

# EASITURN

A LOW COST  
C.N.C. LATHE



**DENFORD**

COMPUTERISED MACHINES AND SYSTEMS



# EASITURN

Easiturn is programmed using the I.S.O. 'G' and 'M' Code Format with a V.D.U. displaying all programming information. The machine combines precision with the very latest micro-processor technology giving compatibility to Denfords full range of off line programming software on BBC, Apple and IBM. Easiturn is also used with CAD/CAM and FMS as seen in the D.T.I. CAD/CAM Mobile Demonstration facility.

## GENERAL SPECIFICATIONS

## C.N.C. CONTROL SYSTEM

1. 490 x 290 x 335mm Self Contained Console mounted on swivel base.
2. Green on Black 9" V.D.U. with Anti-glare screen and outlet to external V.D.U. Monitor.
3. Continuous Status display of Tool Number, Coolant, Spindle Speed, Block No., Run No., Feedrate, Program No. and X and Z axis positions.
4. Alpha numeric keyboard allowing full Manual Data Input.
5. Mini Magnetic Cassette Unit for Multi Program Storage up to 6000 Blocks.
6. M.D.I. Single Step and Auto Selector for programs.
7. RS.232C Interface with 7 Pin Din connection to computers and paper tape punch units, with variable baud rate settings.
8. Parallel Printer Interface for obtaining hard copy of programs.
9. I.S.O. Format - allowing 'G' and 'M' code Programming from DIN 66025 extract.
10. Full 'G' and 'M' Code listings on V.D.U. when required to assist programming.
11. Single Mode Selection Keys for all functions.
12. Axis Jog on both Axes with variable feedrate and 0.01 mm step.
13. Programmable Spindle Speed 0-2000r.p.m. (forward and reverse).
14. 100% Spindle Speed Override.
15. Programmable Feedrate 0-1500mm/min.
16. Feedrate override from 1mm/min to 750mm/min.
17. Linear Interpolation with vectorially correcting feedrates.
18. Circular Interpolation CW/CCW.
19. Absolute/Incremental, inch/mm programming throughout program build-up.
20. Manual and Programmable Program Stops.
21. Facility to link to 8 station programmable toolpost.
22. Repeat facility allowing build-up of canned cycles/ subroutines, Do-Loops for turning and facing cycles, pecking and grooving cycles. (Repeats available - 10<sup>3</sup>).
23. Plunge or Compound Angle Screwcutting from 0.1mm-6mm pitch (4-80TPI). Alleviating the necessity of an undercut.
24. Comprehensive edit facility allowing replace, alter, delete, add, search.
25. Floating Datum Facility.
26. 750 Block Memory (1000 blocks available).
27. Tool Offset for up to 16 tools.
28. Tool nose radius compensation for up to 16 tools.
29. Programmable Coolant.
30. Programmable Dwell from 0.1 to 9999.9 secs.
31. 4 Auxiliary Outputs.
32. 8 Programmable Inputs.
33. System Resolution 0.01mm (0.0004").
34. Program Offset allowing for dry run facility.

## MECHANICAL

Swing Over Bed	280mm (11")
Swing Over Saddle Wings	240mm (9½")
Swing Over Cross-slide	110mm (4¼")
Spindle Bar Capacity	26mm (1½")

Optional extra	38mm (1½")
Spindle Nose (Camlock)	D1/3
Optional extra	D1/4
Spindle Taper	No. 4
Optional extra	No. 5
Distance between centres	500mm (20")
Cross Slide Travel	175mm (7")
Spindle Speeds	0-2000r.p.m.
Tailstock Taper	No. 3
Bed	Hardened and Ground Ways
Z Axis Ballscrew	25mm dia. 5mm Pitch
X Axis Ballscrew	16mm dia. 5mm Pitch
Base Height to Centre Line	1195mm (47")
Toolpost - Multifix Quick Change with Repeatability	0.0001", 40 different locations.
Mechanical Resolution	0.01mm (0.0004")
Machine Dimensions:-	
Height 1680mm (66"), Length 1370mm (54"), Width 610mm (24"), Weight 500kgs (1100lbs).	

