Wagner-Smith

OPERATOR'S AND PARTS MANUAL
FOR
THE WAGNER-SMITH EQUIPMENT COMPANY
MODEL T-VBWT-3-36-RC
REEL CARRIER/ TENSIONER
SERIAL #
CONTROL #

Wagner-Smith Equipment Company
921 S. Burleson Blvd.
Burleson, TX 76028
USA

(800) 666-6567
(817) 447-8085
Fax: (817) 447-8917
E-mail: wstexas1@airmail.net
Web page: www.wagnersmithequipment.com

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SECTION “D”
INDIVIDUAL FUNCTIONS

BULLWHEELS

The bullwheel (Fig. 1) incorporated on this unit is a single V-groove.

Figure 1: Bullwheels

HYDRAULIC CALIPER BRAKES

This unit is equipped with hydraulic caliper brakes (Fig. 2) on the reel and bullwheel. The brakes are controlled via a hydraulic hand pump assembly (Fig. 3A) that has an accumulator in the brake pressure line. The accumulator serves to dampen any line surge that might occur due to a variation in the brake disc thickness. It also serves to reduce the hydraulic pressure increase due to heat expansion from the brake discs. Line tension is increased by pumping the hand pump and decreased by opening a needle valve.

Figure 2: Hyd. Caliper Brake

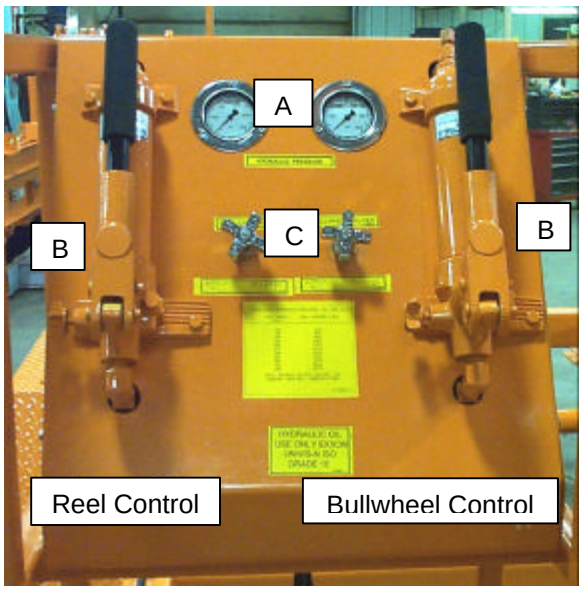

Figure 3: Control Panel

SECTION "D"
INDIVIDUAL FUNCTIONS

Console Control Functions

Operator's Console should be located on the trailer to insure that operator does not have any contact with the ground should it become electrical energized.
Hydraulic Pressure Gauge: There are hydraulic pressure gauges (Fig. 3A) on the console for brakes that are hydraulically actuated.
Hand Pump: The hand pumps (Fig. 3B) are used to apply hydraulic pressure to the reel brake (right) and bullwheel brakes (left).
Hydraulic Pressure Control: These control valves (Fig. 3C) are to set and adjust the hydraulic pressure during the pullout mode of the conductor. To increase the hydraulic pressure turn clockwise and to decrease turn counterclockwise.

QUICK CHANGE REEL SPINDLE

The reel spindle on this unit is unloaded by removing the pins (Fig. 4) on both sides and opening the flip open type bearings. The reel spindle is then removed from the unit by lifting (Fig. 5) straight up with a crane or boom truck. Installation is accomplished by reversing the above procedure.

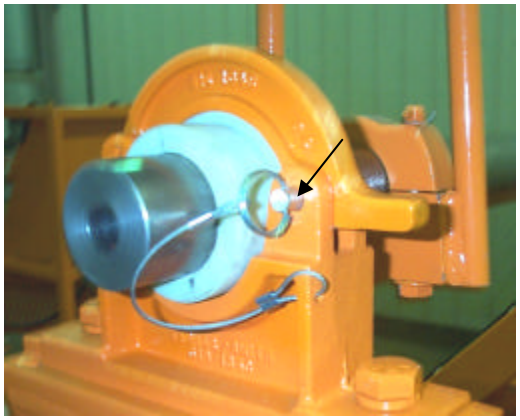

Figure 4: Spindle Lock Pin

The clamping bolts on the lifting loops must ALWAYS be torqued to the following torque chart except when reel spindle is being removed. After installing reel spindle into reel and drive pins are fully seated into reel, the lifting loop must be installed right up against the reel and torque to the below chart.
5/8 inch bolt 140 ft-lbs.
3/4 inch bolt 240 ft-lbs.

