STEEL SIDEWALL TIRES

INTENT

The intent of this guide is to provide insights, guidelines, and Best Practices to support teams involved in ***Servicing Steel Sidewalls***. By following this guide, you will be able to safely service Steel Sidewall Tires, so we have an opportunity to better support the needs of our customers.

SAFETY & QUALITY FIRST

CRITICAL TO SAFETY

Mounting/Dismounting:

When mounting/dismounting a Steel Sidewall Tire you must verify that you:

- Have the proper tire/wheel size combination.
- Use the metal clamps on the turntable designed for half size wheels.

Inflating:

- Inflating **NEW** Steel Sidewall Tires requires a sidewall inspection once you have reached operating pressure.
- Inflating **USED** Steel Sidewall Tires after changing them requires a safety inspection of the sidewall at 20 PSI then an additional sidewall inspection once you have reached operating pressure.
- **Inflating Steel Sidewall Tires on a vehicle** that are 15 PSI or less than the recommended inflation pressure must be removed from the assembly and inspected before inflating.

If you encounter any issues at any point during the inflation process with the tire, STOP, return the assembly back to the inflation cage *(if applicable)***, and contact your supervisor.**

CRITICAL TO QUALITY

Mounting/Dismounting:

- When mounting or dismounting a Steel Sidewall Tire, always use the metal duckhead.
- Always use the metal clamps for the turntable when mounting or dismounting half size tires (16.6. 17.5, etc.).

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PURPOSE AND APPROACH

What are Steel Sidewall Tires?

Steel Sidewall Tires are used on larger vehicles that are designed to carry heavier loads such as box trucks, motor homes, and construction vans for example. As the name says, the sidewalls of these tires are reinforced with steel cord to give them a higher load bearing capacity. Because of this, the sidewalls are much stiffer and require more robust equipment to service them.

Who is responsible?

Who inflates tires?	What certification required to inflate tires?	What AOR oversees Inflating Tires process?
Everyone (Sales and Service)	Service Tech	Workflow Assistant Manager (WAM)

Benefits

For Our Customers:

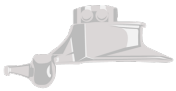
- Promotes a smooth ride and proper functioning of the tire.
- Keeps Our Customers safe and happy.
- Tires inspected by a Trusted Expert.
- Increases tire longevity and gas mileage.

For Our People:

- Reduces possible future issues, which improves customer satisfaction.
- Upholding our reputation of having a Can-do Attitude by meeting their immediate needs.
- Increased Customer CDI and better Customer Experience.

Tools

When servicing ***Steel Sidewall Tires***, you may use the following tools:

Personal Protective Equipment (PPE)		Personal Protective Equipment (PPE) is intended to keep you safe. • Safety glasses must be worn at all times when in the Service Area. • Ear protection must be used when using the HTS and CR-Kit tool. • Gloves are strongly suggested due to frequency of dealing with foreign objects, exposed cords, and more.
Metal Duckhead		Steel Sidewall Tires are less flexible than a standard passenger tire. Using the metal duckhead will make mounting and dismounting Steel Sidewall Tires easier and will also reduce the chance of the duckhead slipping out of place and damaging the standard duckhead.
Metal clamps for Turntable		Half-inch wheels have a different shaped rim flange and require a different set of clamps to secure to the tire changer.
Bolt-in Metal Truck Valves		Steel Sidewall Tires typically require a higher air pressure than a standard passenger tire.

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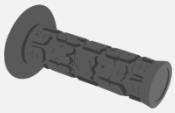
Valve Core Removal Tool		Removes valve core during deflation process.
Clip Claw Pliers OR Tape Weight Scraper		Used to remove existing wheel weights.
Bead Paste		Used to lubricate the bead and the wheel.
Tire Bar with Grip or Tape		Used to dismount the top and bottom beads without exerting excessive force.
Surface Cup Brush		Used to make sure the bead seat area is clean.
Bead Roller		Used to give more leverage to help the bead stay in proper position.
Bead Roller Mount		This is the mounting point for the bead roller.
Bead Breaker Grip		Helps to maintain the grip on the handle of the bead breaker.

