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4 Considerations When Buying Used Pre-Tier 4 Construction Equipment



4 Considerations When Buying Used Pre-Tier 4 Construction Equipment



In the years since the EPA's "Tier 4" emission standards first hit the heavy equipment world, a secondary market in older "pre-Tier 4" used construction equipment has blossomed. **Buying pre-Tier 4 heavy equipment can be an economical way to address your business's current needs.** But, there are trade-offs and other factors to consider when you buy [pre-owned heavy equipment](#) – particularly when it comes to pre-Tier 4 machinery.

What are the EPA's "Tier 4" emission standards for diesel equipment?

Basically, the Clean Air Act required the U.S. Environmental Protection Agency (EPA) to put regulations in place that would reduce air pollutants. In this case, "pollutants" would be black exhaust and soot from nonroad construction equipment's diesel engines.

"Tier 4" is the grade of [the EPA's new emissions standards that all newly heavy equipment diesel engines must meet](#). From agriculture to construction to mining, new equipment must control its emissions through new technology.

Of course, **meeting this new regulation can be expensive for heavy equipment manufacturers.** The Independent Equipment Dealers Association estimates that new construction equipment costs buyers up to [an additional 20% premium](#) over models following less strict standards.

This expense explains the rise of pre-Tier 4 [construction equipment in the secondary markets for business owners large and small](#).

What makes a piece of used construction equipment "pre-Tier 4"?

Essentially, "pre-Tier 4" heavy equipment were manufactured *before* the EPA's mandate required all new equipment to meet the Tier 4 regulations. **The EPA doesn't require every currently operating piece of equipment to meet the new standards.** Older equipment is "grandfathered" into the current ecosystem.

Depending on the equipment's horsepower, **Tier 4 regulations hit commercial heavy equipment manufacturers in 2014 and 2015.** So, when evaluating a piece of used heavy equipment, look at its manufacturing date.

For example, if a used backhoe's manufacturing year was 2013, it's probably "pre-Tier 4" equipment. Consequently, **the 2013 backhoe should be less expensive than a similar condition 2016 model.**

4 Questions to Answer When Buying Used Pre-Tier 4 Construction Equipment

So, you've found a piece of heavy equipment that was made before the Tier 4 emissions regulations. Before you make an offer, find the answers to these four

questions:

- 1. Does the machinery meet its manufacturing year's emissions standards?** While current regulations grandfather in pre-Tier 4 heavy equipment, the EPA requires the machine to function at the emissions standard set when it was first made.
- 2. Does the equipment have a solid maintenance record?** You're more likely to meet the required emissions standards with a well-maintained piece of equipment.
- 3. Do you own a large "fleet" of diesel-engine equipment?** Owners of many diesel-engine machines can only keep the same or fewer amount of pre-Tier 4 engines that they started with. Essentially, you can only replace a pre-Tier 4 engine *if* you retire another pre-Tier 4 machinery. The goal is for all owners to gradually start replacing their older equipment with ones that meet the newer standards.
- 4. Do you bid on a lot of government work?** Some states and contracts require that bidding contractors and businesses keep their emissions low during construction. This requirement will impact the type of engines you can use on-site, possibly limiting your ability to use pre-Tier 4 heavy equipment.

So whether you're an independent business owner with a piece of heavy equipment you'd like to upgrade, [or an international corporation looking to track and demobilize site assets after project completion](#), understanding the secondary market for pre-Tier 4 heavy equipment can radically impact your bottom line.

And, if you need [help either selling, buying, or managing heavy equipment](#), Liquidity Services can lend a hand.

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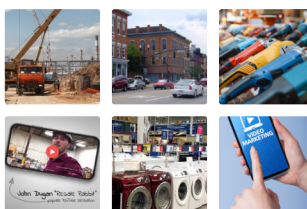
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Blog: General Information

Industry: Heavy Equipment: Construction

Topic: Pre-Tier 4 Heavy Equipment

Reader takeaways:

- The EPA requires new “Tier 4” emission standards on nonroad diesel engines, particularly for heavy equipment, that can jack prices up by 20%.
- Buying and selling pre-Tier 4 equipment on the secondary market can be an economically feasible choice for business owners of all sizes, though there are multiple factors to consider – including maintenance records, current performance, size of equipment fleet, and nature of the buyer’s business.
- Liquidity Services can help people buy, sell, or simply inventory their heavy equipment offerings.

Funnel Position (Pick One):

- **Middle** (Specific Services/Solutions, List, Educational)

***I want this post to (Pick up to two):**

- **Teach readers** about reverse logistics in general and about specific tactics/skills
- **Inform readers** about the latest reverse logistics news in their industry

**Note: All blogs should strive to build LSI’s brand as a trusted expert and funnel readers to the LSI site/other content pieces through distribution strategy. These are perennial goals that do not need explicit articulation, but rather should be kept in mind while drafting.*

Primary Reader Call-to-Action: Sign up for Liquidity Services blog

Secondary Reader Call-to-Action: Read related Liquidity Services content – though that’s currently very limited.

