Keep your costly equipment safe on-site and at work

The National Equipment Register (NER) estimates the total value of equipment stolen from construction sites to be between **$300 million and $1 billion annually,** and this number continues to rise. These estimates don't include indirect costs from business interruption such as the costs of short-term rentals, project delays and lost production time.

Equipment theft can occur with all types of construction contractors in all geographic areas. The frequency of theft closely follows the amount of construction in a particular area. The five states with the most incidents of heavy-equipment theft are usually Texas, Florida, California, Georgia and South Carolina. However, no area or state is immune from equipment theft.

Historically, contractors' equipment theft occurrences are divided evenly between organized rings and individual (non-professional) thefts. However, the number and sophistication of professional theft rings concentrating on construction has recently increased. Organized theft rings dismantle the equipment for resale of parts and use the Internet to sell stolen equipment online to unsuspecting or dubious contractors. Equipment stolen in the U.S. is often exported to Central and South America.

In addition to having a high frequency of theft, the construction industry also experiences very poor equipment recovery rates after a theft.

Why is theft so common?

To some extent, the high frequency of contractors' equipment theft and the low recovery rate of stolen equipment is attributed to conditions that are inherent to the construction industry.

Conditions can include:

- Construction sites are often in remote, poorly lit areas.
- Security at construction sites is often lacking during construction operations and off-hours.
- Off-road vehicles and equipment don't require titling and registration. Equipment is only identified by product identification numbers (PIN), not the standard vehicle identification numbers (VIN) used for cars and trucks. PIN formats are not standard and their placement is not uniform.
- Many mobile equipment manufacturers use common keying on their equipment – a single key fits both the cab door and the ignition for each model they manufacture.
- Authorized users of equipment aren't always clearly identified.
- Many contractors don't have a good inventory of equipment they own or lease.

- There's a high demand for construction equipment and spare parts, especially when the construction economy is booming.
- There's often a delay in theft discovery and reporting (i.e. equipment stolen over the weekend may not be discovered stolen until Monday morning).
- There's often a lack of pre-purchase checks in the used equipment and spare parts markets.
- Law enforcement has limited resources dedicated to equipment investigations.
- There's a perception that organized crime rings bribe industry workers for information and insider intelligence on equipment location and availability.

Can thieves be stopped?

Inventory control

The first step in effective theft prevention is for contractors to know exactly what equipment they own or lease and where it is at all times. Procedures should be established to maintain an inventory control program which, at a minimum, records the following information on each piece of equipment:

- Equipment manufacturer and model number
- Serial, VIN or PIN number – if none is available, a unique number should be placed on the equipment and recorded
- Date of purchase (information needed in the event of a claim, manufacturers' recall, evaluation of equipment durability and related issues)
- Location of storage and use
- Photographs of the equipment
- Personnel authorized to operate the equipment

Mobility vs value

Equipment owners should consider the mobility of equipment as well as the value to determine where to focus security efforts. Contractors often concentrate only on their highest value equipment, neglecting to consider how easily other equipment can be moved. Cranes, for example, are high-value items, but are seldom stolen. They are difficult to transport and easy to identify, making them hard to resell.

According to industry sources, three types of equipment account for 78 percent of the losses: riding mower/garden tractors, loaders and tractors. Within the loader category, skid steers and backhoes are the predominate target for theft. These types of equipment can be easily transported using a trailer and easily resold since they have few unique characteristics. Other commonly stolen equipment include generators, compressors, welders, pumps and arrow/message boards.

Prevention

No single method or device can eliminate theft. However, there are ways to reduce theft losses:

- Secure the premise/work site
- Secure individual equipment
- Register equipment
- Track equipment

An effective theft prevention program will provide more than one approach (layers of security) and can be adapted to reflect variations among construction sites. Supervisors should be held accountable for implementing the theft prevention program and job site inspections should be made to verify its effectiveness.

Secure the Premise/Work Site: Securing the entire construction work site is a common theft prevention practice used by general contractors. It can be very effective for smaller, well-defined sites, but cost-prohibitive for larger, more expansive job sites. Securing the entire premise usually involves one or more of the following:

- Perimeter fencing
- Controlled access points (as few as possible)
- Police patrol or private guard service, particularly during off-hours
- "No Trespassing" signs posted along the perimeter
- Proper illumination throughout the site
- High-quality surveillance cameras with night vision functionality and motion activation notifications to alert if someone is on the jobsite unauthorized during off-hours.
  - Ensure that the sensing range of motion-activated cameras reaches the target area of the jobsite. For example, a camera with a motion sensing range of 50' will do little good to monitor an area 100' away from the camera mount.

