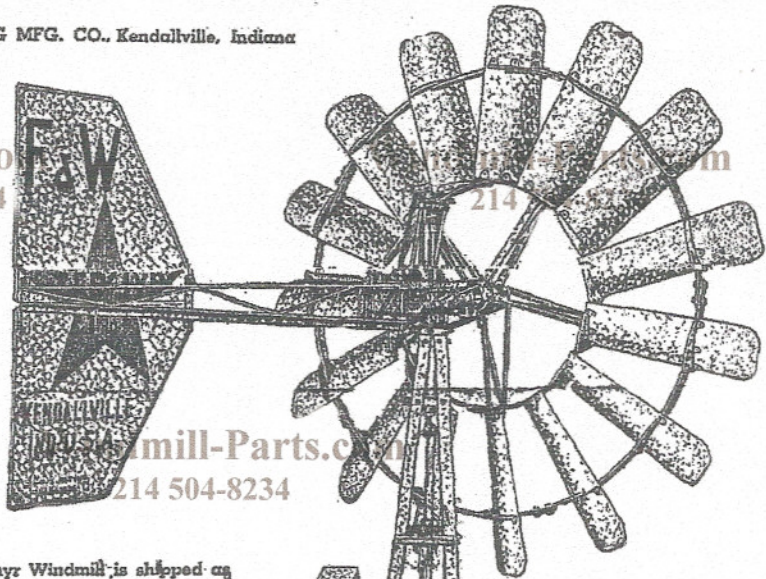


Instructions for Erection STAR ZEPHYR MODEL-37 WINDMILL

FLINT & WALLING MFG. CO., Kendallville, Indiana

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Model 37 Star Zephyr Windmill is shipped as follows. Check carefully and make sure you have received complete shipment.

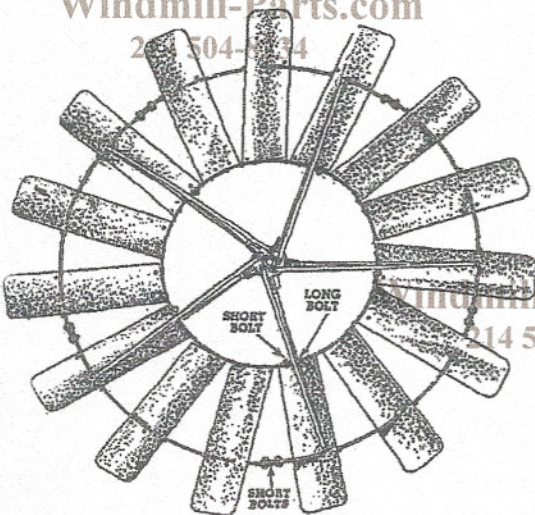
1. RUDDER.
2. RUDDER STEM with hinge pin, pump bar, pullout lever, and governor spring attached.
3. MACHINE PARTS, complete with hood, bed plate, top flange and truing spider attached. Pullout swivel pipe, bar and chain, bumper rod and brake rod are packed inside hood.
4. BOX with bag bolts, guide block and bolts, rudder spring bracket and oil.
5. CRATE SECTIONS with arms and reefing gear attached. (12' and larger wheels have 2 crates of sections).
6. BUNDLE OF PUMP POLES, if ordered.

NOTE--Unless specially ordered pullout wire, pump poles and windmill coupler are not included in shipment.