Related internal content (both marketing & sales):

- <https://www.liquidityservices.com/resources/valuation-management-and-disposition-help-airport-authority-maximize-value-for-terminal-construction-surplus/>
 - An airport authority planned to construct a fifth terminal at one of the world’s largest and busiest airports. Requiring over 8,000 construction workers and 80,000 tons of structural steel at a 126-hectare site, this endeavor was Europe’s largest construction project at the time. The organization needed to purchase a large array of construction equipment to build the terminal, and it sought an expert partner to achieve maximum return on these assets after use.
- <https://www.liquidityservices.com/resources/ongoing-partnership-helps-global-construction-company-demobilize-from-major-projects-while-maximizing-recovery/>
 - Under the lump-sum turnkey model through which many of its projects are executed, the company is responsible for all surplus and is highly motivated to achieve optimal recovery.
 - Since early 2012, Liquidity Services has partnered with the client to maximize value for its surplus. In our global agreement, we support the client on a wide range of projects, which have included the expansion of Washington, DC’s subway system, the building of power plants in Texas, and three major

construction projects in Australia. We've also helped the client sell pipe fabrication surplus from Turkey and mining surplus from a project in Chile.

- Since 2012, we've generated over 6.3 million in total sales for the client. We've sold more than 3,300 assets across nearly 25 asset categories including pipes, valves, construction supplies, and plant support equipment. Our global reach has attracted over 3,000 bidders from 11 countries, ensuring high bid levels and recovery. Highly satisfied with our partnership, the client recently extended our contract for several more years.

External content/sources:

- <https://www.smith-howard.com/how-contractors-can-profit-from-idle-equipment/>
 - The market for used construction equipment has been pretty robust — especially since the Environmental Protection Agency's Tier 4 emission standards have driven up the cost of new machinery. A recent survey of Independent Equipment Dealers Association members shows increased demand for pre-Tier 4 construction equipment, including excavators, backhoe loaders, wheel loaders, dump trucks, dozers and compact equipment.
 - **3 ways to maximize equipment value**
 - Whether you want to attract renters or buyers for your idle equipment, you'll want to make sure the machines are worth paying for. Other contractors will be seeking equipment they won't have to worry about or invest more money in to repair. Here are three ways to maximize equipment value:
 - **Establish a formal preventive maintenance program.** Proper preventive maintenance will catch and correct minor problems before they become major ones, so it works to your advantage while you're using the equipment yourself. And the documentation generated by a formal program will assure a prospective buyer or renter that the equipment has been well cared for.
 - **Don't let things slide on the job site.** Top off fluids, and make sure any attachments and accessories are in good working order while the equipment is in use. Replace any broken or burned out lights right away. Letting tasks like this go for too long can hurt the long-term value of the asset.
 - **Make needed repairs.** Unless you're sure a prospective buyer only wants the machine for spare parts, it's best to fully repair it before putting it on the market. One used-equipment dealer says that, for every dollar spent on repairs before a sale, you'll gain two dollars in return.
- <https://www.epa.gov/sites/production/files/2018-02/documents/02-update-tier-4-nonroad-diesel-engines-2017-12-06.pdf>
- <https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-emissions-heavy-equipment-compression>
- <https://iedagroup.com/how-tier-4-impacts-used-construction-and-mining-equipment/>
 - Independent Equipment Dealers Association
 - All new off-highway equipment with 50-hp diesel engine or above must have a Tier 4 engine. The type of equipment doesn't matter, which means that light towers, generators and air compressor, as well as dozers, motor graders and haul trucks are affected by the EPA's regulations. This, of course, means you'll be paying more for new equipment — **on average 15 to 20 percent more.**