Secure individual equipment: This is often the preferred method of theft prevention when the contractor doesn't control the entire site, when the site is large or spread out, or when equipment

must be left where it was last used at the end of the day. Many contractors leave equipment on-site each night to avoid the labor and fuel expenses associated with returning equipment to a central location. Securing individual equipment usually involves one or more of the following:

- Lock and key controls specific for each piece of equipment with a written key control program (i.e. use of a sign-out sheet). Unfortunately, many pieces of equipment have common keys and which can be purchased easily online, which makes security difficult. Opt to purchase equipment which has key fob or 'smart key' technology.
- Photograph all equipment for future identification in the event of theft.
- "High security" locks (unique key, pick-resistant, case-hardened or laminated steel). Certain lock vendors sell locking devices specifically designed for heavy equipment and trailers.
- Locks, chains and/or cables to secure equipment that are fitted with towing hitches or are trailer-mounted. Alternatively, remove the towing hitches or trailer wheels
- Locking fuel caps on all mobile equipment
- Metal grating over windows and doors of office trailers
- Immobilize office and storage trailers to prevent theft of the entire trailer
- Locked gang boxes to secure smaller power and hand tools
- Mechanical tire locking devices (i.e. wheel boot device) to immobilize construction vehicles
- Vehicle alarm systems that disable the equipment and/or sound an alarm if a theft attempt is made
- Prohibit the use of combination lock devices
- Etch a unique identification number in a hidden area of the equipment to help identify your equipment in the event of a theft
- Also consider taking photo of etchings to help identification in the event of theft
- Paint equipment a unique color or have permanent markings to quickly identify your equipment vs. others. Ordering your equipment in your unique color from the dealer will help in this effort.

Register Equipment: National Equipment Register (NER) offers a voluntary registry service that consists of entering a machine's serial number, engine number, transmission number and other selected identification numbers into a database that's available to law enforcement. All registered vehicles can be marked with NER decals, which acts as a theft deterrent and increases the likelihood of detection while a thief is moving, storing or selling the equipment.

This service also offers a GPS tracking product and ways to detect stolen equipment before it is purchased.

Track Equipment: There are different types of Global Positioning (GPS) and/or cellular-based tracking systems on the market, and depending upon the vendor, each can have various technology features.

In simple terms, tracking systems can be used 'passively' or 'actively'. Passive-based systems are used generally after the equipment is stolen or is missing, wherein the system can 'ping' or track equipment to try and locate the individual piece of equipment. The success rate is most likely lower using this method, as it depends on if the equipment has been shielded in a building or container, or if the tracking device has not already been removed/defeated by the bad actors.

'Active' usage of tracking systems would be to configure and utilize the systems software to program real-time alerts and 'geofencing' capabilities of the system to send notifications to equipment owners. Alerts can usually be that the equipment has been started or moved during designated 'off-hours', or with the 'geo-fencing' feature, if the equipment moves out of a specific geographic location (a jobsite or storage yard perimeter, typically).

Some systems also have the capability to disable the equipment remotely if desired. Additionally, many systems have broader 'telematics' capabilities which can track engine hours, maintenance needs, fuel consumption, etc.

Any system installation should place the tracker in a covert/hidden location, and should not be able to be defeated by simply removing an antenna from the cab.

Best practices call for the use of active alerting and/ or geo-fencing capabilities of tracking systems. Using the tracking capabilities for inventory location purposes only (simply finding what jobsite a piece of equipment is located at, for instance), and not really for theft prevention purposes, is not a recommended practice.

Training

Effective theft prevention requires both management commitment and operator involvement. Management should establish written procedures for the shut-down, security and storage of construction equipment. Written guidelines should be established on securing equipment during overnight stays or whenever operators are permitted to take equipment home. Superintendents and foremen should be held accountable for administering the company's theft prevention program.

Equipment operators should be involved throughout the process and be trained on the following tasks:

- Secure vehicles and other equipment when leaving it, even for short periods of time
- Park vehicles in well-lit, high-traffic areas whenever possible
- Utilize the company's inventory control program
- Maintain established theft prevention controls, including providing the human resources and training to equipment managers in using any GPS tracking system to its fullest extent

This training should be included in the orientation program and reinforced during regularly scheduled training sessions.

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