

# LOW SIDEWALL

(LSW) TECHNOLOGY

SKID STEER, BACKHOE, GRADER, WHEEL LOADER AND ARTICULATED TRUCK TIRES



TITAN MOVES THE WORLD™

# EXPERIENCE THE TITAN<sup>®</sup> DIFFERENCE

WITH THE STABILITY OF OUR LOW SIDEWALL (LSW) TECHNOLOGY

The trend toward larger and more powerful machines continues among construction equipment manufacturers. The ability to utilize larger attachments and move more material in a shorter amount of time means greater productivity for contractors. Yet, the machines themselves need to remain flexible and nimble when moving the material, and doing so requires the right wheel and tire assembly. Enter Titan LSW technology.

## WHAT IS LSW TECHNOLOGY?

LSW is a fundamental shift in the way OTR tire/wheel assemblies are built — unlike anything else on the market. LSW features a smaller sidewall and larger rim diameter than a standard tire, while maintaining the same outside diameter. The low-profile LSW design provides more stability for your construction equipment.

## EXPERIENCE THE ... ▼

### Increased bucket loads

Titan LSW tires provide increased stability on the ground, which equates to less rocking and less dropping of materials when raising the bucket.

### Smooth ride

The larger the sidewall, the more potential there is for recoil and bouncing. The smaller sidewall of the LSW design dampens the bouncing and loping that occurs when traveling at higher speeds and over bumps.

### Lateral stability

Working on hillside conditions and around sharp curves with a loaded bucket can cause an uneasy rocking sensation. The LSW design results in better sway-action recovery and more stability, keeping operators safe and productive.

### Improved handling

Just like high-performance car tires, the larger rim diameter of the Titan LSW design improves the agility and handling of construction equipment.

### Improved breakout force

The low profile of LSW provides better surface contact and less slippage for improved bucket loads.

## LOW SIDEWALL



## STANDARD



# LSW VERSUS STANDARD TIRES — TESTED AND PROVEN

Titan recently conducted testing of the LSW concept in Clayton, N.C. The testing put LSW head to head with conventional tires in two different equipment categories and ran each of them through four different tests.

## TESTS

Each of the following tests compares two identical machines with equal bucket loads — one with LSW tires and the other with standard tires.

### Drop test ▼

The buckets are raised above the cab and then quickly dropped to show the machines' stability as the bucket reaches the ground. The test shows the tires' ability to dampen the downward force and reduce material loss.



### Sway test ▼

The buckets are raised approximately 3 feet off the ground, and the driver quickly turns the steering wheel back and forth. The test shows the machines' ability to recover from swaying motion, as well as the amount of material lost from the bucket.



### Slalom test ▼

Cones are placed every 20 feet for loaders and every 10 feet for skid steers. The machines then slalom between the cones with full buckets and are timed to show which tires provide better handling through the course.



### Bump test ▼

Speed bumps are placed every 20 feet for loaders and every 10 feet for skid steers. The machines then run at 10 mph over the bumps and are observed for prolonged bouncing of the machine after the last bump. This test shows the tires' ability to dampen bumps in the road.



## RESULTS

### Skid steer (HD 2000 II LSW)



The LSW tires excelled in the slalom test, on average performing 2.2 seconds faster than standard tires. The skid steer outfitted with LSW also demonstrated significantly less bouncing during the bump test.

### Wheel loader (MXL LSW)



The LSW tires outperformed the standard tires in all four tests, showing more stability on the bucket drop, less material loss on the sway test, faster average times on the slalom and reduced bouncing on the bump test.

