INSTRUCTIONS FOR ASSEMBLING
THE AUTO-OILED AERMOTOR

All parts of this mill are made to gauge and will fit if proper care is used in putting them together. The working parts of the mill have been operated and inspected.

If these directions are carefully followed you will have no trouble in assembling the mill.

DIRECTIONS

1. Remove the Helmet, or galvanized steel cap, by taking off the nut at the top of it and take out the loose parts inside the Helmet. Open the bolt box and check on the checklist its contents.

2. Put the Mill Pipe into the top of the tower and put a short bolt in the base on the corner post to which the furl handle at the foot of the tower is to be attached. With the two long bolts angles of the furl lever one on which the furl the furl wire will clear the inner edge of the tower pipe and put the the pipe and put the friction washers

3. Remove the washer from the top of the motor in place with under it. Put the Locknut and Washer in place again and tighten the

Remove the Round Bar from the tailbone through the lugs on main casting No. 612 Spring Brackets No. head of one of the furl and put it on the pivot, the arm which carries cotter pin below it and the head of the other put it on the lower end tailbone pivots. Push the lower lug of the in this position hooking rod into the hole rods which operate the be perfectly straight. been bent in shipping should be straightened place. All of these easily without bending or straining if properly done. put it back of the and through the Buffer 654 and 635. Hook the rods into casting 586, pin on the underside of the wheel. Put in the open up the end. Hook rod into casting 585 and of the bar on which the the casting clear up to main casting and when the end of the connect-for it in 586. The three furling device should all If any of them have or handling they before they are put in parts can be put on

Attach the Vane to the tailbone using the bolts provided for that purpose.

Put on the tailbone, attaching it to the pivot bar in the same manner as when received. Work the furling device up and down and make sure that everything moves freely.

4. Screw the Spring Holder into the hole between the tail pivot and the buffer spring. When tight is should stand with the open side away from the tailbone. Hook the Regulating Spring into one of the holes in the tailbone and

5. Attach the furl wire to the end of the furl lever and bring it down through the platform and across the tower to the furl handle on the opposite corner of the tower. When put on 4-post towers in this way the wire will clear both the platform and pump pole. On 3-post towers put a loop of wire around the furl wire and corner post between the platform and the platform bolt to hold the furl wire away from the pump pole. Adjust the furl handle so that the arms of the furl lever will bear on the nuts of the bolts which hold the supporting angles when pulled all the way down. Pull the mill out of the wind and make the furl handle secure against flying up while the rest of the mill is being assembled.

6. Put on the wheel, noting carefully the instructions given on the other side of this sheet. If the tower stands erect, the wheel can be best assembled as shown in the illustrations.

When wheels 12 feet or larger are to be assembled before the tower is raised, it will usually be more convenient to allow the wheel to lie horizontal in assembling. In that case, six short pieces of wood should be used, one under each lap at the outer bands, to prevent the weight of the sections from straining or bending the arms. These pieces should be of such length that the shoulders of the two arms which connect to each joint or lap on the outer band will be equally distant from the band. Do not lean on the wheel while assembling. A wheel with tension arms which will stand great strain after being drawn up tight will be badly warped if strained while arms and bands are loose.

7. Pass the U-shaped wheel arms through the hub of the wheel so that each pair of arms will enclose one of the arms or spokes on the cast iron hub. Put the U Bolts in

the hub at the point of the arms and draw the nuts up tight. These U Bolts are very necessary for the strength and durability of the wheel. Notice that the threaded part of
the arm is bent slightly out of line. The arms should be so
turned before being passed through the hub as to make
this threaded part point forward on the three pairs at
the front of the hub and backward on the three pairs at
the back of the hub; arranged in this manner these threaded
ends will all be in line pointing radially outward when ends
are brought near together to be passed through the bands.
Looking at the edge of the wheel, the threaded ends of the
arms will stand exactly in the same plane and appear
parallel. Please do not undertake to bend these arms, or
the threaded portion at the end. They were made properly,
and if properly put together, will be right without bending.
Don't forget that THREADED ENDS of the piece that
constitutes two arms GO THROUGH THE END HOLES
of the OUTER BAND. Bear in mind that when we say,
"the end holes of the outer band of the same section," that
is just what we mean.

8. Put the arm crosses on the wheel arms with the four
teeth on the crosses facing outward.

After the wheel bolts have been tightened the ends of the
crosses should be closed up so that they will grip the arms
tightly.

9. Bolt the inner bands together by bolt passing through
the arm cross, and notice that the small points which are
turned up on the arm cross fit down snugly over the
band. This must be done so that these arm crosses will
remain perpendicular to the face of the wheel. Should
any accident occur which would strain the wheel before
it is drawn up tight, causing it to be out of true, loosen
up all the bolts on the wheel and strain the part which is
out of line in the direction which it should go to bring it
in line. Then tighten up the bolts again.

10. When everything has
been completed and the outfit
is ready to run, pour into the
gear case the contents
of the can of Aeromotor
Oil which was shipped
with the mill. This
supply will be
enough to keep
the mill thoroly
oiled for a year.
When more oil
is needed, use
Aeromotor Oil,
because it is best
adapted to the pur-
pose. It is best adapted
because it is thin
enough to flow freely
through all the oil
passages, and remains
fluid in cold weather. These
qualities are essential in the oil
used in this mill.

11. Put on the Helmet and be sure that it fits well down
over the gear case. Use care in putting on the helmet and
see that the inner flange does not get caught on the rim of
the gear case. It should fit down on the inside of the
casting to keep the oil from splashing out. Use the nut on
top of the helmet to hold it in place and keep out rain.