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Manual Bead Depressor		Used to keep the bead of the tire in proper position when installing difficult to mount assemblies.
Cage Autoflate Device		Intended to inflate tires with little to no air pressure directly after they have been mounted from the tire changer up to 80 PSI.
Remote Inflation Device		To be used when inflating assemblies over 80 PSI or on small assemblies.
Bead Blaster		Sends a blast of air to create a seal.
Hard to Seal Tool (HTS)		Used for situations when a Bead Blaster cannot create a seal. You must wear eye and ear protection.
CR-Kit		Used as a last resort when the HTS tool may still fail to create a seal. You must wear eye and ear protection.
Bubble Check		Used to verify the assembly is not leaking from the valve and that it has a proper seal.

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ADDITIONAL SUPPORT

Tips from the Trusted Experts

Inflating NEW Steel Sidewall Tires:

Follow the same process learned in the Inflating Tires training.

- Once you have reached the operating pressure in the assembly, inspect sidewalls for distortions, ripples, bubbles, or popping noises indicative of steel cords breaking.

Inflating USED Steel Sidewall Tires:

Follow the same inflation process learned in Inflating Tires with an added safety check at 20 PSI.

- Mount and seal, then place in the inflation cage.
- Use Autoflate to inflate to 20 PSI.
- Disconnect hose and roll tire out of inflation cage to inspect sidewalls for, distortions, ripples, bubbles, or popping noises indicative of steel cords breaking.
- Place back in inflation cage and use Autoflate to inflate to 80 PSI.
- Switch to the remote inflation device to achieve operating pressure.
- Inspect sidewalls a second time checking for distortions, ripples, bubbles, or popping noises.

Additional Resources

Supporting ***Steel Sidewall Tires***:

Inflating Tires Core Process	Use this document as a reference for the standard process for inflating tires.
Inflating Tires - Bead Will Not Seal	Use this document as a reference for the procedures to follow when a tire bead will not seal to the wheel.
Inflating Tires - Bead Will Not Seat	Use this document as a reference for the procedures to follow when the bead of a tire will not seat in the proper position on the wheel.

