# **16000 Swab Master Machine**

## Number 1 in Performance, Design, Quality, And Rock Solid After Sale Support



## **Clean Rugged Designs** No Frills, Just Plain, And Ready To Do The Day's Job



# Swabbing Doesn't Cost, ... It PAYS!

Join the successful people that maintain production for a fraction of the costs for Coiled tubing or Work over rigs.

Your New all <u>hydraulic</u> "**Swab Master**" Swabbing rigs. They are Fast, Powerful, <u>Easy To operate and maintain</u>. Best of all they are **Field Proven** to <u>Work hard and live long Productive Lives</u>.

We have a passion to build Well Engineered Premium Quality Swab rigs. Ask around. Tiger General Products are Field Proven to Work Hard and live a Long Productive lives. They are backed up With <u>Rock Solid After Sale Support</u>

### **Clean Rugged Design..** Nothing Complicated Here, Just Ready To Work All Day, Every Day, No Sweat



#### Why Tiger General LLC Swab Master Machines Will Deliver Your Best Value.

Since 1925 Tiger General swabbing rigs were considered rugged and dependable. In 1978 we delivered our first Direct Drive Hydraulic Swab Machine. We have been Relentlessly improving our Machines ever since. Today Swab Master Machines have earned the Swab Master name, and are considered Best in the World.

I have a passion to build Well Engineered Top Quality Swab Master Machines, Premium Winch Master Winch trucks, Double Drum Work over rigs, and Vacuum trucks. In the Mid 60's I built National champion drag race cars that Ran on the record. Went undefeated for 2 years.

Ask around. Tiger General Products are Field Proven to Work Hard all day long, and live a Long Productive life. They are backed up With Rock Solid After Sale Support. Here's why Tiger General Delivers your Best Value.

Tiger General direct drive hydrostatic drives Deliver in excess of 95% of mechanical torque efficiency. A mechanical chain drive system might provide higher reduction ratios but they can lose 20-30% of torque through reduction drive train Inefficiencies. Plus you get hydrostatic braking. No bands brakes to replace.

You get at least 15 year design life before overhaul. Then it's easy and reasonable to rebuild and go again. All other rigs run about 5-8 years, or less, and then need overhauled. Our pumps and motors are rated for at least 20,000 hours before overhaul.

Swab Master requires very little maintenance, In fact about 1/2 the maintenance as any other rig.

#### Why Tiger General LLC Swab Master Machines Will Deliver Your Best Value.

Your Swab Master machine is Well Engineered, and Field Proven to Work hard and Live a long Productive Life. The basic design is the same since 1978. With Far more Improvement. In addition, plenty of Reserve power. Swab Master Machines have been Greatly Refined for Longer life and far less maintenance. Your Swab Master plumbing system uses All *premium* components that are sized correct, well mounted, and routed cleanly.

We use all Premium components, assembled by Master Technicians. Our Master Technicians know how to build it right. I personally inspect your trucks to make sure everything is just the way you want it. Operators love Swab Master Machines. Especially the precise control available.

Make more money with your Swab Master Machines because they are Fast, Powerful and Easy To operate and maintain. Our Exclusive "Tiger Vision, and Tiger Vision with Logging delivers Far more information that helps your operators get Maximum Fluid in the tank on each run. This system has been steadily improved for over the last 14 years.

We have up-graded the crown sheave with covered housing. Zink nickel plating, powdered Yellow Paint. The crown sheave bearings have been dramatically improved with sealed spherical roller Bearings (2) rated at 50,900# static load rating each. The mast incorporates an Easy Mast tilt system for easy Mast to well head alignment.

Some of the improvements your Swab Master Machines have, that the other guys probably never even though about are; We build your machine, then disassemble all, Sandblast all components all over, then paint all over. Not just paint over the top of all.

#### Why Tiger General LLC Swab Master Machines Will Deliver Your Best Value.

We assemble with Never Seize for easier maintenance. We use stainless bolts wherever we Can. Again easier to maintain. The Tiger General auto spooling device tubing has chrome shaft Standard. The spooling sheave uses CDL 958 Aluminum Bronze for longer life over brass. We also incorporate a drip Oil lube system.

