How can you be SURE™ your investment will perform?
Get the most value out of your vehicle by optimizing it for the specific
environment, tasks and applications unique to your operation.
HOW SURE ARE YOU?

Choosing exactly the right equipment for the challenges you face can be a bit of a quandary. You need the right tools for the job—to do any job efficiently. As a tow professional, you know better than anyone that there’s nothing worse, and sometimes downright dangerous, than tackling a job with less truck than you need. And vehicular overkill can be equally inefficient.

The Jerr-Dan SURE™ method is a systematic way of designing and building towing equipment based on the specific performance demands of your business, your region and your customers. It takes the guesswork out of the vehicle build process by guiding you through a series of key considerations to define the optimum specifications for your vehicle. By investing in a right-size solution for your business, you can ensure that your operation is running as efficiently and safely as possible. Don’t pay the price for not having the right equipment by being SURE™ that your vehicle is designed to go the distance.

By working through these key questions using the SURE™ method, a Jerr-Dan professional can help you efficiently determine your vehicle attributes and ensure that your new unit is optimized for the specific performance and application needs of your business.

The SURE™ method will analyze several key factors specific to your towing operation.

Your Region
Do you operate in a primarily suburban, urban, or rural market? The dominant environment or terrain in your operating area begins to define the type of equipment that’s ‘right-sized’ for the maneuverability challenges you face in your region.

Your Intended Use
Is your business primarily focused on towing, recovery, or both?
The types of jobs and principal uses are critical considerations that deserve detailed scrutiny if your next truck is expected to handle whatever job you put in its path.

Your Most Common Applications
What class of vehicle does your operation encounter most often? How much do they commonly weigh at the lift point? What is the distance to the point of lift?
Since the late 20th Century, the landscape where we work has changed dramatically. The centralization of industry, urban sprawl, and the constant redevelopment of suburban communities and rural regions have shaped and reshaped transportation infrastructure and affected our ability to efficiently navigate them.

The specific environmental setting where you operate is important to consider when defining the optimum vehicle size and capacity requirements. Average road widths and corner radii, traffic patterns and volume, and overall structural density all play roles in determining the “right” tool for your environment.

Each of these basic environments presents a unique set of challenges in optimizing the size, capacity and overall efficiency of your equipment choices.

- **Urban areas** are densely built-up, centralized regions for business and industry.
  - Heavy traffic and close-quarters driving conditions make turning and maneuverability essential.
  - Highly concentrated and active environments coupled with a wide variety of vehicle and truck classes call for a unit that is powerful and compact.

- **Suburban areas** contain a mix of small business and residential communities with varying structural densities and road surface types.
  - Environmental challenges in suburban areas are a blend between Urban and Rural area challenges.
  - Roadway systems are built for a commuting workforce, basic freight delivery and municipal services such as refuse collection, leaving the region more open for moderate sized vehicles, and longer towing units.

- **Rural regions** are smaller in overall population and density, yet diverse in territory and road types.
  - Lower traffic volumes and more open space allow for larger units and larger configurations.
  - Longer travel distances from home base to rural jobs dictate storage options large enough to carry equipment necessary for those high task load jobs, possibly including a unit with a sleeper berth.

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In addition to environmental factors and performance expectations, tow professionals should thoroughly consider the tasks their tow vehicle will be most commonly engaged in: dedicated towing, recovery, or a combination of both.

**Towing**

Handling, maneuverability and towing capacity are all critical factors to consider when designing the right unit for the unique demands of your towing operation.

**Key factors:**

1. The class of vehicles you will be towing—for example, Class 1 vehicles (such as pickup trucks), or something as large as class 8 vehicles (like a cement mixer)
2. Distance to the lift point, including considerations on:
   - Max setback or front obstructions: front bumper extensions, front mounted hydraulic pumps, front overhang obstructions (i.e. aerial bucket, hose reels, work booms)
   - Hook-up method: tire lift, axle, suspension, frame, or lift points
3. Gross weight of the vehicle at the lift point

**Recovery**

Though every job is unique, features like lifting capacity, anchor-ability, and stabilization are the foundations of a solid recovery-focused vehicle.

