Tire Sales Manual
MITCO is recognized as a leader in the manufacture and distribution of quality products with unsurpassed service to the Industrial Tire Industry. Since 1953, we have earned the reputation as the “Industrial Tire Problem Solver®”. Today, we manufacture and wholesale a full line of solid press-ons, pneumatic shaped solids, industrial pneumatic tires, all types of industrial wheels, and hydraulic presses and accessories for mounting solid tires.

Mitchell Industrial Tire Co., Inc.’s trademarks are recognized nationally. The Super Solid Press-On, the MITCO Solid Solver®, MITCO Duro Cushion, Ultra Cushion and Duro Soft are among our trademarks.

Blending years of experience with new and creative talent, positions MITCO well for the future. Our commitment to research and development in both quality products and service separates MITCO from our competition.

QUALITY, SERVICE, COMMITMENT
MITCO
They are a consumable

Why Sell Tires

Eventually every tire will need to be replaced!

Either you will replace it, or your competitor will!

A tire program will provide you with an enhanced revenue stream.

It also provides opportunities for professional and comprehensive solutions to your customer base that allows you to find the right truck and the right tires to meet their needs. By being able to pick the right tire for the application, you can solve problems and be the hero! Sometimes all you need to make a customer happy is the right tire!

Tires create opportunities to sell to new customers that have long term maintenance contracts with a competitor. Tires are usually NOT covered under maintenance contracts.

It also provides an opportunity for conversation with current and prospective customers that can lead to the sales of trucks, parts, service, and maintenance contracts!

21st Century Tire Market

As you are well aware, Trucks are more sophisticated than ever, the applications are more demanding, and customer expectations about quality, service, and performance are rising. The Industrial tire market has kept pace with a proliferation of sizes, tire construction, and compounds. The days of “round and black” tires are gone. Informed customers are demanding compounds, treads, and tire construction that provide optimal performance for their application.

Mitchell industrial Tire Company has been providing its customers with tire and wheel advice since 1953 for free. We have many sales/application specialists that can help you help your customers. Put us to the test.
The wrong tires for an application can make even the best of trucks seem bad!

Tires directly and dramatically effect:

- Maintenance costs
- Fuel usage
- Engine life
- Battery and motor life
- Unplanned downtime
- Safety
- Carrying Capacity
- Rolling Resistance
- Traction
- Cushioning
- Stability
Press-On Tires

Greater stability
Greater Load capacity
Lower rolling resistance
More traction
Less floor damage
Puncture Proof

SMOOTH
- Indoor and outdoor applications
- Load performance consistency
- Ideal for dry surface starts and stops
- Resists dock plate snags and damage
- Recommended for both drive and steer wheel applications

Traction
- Suitable for most drive applications
- Performs a wide range of applications
- Wide center wear bar for added tread life

Ultra Trac Lug
- Improved stability, flotation, load capacity
- Improved Traction
- Indoor / Outdoor
- All Season
- Reduces Driver and equipment fatigue

Ultra Trac Smooth
- Best stability and load capacity
- Best tread life
- Best traction for dry applications

Did you know
75% of forklifts in North America use press-on tires
60% of these forklifts are electric
40% of the applications are designated to be non-marking by O.S.H.A.
## Press-On Tires