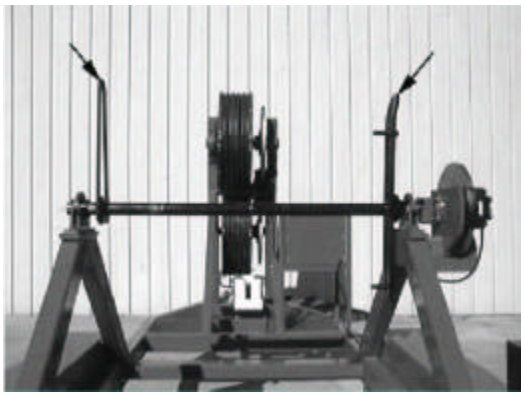

Figure 5: Spindle Assembly

SECTION “E”
OPERATIONS

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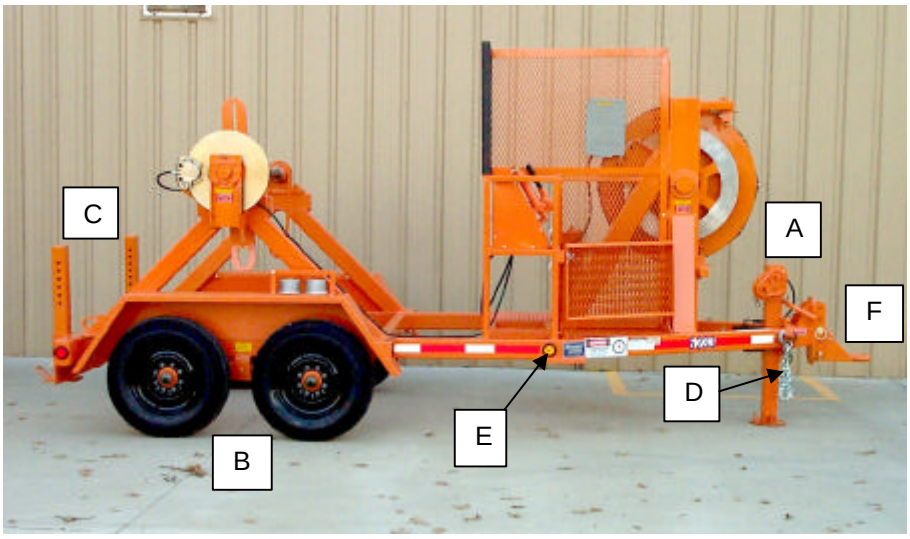
SECTION “E”
OPERATIONS

Towing Procedures:

Use a properly equipped and sized vehicle when towing this equipment. Always check to see that the pintle hitch is secure and locked, safety chains, breakaway switch and lighting/brake pigtail are properly fastened to tow vehicle. Front and rear jacks are in the retracted position and locked. Any loose equipment or objects must be removed, tie down, or placed in a storage box, so not to become a hazard while the unit is being transported. Levelwind cylinder should be in the depressed position. Before leaving the yard, check brakes, running, turn, and brake lights on trailer. Tires should be inflated while cold for maximum payload capacity; tire pressure varies with tire sizes. **Note:** Sticker for tire pressure located near wheel wells.

Towing checklist:

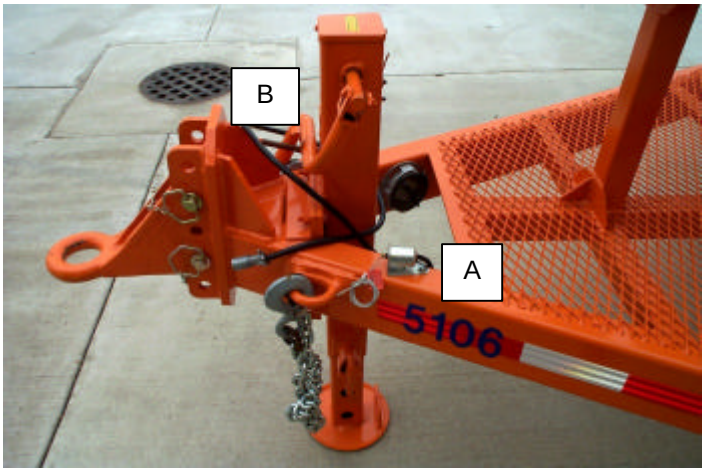
1. Pintle Hitch secure and locked (Figure 1-F)
2. Safety Chain attached (Figure 1-D)
3. Breakaway Switch attached (Figure 2-A)
4. Lighting and brake Pigtail attached (Figure 2-B)
5. Front and rear jacks in up and locked position (Figure 1-C&A)
6. Any loose objects removed from unit
7. Check operation of brakes
8. Check lighting (turning, running, and brakes) (Figure 1-E)
9. Tires and tires air pressure (Figure 1-B)



