COMET C PATTERN 8-14FT INSTRUCTIONS

Removing and replacing the complete driving shaft of: 8ft , 10ft, 12ft and 14ft :comet" mills.

Note: As the crank casting is so securely fitted on to the end of the drive shaft do not attempt to remove it from the old shaft but replace the driving shaft complete with crank and crank pin.

Choose a calm day.
Remove the sails without unbolting their brackets.
Remove the vane.
Remove stop pin from front end of driving shaft.
Remove wheel arms intact with hub, being careful not to bend rims when lowering onto ground.
Disconnect the mill rod, pullout wire etc.
Remove the connecting rod (refer to separate instructions) crosshead and swivel, auxiliary oil well, driving shaft and ring oiler tube in order given.
Drain the oil wells: thoroughly clean all parts with kerosene, particularly the oil grooves at the inside tops of the bearing bushes and also oil wells. Clean out oil holes and wash syphon wicks in kerosene.

1. Remove stop pin (if inserted) from front end of new driving shaft. Oil the shaft well and insert in the main bearings from the back or mastpipe end of mill. When it enters the main oil well, slip on the ring oiler tubes and continue to push through to the front of mill.

2. Place hub on shaft and tighten bolts lightly. Drive stop pin through hole in front end of shaft. Insert 22-gauge galvanized strip (supplied) between crank casting and back end of bearing bush to allow 1/32" end play in driving shaft when finally assembled. Press against crank and hub, moving the latter so that its inside machined face is dead flat (not stepped) against the front end of main casting, now twist the hub anti-clockwise (looking from front end) until it bears

against the stop pin in front of shaft, tighten bolts evenly so that there is equal space each side between the two halves. Check for corrections pf position. Take out thickness gauge and finally tighten hub bolts very firmly but not to the extent of straining them. Hammer the ends of the stop pin in then anti-clockwise direction until they bear against the slots in the front end of hub casting bending the pin prevents it coming out.

Assemble the other cleaned and oiled parts of the mill in the following order:

Connecting rod- when crank pin is at between 1 and 2 o'clock and solid hinge pin of conn. Rod oil well lid to the left both when looking from the of the vane end of mill (refer to separate instructions.)

Crank pin washer with hex. Cap screw and spring lockwahser.

Put grease in recesses in swivel and place the latter over the bottom end of crosshead and insert crosshead up through mastpipe.

Connect crosshead to connecting rod with crosshead pin and its locking pin,

When assembling wheel frame be sure that balance weights are in their correct position on the two arms which are on the opposite side to the crank pin in relation to the axis of driving shaft. Also be careful that the laps of rims are as per erecting instructions. The ends of the rims which are in contact with the wheel arms should point to the left when looking at front of wheel.

Insert the wired end of each syphon wick in its oil tubes, being sure that this end is lower than the bottom of the oil well. Use only the standard syphon wicks. If using old ones wash them in kerosene. Do not twist the wire any tighter. Use special "comet" windmill oil or any good medium grade (about SAE 30) for winter months. Do not use old motor engine sump oil.

Balancing- turn the wheel around until the crankpin is at the top of its stroke. The balance weights should be fitted to the back

(tower side) of the two bottom wheel arms.

When the mill is working the balance weights will then be going downwards on the pumping stroke as the pump rods are rising.

For a long string of pump rods the balance weights should be near the outer end of the arm, for a light load, as with a syphon pump, they should be near the center of the wheel. Try different positions of the weights to find the setting at which the mill starts most easily in the light breezes.