

1. PREPARATORY TASKS

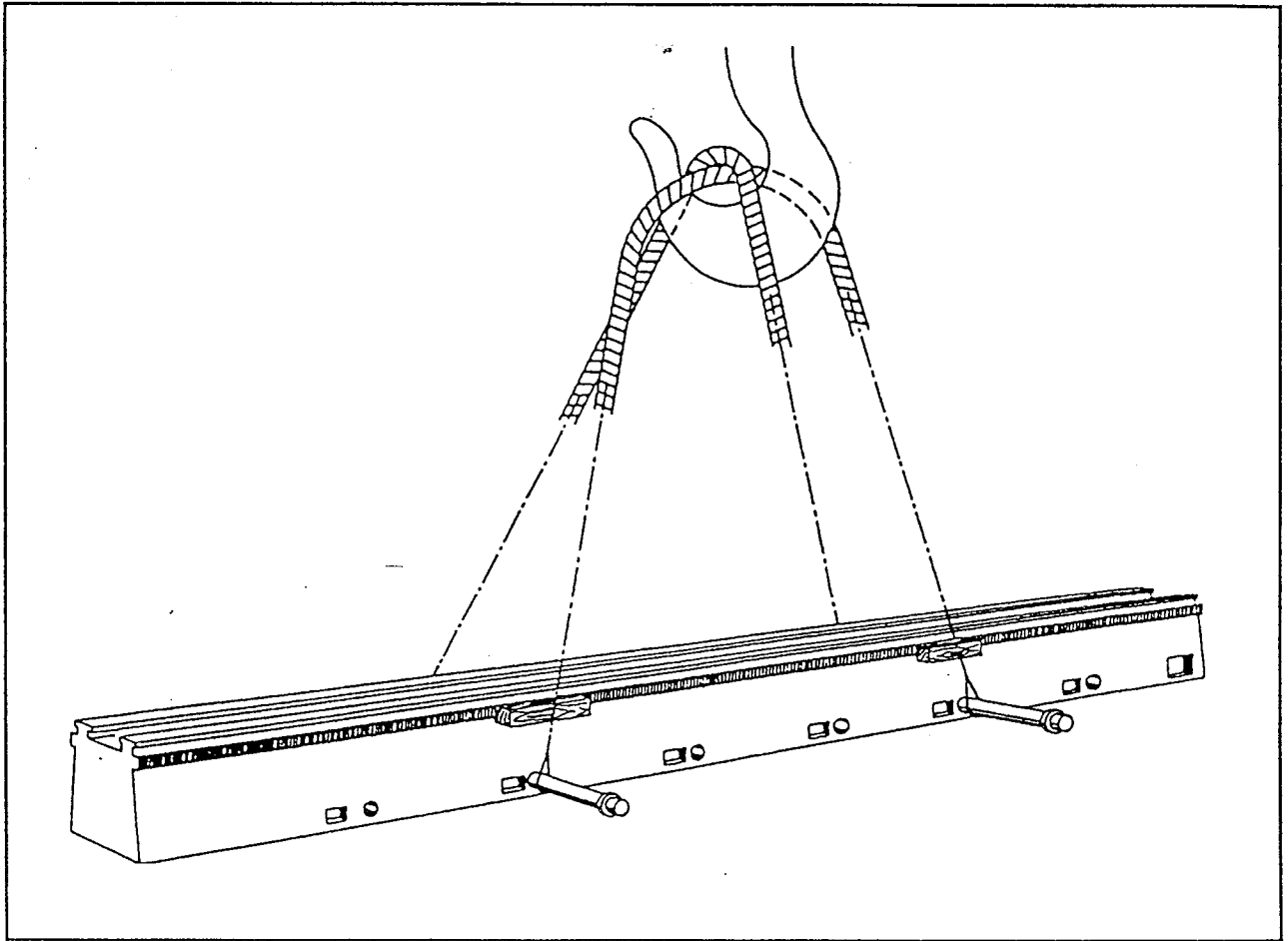
1.1 TRANSPORT

An envelope containing information for transport by crane is affixed to the side of the machine. The information contained in the envelope is as follows:

- the exact weight of the machine;
- instructions for transport.

The following must also be observed :

- the steel rods have the same diameter as the holes in the body of the bed, they must project sufficiently beyond the sides of the machine and they must be fitted with collars so as to prevent the lifting hawsers from slipping off;
 - the lifting hawsers are to be placed over the crane hook in accordance with Illustration 1.1.0, so that the load can be lifted exactly above the center of gravity by simply sliding the crane hook in one direction or the other;
 - the lifting hawsers are to be prevented from damaging the bed guideways and any other parts of the machine by inserting sufficiently large blocks of wood in between the lifting hawsers and machine parts they may come into contact with.
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1.2 REMOVAL OF THE ANTI-CORROSION AGENT

- All bare metal parts of the machine have been coated with an anti-corrosion agent in our factory.
- The anti-corrosion agent is to be removed by means of a suitable solvent before setting up the machine.

A T T E N T I O N !

Do not use environmentally hazardous or otherwise dangerous substances.

- Do not use wire brushes or scrapers.
 - After the anti-corrosion agent has been removed from the machine, grease all parts immediately, so as to prevent the occurrence of rust.
 - Large temperature variations may result in the condensation of water in the gearboxes, until the machine has been properly filled with lubricants.
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1.3 ERECTION AND ALIGNMENT

Erection of the machine is to be carried out by our engineers.

Condition :

- The foundation cement must set properly beforehand.

