BUILD AROUND THE WAY YOU WORK

Stellar® Mechanic Truck Selection Guide

TABLE OF CONTENTS

03 Introduction

04 Understanding Job Requirements & Regulations

06 Material Considerations: Aluminum vs. Steel

09 Maximizing Mechanic Truck Capabilities with a Crane

13 Enhancing Mechanic Truck Functionality: Equipment Considerations

19 Additional Considerations for Chassis & Mechanic Truck Packages

21 CDL Requirements & Workforce Considerations

22 Mechanic Truck Upfitting Tips

25 After-Sale Support Essentials

26 Get More From Your Mechanic Truck

Selecting the right mechanic truck is about more than choosing a body and crane. The right combination of chassis, storage, equipment and accessories can help maximize productivity, reduce downtime and support the way your crews work every day.

These specialized vehicles serve as mobile workshops, bringing essential maintenance and repair capabilities directly to the jobsite. However, the process of specifying and upfitting mechanic trucks requires careful consideration of various factors to tailor the vehicle to your specific job requirements and regulatory standards.

In this guide, we will explore key considerations for fleet managers in the selection and customization of mechanic trucks, focusing on the crane, chassis, body, storage, equipment options and more.

UNDERSTANDING **JOB REQUIREMENTS & REGULATIONS**

Before selecting components, it's important to understand how the truck will be used. Factors such as the type of terrain, environmental conditions, payload requirements and regulatory standards play a crucial role in determining the optimal configuration of your truck.

The crane, chassis and body are interconnected components, allowing for flexibility in the selection process. Because these components work together, you can begin the selection process with whichever area matters most to your operation.

STARTING WITH THE
CRANE

For many mechanic trucks, the crane is a central component that facilitates lifting and maneuvering heavy equipment and parts. You should assess factors such as lifting frequency, weight capacity and reach requirements to select the appropriate type and size of crane for your operations. From there, the body offers a variety of chassis options to accommodate the selected crane.

STARTING WITH THE
CHASSIS

The chassis serves as the foundation of the mechanic truck, influencing factors such as payload capacity, maneuverability and regulatory compliance. Consider parameters like Gross Vehicle Weight Rating (GVWR), driver requirements and powertrain options (gas or diesel) when selecting a chassis.

STARTING WITH THE
BODY

The body of the mechanic truck supports the tools, equipment and storage needed to keep crews productive in the field. Evaluate factors such as body length, compartment height, material (aluminum vs. steel) and additional features that support customization, organization and ease of maintenance.

MATERIAL CONSIDERATIONS: ALUMINUM VS. STEEL

When deciding on the material for your mechanic truck's body, careful consideration is key, taking into account both the operating environment and payload requirements. Traditionally, mechanic trucks have predominantly been constructed from steel due to its renowned durability. However, the growing popularity of aluminum presents compelling alternatives.

MAIN FACTORS IN ALUMINUM'S POPULARITY

WEIGHT ADVANTAGE

Aluminum offers a significant reduction in weight compared to steel, resulting in increased payload capacity or fuel efficiency. This is particularly advantageous for operations where maximizing payload is paramount.

ENHANCED CORROSION RESISTANCE

Mechanic trucks operating in environments with high humidity or exposure to heavy snow require robust corrosion resistance. Aluminum bodies excel in this aspect, providing long-term durability and protection against the elements, thereby extending the vehicle's service life.

FLEXIBLE CUSTOMIZATION

Some aluminum body designs incorporate integrated mounting rails and strategically placed wiring access points, simplifying installation while making it easy to add accessories and reconfigure compartments as operational needs evolve.

REDUCED CDL REQUIREMENTS

When selecting a mechanic truck, it's crucial to consider driver requirements. A commercial driver's license (CDL) is mandatory for vehicles weighing 26,000 pounds or more. However, the lighter weight of aluminum mechanic trucks allows for the addition of service cranes and other equipment while staying below CDL weight limits. This eases the demand on field service technicians without CDLs, ensuring regulatory compliance while optimizing operational versatility and effectiveness.

