

T D S 1 2 / 1 6 S H A R P E D G E  
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INSTRUCTION MANUAL  
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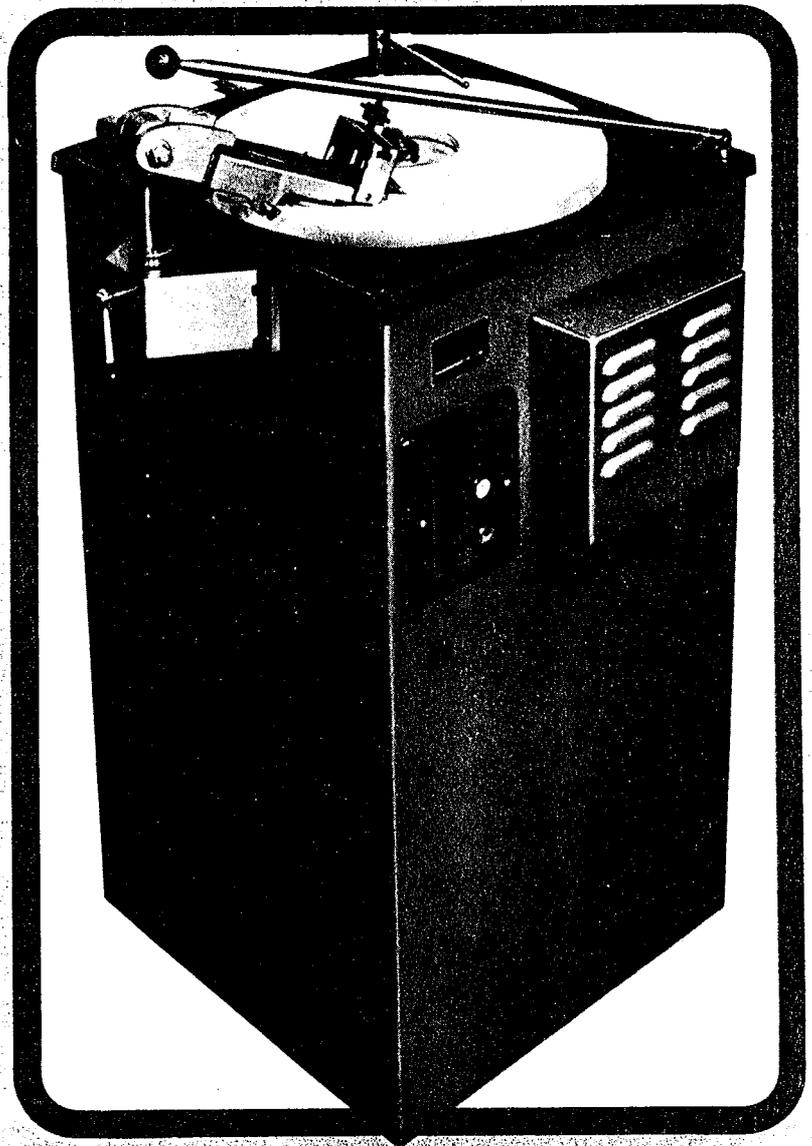
# VICEROY

## SHARPEDGE MACHINE TDS 12/16

The 'Viceroy' Carpenters Edge Tool Sharpening Machines are the result of many years study to meet the exacting requirements of both industrial and educational users of edge tools. This revolutionary method with its compact and clean operation using a manufactured stone in conjunction with a reciprocal master arm and special honing oil ensures the elimination of any inconsistency in the reproduction of accuracy, stone life, and the drawing of temper of edge tools. The 'Viceroy' Sharpedge Machines can be operated with the minimum of skill with little effort but great accuracy and saving of time.

### STANDARD EQUIPMENT

TDS 12/16 Integral Cabinet, Universal Master Arm, Grinding Wheel, Honing Oil, Pump & Fittings, Wheel Wrench, No-Volt Overload Push Button Starter, 3 or single phase Motor and Instruction Manual.



