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## Unconventional Rigs for Unconventional Plays

### Schramm Telemast® Drilling Rig

Today's unconventional resource plays demand the most efficient and productive drilling equipment on the market. Portable drilling rig manufacturer Schramm, Inc. confirms its commitment to leading the industry in innovative rig design with the introduction of the Schramm Telemast® Rig product line equipped with the LoadSafe® automated pipe handling system.

Schramm Telemast® Rigs feature fast set-up, long top head travel, short transport length, small foot print and low site impact. The Company emphasizes greatly improved productivity and safety on the job site by shortening transportation and set-up time, and automating the handling of heavy and cumbersome drill collars, drill pipe and casing.

Telemast® Rigs can be supplied with power breakout (hydraulic roughneck), power slips and the Schramm LoadSafe® automated pipe handling system, making them ideally suited for shallow oil and gas, surface-hole, coal bed methane (CBM), large diameter wells, directional and unconventional drilling applications.

The Schramm model TXD is a heavy hoist, deep hole, trailer mounted drill rig with an automated pipe handling system. Utilizing Schramm Telemast® technology, the drill rig features 100 tons of hoist with the top head and range III casing handling convenience, yet the rig in its transport configuration is made very compact for maneuverability and over-the-road movement. Borehole clean out can be performed with either mud or air.

Schramm, Inc. headquartered in West Chester, Pennsylvania, U.S.A. was founded in 1900 and started manufacturing portable top head drive drilling rigs in the early 1950's. It first introduced the Telemast® concept in 2002 with the introduction of the model T130XD, a carrier mounted drill rig with 65 tons of hoist. With well over 125 units currently in operation, the Telemast® concept has been field proven in many different locations throughout the world.

### How the Telemast® Works

The Telemast® tower is a two-section mast with the outer mast a static, free-standing member located at the drilling rig base. The inner mast is a sliding extendable member that telescopes in and out of the outer mast while drilling is being performed. The drilling top head moves up and down through a simple system of cables and sheaves, in concert with the inner mast, which is powered by double acting hydraulic cylinders. With the inner mast fully extended, the Telemast® working clearance is 53 feet and has 50 feet of top head travel for handling range III casing, which comes in varying lengths up to 47 feet. With the inner mast fully retracted and the Telemast® in the horizontal (cradled) position for transport, the mast's overhang at the front of the rig is significantly less than conventional rotary drilling rigs.

Telemast® compactness and short transport length are of great advantage. The TXD with virtually no overhang makes the drilling rig simpler to transport over the road and on the job site. Other drilling rigs, which handle only range II casing, can have tower overhang of 14 feet or more, which can present a problem when transporting the rig. When making a turn with a rig that has a long overhang, the drilling contractor requires a very wide clearance. In villages or in other tight areas these rigs will not clear stationary objects such as trees, telephone poles or street signs. This requires drillers to make time consuming detours to transport the old-style drilling rigs to some projects. There is no other drilling rig on the market that is as compact and maneuverable in the transport position as the Schramm Telemast® rig, yet can accommodate range III casing.

### LoadSafe® Automated Pipe Handling

The Telemast® feature is not the only major attribute to be found in the Schramm product line. Just as important is the LoadSafe® system, a specially designed drill pipe and casing handling system, which automatically feeds the drill top head one-by-one as additional lengths of drill pipe or casing are added to the string. The LoadSafe® system incorporates a special tandem axle trailer for transportation with a conventional road tractor. When set up for drilling activities, the pipe-casing trailer is kept in the horizontal position by a series of outriggers. Up to 40 pieces of pipe can be staged on the LoadSafe® hydraulic pipe racks for use during the drilling process.

By hydraulic action, the individual pipe or casing joint that rests in the cradle is tilted up from the horizontal position to a precise incline position, so it is in alignment with the drill head assembly, that simultaneously tilts up to receive the pipe or casing. Once the two have been aligned, a hydraulic powered gripping jaw automatically holds the pipe in place while the drill top head is connected. With the pipe now connected, the head tilts down simultaneously into the drilling position as the cradle that held the pipe lowers to the horizontal position to receive another pipe. The cradle is fed a new piece of drill pipe or casing by rolling from the pipe storage racks into the cradle. This sequence of events is reversed when removing pipe from the string, setting it in the cradle, and rolling it back into the pipe storage racks.

The Schramm LoadSafe® system minimizes drill crew size and greatly reduces fatigue and potential personnel injuries when handling heavy drill pipes, collars and casing tubulars. Another very important attribute of the automated pipe-handling system is its versatility to handle large diameter and random length tubulars, important to many operators because longer range III casing is less expensive and less time consuming to run than cut to exact length range III or shorter range I or II casing.

### **Safety First**

Schramm portrays the automated pipe-handling system as a hands-free activity, making it inherently much safer than the more common manual pipe-handling systems. Safety is always an important consideration for the driller. This hands-free system helps guard the drilling crew against serious injury. Enhanced safety and superior drilling make the Schramm Telemast® equipped drilling rigs an instant success. Schramm has positioned the Telemast® rigs in the marketplace as an alternative to conventional double-drilling-rig systems by offering a level of automation not common to the oilfield at an extremely competitive price.

### **More than Just Telemast® Advantages**

Schramm products are successful in the energy market for many important reasons:

- Operating costs are lower than legacy rigs
- Smaller crews are easier to train and retain
- Equipment is safer to operate. Rotary tables, spinning chains, racking boards, tongs and manual slips are eliminated
- Mechanized handling of tubulars dramatically reduces physical labor and crew fatigue
- Greater mobility and smaller pad size mean reduced environmental impact
- Easy set up reduces down time between the holes
- Controlled bi-directional drilling uses fewer collars, provides better directional capability and enhances abilities to drill of out a hole when necessary
- Standard products are serviced with off the shelf parts, reducing maintenance costs

### **More Telemast® Rigs**

In addition to the model T130XD and TXD, Schramm also manufactures the carrier mounted models T90XD (45 tons of hoist) and T200XD (100 tons of hoist). Schramm continues to lead the way with modern drilling equipment for unconventional resource plays with a larger Telemast® rig capable of greater drilling depths currently under development. Schramm Telemast® equipped rigs truly are “unconventional rigs for unconventional plays.”