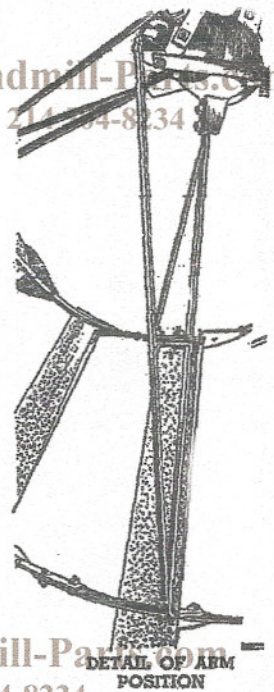
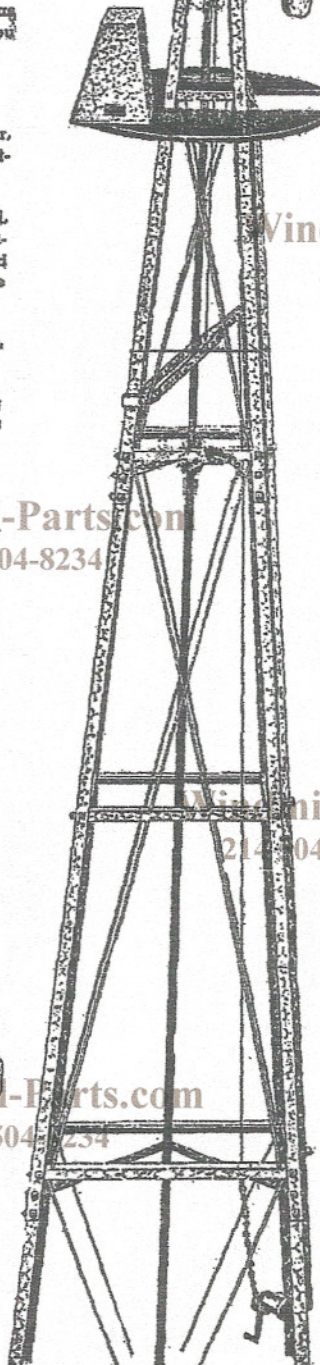
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MFG. CO.**
KENDALLVILLE, INDIANA
U. S. A.

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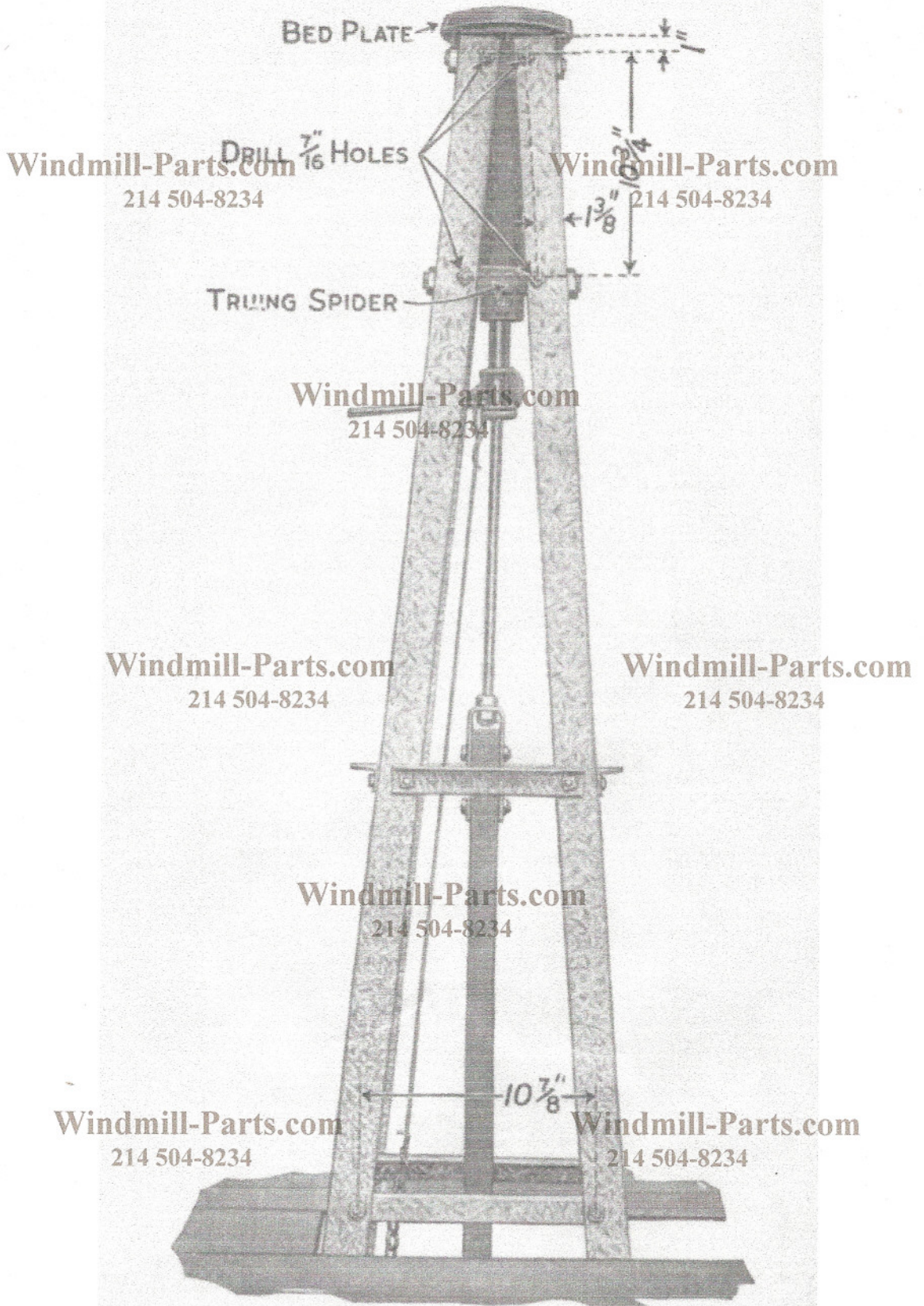
FACE OF WHEEL