TDS 12/16  
PEDESTAL MODEL

# DENFORD

MACHINE TOOLS

## DENFORD MACHINE TOOLS LIMITED

### INSTRUCTION MANUAL FOR THE "VICEROY" TDS 12/16 SHARPEGE MACHINE

#### INTRODUCTION:

The "Viceroy" Sharpedge Machine is the result of many years of study and development aimed at improving the method of sharpening edge tools; and this machine has met with the approval of users of edge tools both in technical training workshops and industrial arts. Prior to the Sharpedge being introduced, three alternative methods were available: high speed grinding machines, sandstone grinding machines, or the time-consuming method of rubbing and oilstone. The high speed grinding machine was not suitable or safe, whether in the hands of skilled or unskilled operators, due to the excessive speed of the wheels and the danger of drawing the temper of the edge tools. The sandstone grinding machine was slow and, due to the inconsistency of the stones, meant many hours of skill and patience to obtain the desired results.

The major advantages of the "Viceroy" Sharpedge Machine are as follows:-

- a) Guaranteed precision and reproduction accuracy.
- b) Time saving - operated with care by skilled or unskilled users.
- c) Sharpens efficiently without drawing the temper or burning the edge tool.
- d) Constant flow of special honing oil from built-in pump unit ensures maximum tool life with minimum of wheel wear.
- e) Safe totally-enclosed N.V./O.L. release electrics.
- f) Special 'Aloxite' manufactured long life grinding wheel.

The operating action is merely one of placing the edge tools on the master arm, against the locating pins, setting the angle of the cutting desired, then moving the master arm by means of the lever, using very light hand pressure.

#### OPERATING INSTRUCTIONS FOR PLANE IRON & CHISELS:

The TDS 107 Anti-Bacterial Honing Oil is as important as correct setting to ensure the machine gives maximum performance. It is essential that the oil flows the full width of the wheel for at least 10 minutes before use - this is the time required to obtain saturation of the wheel, which is indicated by a permanent film of oil on the wheel. The correct flow of oil should then be maintained.

1. Place the plane iron/chisel on the master arm (A), ensuring that the side of the plane iron/chisel is set squarely against the left hand locating pins (shoulder, in the case of chisels).
2. Set the plane iron/chisel approximately  $1\frac{1}{2}$ " beyond the end of the master arm (A). Clamp the plane iron into position by means of the clamping screw (B).

3. Set the required angle by referring to dial (C), ensuring that the pointer refers to the plane iron or chisel position. To obtain the angle required, the master arm (A) column can be moved up or down, by releasing the locking handle (D) and re-locking when set at correct angle.
4. When satisfied that the angle is correct in relation to dial (C) ensure that the clamping screw (B), used for retaining the plane iron is tight.
5. Start the machine, making sure that the honing oil is flowing sufficiently to cover the entire wheel area, before touching the wheel with the plane iron/chisel. Under no circumstances should an attempt be made to sharpen the plane iron/chisels without the oil flowing and fully covering the wheel.
6. Locate slot in operating lever (F) on to the spigot of the clamping screw (B), then move the operating lever from side to side, against the rotation of the wheel (which must run clockwise) using light hand pressure.
7. If not satisfied with the squareness of the plane iron/chisel cutting edge, this can be corrected by adjusting the two grub screws (G) located in the master arm bracket (H). Release one screw and tighten the other alternately, until the required squareness is achieved. Ensure that both grub screws are tight, and proceed with sharpening.

#### MAINTENANCE:

The spindle runs in 'Oilite' manganese bronze bearings - no lubrication is required.

Clean the plastic honing oil container from time to time, depending on frequency of use. Pour the oil into another container and clean out existing container.

To remove the wheel for cleaning the swarf underneath, remember the retaining flange in the wheel recess is a left hand thread.

All accessories, bright parts and bearing surfaces should be cleaned and greased weekly.

#### SPARE PARTS:

A complete range of spare parts are available for your Sharpedge Machine - when ordering, please quote the serial number of your machine. The majority of these items are available ex-stock on receipt of your official instructions.