## ELECTRICAL

50Hz - 1 phase 240 volts - 3 phase/neutral 415 volts.  
60Hz - 1 phase 220 volts - 3 phase 220 volts.

Spindle Motor:  
2 H.P. A.C. 1.5kw 1420r.p.m. 6.7 amps incorporating AC Frequency Changer. Option: 3H.P. motor.

Axes Motors:  
Stepper Motors - 200 Steps/Rev, 3.5 Amps, 1.1 Ohms.  
Automatic Lubrication System to all Slides and both Ballscrews.

## STANDARD EQUIPMENT

125mm 5" 3 Jaw Self Centering Chuck. Multifix Quick Change Toolpost and One Holder. Totally Enclosed Sliding Chuck Guards (Interlocked). Multi-position Flood Coolant - Electric. Halogen Lo Vo Light. Automatic Lubrication System. Tool Kit including Centres, Wrenches, etc. Operation and Instruction Manual. 2 Days' Operator Training.

## EXTRA EQUIPMENT

1½" Spindle Bore with 3 H.P. motor, Spray Mist Coolant, Power Chucking, 5C Collet Attachment, 6 or 8 station programmable toolpost, Gangtooling, Additional Tools and Holders, Printer, Off Line Computer Programming for Acorn BBC, Apple IIe and IBM P.C., Robots and integration into Flexible Manufacturing and CAD/CAM systems.

## SAFETY

Emergency Stop Button Ergonomically placed, power on indicator, Axes Overtravel Limits - adjustable on Z axis. Telescopic Covers on Ballscrew. Single step execution, feedrate override, totally enclosed main motor, totally enclosed transparent interlocked sliding chip guards with microswitch protection.

## CAD/CAM SOFTWARE

For IBM P.C. and 100% compatibles.  
- Auto CAD, Auto CAM.  
For BBC computers.  
- EASICAD, EASICAM - Compas Starter/Cam.  
For Nimbus Computers.  
- Compas Designer, Auto CAM.  
- Auto CAD, Auto CAM.

HAS BEEN  
DESIGNED AS  
AN EFFICIENT  
PRODUCTION  
MACHINE TOOL  
AND ALSO FOR  
TRAINING AND  
RE-TRAINING  
OPERATORS

