INSPECTION GUIDES: CONSTRUCTION EQUIPMENT

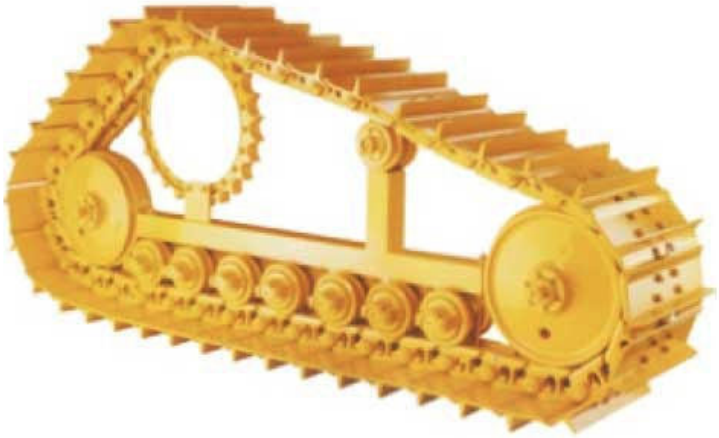
INTRODUCTION

There are so many types of construction equipment that we couldn't possibly fit them into one guide. This guide contains many of the most common types that you will run across while working as an independent sales representative with Iron Surplus.

EQUIPMENT TERMS AND OTHER HELPFUL INFO.

UNDERCARRIAGE

The term Undercarriage means the components of a tracked piece of equipment. The undercarriage is made up of sprockets, rollers, rails, tracks, pads, pins, bushings and others components of the travel system of the machine. Always note the condition and take several good pictures of the undercarriage when listing tracked machinery.



EXTEND-A-HOE

The term “Extend-a-hoe” is actually a optional feature on many backhoe loaders. This feature is a hydraulically extendable boom on the rear digging bucket. This allows the machine to have a greater digging depth when needed.

DON’T FORGET!

Always take clear pictures of the serial number plate, hour meter/odometer when possible!

COMMON TYPES OF CONSTRUCTION EQUIPMENT

TRACK EXCAVATORS

Excavators, sometimes called “Track-Hoes” come in many sizes and are used mainly for excavation and demolition. A hydraulic or mechanical thumb can be attached to the boom just above the bucket to give the machine grappling functions. Long-reach models are equipped with longer booms for extended reach and digging depth.

WHEELED EXCAVATORS

Wheeled excavators are excavators mounted on a wheeled carrier. These machines can travel on highways and do not require transport for relatively short trips but are limited when it comes to off-road use.

LOADER BACKHOES

Probably the most common piece of equipment found on construction sites. When listing backhoes it’s important to note the following details.

- 2 or 4 wheel drive? This can be determined by looking at the front axle hub. 4x4 models have a larger hub.
- Bucket types and sizes (front and rear) along with any included attachments.

WHEEL LOADERS

Wheel Loaders, or “front-end loaders”, are a type of heavy equipment machine that is primarily used for moving or loading large amounts of material (ex. dirt, gravel, snow, etc.).

SKID STEER LOADERS

Skid steer loaders are small, rigid-frame, engine-powered machine with lift arms that can attach to a wide variety of buckets and other labor-saving tools or attachments. Available in wheeled and tracked models.

BULLDOZERS

Bulldozers , or “Dozers” for short, are a common piece of tracked earthmoving equipment. They come in many sizes with multiple types of blades and track configurations. They often have an optional ripper or winch attachment mounted to the rear of the machine.

MOTOR GRADERS

Sometimes referred to as “motor patrol”, these machines are used to maintain dirt and gravel roadways. The multi-directional blade allows the operator to grade the road surface to the desired slope angle. Some attachments include rippers and scarifiers.

OFF ROAD DUMP TRUCKS

Off Road Dump trucks are high capacity, large, rugged dump trucks designed for off-road use on rugged terrain. Available in articulating and non articulating models.

MAST FORKLIFTS

Mass type forklifts have a vertical mast (the rail and pull system used to raise and lower the forks) that can often tilt to a slight angle forwards or backwards.

EXTENDABLE FORKLIFTS

Extendable forklifts, sometimes referred to as “Tele-handlers” are forklifts with telescopic hydraulic booms for extended height and reach capabilities. When listing extendable forklifts it’s important to note the following details.

- Capacity
- Boom length
- Number of outriggers
- Tire type (foam filled, etc.)