### Compounds

### Mitco Compounds

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<tr>
<th>Mitco Compounds</th>
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<th>Advantages</th>
<th>Benefits</th>
<th>Cautionary Comments</th>
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<tbody>
<tr>
<td>Universal Compound</td>
<td>Mitco’s 100% Natural Rubber with Special Additives to increase Abrasion and Tear Resistance</td>
<td>Gives Excellent Abrasion, Tear Resistance, and Resilience</td>
<td>Delivers Maximum Service For Internal Combustion Powered Industrial Vehicles</td>
<td></td>
</tr>
<tr>
<td>Electric Compound</td>
<td>Mitco’s 100% Natural Rubber with Special Additives to Reduce Rolling Resistance</td>
<td>Excellent for All Electric Vehicles operating on a wide range of Surfaces</td>
<td>Delivers Maximum Battery Life, Improved Load Bearing Capacity, and Reduced Downtime Due to Charging</td>
<td></td>
</tr>
<tr>
<td>Non-Marking Compound</td>
<td>Mitco’s 100% Natural Rubber Blended with Silica And Special Additives</td>
<td>Is Non-marking, Abrasion Resistant, and Reduces Battery Drain</td>
<td>Gives the Maximum Load Bearing Capacity and Longest Life of Any Non-Marking Rubber Tire</td>
<td>Always Use Static Straps with Any Non-Marking Tire</td>
</tr>
<tr>
<td>Fiber Glass Compound</td>
<td>Mitco’s 100% Natural Rubber Impregnated with Fiberglass Filaments</td>
<td>Minimizes Deflection and Heat Build-up under Heavy Loads</td>
<td>Increase Carrying Capacity While Extending Tire Life/ Excellent For Use on Steer Axles</td>
<td></td>
</tr>
<tr>
<td>Wire Fiber Compound</td>
<td>Mitco’s 100% Natural Rubber Impregnated with Brass Wire Filaments</td>
<td>Resists Cutting While Offering Increase Traction</td>
<td>Extends Tire Life in Metal and Glass Processing Applications While Improving Traction on Wet Floors</td>
<td>Not Recommended For Areas Where Floor Cleanness is Required Because Brass Filaments will Dislodge as Tire Wears and may Mar Sealed Floors</td>
</tr>
<tr>
<td>Oil Resistant Compound</td>
<td>Special Blend of Synthetic Rubber and Nitrile</td>
<td>Retards Deterioration By Petroleum Products and Animal Fats</td>
<td>Extends Tire Life Where Oily Surfaces Are Prevalent</td>
<td></td>
</tr>
<tr>
<td>Walnut Chip Compound</td>
<td>Mitco’s 100% Natural Rubber Impregnated with Crushed Nut Shell Particles</td>
<td>Offers Improved Traction on Wet or Slick Surfaces</td>
<td>This Compound Improves Grip Reduces Danger of Injury to Personnel and Material From Skid Related Accidents</td>
<td></td>
</tr>
<tr>
<td>Static Conducting Compound</td>
<td>Natural Synthetic Blend with Special Carbon Black</td>
<td>Acts as a Conduit to Drain Static Electric Build-up From Industrial Vehicles</td>
<td>Offers Improved Protection From Explosion or Fire in Highly Volatile Areas</td>
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</table>
Pneumatic-Shaped Solid Tires

When compared to pneumatics:
- Reduced unscheduled downtime
- Flat proof
- Stability is better
- No chance for unequal tire pressure
- At least 3 to 1 longer wear pattern
- Improved safety
- Improved carrying capacity

Pneumatic-Shaped Solid tires are offered in a variety of compounds, construction, and tread patterns. MITCO offers a complete line to cover your customer’s needs.

TWO COMPOUND CONSTRUCTION
Built with two distinct rubber compounds. The tread rubber provides long wear life while the base rubber when combined with the grip rings assures properly sized tire that will NOT slip on the wheel.

THREE COMPOUND CONSTRUCTION
Built with three distinct rubber compounds. Just like the two compound tire except it has an extra layer of ‘soft’ rubber between the tread and base. This third compound provides for a dramatically softer ride for the driver, equipment and the load.

<table>
<thead>
<tr>
<th>Common Compounds</th>
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<tr>
<td>Non-Marking Compound</td>
<td>Mitco’s 100% Natural Rubber Blended with Silica And Special Additives</td>
<td>Carries 10% More Than Universal, is Abrasion Resistant, and Reduces Battery Drain</td>
<td>Gives the Maximum Load Bearing Capacity and Longest Life of Any Non-Marking Rubber Tire</td>
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Solid Solver
This premium two compound tire is available in standard black and non-marking compounds and in all of the popular sizes. It offers an aggressive deep tread design with excellent tread life.