- Used equipment is grandfathered in; this means that if the machine was manufactured before Tier 4, it does not need to be brought up to current standards. However, used equipment still needs to meet the standards that were in place when the machine was manufactured.
- However, if you field a fleet of equipment, there are some restrictions. You can only use remanufactured pre-Tier 4 engines if they are up to the latest Tier 4 standards, or if you are retiring a pre-Tier 4 engine and replacing it with a Tier 4 engine at the rate of 1-to-1. **This means that anytime your fleet replaces a pre-Tier 4 engine with a similar engine, they have to remove another pre-Tier 4 engine and update the machine with a current, Tier 4 Final engine**
- One note of caution, some projects, typically government related, may mandate the use of Tier 4 complainant equipment only on a project, which may affect your buying options. So, if your work involves public sector work and/or jobs for universities and other large organizations that have adopted Tier 4 standards, or if you are working in a non-compliance zone which is an area that the EPA has determined has poor air quality, you should expect that the machines that you plan on using for that job will have to consist exclusively of Tier 4-compliant machines.
- <https://www.landscapemanagement.net/what-you-need-to-know-tier-4-regulations/>
 - Established by the EPA as part of the Clean Air Act, Tier 4 regulations were put in place to reduce emission of particulate matter (PM) and oxides of nitrogen (NOx), primarily in nonroad diesel engines.
 - Simply put, in diesel engine exhaust PM is the black smoke or soot. NOx, also found in exhaust, contributes to smog, which poses lasting environmental and health hazards.
 - With that, the end goal for Tier 4 is to decrease diesel engine emissions by more than 90 percent for health benefits—health benefits that could amount to \$80 billion annually once all older engines are replaced, according to the “Clean Air Nondiesel Rule,” published by the EPA Office of Transportation and Air Quality (OTAQ) in May 2004.
 - Simply put, “The engines are getting better,” Knott says. “The technology coming out now can make some pretty big improvements in efficiency and performance over a similar engine with mechanical fuel injection.”
 - He adds that having Tier 4 equipment could give contractors an edge in bidding processes if prospects take emissions into consideration.
 - “The European Union is exploring the equivalent of Tier 5 standards for nonroad diesel equipment,” she says. “There are no current plans for EPA to pursue such standards.”

Intended Publication Date: 11/12/19

Blog Draft

Suggested image:

<https://www.shutterstock.com/image-photo/repair-engineagricultural-enginemachine-part-steel-gear-536737459> or

<https://www.shutterstock.com/image-photo/young-auto-mechanic-dismantles-opposing-engine-783916702>

Image Alt Text: Buying pre-Tier 4 used construction equipment can save you money.
[Characters < 100]

Image File Name: Liquidity-Services-Blog-Pre-Tier-4-Construction-Equipment

[Title/H1] 4 Considerations When Buying Used Pre-Tier 4 Construction Equipment

In the years since the EPA's "Tier 4" emission standards first hit the heavy equipment world, a secondary market in older "pre-Tier 4" used construction equipment has blossomed. **Buying pre-Tier 4 heavy equipment can be an economical way to address your business's current needs**. But, there are trade-offs and other factors to consider when you buy pre-owned heavy equipment – particularly when it comes to pre-Tier 4 machinery.

Here's what you need to know when you're considering used heavy equipment with a pre-Tier 4 diesel engine.

<h2> What are the EPA's "Tier 4" emission standards for diesel equipment? </h2>

Basically, the Clean Air Act required the U.S. Environmental Protection Agency (EPA) to put regulations in place that would reduce air pollutants – like black exhaust from nonroad construction equipment's diesel engines.

"Tier 4" is the name of <https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-emissions-heavy-equipment-compression> the EPA's new emissions standards that all newly manufactured diesel engines must meet in any piece of heavy equipment. From agriculture to construction to mining, new equipment must control any emissions of exhaust, soot, and other by-products through new technology.

Of course, **meeting this new regulation can be expensive for heavy equipment manufacturers.** The Independent Equipment Dealers Association estimates that new construction equipment costs buyers up to <https://iedagroup.com/how-tier-4-impacts-used-construction-and-mining-equipment/> an additional 20% premium over models following less strict standards.

This expense explains the rise of pre-Tier 4 construction equipment in the secondary markets for business owners large and small.

<h2>What makes a piece of used construction equipment "pre-Tier 4"? </h2>

Essentially, a piece of heavy equipment is considered “pre-Tier 4” if it was created *before* the EPA’s mandate required all new equipment to meet the Tier 4 regulations. **The EPA doesn’t require every currently operating piece of equipment to meet the new standards.** Older equipment is “grandfathered” into the current ecosystem.

Depending on the horsepower of the equipment in question, **Tier 4 regulations hit commercial heavy equipment manufacturers in 2014 for lighter equipment and 2015 for industrial-sized machinery.** So, a good place to start in evaluating a piece of used heavy equipment is to look at the manufacturing date.

If the backhoe you’re looking at was first made in 2013, chances are it’s considered “pre-Tier 4” equipment. Consequently, the **2013 backhoe should be less expensive than a similar 2016 model** – even if both are in similar condition.

