-34               | 4470                                                             | 4893 | 5289     | 5667(8)  | 0        | 0        | 0        | 0         | 0              |
| 20.8-38               | 4734                                                             | 5183 | 5597     | 6002(8)  | 6380     | 6750(10) | 0        | 0         | 0              |
| 20.8-42               | 4990                                                             | 5465 | 5905     | 6327(8)  | 6732     | 7119(10) | 0        | 0         | 0              |
| 23.1-26               | 4673                                                             | 5113 | 5526(8)  | 5922     | 6301(10) | 6618     | 7005(12) | 0         | 0              |
| 23.1-30               | 4981                                                             | 5447 | 5896(8)  | 6310     | 6714(10) | 0        | 0        | 0         | 0              |
| 23.1-34               | 5289                                                             | 5782 | 6257(8)  | 6688     | 7119(10) | 0        | 0        | 0         | 0              |
| 24.5-32               | 5676                                                             | 6213 | 6723     | 7198(10) | 7656(10) | 8518(12) | 0        | 0         | 0              |
| 28.0L-26              | 5412                                                             | 5922 | 6410     | 6864(10) | 7295(12) | 7718     | 8114(14) | 0         | 0              |
| 30.5L-32              | 6785                                                             | 7339 | 8030(10) | 8600     | 9143(12) | 9671     | 10173    | 10657(16) | 0              |

Note: Numbers in parentheses are ply ratings for which loads and inflations are maximum.

determine this, drive each axle onto a scale. For this example, bias-ply duals for a 300 horsepower, four-wheel-drive tractor will be considered. The tractor weighs 37,000 pounds, with 22,000 pounds on the front axle and 15,000 pounds on the rear axle. Since front and rear tires will be the same size, a tire size based on the front-axle weight will be chosen. The weight supported on each front tire is 5,500 pounds (22,000 pounds ÷ 4 tires). Refer to the table for ply-rated bias- and radial-ply tires used as duals. Select tires from this table with a load limit of 5,500 pounds.

Several tire sizes in the table would work. Eight-ply, 20.8-38 tires operated at 16 pounds per square inch would work. Eight-ply, 23.1-26 tires operated at 16 pounds per square inch also would work, but they would be at maximum load. Select new tires with a little extra capacity in case weight is added to the tractor later. A 10-ply 23.1-26 provides this option.

Since many tire sizes will work, the decision can be based on cost and future needs. The tall, narrow tires would be better for row crops, but their height may

limit turning radius. Try to choose a tire that will fit the budget and the needs.

## Tire Maintenance

After choosing the proper tire, the most important concern should be maximizing tire life. Most bias-ply tires last approximately 2,500 hours of normal operation, assuming reasonable care. Radials last about 30 percent longer. Tire pressure and load have the greatest effect on tire life. Exceeding recommended pressure reduces tire efficiency and increases susceptibility to impact damage, while underinflation creates severe sidewall stress due to flexing. Sidewall stress damage will appear as cracks on the outer portion of the tire near the spot where lugs form on the side of the tire. Correct inflation pressure is essential for tires containing liquid ballast. Even a small amount of air loss can significantly change tire pressure. Check tire pressure when tires are cold to obtain an accurate reading and always use a pressure gauge. It may be possible to guess pressures within a few pounds per square inch,