SECTION “E”
OPERATIONS

FIELD SETUP

Position the trailer in line with the first pole and at least one and a half (1-1/2) times the distance from the pole or tower, as it is high (Example: If the utility pole or tower is 45 feet above the ground. The trailer should be positioned approximately 65 – 75 feet from the base of the pole.). This will give a good fleet angle from the stringing block to the puller or tensioner and will help decrease the line pull. After you position the trailer, leave the unit either attached to the tow vehicle or anchor it securely. Lower the front and rear jacks to stabilize and level the unit. **Ground the unit** properly to prevent the unit from becoming electrically energized and cause operator injury. Each unit has grounding bars already welded to the trailer for proper additional grounding attachments. Unit should be grounded to IEEE or your company’s standard procedures.



FIELD SET-UP CHECKLIST:

- Locate the unit on as level ground as possible. Line it up with the conductor to be pulled.
- Distance from utility pole or tower should be a minimum of 1½ times the height.
- Level the unit as follows:
    1) Lower the tongue of the trailer (Figure 1-F).
    2) Extend the rear stabilizers and lock (Figure 1-A).
    3) Raise the front jack until the trailer is level (Figure 1-C).
    4) Anchor the trailer securely.
    5) **"Ground the unit"** to prevent operator injury should the unit become electrically energized.

DAILY MAINTENANCE

1. Inspect for loose bolts, pins, etc.
2. Check all brake linings

SECTION “E”
OPERATIONS

THREADING THE BULLWHEEL

Feed the conductor from the bottom of the conductor reel through the fairlead assembly, located on the trailer frame at the rear of the bullwheel into the groove of the bullwheel. Pin retaining rollers in place after threading the bullwheel.

TENSIONING

When operated as a **TENSIONER** the unit is to hold resistance against the puller at the opposite end of the set-up. The **TENSIONER** is in control of the amount of sag or tension on the conductor during the pull. This is accomplished by increasing or decreasing brake or hydraulic pressure on the bullwheels. The **PULLER** at the other end handles only the speed and pull of the conductor during the installation of the conductor. To start the tensioning procedure make sure the unit has been properly set-up by location, securely anchored, and grounded properly.

Bullwheel Adjustments: Pump the pressure on the bullwheel brake caliper to around 300 psi to ensure that there aren’t any hydraulic leaks in the system and the brakes are operating properly. Decrease the pressure to 25 - 50 PSI by turning the control knob counter-clockwise, this will be the starting tensioning pressure. You always want your tensioning force to be lower than the force exerted by the pullers.

Reel Brake Adjustments (for units w/ reel carrier): Pump the pressure on the reel brake to around 300 psi to insure that there are not any leaks in the system. Decrease the pressure to 10 - 15 PSI by turning the control knob counter-clockwise, this will be the starting pressure to retard the over spin of the conductor reel. By adjusting the over-spin brake this will keep control of the reel tail tension and prevent the reel from freewheeling too fast.

SECTION “E”
OPERATIONS

Brake Adjustment during the Pull: As you start paying out the conductor you will need to the gradually increase the pressure on the **reel brake** to obtain the proper tail tension. This is because a full reel turns slower and as you get closer to the core the faster the drum turns. As the conductor is paid out, you will need to apply the brake pressure on the **Bullwheel Tensioner** to raise the conductor or sag, or decrease the pressure to lower the conductor or sag, due to the weight of the conductor. When the pull is finished, apply the **Bullwheel** brake to hold the conductor in place while being terminated.

Operation as a Tensioner

1) Check and set hydraulic pressure for tail tension on the **Reel** (10 – 15 psi.)
2) Check and set hydraulic pressure for the **Bullwheels** (25 – 50 psi.)
3) Signal or radio the Puller to start the pull
4) Adjust hydraulic system pressure on both the **Reel** and **Bullwheel** brakes accordingly by increasing the pressure to raise the conductor or sag and to decrease the pressure to lower the conductor or sag.
5) As the pull ends, the puller, at the other end, will slow down and then stop. Apply extra pressure to the **Bullwheel** brakes to hold the conductor in place.
6) Once the conductor has been terminated, the puller will pull the conductor to sag and terminate the other end.