*“The LSW concept is our response to a need for better equipment stability as today’s machines are getting more powerful and have more torque, and operators are trying to get more done in less time. As the only company that makes both wheels and tires for the construction market, we were able to react and come up with a complete solution.”*

**Cara Junkins**  
Director of Field Services  
Titan Tire Corporation



# BIAS TIRES

## SKID STEER



### TITAN HD 2000 II LSW

- Premium skid steer tire with deeper lugs, heavier sidewall and larger rim guard
- Alternative to standard 10-16.5 and 12-16.5 sizes

#### HD 2000 II LSW

| Size    | Titan Part Number | Industry Code | Ply Rating | Inflation Pressure PSI (bar) | Max Load mph (km/h) | Max Load lbs (kg) | Rim Width | Load/Speed Index | Outside Diameter in (mm) | Section Width in (mm) | Static Loaded Radius in (mm) | Rolling Circ. in (mm) | Gross Footprint Area in <sup>2</sup> (cm <sup>2</sup> ) | Weight lbs (kg) | Tread Depth 32nd (in) |
|---------|-------------------|---------------|------------|------------------------------|---------------------|-------------------|-----------|------------------|--------------------------|-----------------------|------------------------------|-----------------------|---|-----------------|-----------------------|
| 10-19.5 | G9E3D1            | –             | 8          | 60 (4.1)                     | 5 (10)              | 4140 (1880)       | 8.25      | –                | 27.3E (693E)             | 10.2E (259E)          | 12.5E (318)                  | 92E (2337E)           | –   | 58.63 (26.6)    | 26/32 (21)            |
| 12-19.5 | G9E3J7            | –             | 10         | 65 (4.5)                     | 5 (10)              | 4140 (1880)       | 9.75      | –                | 32.8E (833E)             | 12.2E (310E)          | 15.1E (384E)                 | 98E (2489E)           | –   | 78.92 (35.8)    | 26/32 (21)            |

## BACKHOE



### TITAN GRIZZ LSW G2E

- Alternative to standard 12.5/80-18 for front position on backhoe
- 12-ply rating for excellent durability

#### GRIZZ LSW G2E

| Size      | Titan Part Number | Industry Code | Ply Rating | Inflation Pressure PSI (bar) | Max Load mph (km/h) | Max Load lbs (kg) | Rim Width | Load/Speed Index | Outside Diameter in (mm) | Section Width in (mm) | Static Loaded Radius in (mm) | Rolling Circ. in (mm) | Gross Footprint Area in <sup>2</sup> (cm <sup>2</sup> ) | Weight lbs (kg) | Tread Depth 32nd (in) |
|-----------|-------------------|---------------|------------|------------------------------|---------------------|-------------------|-----------|------------------|--------------------------|-----------------------|------------------------------|-----------------------|---|-----------------|-----------------------|
| 320/60D24 | G2E3T7            | I-3           | 12         | 56 (3.9)                     | 25 (40)             | 5360 (2430)       | 9         | –                | 39.1 (993)               | 12.0 (305)            | 18.0 (457)                   | 117 (2972)            | –   | 114 (51.5)      | 32/32 (25)            |

### TITAN INDUSTRIAL TRACTOR LUG LSW

- Extra-wide lugs and low profile for excellent rear stability and reduction of swaying on the backhoe



| Size     | Titan Part Number | Industry Code | Ply Rating | Inflation Pressure PSI (bar) | Max Load mph (km/h) | Max Load lbs (kg) | Rim Width | Load/Speed Index | Outside Diameter in (mm) | Section Width in (mm) | Static Loaded Radius in (mm) | Rolling Circ. in (mm) | Gross Footprint Area in <sup>2</sup> (cm <sup>2</sup> ) | Weight lbs (kg) | Tread Depth 32nd (in) |
|----------|-------------------|---------------|------------|------------------------------|---------------------|-------------------|-----------|------------------|--------------------------|-----------------------|------------------------------|-----------------------|---|-----------------|-----------------------|
| 19.5L-28 | G86D61            | R-4           | 14         | 38                           | 38 (260)            | 7600 (3445)       | 16        | –                | 51.8E (1316E)            | 19.1E (485E)          | 23.5E (597E)                 | 154E (3912E)          | –   | 233.22 (105.3)  | 34/32 (27)            |