STANDARD & OPTIONAL EXTRA EQUIPMENT:GRINDING WHEEL (standard equipment)

This is a manufactured 'Aloxite' wheel (80 grit), designed to give long life with very little dressing, if used correctly. If, however, the wheel requires dressing, a dressing stick is available.

MASTER ARM (standard equipment)

This arm is fitted with a graduated angle index plate - one side for plane iron, the other for chisels. Correct side can be checked by referring to the angle index plate, which is marked by the indicator pointer.

PUMP & FITTINGS (standard equipment)

The pump is an A.C. Delco diaphragm type which is pre-set at works to give the correct flow of honing oil on to the wheel. It is important to have the correct flow at all times.

HONING OIL (standard equipment)

The oil has been specifically developed to give maximum wheel life, cleanliness and cutting efficiency; and it is anti-bacterial. We, the manufacturers and patentees (Pat. No. 19956/58) of the machine and application, do not take any responsibility for the performance of the machine, should any other type of oil be used. The plastic honing oil container, which has a capacity of approximately 10 litres, should be fitted inside the main cabinet; and the two plastic pipes inside the machine should be fitted into the neck of this container.

EXTERNAL GOUGE ATTACHMENT (extra equipment)

This attachment is fixed to the plane iron face of the master arm, located for the position against the squareness pins, then locked into position by means of an allen cap screw. The operating action is then obtained by inserting the gouge inside the swivel bush, locking into position, adjusting the height of the master arm column to give the required angle and then swivelling evenly and smoothly in one position on the grinding wheel, until the required cutting angle is achieved. DO NOT USE PRESSURE.

INTERNAL RADIUS GOUGE ATTACHMENT (extra equipment - fitted at works)

This attachment consists of a tapered conical wheel mounted on an extension spindle through the reduction gearbox to the outside of the cabinet, and revolves at motor speed. This unit is supplied and fitted complete with oil flow control tap. Oil returns through the pipe to the plastic honing oil container.

MACHINE KNIFE ATTACHMENT (extra equipment)

This attachment is located for position against the locating pins on the L.H. side of the plane iron, then locked into position by means of an allen cap screw, after inserting the blade (or knife) into the attachment. Move across the wheel using light hand pressure.

STANDARD & OPTIONAL EXTRA EQUIPMENT: (cont'd)

WHEEL DRESSING STICK (extra equipment)

This item is used for cleaning the wheel, when necessary. The correct use is by hand, traversing across the wheel, using the end corners, not flat faces. It is important that the oil is running when dressing the wheel.