12. Under ordinary conditions this mill should run for
a year with the gear case filled with Aeromotor Oil.

13. See that the Turntable and Furl Swivel are well
oiled, and that they are reoiled when necessary.


15. Before starting the windmill, connect it to the
pump and turn the wheel around by hand a few times to
make sure that the pump will give a clear stroke as long
as that of the mill. If the cylinder or pump is not suitable
for use with this windmill, you should get a new one at
once and have everything just right. Our Table of Pumping
Capacities will show you what size of cylinder to use
with each size of Aeromotor for any elevation.

AXIOMS ON ERECTING

1. The Aeromotor and tower must stand plumb. (If
the Aeromotor does not stand plumb, it will not regulate
well and cannot face the wind properly.)

2. The pump must stand in line with the pump pole.
(If it does not, it will run hard, will fail to work in a light
wind, wear rapidly, break and give trouble.)

3. The plunger must not strike the top or bottom of
the cylinder. (If it does, it will cause endless wear, con-
stant breakage and annoyance.)

4. If your pump has a handle, do not leave the handle
connected and start the mill. Few pumps have a hand
stroke as long as the windmill stroke and the two should
never be connected at the same time.

5. Your windmill should be at least 20 feet above the
highest surrounding objects, or you will not get a good
wind exposure. It will not run in a light wind, and the
irregular gusts around obstructions will endanger your
outfit. We would rather not sell an outfit than to have
it put up where it will not give satisfaction. Don't be
afraid of getting your tower too high.

6. The cylinder should not be larger nor the pipe
smaller than the size designated for your depth of well in
our table of capacities. (If the cylinder is larger and the
pipe smaller your wheel will not run in a light wind.)

7. In a steel tower the corner posts, girts and braces
must be straight and all girts and braces must be in place.
The anchor posts must stand in line with the corner posts.
(If a girt or brace is omitted for a single day, you are liable
to lose your windmill. They are absolutely essential to
the strength of the tower.)

If any of the foregoing instructions are violated by the
party erecting your job, write us and we will use our
influence to see that the job is promptly righted; but if you
do not write us at once, we assume no responsibility for
the satisfactory working of the outfit.
**BOLT CHECKLIST FOR AUTO-OILED ASSEMBLED MOTOR**

**FOR STEEL TOWER—4-POST**

<table>
<thead>
<tr>
<th></th>
<th>6-Foot</th>
<th>8-Foot</th>
<th>10-Foot</th>
<th>12-Foot</th>
<th>14-Foot</th>
<th>16-Foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolt with Lock Washer for Vane</td>
<td>1 5/6 x 7/8 in.</td>
<td>1 3/4 x 1 in.</td>
<td>1 3/4 x 1 1/4 in.</td>
<td>1 3/4 x 1 1/4 in.</td>
<td>1 3/4 x 1 3/4 in.</td>
<td>1 3/4 x 1 3/4 in.</td>
</tr>
<tr>
<td>Bolt for Pipe Base and Supporting Angle</td>
<td>2 3/4 x 1 3/4 in.</td>
<td>2 3/4 x 1 3/4 in.</td>
<td>2 3/4 x 1 1/4 in.</td>
<td>2 3/4 x 1 1/4 in.</td>
<td>2 3/4 x 2 1/2 in.</td>
<td>2 3/4 x 2 1/2 in.</td>
</tr>
<tr>
<td>Spring Holder</td>
<td>1 X-580</td>
<td>1 A-580</td>
<td>1 B-580</td>
<td>1 D-580</td>
<td>1 E-580</td>
<td>1 F-580</td>
</tr>
<tr>
<td>Tower Clamp, complete</td>
<td>1 T-177</td>
<td>1 T-177</td>
<td>1 T-179 1/2</td>
<td>1 T-277</td>
<td>1 T-274</td>
<td>1 T-777</td>
</tr>
<tr>
<td>Can of Oil</td>
<td>1 1-Quart</td>
<td>1 2-Quart</td>
<td>1 2-Quart</td>
<td>1 2-Quart</td>
<td>1 2-Quart</td>
<td>1 2-Quart</td>
</tr>
<tr>
<td>U Clamp for Wheel Hub</td>
<td>6 X-632</td>
<td>6 X-632</td>
<td>6 X-632</td>
<td>6 B-632</td>
<td>6 B-632</td>
<td>6 B-632</td>
</tr>
</tbody>
</table>

*Used only with motors to replace 1897 model mills.

If you find any errors or shortages, return this checklist with your complaint so that we may be able to identify the person responsible for the mistake.

_AERMOTOR CO., CHICAGO_

7-15-27

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**Packed by**

_Date AUG 28 1929_

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These are short form assembly instructions to assemble the windmill to the tower:

1. **Thread** the windmill on a screw tower:
   - Position the windmill on the tower so that it is level.
   - Secure the windmill to the tower using the provided hardware.
   - Turn the hub until it is tight.

2. **Thread the arms**:
   - Thread the arms onto the hub and tighten them securely.

3. **Thread the second arm**:
   - Repeat the process for the second arm.

4. **Adjust the arms**:
   - Adjust the arms as needed to ensure proper windmill functionality.

5. **Final check**:
   - Perform a final check to ensure all components are secure and properly assembled.

These instructions are intended to guide you through the assembly process effectively and ensure a proper windmill installation.
When the third section is on, turn that half of the wheel up so it will balance easily.

Turn the nuts on the ends of the arms only two or three threads when putting on the sections. If you screw the nuts up before the wheel is all together you will throw the wheel out of true and you will not be able to get in the last section.

When the sections are all in, bolt the arm crosses to the inner bands as directed in paragraphs 8 and 9. After these are all in place begin tightening the nuts on the ends of the arms, giving them only two or three turns at a time. By going around the wheel several times to tighten the nuts the strain comes evenly upon all the arms and the wheel will be true.