<h2> 4 Questions to Answer When Buying Used Pre-Tier 4 Construction Equipment </h2>

So, you’ve found a piece of heavy equipment that was made before the Tier 4 emissions regulations – and costs a pretty penny less than its contemporaries. However, before you make an offer, find the answers to these four questions:

1. **Does the machinery meet its manufacturing year’s emissions standards?** While pre-Tier 4 heavy equipment is grandfathered into current regulations, the EPA requires the machine to function at the emissions standard set when it was first made.
2. **Does the equipment have a solid maintenance record?** You’re more likely to meet the required emissions standards with a well-maintained piece of equipment.
3. **Do you own a large “fleet” of diesel-engine equipment?** Owners of many diesel-engine machines can only keep the same or fewer amount of pre-Tier 4 engines that they started with. Essentially, you can only replace a pre-Tier 4 engine *if* you retire another pre-Tier 4 machinery. The goal is for all owners to gradually start replacing their older equipment with ones that meet the newer standards.
4. **Do you bid on a lot of government work?** Some states and contracts require that bidding contractors and businesses keep their emissions low during construction. This requirement will impact the type of engines you can use on-site, possibly limiting your ability to use pre-Tier 4 heavy equipment.

So whether you’re an independent business owner with a piece of heavy equipment you’d like to upgrade, <a href=

[“https://www.liquidityservices.com/resources/ongoing-partnership-helps-global-construction-company-demobilize-from-major-projects-while-maximizing-recovery/”>](https://www.liquidityservices.com/resources/ongoing-partnership-helps-global-construction-company-demobilize-from-major-projects-while-maximizing-recovery/)or an international corporation looking to track and demobilize site assets after project completion, understanding the secondary market for pre-Tier 4 heavy equipment can radically impact your bottom line.

And, if you need <https://www.liquidityservices.com/industries/mining-large-construction/> help either buying or selling heavy equipment – or just managing what you already have – Liquidity Services is here to lend a hand.

Word Count: 658

###

Blog: Publication & Distribution

Content Funnel

Readers will find this blog through:

- Regularly scheduled email campaigns (enewsletters, etc.)
- “Organic” methods (SEO/Social/Email shares)

Readers will then sign up for blog and read related content pieces

Readers at the end of this content path will:

- Fill out the “contact us” form for general information
- *Possibly AllSurplus pitch when it’s released?

SEO

Targeted Keywords:

- Used construction equipment (1,300 monthly traffic & hard ranking difficulty)
 - Main competitors show up in the top search results for this
- Used heavy construction equipment (10 monthly traffic & hard(er) ranking difficulty)
 - Stupid machinery trader.
- Where to sell used construction equipment (10, easy-peasy)
- Where to buy used construction equipment (0-10, so low it’s unknown)
- Buying used construction equipment (30, easy)
 - Parent: **Buying used equipment** (70, easy, interesting current results)
- Used construction equipment auctions (20, medium)
 - Parent: used construction equipment (see above)
- Sell used construction equipment (70, easy)
- EPA Tier 4 (90, easy-ish)
- EPA Tier 4 Emission Standards (80, easy-ish)

Metadata

- **Title Tag:** 4 Considerations When Buying Used Pre-Tier 4 Construction Equipment
- **Meta Description:** Save money by buying used construction equipment with pre-Tier 4 diesel engines. Consider these four factors when buying this type of used heavy equipment.
- **Slug:** buying-used-construction-equipment-pre-tier-4 (<https://www.liquidityservices.com/buying-used-construction-equipment-pre-tier-4>)

Website Tag:

- CAG
- Heavy Equipment
- Construction
- Secondary Market

Organic Social Media

Hashtags:

- LinkedIn
 - #Construction (4,257,777)
 - #ConstructionNews (4,770)
 - #ConstructionMachinery (160)
 - #HeavyEquipment (3,852)
- Twitter
 - #Construction
 - #HeavyEquipment

Platform	Posts
Facebook	<ul style="list-style-type: none"> ● New heavy equipment costs up to 20% more due to emission standards. Consider buying used pre-Tier 4 equipment instead: https://www.liquidityservices.com/buying-used-construction-equipment-pre-tier-4 ● Get the biggest bang for your equipment buck through used pre-Tier 4 heavy equipment. Here's how: https://www.liquidityservices.com/buying-used-construction-equipment-pre-tier-4 ● Need to upgrade your current heavy equipment? There's a booming market for pre-Tier 4 machinery. https://www.liquidityservices.com/buying-used-construction-equipment-pre-tier-4
Twitter	<ul style="list-style-type: none"> ● New #construction equipment costs 20% more due to Tier 4 emission standards. Have you considered pre-owned equipment? https://www.liquidityservices.com/buying-used-construction-equipment-pre-tier-4 ● Need to upgrade your current #HeavyEquipment? There's a booming market for pre-Tier 4 machinery. https://www.liquidityservices.com/buying-used-construction-equipment-pre-tier-4 ● Get the biggest bang for your equipment buck through used pre-Tier 4 #HeavyEquipment – Here's how: https://www.liquidityservices.com/buying-used-construction-equipment-pre-tier-4
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