DETAIL OF ARM POSITION

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Showing how to modify the STAR Windmill Towers to accommodate tower cap and truss spider for 5, 7, 8 and 10-foot Model 24 Star Windmills.

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MODEL 24 STAR WINDMILL as shipped consists of 5 bundles:

1—Rudder, rudder stem, governor spring, pump rod and clevis.

2—Crank case complete with hood, oil swivel, pull out lever, tower cap bars and separators inside, and tower cap and truing spider on stem.

3—Bundle steel arms and braces.

4—Crate sections, pull out wire, reefing gear and windmill coupler.

5—Bundle wood rod and splices.

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Wedge
block
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2 Gin pole in place. Place this pole on side of tower from which gin is to be raised. Use 12-foot gin pole for 8-foot mill. Top block double. Lower block single. $\frac{5}{8}$ -inch rope. Wedge block $7\frac{1}{2}$ inches wide.

Place balls and separators in tower cap turn table, and pack with cup grease.

Remove wheel hub from shaft. In this operation remember that hub is screwed onto shaft with left-hand

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3 Attach rudder stem and rudder to crank case. Fasten a piece of wire from inside rudder bolt to guide rod tie casting. This balances load and holds rudder out of gear. Hook tackle to crosshead, raising crank case and rudder high enough to allow stem of crank case to enter tower cap and truing spider.

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4 Assemble wheel on ground. Lap inner and outer rim ends in same direction. Tighten all bolts loose until wheel is completed, then tighten. Use lock washers on all wheel bolts. Wheel arm braces should bolt on outside of flange.

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Hoist wheel and screw onto shaft firmly, left-handed. Secure by means of right hand castellated nut firmly, and

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5 **Windmill-Parts.com**
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Wheel attached to shaft. Bolt spring bracket in place on crank case. Attach rudder spring first to upper angle of rudder stem in first hole, then into the end of the bracket on crank case.

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6 A. Remove bumper rod from crank case. Remove nuts and spring from bumper rod. Run threaded end of rod through hole in upright on rudder stem, place spring on end of rod and replace nuts. Attach bumper rod to crank case in its original position. Adjust rudder at right angle to wheel. **Windmill-Parts.com**

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B. Pass pump rod through guide rod tie casting and crosshead. Allow pump rod swivel head to seat firmly in crosshead, and secure by means of pin through crosshead, placing cotter pin through end of this pin.