Sequence :

- setting-up elements #620 (Ill. 1.3. 0.1) are to be suspended below the bed;
- place the machine on the bed;
- align the machine by means of wedges as exactly as possible;
- pour special cement compound into the setting-up elements and around the rag bolts;
- the cement will have set properly after about 5 days;
- remove the wedges;
- align the machine with highly sensitive spirit levels (the scales of which are graduated at 0.0008 inches intervals).

Alignment along the longitudinal axis :

- place the spirit level on the flat guideway of the bed.

Alignment along the transverse axis:

- place two parallel bars of equal height on the outer flat guide ways;
- place an exact straight-edge on top of the parallel bars;
- place a spirit level on top of the straight-edge.

THE FOLLOWING PROCEDURE IS TO BE REPEATED FOR EACH SETTING-UP ELEMENT

- slacken off nut #621;
 - remove cover plate #626;
 - align the machine by adjusting screw #624, whilst observing the spirit level at the same time;
 - tighten up pressure screw #625 slightly against the bed;
 - the machine is aligned;
 - tighten up nut #621;
 - screw cover plate #626 back into place
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Alignment using alignment calibrator**Conditions :**

- as above

Sequence :

- as above;
- compensate for lateral deviations with screw #625.

1.3.1 CONNECTION OF THE DRIVE MOTOR

The drive motor must be aligned with the headstock drive shaft as accurately as possible before the setting-up elements are cast into place.

The axes of the headstock motor and drive train shafts must not be out of alignment horizontally.

The imaginary axis of rotation is to be positioned 0.039 inches below the headstock axis of rotation. This precaution ensures that there is sufficient play for lifting the motor base during final alignment (it is assumed that the thin end of the wedge is inserted into the setting-up element). the setting-up element can now be cast. Any ground subsidence which may occur is thus allowed for with the greatest possible reserve.

The following 3 measurements are required for correct alignment of the motor with the machine :

1.

Carry out a check for any parallel displacement of the imaginary line of the motor and headstock axes :

- a. horizontally and,
- b. vertically

These two measurements are to be carried out by affixing a dial test indicator tangentially to the clutch side of the motor and then, at low rotational speed, check the radial movement of a mark on the circumference of the clutch side of the motor with the indicator feeler. The eccentricity measured must be less than 0.002 inches (refer to Ill. 1.3.0.1).

2.

Check that the imaginary line of the clutch does not show angular deviation of any kind. The dial test indicator is affixed tangentially to the clutch side of the motor, with the indicator feeler against a point on the opposing coupling flange. Adjustment is to be carried out via screws #624 and #625 on the setting-up element, as required.

1.4 ELECTRICAL CONNECTION

Sequence :

- Carry out a check to make sure that the values engraved on the rating plate of the switchgear cabinet relating to the operating voltage and main frequency tally with local mains conditions.
 - Set the switchgear cabinet main switch to the "0" position.
 - Connect the switchgear cabinet to the machine in accordance with the circuit diagrams and manufacturer's drawings.
 - Lay the supply lines and connect them up in the order of rotation 1Lx1-1Lx2- 1Lx3 (clockwise).
 - Check the fuses and mot protection switch and activate.
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1.5 PUTTING INTO OPERATION

The machine must be scrupulously cleaned and lubricated before it is switched on for the first time. Chapter 3 of this manual (Maintenance) contains details on lubrication and important information for the care of the machine.

Check that all mechanical switch devices move freely and do not select the highest rpm for the test run.

The machine can now be switched on.

Chapter 2 of this manual contains useful advice relating to the setting up and operation of the machine.

The first thing to check when the machine is running, is that lubricant circulation is functioning correctly. If there should be anything wrong at this point, switch the machine off immediately and get in touch with our service department.

The turning precision of your machine can be checked by means of a trial run with a workpiece. Compare your results with the Binding Conditions of Acceptance for Turning Machines, DIN 8607 and VDF 1450. The result measured by you must lie within the allowed tolerances. Please inform us if there are deviations which do not lie within these tolerances.

1.6 SAFETY RECOMMENDATIONS

1.

All work for preparing the machine for operational commissioning is to be performed in accordance with generally recognized technical principles, as well as applicable regulations concerning safety at work and accident prevention.

2.

Environmental conservation laws are to be respected.

3.

All regulations applicable to the foundations, mechanical components and electrical installations are also to be duly observed. Have all tasks carried out by qualified personnel.

4.

Make sure that the operating staff is adequately trained in advance.

5.

The purpose for which the machine is intended by the manufacturer is to be adhered to.

6.

Safety devices which are not part of the delivery schedule are to be ascertained and installed by you, in accordance with the local circumstances, prior to initial operational commissioning of the machine.

7.

Face plates and clamping chucks may not be caused to rotate, if the chuck jaws project beyond the external diameter.

1.6 SAFETY RECOMMENDATIONS FOR OPERATIONAL COMMISSIONING OF THE MACHINE

1.

Safety devices may not be removed nor rendered ineffective. Changes and the consequences arising from such are at your own risk.

2.

Before activating the machine, please ensure that no one is in danger.

3.

Your operating personnel should only wear closefitting attire and loose hanging hair should be secured. Appropriate steps are to be taken to prevent eye injuries.

4.

Perfect tools only are to be used.

5.

Cleaning work is not to be carried out when the machine is running.

6.

The working area in the vicinity of the machine is to be kept free of hindrances at all times.

7.

The manufacturer's instructions concerning dismantling, adjustment and replacement of defective parts take priority in all cases where damage has occurred. Operationally defective components are to be repaired or replaced immediately.