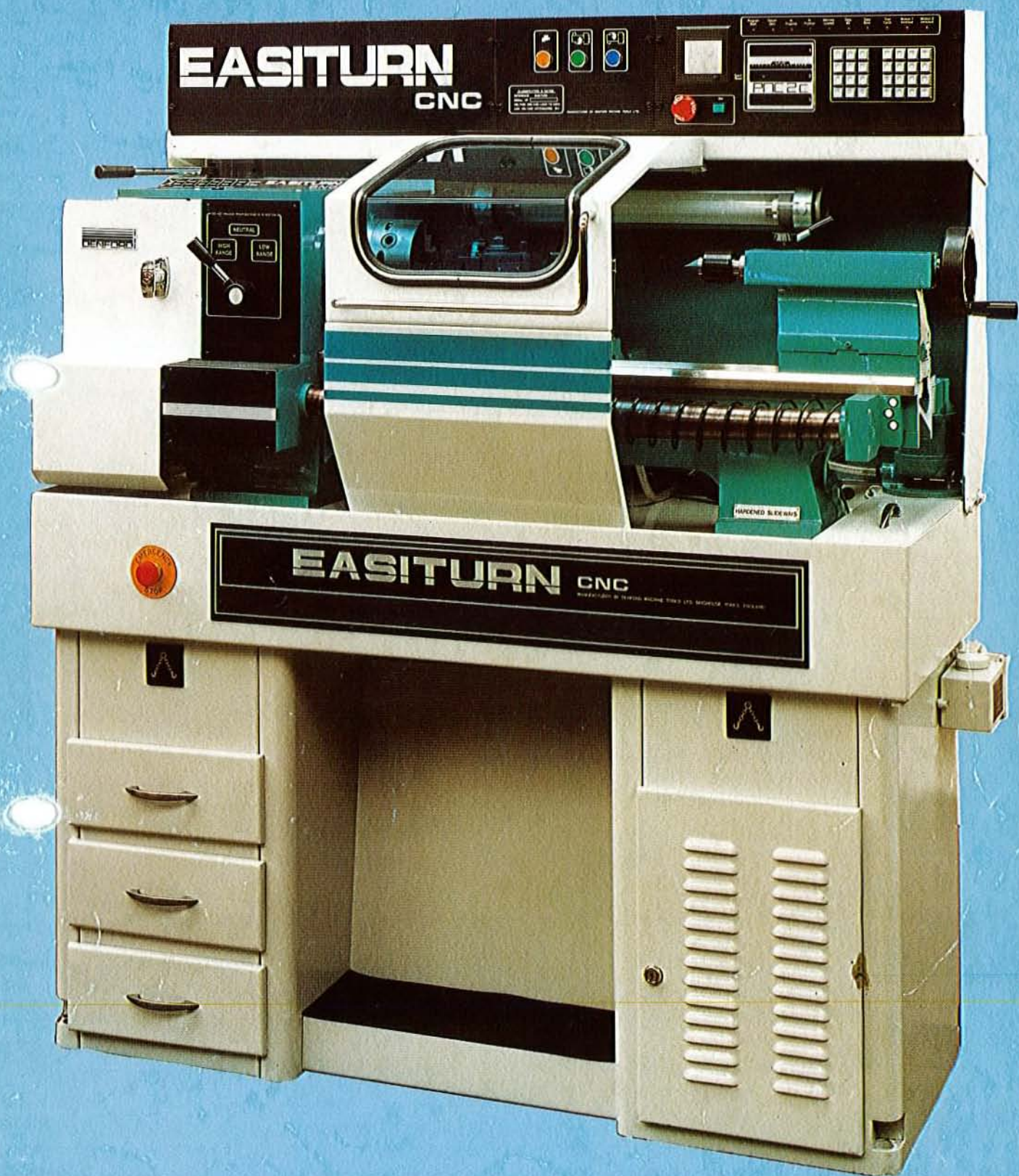


DENFORD MACHINE TOOLS LTD,  
BIRDS ROYD, BRIGHOUSE  
WEST YORKSHIRE, HD6 1NB  
TELEPHONE: 0484 712264  
TELEX: 517478 FAX: 0484 722160

**DENFORD**

COMPUTERISED MACHINES AND SYSTEMS







# EASITURN

## C.N.C. Production Lathe

Easiturn is a C.N.C. batch/production lathe designed for the workshop where small and medium sized components are required to be produced using modern methods. The C.N.C. control is very flexible and full circular interpolation, screwcutting and tool offsets with many other features.

### GENERAL SPECIFICATIONS

#### Mechanical

Swing over Bed	.....280 mm (11")
Swing over Saddle Wings	.....240 mm (9½")
Swing over Crossslide	.....170 mm (6¾")
Spindle Bar Capacity	.....35 mm (1⅜")
Distance between Centres	.....500 mm (19⅝")
Spindle Nose (camlock)	.....DI/3
Spindle Taper (morse)	.....No 4
Spindle Speeds	.....Stepless 0-2000 r.p.m. .....Stepless 0-3000 r.p.m. .....Stepless 0-4000 r.p.m.
Tailstock Taper Morse	.....No 3
Leadscrew/Crossslide Screws	.....Ball screws
Screwcutting Pitches	.....4-40TPI
Rapid Traverse	.....1250 mm/min
Tapers	.....1000:1/1:1000
Feedrates	.....infinitely variable
Circular Interpolation Radii	0.25 mm/10 cm
Base Height to Centreline	.....1195 mm
Weight	.....350 Kilos

#### Standard Equipment

Faceplate/Catchplate, Safety Guards, Flood Coolant, Standard Toolpost, Centres, Toolkit, Operation and Instruction Manual.