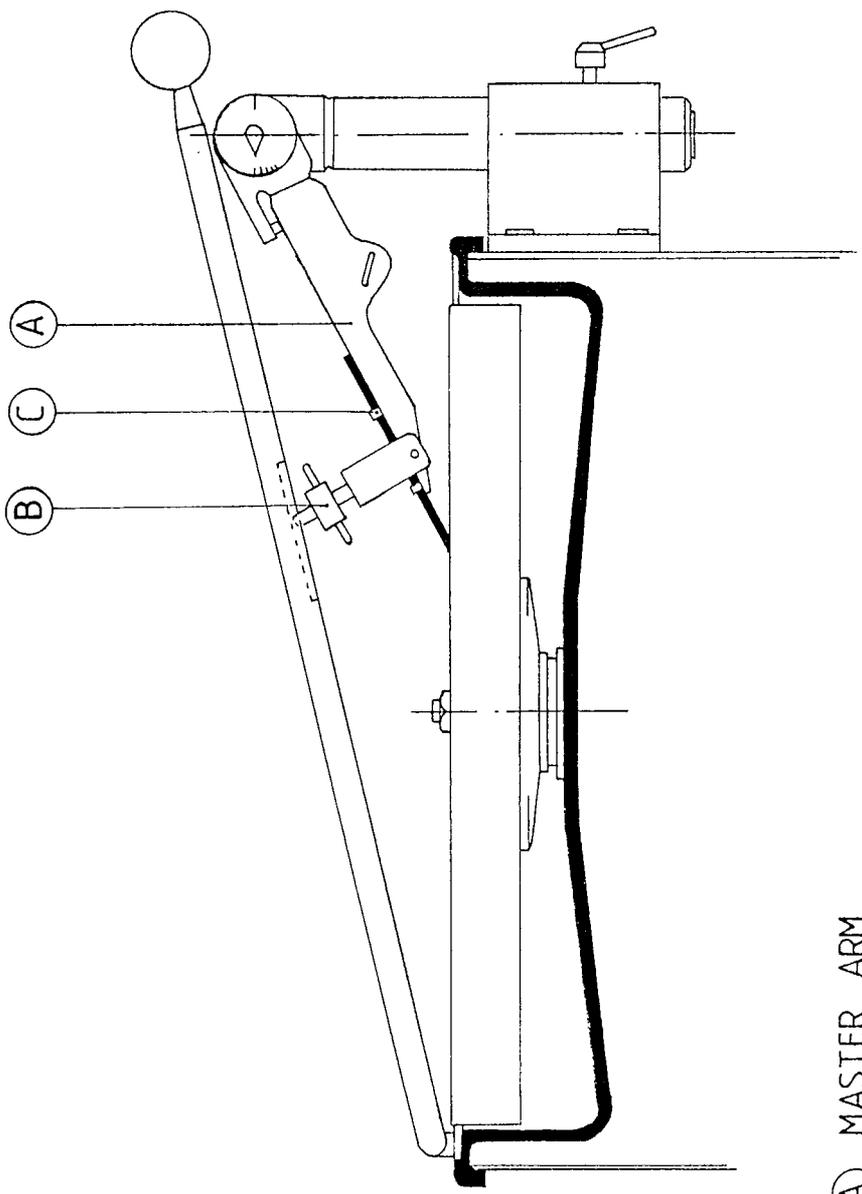
PLASTIC WHEEL COVER FOR TDS 12/16 (extra equipment)

The TDS 12/16 wheel cover should be fitted at works, although it can be supplied for your own fitting - it is hinged to the back of the cabinet.

For details of extra equipment see leaflet at front of manual.