COMPARING ALUMINUM & STEEL

Aluminum mechanic trucks and steel mechanic trucks have a lot of great benefits, but understanding the differences can help you make the perfect choice.

	ALUMINUM*	STEEL*
WEIGHT	Aluminum is a strong material that weighs significantly less than steel. Stellar truck bodies weigh about 300 to 2,300 lbs less than their steel counterparts.	Steel is 2.5 times denser than an equivalent aluminum item, so it weighs more.
	Why It Matters: The lower weight of aluminum increases payload for added accessories, tools and parts. Or, the lower weight can help improve fuel efficiency.	
STRENGTH	Superior engineering ensures aluminum mechanic trucks have plenty of strength and durability. Stellar aluminum bodies can handle cranes larger than 6,500 lbs up to 14,000 lbs.	Steel is often selected for the heaviest-duty configurations, particularly when pairing a 14,000-lb service crane with a tandem axle truck.
	Why It Matters: Matching body material to your lifting requirements helps ensure the truck delivers the strength, payload and performance your application demands.	
CORROSION RESISTANCE	Aluminum has high corrosion resistance.	Though coatings can help slow corrosion, it remains a concern with steel.
	Why It Matters: Corrosion resistance helps increase long-term reliability and is especially important in humid or saltwater climates as well as northern climates where road chemicals are used.	
EASE OF UPFITTING	The lighter weight, combined with Stellar's patented integrated mounting rail, makes it easy to customize aluminum mechanic trucks with accessories, drawers, bolt bins and other organization solutions.	Steel mechanic trucks require mounts to be welded on for the addition of accessories.
	Why It Matters: The ability to easily customize your work truck for your specific needs helps increase productivity and adds more value over time.	

* The comparison chart provided is based on specific features and attributes of Stellar TMAX™ mechanic trucks. Please note that individual preferences, requirements and conditions may vary, and additional research or consultation may be necessary to determine the most suitable option for your needs.

MAXIMIZING MECHANIC TRUCK CAPABILITIES WITH A CRANE

Service cranes expand the capabilities of mechanic trucks by making it easier to lift components, handle heavy parts and complete repairs in the field. Assess factors such as reach, capacity and duty cycle to select the optimal crane for your mechanic truck.

Telescopic service crane options for mechanic trucks can be categorized into three main types: electric, electric-hydraulic and hydraulic cranes, each with distinct advantages.

ELECTRIC CRANES

These cranes eliminate the need for a power take-off (PTO) and pump installation on the chassis, operating efficiently with an electric winch and pump for self-contained hydraulics. Electric cranes offer a cost-effective solution for applications requiring smaller cranes with lower duty cycles, running at a consistent speed.

ELECTRIC-HYDRAULIC CRANES

Similar to electric cranes, electric-hydraulic cranes do not require a PTO and pump on the chassis. However, they utilize an electric pump to power hydraulic winches and other crane functions, offering proportional control for precise crane operation speed.

HYDRAULIC CRANES

Hydraulic cranes offer greater lifting capacity and duty cycles, making them ideal for demanding applications. Featuring proportional control and advanced remote functionalities, hydraulic cranes are favored for heavy-duty applications where maximum lifting capacity is vital.

ELECTRIC CRANES VS. HYDRAULIC CRANES*

	ELECTRIC	HYDRAULIC
Duty Cycle	Intermittent	Frequent
Max Rating (Standard)	6,500 – 38,000	11,500 – 78,000
Max Lift	2,000 – 6,000 lbs	3,200 – 14,000 lbs
Max Horizontal Reach	7' – 21'	15' – 29' 11"
Max Vertical Lift	10' 9" – 22' 10"	17' 8" – 31' 11"
Power Source	Electric	Hydraulic
Radio Control Option	On/Off/CDT™	On/Off/CDT™/CDTpro™

* The comparison chart provided is specific to electric and hydraulic cranes offered by Stellar. Individual requirements and operational conditions may vary. Consult with a representative for specific recommendations.