### Ply Rated — Bias- and Radial-ply Agricultural Tractor Drive Tires Used in Single Configurations

| Tire size designation | Tire-load limits (lbs) at various cold-inflation pressures (psi) |         |          |           |          |          |           | noted pressure |
|-----------------------|------------------------------------------------------------------|---------|----------|-----------|----------|----------|-----------|----------------|
|                       | 14                                                               | 16      | 18       | 20        | 22       | 24       | 26        |                |
| 13.6-24               | 2270(4)                                                          | 2450    | 2630     | 2790      | 2960(6)  | 3110     | 3260      | 3400 @ 28(8)   |
| 13.6-28               | 2420(4)                                                          | 2620    | 2810     | 2980      | 3160(6)  | 3320     | 3480      | 3630 @ 28(8)   |
| 14.9-24               | 2700                                                             | 2920    | 3130     | 3330(6)   | 3520     | 3710     | 3880(8)   |                |
| 14.9-26               | 2790                                                             | 3020    | 3230     | 3440(6)   | 3640     | 3830     | 4010(8)   | 4520 @ 32(10)  |
| 14.9-28               | 2880                                                             | 3120    | 3340     | 3550(6)   | 3760     | 3960     | 4140(8)   | 4670 @ 28(10)  |
| 14.9-30               | 2980                                                             | 3220    | 3450     | 3670(6)   |          |          |           |                |
| 16.9-24               |                                                                  | 3540    | 3800(6)  | 4040      | 4270     | 4490(8)  | 4710      | 4920 @ 28(10)  |
| 16.9-26               |                                                                  | 3660    | 3920(6)  | 4170      | 4410     | 4640(8)  | 4870      | 5080 @ 28(10)  |
| 16.9-28               |                                                                  | 3780    | 4050(6)  | 4310      | 4560     | 4790(8)  | 5030      | 5250 @ 28(10)  |
| 16.9-30               |                                                                  | 3900    | 4180(6)  | 4450      | 4700     | 4950(8)  | 5190      | 5420 @ 28(10)  |
| 16.9-34               |                                                                  | 4140    | 4440(6)  | 4720      | 4990     | 5250(8)  | 5510      | 5750 @ 28(10)  |
| 18.4-24               |                                                                  | 4240(6) | 4550     | 4840(8)   | 5510     | 5380     | 5640(10)  | 6370 @ 32(10)  |
| 18.4-26               |                                                                  | 4390(6) | 4700     | 5000(8)   | 5290     | 5560     | 5830(10)  |                |
| 18.4-28               |                                                                  | 4530(6) | 4850     | 5160(8)   | 5460     | 5740     | 6020(10)  | 6790 @ 32(12)  |
| 18.4-30               |                                                                  | 4680(6) | 5010     | 5330(8)   | 5630     | 5930     | 6210(10)  |                |
| 18.4-34               |                                                                  | 4970(6) | 5320     | 5660(8)   | 5980     | 6290     | 6600(10)  |                |
| 18.4-38               |                                                                  | 5250(6) | 5630     | 5990(8)   | 6330     | 6660     | 6980(10)  | 7880 @ 32(12)  |
| 18.4-42               |                                                                  | 5540(6) | 5930     | 6310(8)   | 6670     | 7020     | 7360(10)  |                |
| 20.8-34               |                                                                  | 6010    | 6440(8)  | 6850      | 7250(10) |          |           |                |
| 20.8-38               |                                                                  | 6360    | 6820(8)  | 7250      | 7670(10) | 8070     | 8460      | 9550 @ 32(14)  |
| 20.8-42               |                                                                  | 6710    | 7190(8)  | 7650      | 8090(10) |          |           |                |
| 23.1-26               |                                                                  | 6280(8) | 6730     | 7160(10)  | 7520     | 7960(12) | 8340      | 8710 @ 28(14)  |
| 23.1-30               |                                                                  | 6700(8) | 7170     | 7630(10)  |          |          |           |                |
| 23.1-34               |                                                                  | 7110(8) | 7600     | 8090(10)  |          |          |           |                |
| 24.5-32               |                                                                  |         | 8180     | 8700(10)  | 9200     | 9680(12) |           |                |
| 28.0L-26              |                                                                  |         | 7800(10) | 8290(12)  | 8770     | 9220(14) |           |                |
| 30.5L-32              |                                                                  |         | 9120     | 10390(12) | 10990    | 11560    | 12110(16) |                |

Note: Figures in parentheses denote ply rating for which loads and inflations are maximum.

Note: See next page for radial-ply symbol-marked agricultural tractor drive tires used in single configurations.

but it pays to be more accurate. Remember, required inflation pressures are dependent on tire loads. When ballast is added or removed, check tire pressures and adjust if necessary to maintain performance.

Storage conditions can increase tire life by reducing weather checking. If tractors are stored for long periods (more than 3 months), support the tires so they do not touch the ground. Otherwise, move the tractor about once a month so a different portion of the tire is touching the ground. If tractors are not stored inside, cover tires to protect them from sunlight.

Using Tire Tables to Set Tire Pressure

To determine the optimum pressure for the tires on a tractor, the weight the tires support must be known. To determine this, drive each axle onto a scale. Consider a 200-horsepower, front-wheel-drive tractor with 18.4R42 duals on the rear axle and 16.9R28 tires on the front axle. All tires have a two-star rating. Rear axle weight is 15,000 pounds, and front axle weight is 10,000 pounds.