Swab Master plumbing systems have special Tiger General flushing valve system to filter and cool the hydraulic oil, even while idling. We use Shell Tellus T Premium Hydraulic oil. With Absolute filtering system. 1-2 Trips through the filter to filter to 10 micron. The cheap filters Take 7-10 trips to filter. Our filters are also Moisture absorbing to help keep the water out. We even have a moisture absorbing oil tank filter breather. We do all we can to extend the life of your Swab Master machines. The other guys haven't Thought this deep.

Swab Master Machines use hydraulic tubing with JIC and 4-Bolt flange fittings to prevent leaks. Other guys just use old fashioned Pipe fitting. All hose connections are routed and fitted to reduce strain on hose ends. The plumbing system is routed cleanly and properly. All plumbing lines are tied up with proper components. The Hydraulic tubing clamp areas are coated with Marine grade Never Seize to help prevent corrosion under the clamps. The Hydraulic tubing is Cleaned and painted with special 20 year urethane.

The New reel draw works frame is one piece formed "U" with huge 3 15/16" spherical bearings on Each end. Flexible direct drive Hydraulic piston motor. Up Rated hydraulic pumps and motors All hydraulic cylinders have chrome shafts and poly pack cups for a superior cylinder. Cylinder Spool valves have lock valves to prevent drifts. We add "boots" over valve spools to help Prevent rust.

You get rear operating platform with anti-skid serrated bar grading. It is galvanized for longer life. We drive our Sunstrand hydraulic pumps from the front of the truck engine. Why maintain Two engines. The pumps are protected with heavy duty oil field bumper. The swept back bumper design with tow flap, Allow for shorter turns. Check out educational videos at http://www.tigergeneral.com/resources/videos

## **Direct Hydraulic Drive Delivers Max Speed And Power** The Direct Drive Hydraulic Motor Delivers Almost 18,000 Pound Ft. of Torque



## Covered Crown Sheave With Tiger Vision Load And Depth Transmitter

Totally Enclosed To Prevent Spray/Drip All Over The Rig



### **Compact. Nimble. Powerful. Easy To Operate And Maintain** This Design Has Evolved Since 1925. Just Think About That!



We Have Made Far More Mistakes Over The Years Than Anyone Else. However, We Have Learned From Every Mistake We Have Made. That Is Why Swab Master Is Far Superior To Anyone In This Industry.

## **Easy Mast Tilt With Screw Locking** Fine Adjustment To Place Line Completely Vertical And Over The Well



### **Tiger Automatic Spooling Device** Feeds Line Onto Swab Drum Without Creating Chaos



## Capacity 16,000 Ft of 9/16" Sand Line



## **Torque Flex Motor Mounts**

Rotating Devices Create Vibrations That Must Be Dampened



## **4x4 Rugged Country Swab Master Machine** Yes, We Build Them In 4X4 With Single Rear Axle and No Operators Cabin



### Swab Master Control Panel Everything At The Operators Finger Tips



#### **Tiger Vision Screen Shot**

## All Operating Parameters The Operator Needs For Swab Rig And Truck Engine



**Tiger Vision:** Tiger Vision is a Tiger General, LLC Patented Proprietary hardware/software data acquisition and monitoring system built on latest Microsoft Windows 10 platform. It utilizes a standard solid state touch screen computer to record, save, and display on screen incoming Swab Master and engine electronic data. The data is displayed using sweeping analog/digital color coded gauges for the operator to monitor in real time truck engine and rig operating systems.

This system provides the operator with down hole information such as depth (in and out of the well), line speed, gross and net loads, system pressures, charge pressure, tubing and well head pressures. Data output for the gauges can be selected and shown on the display in either English or Metric.

Programmable depth alarm warning horns are used to indicate when tooling is reaching the top of the well with warning light indicators. Set up is easily done with the help of Configuration screens. All data can be down loaded to laptop or mobile devices. Computer comes with key board, powered with a 12V to 110V inverter, with a battery power back up.

Optional Data Logging Streams data to allow any one you choose to view the data in Real Time and print out on spread sheet report, Anywhere in the world. All you need is an internet connection. Production engineers can stay home. What do the other guys offer??...... Not Much. Blow away all competition.