## GRADER



### TITAN LSW G8L

- Four sizes available to help reduce road loping and improve lateral stability

#### LSW G8L

| Size        | Titan Part Number | Industry Code | Ply Rating | Inflation Pressure PSI (bar) | Max Load mph (km/h) | Max Load lbs (kg) | Rim Width mm | Load/Speed Index | Outside Diameter in (mm) | Section Width in (mm) | Static Loaded Radius in (mm) | Rolling Circ. in (mm) | Gross Footprint Area in <sup>2</sup> (cm <sup>2</sup> ) | Weight lbs (kg) | Tread Depth 32nd (in) |
|-------------|-------------------|---------------|------------|------------------------------|---------------------|-------------------|--------------|------------------|--------------------------|-----------------------|------------------------------|-----------------------|---|-----------------|-----------------------|
| LSW 330-851 | G8L333            | G-2           | 12         | 44 (305)                     | 25 (40)             | 6000 (2750)       | –            | –                | 50.5 (1283)              | 12.4 (315)            | 22.6 (574)                   | –                     | –   | –               | 29/32 (23)            |
| LSW 330-851 | G8L38A            | G-2           | 16         | 54 (370)                     | 25 (40)             | 7150 (3245)       | –            | –                | 50.5 (1283)              | 12.4 (315)            | 22.6 (574)                   | –                     | –   | –               | 29/32 (23)            |
| LSW 360-851 | G8L344            | G-2           | 12         | 36 (250)                     | 25 (40)             | 6800 (3085)       | –            | –                | 52.9 (1344)              | 13.8 (351)            | 23.7 (602)                   | –                     | –   | –               | 31/32 (25)            |
| LSW 395-851 | G8L120            | G-2           | 12         | 36 (250)                     | 25 (40)             | 5840 (2650)       | –            | –                | 50.3 (1278)              | 15.5 (394)            | 22.7 (577)                   | –                     | –   | –               | 29/32 (23)            |

# RADIAL TIRES

## SMALL WHEEL LOADERS



### TITAN MXL LSW

- Aggressive, sturdy tread for optimal traction and maximum torque transmission
- Alternative to standard 20.5R25 size

#### MXL LSW

| Size      | Compound / Construction | Titan Part Number | Industry Code | Load/Speed Index           | Star Rating | Rim Code | Flange Code | Outside Diameter in (mm) | Section Width in (mm) | Section Width Loaded in (mm) | Static Loaded Radius in (mm) | Gross Footprint Area in <sup>2</sup> (cm <sup>2</sup> ) | Tread Depth 32nd in (mm) | Load/Inflation lb @PSO (kg@ bar)   |
|-----------|-------------------------|-------------------|---------------|----------------------------|-------------|----------|-------------|--------------------------|-----------------------|------------------------------|------------------------------|---|--------------------------|--|
| 20.5R31.5 | –                       | G3R121            | E-3/L-3       | 168 B (E-3)<br>186 B (L-3) | 1*          | 16.00    | –           | 58.8 (1,493)             | 21.0 (533)            | –                            | –                            | 396 (2555)  | 50/32 (39.7)             | 12,300 @ 54<br>(5,600 @ 3.8) for E-3<br>20,900 @ 73<br>(9,500 @ 5.0) for L-3 |

## MEDIUM WHEEL LOADER / ARTICULATED TRUCK



### TITAN STL3 LSW

- Non-directional tread pattern and center-riding rib provide maximum traction and long life
- Available with cut-resistant (CE) or wear-resistant (WE) compounds
- Alternative to standard 29.5R25 size