Monster Aperture
Uniquely designed solid tire delivers all the advantages of a premium solid tire, but with the ride characteristics of a pneumatic. The aperture square hole construction in the sidewall ensures cooler running and less wear and tear on the equipment and operator.

General Service Solid
Our most aggressively priced tire, that provides you with an option when your customer is price sensitive. This line is available only in the most popular sizes and with two compound construction.

Duro Soft
Our most popular pneumatic-shaped solid line offers excellent value. A three compound construction available in a wide variety of sizes. This line has four tread options for different application needs, Lug, Wide Lug, Rib and Smooth. Now available is the Clip Tire, a built in lock ring for easy mounting.
When compared to pneumatic-shaped solids:

Pneumatic Tires

Pneumatic Tires are about 2.5 time less expensive. They offer a Softer ride for drivers, loads, and equipment. They also have better Floatation on soft surfaces with less heat build up for longer higher speed runs

MITCO offers a complete line of industrial pneumatics, a wide choice of skid steers, and common sizes used in agricultural applications. We offer premium radial industrial pneumatics from value leaders of China… and several lines in between.

The **Ultra Service** industrial pneumatic is the premium tire in our performance series line. This heavy duty tire features the latest in industrial pneumatic tire design with extra deep tread, extra thick side walls and extra ply construction.

The **General Service** industrial pneumatic is the value tire in our performance series. The **GS** tire features deep tread and thick side wall construction which delivers great performance at a low cost.

All tires are shipped below minimum operating air pressure as required by state law. Before installing pneumatic tires, always inflate to proper operating air pressure.

The **MITCO** Radial tire is built to take punishment and deliver more uptime on the job. Unlike the bias-ply tire, the sidewalls and tread of a radial tire work independently, absorbing shocks to your equipment, your operator and your payload.
MITCO has a complete line of skid steer tires that offer non-direction tread, severe service, radial, general service or flat proof solids for any application.

The MITCO Brutus features a tread depth of 48/32nds making it one of the deepest non-directional lugs in the industry. The Brutus offers more tread life in high abrasive applications, while also providing excellent traction in soft applications. The rim guard provides additional tire and wheel protection. The Brutus is the best all around value for any skid steer application.

The MITCO Radial tire is built to take punishment and deliver more uptime on the job. Unlike the bias-ply tire, the sidewalls and tread of a radial tire work independently, absorbing shocks to your equipment, your operator and your payload.

The Monster Skid Steer tire offers strength and stability even in the roughest terrain. Specialty designed sidewall holes facilitates sidewall deflection for an easier ride. A flat proof tire that eliminates downtime.

MITCO's Ultra Service SS Severe Service heavy directional skid steer tire has proven to be one of the best skid steer tires in the industry. It is known for it’s superb wear and durability in most applications.

The MITCO General Service is our most competitive skid steer tire we offer, without sacrificing quality or value. The GS skid steer features wide, deep lugs, broad shoulder and superior tire build to protect against flats.

The MITCO General Service tire is built to take punishment and deliver more uptime on the job. Unlike the bias-ply tire, the sidewalls and tread of a radial tire work independently, absorbing shocks to your equipment, your operator and your payload.
1. **Select the right tire for the application**  Proper tire selection is critical to determine the success that truck will have at performing its function. This goes beyond just the tire size, careful attention should be paid to match the tire type, construction, and compounds to the application.

2. **Match the Speed of the forklift to the application**  New Forklifts are equipped to travel at speeds that exceed a solid tire’s capacity. Lowering forklift speed may prevent premature tire failure.

3. **Inspect tires regularly** - Depending on usage and downtime sensitivity, tires should be inspected daily or weekly to remove embedded foreign objects. Inspecting tread wear will alert you to mechanical problems like brakes poorly adjusted or out of alignment.