#### Here are the Details that Deliver Maximum Efficiency

The swabbing rig operator might make one run or many runs to "clean up", "unload" or "dry up" the fluids in the well. a "run" is one cycle in and out of the well.

All wells act or react, differently. In the past the swabbing rig operator guessed, based upon his personal experience, where fluid is. Usually buy sounds and seeing a little slack in the cable as to when fluid is "hit." He might use a hand depth counter, but that is dangerous because another person needs to hold the hand wheel on the moving cable. Tiger Vision eliminates the danger of possible personal injury from an operator getting caught in the moving cable while using hand counter wheel.

Tiger Vision and Tiger Vision Logging helps you get maximum loads every run. It helps take the guessing out to avoid those runs that come up empty. Tiger Vision is a Patented proprietary tool to increase efficiency and safety, By delivering down hole information that will aid the operator, engineers and well owner.

Tiger Vision Logging. Each line item action is logged and time stamped.

- 1-logs start in to well time
- 2- Logs depth where fluid is hit. (load indicator, shows unloading)
- 3- logs start time back up well
- 4- logs location depth of where you start back out of well
- 5- shows line speeds

6- Special important feature. If load sense gauge shows insufficient loads at start back up, operator can stop. Go down deeper to get maximum fluid loads per run. Logs new start back up point.

7- Logs new start up point depth.

8- Logs when back up to top or starting point. This will be 1 cycle. then 2nd run cycle and etc

9-logs times at all points

Beginning when you get to well sight. Start swab master rig When you start the rig the clock starts to run to log time of operations At start or top of well, Zero out Depthometer. Start falling into the well As tools fall into the well, the system displays depth and loads.

As tools fall into the well, the weight or load indicator show increases as more cable weight falls into the well.

When the tools "hits" fluid, The weight indicator changes before any other indicators. The logging system notes this point. Now the operator knows exactly how deep he is into the well. The system logs, where fluid is hit, It is noted at each run. This is very important information to the well owner or operator to evaluate down hole or well status information.

With this information, the operator decides how much further to go into the well, or how long a column of fluid to "get" or lift up and out of the well. The Depthometer tells the operator where the tools are in the well. Example. The operator might decide, (based upon experience) to "get" 1000 ft. Of fluid in 2" tubing. With Tiger Vision, the operator can go exactly 1000 ft. into the fluid.

Then start back out or up and out of the well with the column of fluid. Unloading the fluid out the discharge line at top of well. Tiger Vision logging notes the depth where fluid first hit, how far down to stop or up point, load pulled at start point, depth to top of well.

At the up point, the operator will start out or up about 20 ft. Then check the tiger vision weight indicator to see if he has optimum load. If not the operator can decide to go back down further to get max load of fluids per run.

This is very important because all wells are different. Some have gas pressure "help" others do not. Some have a mixture of fluids and gas mixed in the length of the column. With Tiger Vision you know loads and take appropriate action to get or lift maximum loads at each run. out of the well.

Without Tiger Vision the operator can only guess how much load or length of column of fluid. If a well is "gassy" or has "gas help". The operator will not know if he could have lifted a longer heavier column or not until it unloads at the top and finds less fluid and more gas than expected. Then it is too late. He loses Efficiencies.

Then it is too late to get maximum loads. On future runs the operator will guess again until, Finally all fluid is out of well. Tiger Vision allows the operator to get max loads and therefore "unload" or "dry up" the well. The well with fewer runs and less operator time, therefore less costs to well owner. The Operator Looks Good !

As tools are lowered into the well, line speed data helps operator maintain safe speed rate into the well. This helps prevent "bird caging" the cable. This is especially critical when running Dycam cables with Swab Master Special "Swab Under Pressure" Machines.

If the well "kicks off" while operator is coming out of the well the weight indicator will show weight Unloading. This shows the operator a potential blow out situation sooner than any other method. This allows the operator more time to "shut the well in" before the tools are blown out of the well.

# Any Questions..?

# Will This Work For You?



# Thank You !!



# To Learn More about Swab Master Machines

# Call or Email:

Mark Overholt

Call: 330 725 4949 x 122 Email: Mark@tigergeneral.com

#### Dick Brennemen

*Call:* 330 725 4949 x 135 *Email:* Dick@tigergeneral.com



# A Warm Hug From Tiger General LLC