Each front tire supports 5,000 pounds (10,000 pounds ÷ 2 tires). The tire table for symbolmarked radial tires

used as singles indicates a two-star 16.9R28 tire will support 5,080 pounds at 24 pounds per square inch. Since the tires are carrying 5,000 pounds, they should be operated at this pressure. These tires are at maximum capacity now. If it is desirable to add more weight to the tractor, a three-star tire should be used and tire pressure increased. Pressure in the two-star tire cannot be increased since it is already at maximum capacity. A larger tire cannot be used without replacing the rear tires on the front-wheel-drive tractor.

The rear axle has duals, so refer to the table for symbol-marked radial tires used as duals. Each rear tire supports 3,750 pounds (15,000 pounds ÷ 4 tires). The minimum load in the table for 18.4R42 tires is 4,380 pounds at 12 pounds per square inch. Since the rear tires on the example tractor have about 600 pounds of capacity left at 12 pounds per square inch, they should be operated at this pressure. It is probably a good idea to operate the inside tires at 2 pounds per square inch greater (14 pounds per square inch). When operating tires at minimum pressure, check tire pressure often to make sure it does not fall below the minimum value.

Radial-ply — Symbol-marked Agricultural Tractor Drive Tires Used in Single Configurations

| Tire size designation | Tire-load limits (lbs) at various cold-inflation pressures (psi) |      |       |       |       |       |       |       |
|-----------------------|------------------------------------------------------------------|------|-------|-------|-------|-------|-------|-------|
|                       | 14                                                               | 16   | 18 1  | 20    | 22    | 24 2  | 26    | 28 3  |
| 13.6R28               | 2570                                                             | 2780 | 3000  | 3180  | 3360  | 3520  | 3700  | 4080  |
| 14.9R26               | 2970                                                             | 3220 | 3420  | 3660  | 3880  | 4080  | 4260  | 4680  |
| 14.9R28               | 3060                                                             | 3320 | 3520  | 3780  | 4000  | 4180  | 4400  | 4800  |
| 14.9R30               | 3160                                                             | 3420 | 3640  | 3900  | 4120  | 4300  | 4540  | 4940  |
| 16.9R24               |                                                                  | 3780 | 4080  | 4300  | 4540  | 4800  | 5020  | 5520  |
| 16.9R26               |                                                                  | 3900 | 4180  | 4440  | 4700  | 4940  | 5180  | 5680  |
| 16.9R28               |                                                                  | 4020 | 4300  | 4580  | 4840  | 5080  | 5340  | 5840  |
| 16.9R30               |                                                                  | 4170 | 4470  | 4750  | 5030  | 5440  | 5540  | 6080  |
| 18.4R26               |                                                                  | 4660 | 4940  | 5320  | 5620  | 5840  | 6200  | 6800  |
| 18.4R34               |                                                                  | 5280 | 5680  | 6000  | 6350  | 6600  | 7060  | 7650  |
| 18.4R38               |                                                                  | 5580 | 6000  | 6350  | 6750  | 7150  | 7400  | 8050  |
| 18.4R42               |                                                                  | 5900 | 6400  | 6700  | 7100  | 7400  | 7850  | 8550  |
| 18.4R46               |                                                                  | 6230 | 6580  | 7120  | 7490  | 7920  | 8290  | 9150  |
| 20.8R34               |                                                                  | 6400 | 6800  | 7300  | 7700  | 8050  | 8560  | 9420  |
| 20.8R38               |                                                                  | 6750 | 7150  | 7700  | 8150  | 8550  | 9040  | 9740  |
| 20.8R42               |                                                                  | 7150 | 7600  | 8150  | 8600  | 9100  | 9520  | 10330 |
| 23.1R34               |                                                                  | 7ran | 8130  | 8670  | 9150  | 9740  | 10110 | 10910 |
| 24.5R32               |                                                                  |      | 8800  | 9250  | 9800  | 10200 | 10810 | 11770 |
| 30.5LR32              |                                                                  |      | 10500 | 11100 | 11700 | 12300 | 12950 | 14120 |

<sup>1</sup> Represents a single-star marking.  
<sup>2</sup> Represents a two-star marking.  
<sup>3</sup> Represents a three-star marking.