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Changing Steel Sidewall Tires					
	Important Steps (Action / Task)	**Key Points (What)**	**Reasons (Why)**	**SAFE**	**AT RISK**
LOOSEN BEADS	**1. Deflates** tire	Removes all wheel weights and completely deflates tire.	Deflating tire completely allows bead breaker shovel to safely break beads.		
	❗ Tire must be completely deflated before breaking the bead.				
	2. Inspects for TPMS	Inspects assembly for TPMS sensors. If equipped with aluminum valves, unscrews valve, and pushes it into tire.	TPMS sensors will need to be rebuilt every time.		
	3. Breaks beads	Breaks inner and outer beads using bead breaker shovel while positioning the valve at the 6 or 12 o'clock position.	Breaking inner bead first helps prevent damage to the face of the wheel.		
	❗ Keep a light grip on the bead shovel controls.				
	❗ Verify the changer has metal clamps installed on the turntable before attempting to clamp the assembly.				
	4. Lifts assembly	Lifts the assembly onto the using proper body mechanics. Keeps fingers out of the center holes and spokes of the wheel.	Proper lifting techniques (lifting with legs, not twisting, keeping assembly close to body) helps to avoid injury.		
	5. Clamps assembly	Checks to make sure the assembly is securely clamped from the outside.	Clamping from the inside of the wheel will gouge the barrel.		
	❗ Keep your hands away from clamps and never reach under an assembly when clamping or lifting a tire onto the changer.				
DISMOUNT TIRE	**1. Lubricates** beads	Thoroughly lubricates the top and bottom beads.	Lubrication not only makes the process of mounting and dismounting easier but also helps to prevent damage to the tire.		
	⚠ Verify the metal duckhead is installed on the changer before dismounting.				
	2. Dismounts beads	Dismounts the top and bottom beads using tire bar without exerting excessive force.	Use hockey-style grip tape on the tire bar to reduce the chance of slippage.		
	❗ Never lean over the assembly while using the tire bar.				
INSPECT & LUBRICATE BEADS	**1. Checks** diameters	Checks that tire and wheel diameters match. • If installing new tires, verify the new tires and wheels have matching diameters.	Tires and wheels must have matching diameters to maintain proper fitment and compatibility with vehicle specifications.		
	2. Inspects tire and wheel	Performs an off-the-wheel inspection of the tire and wheel.	Wheel should be inspected for defects, such as cracks or bends and corrosion or dirt on inside lip, so tire creates a proper seal.		
	3. Lubricates beads	Thoroughly lubricates the top and bottom beads.	Lubrication not only makes the process of mounting and dismounting easier but also helps to prevent damage to the tire.		
	⚠ Do not place the tire on top of the wheel to lubricate to prevent scratching the face of the wheel.				
MOUNT & VALVE INSTALLATION	**1. Installs** new valve stem	Replaces valve stem or rebuilds TPMS every time the tire is removed from the wheel.	New valve stem is needed due to original valve stem being removed.		
	2. Mounts beads	Mounts the top and bottom beads, properly repositioning the valve each time.	Reposition the valve each time to avoid damaging a TPMS sensor that may be present.		
	❗ Use closed fist if you need to use your hands to keep the bead in the proper position on the duckhead.				
	⚠ Verify proper direction of tire when mounting asymmetric and directional tires on wheel.				
	3. Seals beads	Seals the beads, not exceeding 10 PSI.	This creates an initial seal between the bead and the wheel so it can hold air.		
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Inflating New Steel Sidewall Tires					
	Important Steps (Action / Task)	**Key Points (What)**	**Reasons (Why)**	**SAFE**	**AT RISK**
INFLATION PROCESS	**1. Inspects** the tire	Inspects the tire, wheel, and valve thoroughly.	To determine if tire can be inflated, it should be checked for any signs of damage.		
	❗ There are a limited number of examples where we can inflate an assembly that we cannot service or put into service. However, this can only be done with authorization from a Store Manager or Senior Assistant Manager. Keep in mind, even though you may be authorized to inflate in these cases, you are **NEVER** authorized to mount them on a wheel, balance, repair, or install on a vehicle's axle.				
	2. Positions the tire	On the changer, positions the valve and connect the air hose.	The valve should be positioned in front of the employee for easy access.		
	3. Lifts the bead	Lifts the bead and inflate for one second.	Lifting the tire by the tread until the top bead contacts the rim flange gets the tire ready for sealing.		
	❗ Do not position yourself over the assembly while inflating. Connect the inflation hose and then lift the tire by the tread until the top bead contacts the rim flange, keeping your hands and fingers away from pinch points.				
	4. Adds air to seal	Adds enough air to maintain the seal. Does not exceed 10 PSI.	This creates an initial seal between the bead and the wheel so it can hold air.		
	5. Disconnects air hose	Disconnects the air hose and unclamps the assembly.	Allows transfer of the assembly to the inflation cage.		
	❗ Once the seal has been created, you must transfer the assembly to the inflation cage in order to continue inflating.				
	6. Transfers assembly	Rolls the assembly inside the inflation cage and sets up the Autoflate inflation device.	The inflation cage helps to contain the tire and wheel.		