ESSENTIAL CRANE SELECTION TIPS

Reviewing the following five questions in consultation with your manufacturer or distributor is instrumental in selecting the ideal service crane tailored to your specific needs:

1 WHAT WILL THE CRANE BE LIFTING?

Understanding the precise nature of the loads to be lifted and their respective distances is crucial for crane selection. For example, will the crane perform lifts for general service (light- or heavy-duty), heavy equipment repair, agriculture repair or construction? In construction, for instance, lifts may encompass cylinders, buckets, blades, tracks, engines and transmissions. A thorough understanding of lifting demands goes a long way toward crane selection.

2 HOW MUCH DOES THE LOAD WEIGH?

Determining the anticipated weight of the loads and their lifting distances is pivotal for selecting a crane with suitable load capacity. Crane ratings, measured in foot pounds (ft-lb), directly correlate with both weight and horizontal lifting distance. For example, 42,000 foot-pounds equal a lift capacity of 4,200 pounds at 10'. Or 2,100 pounds at 20'. Or 8,400 pounds at 5'. This knowledge enables precise matching of load requirements with crane capabilities.

3 HOW MANY LIFTS OR DUTY CYCLES PER DAY/WEEK?

Assessing the frequency and intensity of lifting operations helps determine the appropriate crane type. Electric cranes, offering cost-effective solutions, are suitable for intermittent lifting needs with lighter loads. Conversely, for regular and heavy-duty lifting demands, hydraulic cranes provide robust performance and versatility.

4 WHAT IS THE CHASSIS SIZE?

In your decision-making process, the chassis, mechanic body and service crane are the three key elements to consider. You have the flexibility to begin with any of them, and your distributor can assist you in selecting the optimal starting point.

5 WHAT ARE OTHER CONSIDERATIONS FOR A MECHANIC TRUCK WITH A CRANE?

Exploring additional features such as remote-control technology and weight-saving opportunities enhances crane functionality and efficiency.

Advanced remote-control systems offer precise crane movement and valuable feedback on performance and lift data. You can control, power and monitor your crane from a safer distance with improved visibility. The remote controls combine multifunction control, easy-view screens, ergonomic grips and the rugged durability needed for heavy use and jobsite demands. Furthermore, these remotes have ergonomic controls for single-hand operation, with crane functions operated by toggle switches and a proportional control trigger.

In addition, the pursuit of weight-saving measures ensures maximized payload capacity, benefiting you in various scenarios.

ENHANCING MECHANIC TRUCK FUNCTIONALITY: EQUIPMENT CONSIDERATIONS

From toolbox systems and air compressors to lube skids and power units, the selection of equipment plays a critical role in enhancing the functionality and efficiency of mechanic trucks. You should assess factors such as tool storage, air volume, pressure requirements and auxiliary power options to meet the specific needs of your operations.

TOOLBOX SYSTEMS: ORGANIZING EFFICIENCY

A well-organized mechanic truck helps crews work faster and spend less time searching for tools and parts.

Stellar's **bale-style pull handles** add extra convenience by letting users activate the latches by grabbing the handle from either above or below.

CONSIDER THESE TIPS
WHEN CHOOSING A TOOLBOX SYSTEM:

+ It's important to work with a manufacturer that offers diverse designs and customizable configuration options.

+ Avoid settling for a one-size-fits-all approach, as each work requirement and style is unique.

+ To optimize productivity, tailor the toolbox system to align precisely with the specific needs and preferences of the operator.

+ Look for compartment designs that incorporate integrated mounting rails and wiring access features to simplify future additions and modifications.

+ Consider organization options such as shelves, bolt bins and heavy-duty drawers to improve accessibility and productivity.