#### STL3 LSW

| Size      | Compound / Construction | Titan Part Number | Industry Code | Load/Speed Index            | Star Rating          | Rim Code     | Flange Code | Outside Diameter in (mm) | Section Width in (mm) | Section Width Loaded in (mm)             | Static Loaded Radius in (mm)             | Gross Footprint Area in <sup>2</sup> (cm <sup>2</sup> ) | Tread Depth 32nd in (mm) | Load/Inflation lb @ PSO (kg@ bar)  |
|-----------|-------------------------|-------------------|---------------|-----------------------------|----------------------|--------------|-------------|--------------------------|-----------------------|--|--|---|--------------------------|--|
| 29.5R34.5 | CE                      | ERTB34            | E-3/L-3       | 200 B (E-3)<br>208 A2 (L-3) | 2* (E-3)<br>1* (L-3) | 34.5 x 25.00 | –           | 73.0 (1,855)             | 29.5 (749)            | 31.1 (841) for E-3<br>34.0 (864 for L-3) | 32.6 (829) for E-3<br>34.0 (864) for L-3 | 541 (3,493) for E-3<br>607 (3,917) for L-3              | 55/32 (43.7)             | 30,900 @ 76<br>(14,000 @ 5.3) for E-3<br>39,700 @ 73<br>(18,000 @ 5.0 for L-3) |
| 29.5R34.5 | WE                      | ERWB34            | E-3/L-3       | 200 B (E-3)<br>208 A2 (L-3) | 2* (E-3)<br>1* (L-3) | 34.5 x 25.00 | –           | 73.0 (1,855)             | 29.5 (749)            | 31.1 (841) for E-3<br>34.0 (864 for L-3) | 32.6 (829) for E-3<br>34.0 (864) for L-3 | 541 (3,493) for E-3<br>607 (3,917) for L-3              | 55/32 (43.7)             | 30,900 @ 76<br>(14,000 @ 5.3) for E-3<br>39,700 @ 73<br>(18,000 @ 5.0 for L-3) |

## LARGE WHEEL LOADERS



### TITAN LDR 150

- Extra-deep tread for excellent rock damage resistance and long life
- Alternative to standard 58/80R57 size

#### LDR 150

| Size     | Compound / Construction | Titan Part Number | Industry Code | Load/Speed Index | Star Rating | Rim Code | Flange Code | Outside Diameter in (mm) | Section Width in (mm) | Section Width Loaded in (mm) | Static Loaded Radius in (mm) | Gross Footprint Area in <sup>2</sup> (cm <sup>2</sup> ) | Tread Depth 32nd in (mm) | Load/Inflation lb @PSO (kg@ bar) |
|----------|-------------------------|-------------------|---------------|------------------|-------------|----------|-------------|--------------------------|-----------------------|------------------------------|------------------------------|---|--------------------------|----------------------------------|
| 58/80R63 | WE                      | LF4258            | L-4           | 276 A2           | 2*          | 47.00    | 5.0         | 155.2 (3942)             | 55.2 (1402)           | –                            | –                            | –   | 119/32 (95)              | 275,500 @ 102<br>(125,000 @ 7.0) |

*"The stability is great. You can work faster, because there's not as much side-to-side movement when you're digging. It's got a good tread, and it rides smooth. It runs faster, harder; it's definitely a lot better."*

**Mickey Cook, comparing the Titan STL3 LSW to a comparable standard tire.**  
Cedar Lake Mining, Inc.  
Pinson, Alabama



▼ **ADDITIONAL LSW LINES COMING IN 2014**

- **Titan STL3** – Expanded LSW size range for loaders
- **Titan MXL** – Expanded LSW size range for loaders
- **Titan LDR 150** – Expanded LSW size range for loaders
- **Titan LDR 250** – Multiple sizes/compounds for graders and loaders
- **Titan DTH4** – Multiple sizes/compounds for haul trucks
- **Titan DTE4** – Multiple sizes/compounds for haul trucks
- **Titan 007 MFT** – Multiple sizes/compounds for haul trucks
- **Titan CMR 100** – Multiple compounds for haul trucks



## NO TIRE WORKS WITHOUT THE WHEEL — THEY ARE A TOTAL SYSTEM

Titan is the only company with the ability to design, test and produce both wheels and tires for mining, agriculture, construction and forestry markets.



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