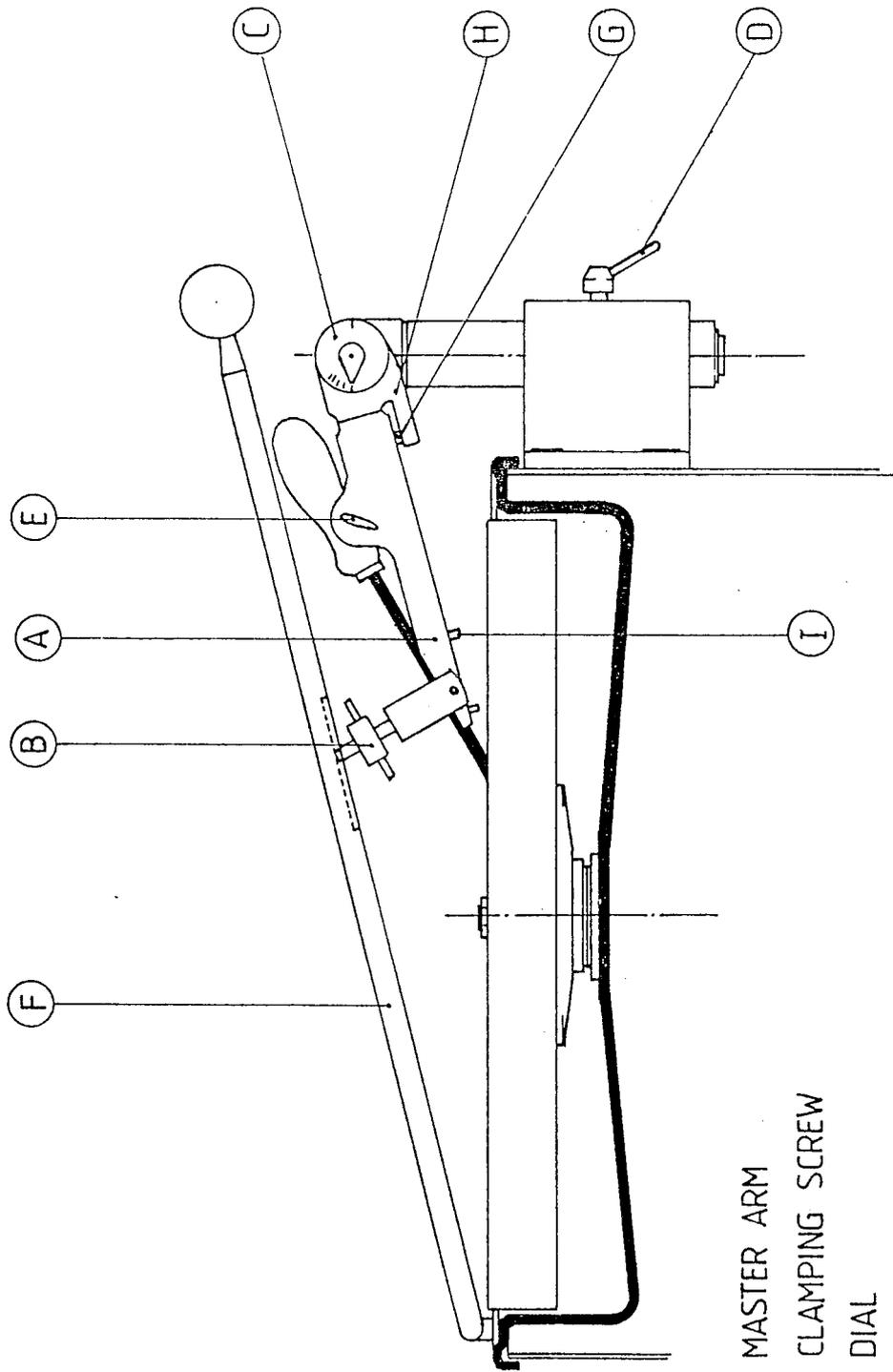
DENFORD MACHINE TOOLS LIMITED  
BIRDS ROYD  
BRIGHOUSE  
WEST YORKSHIRE  
HD6 1NB

Tel: 0484-712264  
Telex: 517478  
Fax: 0484-722160



- (A) MASTER ARM
- (B) CLAMPING SCREW
- (C) LOCATING PINS

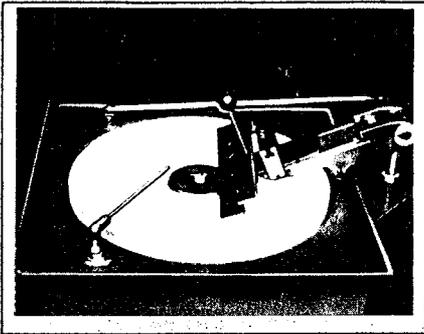
PLANE IRON ATTACHMENT



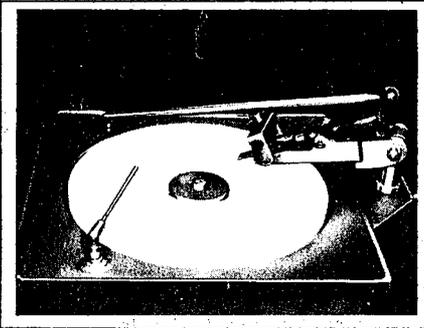
- (A) MASTER ARM
- (B) CLAMPING SCREW
- (C) DIAL
- (D) COLUMN LOCKING LEVER
- (E) RETAINING SCREWS (chisels only)
- (F) OPERATING LEVER
- (G) SQUARENESS GRUB SCREWS
- (H) MASTER ARM BRACKET
- (I) LOCATING PINS (plane blades only)