+ Considerations such as size, material and handle options should be evaluated to enhance functionality and accessibility. For example, all-metal components used throughout construction, including the slides, mean you don't have to worry about plastic parts breaking.

+ Some manufacturers offer heavy-duty aluminum drawer sets in addition to steel, providing versatile options for organizing tools and equipment.

AIR COMPRESSORS: POWERING PNEUMATIC TOOLS

Air compressors power pneumatic tools, provide inflation capabilities and help crews tackle a wide range of service tasks. Understanding the air volume and pressure requirements, along with the duty cycle needed, is essential for selecting the right compressor for your mechanic truck.

Whether hydraulically driven or powered by a small horsepower engine, air compressors come in different configurations, including rotary screws or pistons. Evaluate your specific needs to determine the ideal air compressor for your mechanic truck.

TYPES OF AIR COMPRESSORS:

SINGLE-STAGE HYDRAULIC

Ideal for applications requiring moderate air pressure, these compressors are efficient and reliable.

TWO-STAGE HYDRAULIC

Offering higher air pressure capabilities, these compressors are suitable for demanding tasks that require increased pressure.

ROTARY SCREW

Known for their continuous operation and high efficiency, rotary screw compressors are well-suited for heavy-duty applications with consistent air demand.

LUBE SKIDS: ENHANCING EFFICIENCY

Lube skids turn mechanic trucks into mobile maintenance hubs. These systems provide a centralized and convenient solution for dispensing and storing new oil, waste oil, grease and other lubricants, effectively transforming a mechanic truck into a mobile hub for equipment maintenance.

Consider integrating lube skids into your mechanic truck to streamline equipment maintenance operations and maximize productivity on the jobsite. Designed for seamless integration onto mechanic trucks, these skids are engineered for effortless installation, bolstering your field service capabilities.

Available in both permanent and mobile configurations, lube skids come in various capacities and customizable options for oil tanks, waste oil storage, hose reels and more. This versatility ensures you can tailor the lube system to your specific needs, optimizing operational efficiency. All units are supplied with mounting and plumbing hardware for convenient setup.

AUXILIARY POWER UNITS: VERSATILE POWER SOLUTIONS

Auxiliary power units (APUs) offer an alternative to traditional power take-off (PTO) and pump systems, providing self-contained power for hydraulic systems, electric tools and welding capabilities. Whether driven by a small horsepower engine or running on battery power, APUs offer flexible power solutions for your mechanic truck.

Equipped with an automotive-grade lithium-ion battery, a hybrid power source delivers emission-free, low-voltage power and energy storage, catering to your hydraulic requirements and helping you meet environmental regulations. Its integrated dual hydraulic power unit ensures hours of quiet operation on a single charge, with no compromise in performance while operating hydraulic equipment like a crane. This feature is particularly advantageous in urban environments where noise reduction is critical, making it an ideal solution for city-based operations.

Explore the usefulness of auxiliary power units as an alternative power source for your mechanic truck, offering flexibility and convenience in various operational scenarios.

ADDITIONAL CONSIDERATIONS

FOR CHASSIS & MECHANIC TRUCK PACKAGES

In addition to the core components, there are several advanced features and technologies worth considering when selecting a chassis/mechanic truck package.

ALTERNATIVE FUEL AND ADVANCED TECHNOLOGY

Explore options beyond traditional fuel sources, such as electric, hydraulic, propane, natural gas and biomethane. These alternatives offer not only environmental benefits but also potential cost savings and enhanced efficiency.

ADVANCED FUEL EFFICIENCY

Prioritize fuel-efficient options to minimize operational costs and reduce environmental impact. Technologies aimed at improving fuel efficiency can lead to long-term savings and sustainability.

SERVICEABILITY AND MAINTENANCE

Prioritize designs that simplify routine maintenance. Features such as top-mounted hydraulic filters and streamlined body construction can help improve service access and support long-term reliability.