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B

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A

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C

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7 To attach pullout chain to rudder, place pullout pipe with chain end up on pump rod. Thread a weighted cord (A) through pulley just above tower cap. Attach end of chain to the cord and pull chain up through stem and pulley. Thread the chain through horizontal pulley and attach to upright **Windmill-Parts.com**

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C. Replace bolt and washer in hole on stem just below truing spider and tighten. In placing bottom cap on stem of 5 and 12 foot mills, see that the set screw is on

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A — Windmill-Parts.com
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- 8 **Windmill-Parts.com**
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- A. Attach pullout wire to casting on pull-out pipe.
- B. Place nut on pump rod, then clevis, then nut. Tighten and put cotter through hole in end of pump rod. Pump rod must not swivel at this point.
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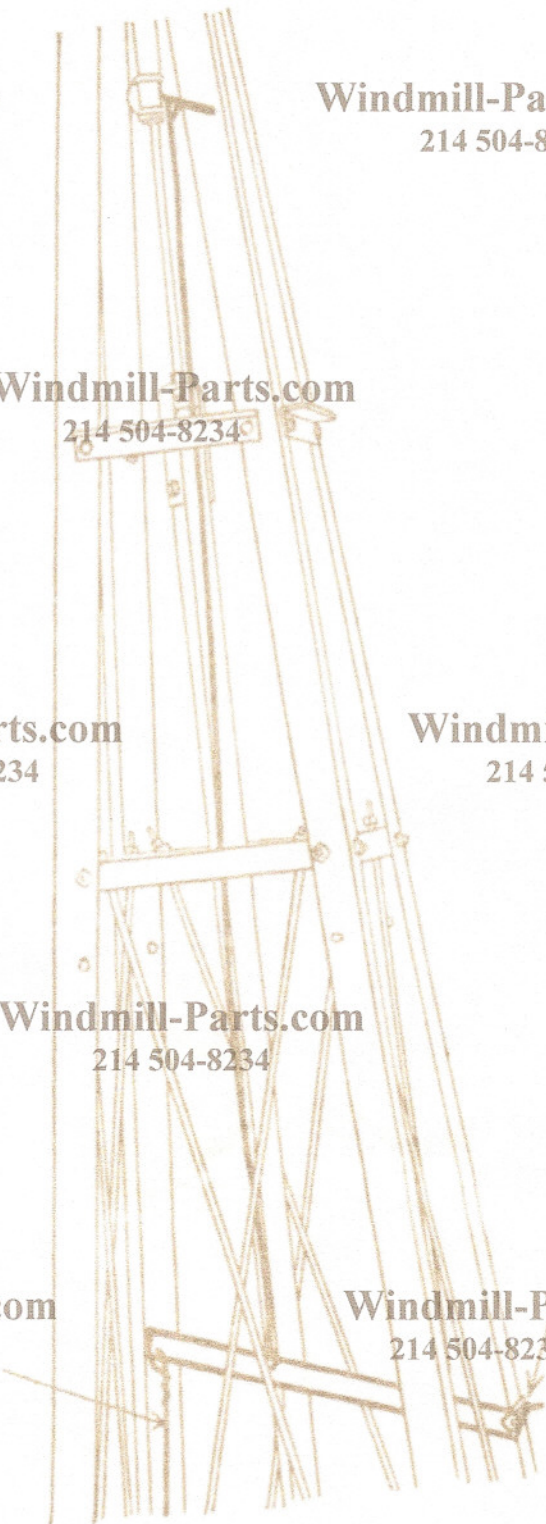
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9 **Windmill-Parts.com** 214 504-8234
Attach pull-out lever to corner post of tower in the same relative position with respect to lever on pull-out pipe, and attach wires as indicated above.

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Fill crank case with the quantity of Polar Windmill Oil which accompanies the mill.

After crank case is filled, give the plunger of oil pump a few quick strokes by hand to insure pump being primed, and to see that oil will pump.

NOTE: Drain crank case at least once a year and refill with POLAR WINDMILL OIL.

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