SETTING DIAGRAM FOR  
CHISEL ATTACHMENT

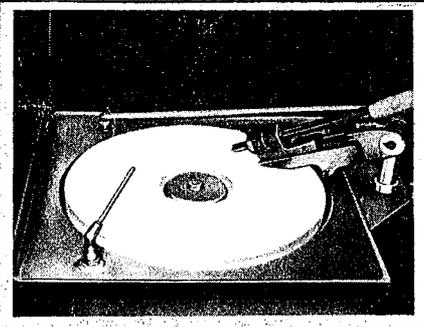
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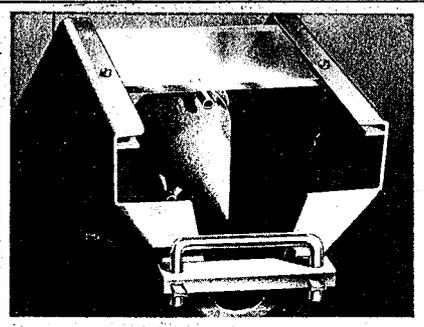
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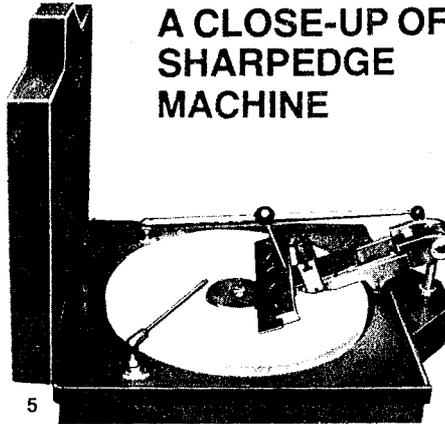
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## A CLOSE-UP OF THE 'VICEROY' SHARPEGE MACHINE

1. Machine Knife Sharpening attachment (254 mm-10" capacity) in position. (Extra)
2. Master Arm with Chisel in position. (Standard)
3. External Radius Gouge attachment in position. (Extra)
4. Conical wheel for internal radius gouge grinding with adjustable tool rest. (Extra)
5. Wheel Cover fitted to TDS 12/16 Model. (Extra)

**THE SPINDLE** is Steel running in 'Oilite' sintered sealed bearings, driven through a totally enclosed worm reduction unit direct from motor.

**THE MASTER ARM** is a precision machined unit fitted accurately into the table casting and can be pre-set to reproduce angles from 10°-30°. It is also designed to take fixtures for other edge tools, i.e. Gouges, Machine Knives, etc.

**THE STONES** are manufactured aloxite giving long and consistent life, supported top and bottom with accurately machined flanges which ensure rigidity when in use and have been specially developed for 'Viceroy' Sharpege Machines.

**THE PUMP UNIT** housed inside cabinet is a cam operated diaphragm pump, driven from the motor spindle and is pre-set at works to give correct flow of special honing oil onto and through the stone and into the tank for continuous circulation whilst machine is running.

The integral cabinet of welded steel construction which houses the motor - pump unit - and honing oil container.

**VICEROY HONING OIL** has been specially developed to give maximum stone life, cooling and cleansing properties and also contains anti-bacteria additives.

### SPECIFICATION

	TDS 12/16
Overall Dimensions .....	560 x 560 x 864 mm 20" x 20" x 34"
Wheel Size .....	406 x 32 x 32 mm 16" x 1 1/4" x 1 1/4"
Wheel Grade Standard .....	A80
Wheel R.P.M. ....	110
Motor R.P.M. ....	1425
Motor H.P. ....	.186 kw
Spindle Diameter .....	32 mm 1 1/4"
Reduction Gear .....	28 mm 1 1/8"
Reduction Ratio .....	10-1
Main Bearings .....	Oilite
Cabinet (Fabricated) .....	3mm 12 swg
Machine Table .....	Fibre Glass
Plane Iron Capacity .....	76 mm 3"
Chisel .....	32 mm 1 1/4"
Master Arm Adjustment .....	25°
Honing Oil Tank Capacity .....	5 litres 1 gall.
Honing Oil Feed Pump Unit .....	Mechanical
Nett Weight .....	90.72 kg 200 lbs.
Gross Weight .....	127 kg 280 lbs.

We reserve the right to alter design and specification without notice.