**Key factors:**

1. Lift capacity: Similar to towing performance, lift capacity is based on the key factors of front end weight, platform base (center of front axle to center of stabilizer plate), recovery boom maximum elevation height, and extension length.
2. Anchor-ability and stabilization: The front end of the vehicle must stay in secure contact with the ground under full load. To accomplish this the vehicle must be the right length and weight to provide a secure, stable anchor during the recovery.
The Jerr-Dan SURE™ method relies on a specific formula for arriving at that “just right” mix of vehicle size, weight, capacity and application-specific features to efficiently manage your operation’s broad range of towing performance needs. Your Jerr-Dan professional will walk you through the calculation of axle weights, wheelbase, and the under-lift overhang—targeting a desired steer axle weight, giving you the ability to predetermine a specific towing unit’s performance BEFORE building the truck. Again, ensuring the vehicle you order is optimized for the unique demands of your operation.

The SURE™ method from Jerr-Dan begins with the analysis of three critical vehicle factors for designing an application-optimized chassis. Striking the right balance between these specifications defines the core of the tow formula.

### Steer Axle Weight

Think of the steer axle weight as a counterweight that balances the relationship between the wheelbase and the overhang portion of the load. This relationship is governed in part by the static weight of the front axle and is critical to determining the optimum chassis specifications for your next vehicle.

### Length of Wheelbase

Wheelbase length plays a critical role in overall tow performance as the principals of leverage are controlled in part by the distance between load and fulcrum. Wheelbase length is calculated in inches from the center of the front steer axle to the center of the rear axle on a single axle unit. Wheelbase adjustments can be made making the truck chassis longer or shorter to dial in the right balance of maneuverability and capacity for towing performance matched exactly to your needs.

### Overhang

This distance, measured from the center of the rear axle to the center of the lifting apparatus, is a prime factor in determining the lift and load carrying characteristics of a tow vehicle. The overhang measurement will differ based on whether an under-lift with axle forks is utilized, a longer fork is employed, or a tire lift is your primary lift platform.

Other variables considered are “built-in” weight features like engine size, transmission, axle and tires, along with fuel capacity. Jerr-Dan also offers performance counter-weighting options like the SRS (Slide Recovery System) and the Adjustable Performance Counterweight. Considering these features and options ensures the truck you build can handle everything you throw at it, day in and day out—for years to come.
**TOW PERFORMANCE WORKSHEET**

1. **Select Your Region:** Selecting your region will help you identify a wheelbase that fits your most common driving conditions.

   - [ ] Suburban
   - [ ] Urban
   - [ ] Rural

2. **Define the Application:** Choose the longest setback (SB# +6 inches) for your application. This will help determine the ideal equipment model in Step 4.

   - Setback (SB) [ ] in.
   - Weight at Lift Point [ ] lbs.
   - SB1: The distance from the center of the crossbar at the pick point to the end of the vehicle
   - SB2: The distance from the center of the crossbar at the pick point to the end of the overhang obstruction (ex. Hose Reels / Aerial Buckets / Booms)
   - SB3: Distance from the center of the crossbar at the pick point to the corner of the vehicle
   - SB4: The distance from the center of the crossbar at the pick point to the farthest corner of the overhang obstruction

3. **Calculate Tow Performance:** Calculate Tow Performance based on your application in order to identify where adjustments in FAW, wheelbase or overhang may be needed, guide equipment selection in step 4 and guide chassis specifications in step 5.

   - Front Axle Weight/2 [ ] lbs.
   - Wheel Base [ ] in.
   - Overhang [ ] in.
   - Tow Performance [ ] lbs.

   Formula Based on 50% Steer Axle Target Weight

4. **Select Equipment Model:** Align the right-size equipment to the required Tow Performance

   - Equipment Rating [ ] lbs.
   - Effective Reach Retracted [ ]
   - Tow Performance [ ] lbs.

   1.) Max setback from step 2 must be less than your effective reach
   2.) Tow Performance should be equal to or greater than the casualty
   3.) Equipment Rating must be equal to or greater than Tow Performance

5. **Match Up Tow Performance with Casualty:** Determine if your chassis ratings are in line with the loads imposed by checking against your Gross Axle Weight Rating (GAWR) and your Gross Combined Weight Rating (GCWR).

   - Front Axle Weight (FAW) [ ] lbs.
   - Rear Axle Weight (RAW) [ ] lbs.
   - Casualty Front Axle Weight [ ] lbs.
   - Casualty Rear Axle Weight [ ] lbs.

   

**Calculate your Gross Combined Weight (GCW)**

\[
\text{GCW} = \left( \frac{\text{FAW}}{2} + \text{RAW} + \text{Casualty FAW} \right) + \text{Total RAW} + \text{Casualty RAW} = [ ]
\]
Be SURE™ that your vehicle will perform

- [x] Region
- [x] Intended Use
- [x] Application
- [x] Contact Your Jerr-Dan Dealer
- [ ] Place Your Order

CALCULATE YOUR TOW PERFORMANCE
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