4. **Lubricate truck properly** - Over-lubricating causes an overflow of grease and oil which is harmful to rubber tires. Inadequate lubrication, particularly in the braking and power systems, will assure free rolling operation by reducing tire drag and skidding stops.

5. **Keep brakes in adjustment** – Improper adjustment of the brakes on trucks whose wheels are part of the braking system, may cause heat build in the tire and cause premature tire failure.

6. **Check axle alignment and steering** – Proper alignment insures tread wear is normal and even.

7. **Allow sufficient tire clearance** – Proper tire sizing allows for movement of the steer tire and allows debris to fall free without being wedged in the wheel well.

8. **Center tire on wheels** - Improper mounting of tires causes premature tire failure and poses a safety hazard.

9. **Train your customer’s operator** - Proper driving techniques, inspection, and regular maintenance will extend the life of the machine and the tires.

10. **Use proper equipment** and train your service technicians - Servicing industrial tires requires the proper tools and skills.

11. **Keep runways clean** - Keep your floors clean, clear, and in good repair. Sharp objects, chemicals, and bad surfaces directly effect the useful life of a tire.

12. **Line travel routes** to help drivers avoid collisions, scrapes, and bumps with walls, equipment, curbs, or other obstacles.

13. **Avoid Excessive heat** - Avoid prolonged exposure to hot surfaces or contact with hot metals. Heat shields may be used if heat source is unavoidable.

14. **Avoid spinning and quick stops** - Sharp turns, quick starts and stops wear tread rapidly, grind in foreign objects and cause premature failure.

15. **Avoid overloading** - Overloading causes rubber separation, cutting, chipping, and tire blow out. Overloading can occur when load is not centered, load is dangled on the ends of the forks, or fast cornering.

16. **Avoid oil, grease, or gasoline** - Besides effecting the handling of the truck, chemicals can cause the breakdown of tire rubber compound leading to failure.

17. **Avoid standing loads** - Solid tires can form a flat spot if left loaded overnight. In extreme cases, this flat spot may cause a bump each time the tire rotates, requiring its replacement.
### Diagnosing Tire Problems