HORIZONTAL DRILLS

Horizontal drills, or “Directional drills, are used to install underground pipes, conduit or cables without the need for trenching.

TRENCHERS

A trencher is used to dig trenches for laying pipes, electrical cables, or drainage. They range in size from walk-behind models, to attachments for a skid loader or tractor, to heavier tracked or wheeled models. They also can be equipped with several different attachments such as augers or push blades.

CONCRETE PUMP TRUCKS

Concrete Pump trucks use an articulated boom and pump system to pump concrete from a nearby mixing truck up and over building, fencing or other structures.

ASPHALT PAVERS

A paver (road paver finisher, asphalt finisher, road paving machine) is a piece of construction equipment typically used to lay asphalt on roads, bridges, parking lots and the like. It lays the material flat and provides minor compaction. The hopper on the machine is filled by a leading dump truck and the expandable screed distributes the asphalt evenly across the road surface.

COMPACTORS

Compactors, or “Rollers” are used for the compaction of soil, gravel, asphalt, etc. They come in various types with front, or front and rear drums. The drums can have a smooth surface for compaction or what is referred to as a “Pad Foot” roller with steel knobs used to break compaction.

ROAD RECLAIMER

Road Reclaimers or “Road Recyclers” is an asphalt pavement grinder or a combination grinder and soil stabilizer when it is equipped to blending cement, foamed asphalt and/or lime and water with the existing pavement (usually only very thin asphalt) to create a new, recycled road surface.

BROOMS

Similar to a Street Sweeper industrial Brooms are used to sweep road surface primarily during road installation.

STREET SWEEPERS

Street sweepers are used to sweep highways and parking lots. They range from small walk behind units to truck mounted units capable of highway travel.

COMMON TERMS TO KNOW AND HELPFUL INFO.

SHEAVES

Sheaves are more or less pulleys located on the crane's boom point, hook block or gantry.

BOOM

The boom is the arm of the crane used in conjunction with the winch, sheaves, and cable to lift the load. Different crane types used different styles of booms such as telescopic, articulating or lattice. The length of the boom should always be noted when listing ANY type of crane.

ANTI-2-BLOCK SYSTEM

The Anti-2-Block often called "A2B" system was designed to prevent the hook from contacting the crane's boom and being pulled into the sheaves at the boom point (tip). The system generally consist of a weighted switch at the boom point and an audible alarm and visual warning system in the crane's cab.

LOAD MOMENT INDICATOR

The Load Moment Indicator often called "LMI" system was designed to prevent tipping or structural damage to the crane by alerting the operator when the machine is near load capacity. The LMI uses an internal scale that weighs the load and calculates the current capacity based on the machine's current configuration. LMI systems used audible alarms, a display panel inside the operator's cab and often have a lever lockout system to immediately shut out functions that could lead to tipping situations.

BOOM DOLLY

Boom dollys are used to distribute the weight of the boom to meet highway weight requirements. Typically used with "All Terrain" cranes and can have several sets of axles.

JIB

A Jib is a removable extension that can be attached to the boom point (tip) for extended reach capabilities. There are several types of jibs such as telescopic and bi-fold jibs.

*Additional notes: Some cranes come with multiple winches. ALWAYS include the number of winches when listing cranes. They also can have 2 engines so be sure to note model and hour readings information from each.

COMMON TYPES OF CONSTRUCTION CRANES

INDUSTRIAL CRANES

Industrial Cranes, also commonly referred to as “Carry-Deck” cranes, are typically smaller cranes with a rated load capacity below 20 tons. Industrial Cranes have a flat steel deck surrounding the operators cab. Loads can transported while strapped down to the crane’s deck.

ROUGH TERRAIN CRANES

Rough Terrain cranes, or “RT’s”, are designed for off road use and are usually four wheel drive with 2 axles and large oversized tires. They range in rated load capacities from 5 to well over 100 tons.

ALL TERRAIN CRANES

All Terrain cranes, or “AT’s”, are designed for off road. Larger model All Terrain cranes typically have 3 or more powered axles/differentials and oversized tires. All Terrain cranes can reach highway speeds and do not require being loaded onto a trailer when transporting.

CRAWLER CRANES

Crawler Cranes are tracked cranes that can have either fixed lattice or hydraulic extendable booms. Crawler Cranes come in many sizes and can lift loads weighing over 1,000 tons!