INTEGRATED GPS AND VEHICLE TRACKING

Integrated GPS and vehicle tracking systems improve fleet management and enhance operational efficiency. These systems provide real-time monitoring, route optimization and asset tracking capabilities.

ADVANCED SAFETY FEATURES

Prioritize safety by opting for mechanic trucks equipped with advanced safety features such as automatic emergency braking and lane departure warnings. These technologies help mitigate risks and ensure a safe working environment for operators.

ENHANCED VISIBILITY AND AWARENESS

Consider visibility and warning technologies that improve awareness on and off the road. High-intensity taillights with integrated strobes and cascading turn signals can help increase visibility and operator confidence.

MOBILE DIAGNOSTIC EQUIPMENT COMPATIBILITY

Ensure compatibility with mobile diagnostic equipment to facilitate on-the-go diagnostics and troubleshooting. Seamless integration of diagnostic tools enables quick and efficient maintenance and repairs, minimizing downtime.

TELEMATICS BEYOND THE CHASSIS

Some manufacturers provide advanced telematics solutions. Consider incorporating these systems to access valuable data insights, monitor vehicle performance and enhance fleet management practices.

ADJUSTABLE LIGHTING FOR NIGHTTIME WORK

Select mechanic trucks with adjustable lighting systems designed to optimize visibility during nighttime operations. Adequate lighting is essential for ensuring safety and efficiency in low-light conditions.

CDL REQUIREMENTS & WORKFORCE CONSIDERATIONS

Commercial Driver's License (CDL) requirements are crucial factors in fleet management, especially amidst workforce shortages and escalating licensing costs. The shortage of skilled drivers intensifies competition among industries reliant on CDL holders and drives up recruitment expenses, threatening service continuity. Additionally, the financial burdens associated with obtaining and maintaining CDL endorsements further strain fleet operations.

MECHANIC TRUCK UPFITTING TIPS

When it comes to picking out the perfect trucks for your fleet, there are a few things you'll want to keep in mind:

+ **First, think about the type of work your trucks will be doing and who'll be driving them**. Are they mainly cruising through city streets, navigating rough rural roads or terrain or a bit of both? Knowing this helps you figure out the best setup.

+ **Next, don't fall into the trap of over-specifying your trucks.** It might seem like adding all the bells and whistles will make them super functional, but it can end up costing you more in the long run. Stick to what you really need and skip the extras. Prioritize features that improve organization, maintenance access and operator efficiency rather than simply adding complexity.

When it comes to picking out the perfect trucks for your fleet, there are a few things you'll want to keep in mind:

+ **Make sure you've got a solid plan in place that covers everything from costs to maintenance.** And don't forget to team up with trustworthy upfitters or distributors who know their stuff and can help you stay on top of regulations.

+ **Lastly, remember that building the right truck isn't just about the specs** — it's about creating something that's both cost-effective and perfectly suited to your team's needs. So, take your time, analyze what you really need and build smart.

AFTER-SALE SUPPORT ESSENTIALS

A mechanic truck is a long-term investment. The right support network can help maximize uptime and keep crews productive for years to come.

When evaluating after-sale support, prioritize options that offer readily available new parts, comprehensive extended warranty and maintenance packages and responsive customer service. This ensures your equipment remains operational and minimizes downtime, maximizing your investment's longevity and performance.

GET MORE FROM YOUR MECHANIC TRUCK

The right mechanic truck can do more than carry tools. It can improve productivity, reduce downtime and help crews work more efficiently every day. By partnering with experienced manufacturers and distributors, you can build a solution tailored to your operation and designed to support long-term success.

To speak with a mechanic truck expert about your fleet needs, call Stellar at 800.321.3741 or find a distributor.

stellarindustries.com
190 State Street
P.O. Box 169
Garner, Iowa 50438
v0926

STELLAR