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<thead>
<tr>
<th>Problem</th>
<th>Causes</th>
<th>Solutions</th>
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<tbody>
<tr>
<td>Chunking</td>
<td>• Skidding and Spinning littered, asphalt or graveled surfaces</td>
<td>• Keep floors clean &amp; clear</td>
</tr>
<tr>
<td></td>
<td>• Driving over debris causing imbedded objects</td>
<td>• Use fiber reinforced compounds</td>
</tr>
<tr>
<td></td>
<td>• Quick start, turns and hard braking on littered floors</td>
<td>• Forklift Driving and Safety Education</td>
</tr>
<tr>
<td></td>
<td>• Overloading</td>
<td>• Wider Tire</td>
</tr>
<tr>
<td>Bond Failure</td>
<td>• Truck overloaded—sharp turns, unbalanced loads, excessive acceleration</td>
<td>• Check truck capacity, operating conditions, and mechanical condition.</td>
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<tr>
<td></td>
<td>• Heavy ramp operation</td>
<td>• Wider Tire</td>
</tr>
<tr>
<td></td>
<td>• Fixed path travel/steel guide rail</td>
<td>• Cooler running compound</td>
</tr>
<tr>
<td>Flat Spot</td>
<td>• Quick Stops</td>
<td>• Forklift Safety Education</td>
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<tr>
<td></td>
<td>• Trapped Air and undercure</td>
<td>• Harder compound like polyurethane</td>
</tr>
<tr>
<td>Press Crooked</td>
<td>• Misalignment of tire</td>
<td>• Proper Alignment</td>
</tr>
<tr>
<td></td>
<td>• Hub/Wheel bent or damaged</td>
<td>• Grind Hub/Wheel Smooth</td>
</tr>
<tr>
<td></td>
<td>• Burred press tools</td>
<td>• Proper tool maintenance</td>
</tr>
<tr>
<td></td>
<td>• Debris free pressing surface</td>
<td>• Pressing training</td>
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<td>Radial Cracking</td>
<td>• Overloading</td>
<td>• Wider tire</td>
</tr>
<tr>
<td></td>
<td>• Running long paths unloaded</td>
<td>• Forklift Driving and Safety Education</td>
</tr>
<tr>
<td>Reversion</td>
<td>• Heat failures due to heavy loads and long runs at high speeds</td>
<td>• Wider Tire</td>
</tr>
<tr>
<td></td>
<td>• Bond failure</td>
<td>• Cooler Running Compound</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Match truck speed to application</td>
</tr>
<tr>
<td>Separation at Friction On Solid Pneumatics</td>
<td>• Overloading</td>
<td>• Forklift Driving and Safety Education</td>
</tr>
<tr>
<td></td>
<td>• Undercure</td>
<td>• Manufacturing Defect</td>
</tr>
<tr>
<td></td>
<td>• High Speeds with heavy loads</td>
<td>• Match truck speed to application</td>
</tr>
<tr>
<td>Soft</td>
<td>• Reversion caused by heavy loads and high speeds</td>
<td>• Wider Tire</td>
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<td>• Undercure</td>
<td>• Match truck speed to application</td>
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<tr>
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<td>• Manufacturing Defect</td>
</tr>
<tr>
<td>Abuse</td>
<td>• Impact</td>
<td>• Driver Education</td>
</tr>
<tr>
<td></td>
<td>• Running over debris</td>
<td>• Keep floors clean</td>
</tr>
</tbody>
</table>
How often do you replace tires?

Most solid rubber press-on tires have between 2 1/4 to 2 3/4 inches of rubber on the base band. You need to replace the tire when the rubber has been worn to 1 1/4” to 1 1/2” inches, which is approximately half from the base band.

The customer certainly can continue to use these “worn tire” for a longer period of time. However, your customer is taking a risk of incurring substantial maintenance costs with downtime of equipment or operators. The customer will have to replace the tires soon anyway, replace them before they lose their ability to offer shock absorption to the driver and the forklift.
Measuring Tires

Press-on

A press-on rubber tire consists of tread rubber bonded to a steel base band. In a typical press-on application, the tire is mounted onto a steel hub. The outside diameter of the hub is slightly larger than the inside diameter of the steel base band. Because of this interference fit the tire must be forced or presses onto the hub.

On a 15” Tire:  14.966” +/- .008      Hub:  15.000” +/- .005

Maximum interference is .047 and the minimum is .026. These are very tight tolerances and a 150-ton hydraulic press is usually required to install a press-on tire. Larger press-on tires (28x12x22) may require a 200 ton press.

There are three dimensions to press-on tires. The most popular drive tire today is the 21x7x15.

21” is the outside diameter (OD).
7” is the width of the steel band, not the width of the tread
15” is the inside diameter (ID) of the tire.

Tire Size: 21 x 7 x 15

Press-on rubber tires can be used on Class I, II, III, and IV forklifts, but for most applications they are used on Class I and II.

The size of the tire is printed on the sidewall.
Pneumatic Shaped Solid

Pneumatic Shaped Solid and Pneumatic

Or

Pneumatic

Tire Size: Height x Rim Diameter—Rim Width

A pneumatic shaped solid tire measures:

Size                  Rim
600” x 9”             9” x 4”

Tire size is 600 x 9 - 4

Pneumatic Tire

Tire Size: Sidewall x Rim Diameter

Pneumatic tire measures”

Size                  Rim
7.00” x 12”            12” x 5”

Which is a 700x12 pneumatic tire.

All tires are shipped below minimum operating air pressure as required by state law. Before installing pneumatic tires, always inflate to proper operating air pressure.