	❗ Watch your head when moving assemblies to and removing assemblies from the inflation cage. You could potentially hit your head on the cage, Robo-arm, or swingarm which can result in concussions and deep lacerations.				
	7. Stands out of blast zone	Stands back and to the side, out of the blast zone.	Reduces the chance of injury.		
	8. Inflates tire	Inflates the tire to the recommended air pressure, switching to the remote inflation device at 80 PSI if needed, and verifies bead is seated.	For a tire to perform properly, it must be inflated to the correct pressure.		
	❗ If inflating over 40 PSI to seat beads, call out, "air up" to alert the people working in the area.				
	9. Disconnects air hose	Disconnects the air hose and screws on valve cap.	Disconnects from Autoflate or remote inflation device and ensures no leaks.		
	10. Verifies valve seal	Verifies valve seal by spraying with Bubble Check.	Ensures there are no leaks.		
	11. Inspect sidewall	Inspect sidewalls for distortions, ripples, bubbles, or popping noises.	Identifies potential issues with the steel cords in the sidewall of the tire.		
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	Inflating Used Steel Sidewall Tires				
	Important Steps (Action / Task)	**Key Points (What)**	**Reasons (Why)**	**SAFE**	**AT RISK**
USED STEEL SIDEWALL TIRE INFLATION PROCESS	**1. Inspects** the tire	Inspects the tire, wheel, and valve thoroughly.	To determine if tire can be inflated, it should be checked for any signs of damage.		
	! There are a limited number of examples where we can inflate an assembly that we cannot service or put into service. However, this can only be done with authorization from a Store Manager or Senior Assistant Manager. Keep in mind, even though you may be authorized to inflate in these cases, you are **NEVER** authorized to mount them on a wheel, balance, repair, or install on a vehicle's axle.				
	2. Positions the tire	On the changer, positions the valve and connect the air hose.	The valve should be positioned in front of the employee for easy access.		
	3. Lifts the bead	Lifts the bead and inflate for one second.	Lifting the tire by the tread until the top bead contacts the rim flange gets the tire ready for sealing.		
	! Do not position yourself over the assembly while inflating. Connect the inflation hose and then lift the tire by the tread until the top bead contacts the rim flange, keeping your hands and fingers away from pinch points.				
	4. Adds air to seal	Adds enough air to maintain the seal. Does not exceed 10 PSI.	This creates an initial seal between the bead and the wheel so it can hold air.		
	5. Disconnects air hose	Disconnects the air hose and unclamps the assembly.	Allows transfer of the assembly to the inflation cage.		
	! Once the seal has been created, you must transfer the assembly to the inflation cage in order to continue inflating.				
	6. Transfers assembly	Rolls the assembly inside the inflation cage and sets the Autoflate inflation device to inflate to 20 PSI.	The inflation cage helps to contain the tire and wheel.		
	! Watch your head when moving assemblies to and removing assemblies from the inflation cage. You could potentially hit your head on the cage, Robo-arm, or swingarm which can result in concussions and deep lacerations.				
	7. Stands out of blast zone	Stands back and to the side, out of the blast zone.	Reduces the chance of injury.		
	8. Inflates tire	Inflates the tire to 20 PSI.	This ensures there is enough pressure to hold the seal while you inspect the sidewall.		
	9. Disconnects air hose	Disconnects the air hose and removes the assembly from the cage.	Disconnects from Autoflate inflation device and ensures no leaks.		
	10. Inspects sidewall	Inspect sidewall for distortions, ripples, bubbles, or popping noises.	This can show issues with the steel cords breaking in the sidewall.		
	11. Places back in cage	Roll the assembly back into the inflation cage to continue inflation process.	The inflation cage helps to contain the tire and wheel.		
	! If inflating over 40 PSI to seat beads, call out, "air up" to alert the people working in the area.				
	12. Inflates tire	Use the Autoflate to inflate the assembly to 80 PSI, switching to the remote inflation device if inflating over 80 PSI up to 120 PSI.	For a tire to perform properly, it must be inflated to the correct pressure.		
	13. Inspects sidewall	Inspects the sidewall a second time for distortions, ripples, bubbles, or popping noises.	This can show issues with the steel cords breaking in the sidewall		
	14. Verifies valve seal	Verifies valve seal by spraying with Bubble Check.	Ensures there are no leaks.		
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Inflating Steel Sidewall Tires In Service					
	Important Steps (Action / Task)	**Key Points (What)**	**Reasons (Why)**	**SAFE**	**AT RISK**
	If you find signs of under inflation, stop and speak with your supervisor.				
	1. Checks air pressure	Checks the air pressure using an approved inflation device.	If a steel sidewall tire in service is 15 PSI or more below the recommended inflation pressure, we must remove the assembly from the vehicle, dismount the tire and perform an off-the-wheel-inspection of the tire before inflating.		
	If inflating over 40 PSI to seat beads, call out, “air up” to alert the people working in the area.				
	2. Inflates tire	Uses the Autoflate inflation device and remote inflation device to inflate the tire to the recommended pressure.	For a tire to perform properly, it must be inflated to the correct pressure.		
	3. Stands out of blast zone	Stands out of the blast zone.	Reduces the chance of injury.		
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