#### Electrical

1 Phase Supply	.....220/250v/50 Hz .....110/115v/60 Hz
Motor (4 pole) AC	.....1.5 kw

#### Control System

Display Method	.....Three 7 Digit Displays
Mini Cassette Deck	.....Magnetic Tapes
Motor Drives X-Z	.....Stepper
Programmable Feed	.....0.005% to 100%
Keyboard	.....28 Character
Tool Offsets	.....Up to 16 pairs
Programme Length	.....300 Blocks (1000 Block Available)
Control System	.....North East Electronics P.N.C. 2C Control System
Auxiliary Outputs	.....8 Outputs
Programmable Inputs	.....8 Programmable Sequence Holds
Pattern Repeats	.....99 Times to 4 Levels
Tool Compensation	.....Programmable
Computer Data Link	.....RS 232C
Joystick	.....Axes Control
Speed Changes	.....Programmable
Format	.....Incremental/Absolute Metric/Imperial

#### Extra Equipment

Spray Mist Coolant, Bar Feed, Power Chucking, C5 Collet Attachment, Gangtool Crossslide, Multifix Toolpost, Programme Printer.

#### Extra Equipment

A full range of optional equipment and accessories is available.

**NOW WITH  
PROGRAMMABLE SPEED CHANGE**

**£9,750** MODEL 'A' 0-2000 R.P.M.

**£9,850** MODEL 'B' 0-3000 R.P.M.

**£9,950** MODEL 'C' 0-4000 R.P.M.

DENFORD MACHINE TOOLS LIMITED : BIRDS ROYD : BRIGHOUSE : WEST YORKSHIRE : Phone : 0484 712264 : Grams : Denmacto : Telex : 517478

# DENFORD

MACHINE TOOLS







# EASITURN

## C.N.C Lathe

Easiturn is a C.N.C. lathe designed for the production of small and medium sized components. The C.N.C. control includes full circular interpolation, screwcutting tool offsets, repeat and edit facility etc. Now with frequency changer variable speed drive.

### GENERAL SPECIFICATIONS

#### Mechanical

Swing over Bed	280 mm (11")
Swing over Saddle Wings	240 mm (9½")
Swing over Crossslide	170 mm (6¾")
Spindle Bar Capacity	26 mm (1⅛")
Distance between Centres	500 mm (20")
Spindle Nose (camlock)	DI/3
Spindle Taper (morse)	No 4
Spindle Speeds	'A' Stepless 0-2000 r.p.m. 'B' Stepless 0-3000 r.p.m. 'C' Stepless 0-4000 r.p.m.
Tailstock Taper Morse	No 3
Leadscrew/Crossslide Screws	Ballscrews
Screwcutting Pitches	4-40TPI
Rapid Traverse	60"/min 1500 mm/min
Tapers	1000:1/1:1000
Feedrates	infinitely variable
Circular Interpolation Radii	0.25 mm/10 cm
Base Height to Centreline	1195 mm
Weight	350 Kilos

#### Standard Equipment

Safety Guards, Flood Coolant, 5" 3 Jaw Chuck, Multifix Quickchange Toolpost with one Tool Holder, Centres, Toolkit, Operation and Instruction Manual and one shot lubrication system.

#### Electrical

1 Phase Supply	220/250v/50 Hz 110/115v/60 Hz
Motor (4 pole) AC	1.5 kw

#### Control System

Display Method	Three 7 Digit Displays
Mini Cassette Deck	Magnetic Tapes
Motor Drives X-Z	Stepper
Programmable Feed	0.005% to 100%
Keyboard	28 Character
Tool Offsets	Up to 16 pairs
Programme Length	400 Blocks (1000 Block Available)
Control System	North East Electronics P.N.C. 2C Control System
Auxiliary Outputs	8 Outputs
Programmable Inputs	8 Programmable Sequence Holds
Pattern Repeats	99 Times to 4 Levels
Tool Compensation	Programmable
Computer Data Link	RS 232C
Joystick	Axes Control
Format	Incremental/Absolute Metric/Imperial
Printer Link	Option for hard copy of programmes

#### Extra Equipment

D14 Camlock (1⅜" Spindle Bore), Spray Mist Coolant, Bar Feed, Power Chucking, 5C Collet Attachment, Gangtool Crossslide, Programme Printer, extra Tool Holders and Boring Bars, Programme Plotter.

#### Extra Equipment

A full range of optional equipment and accessories is available.

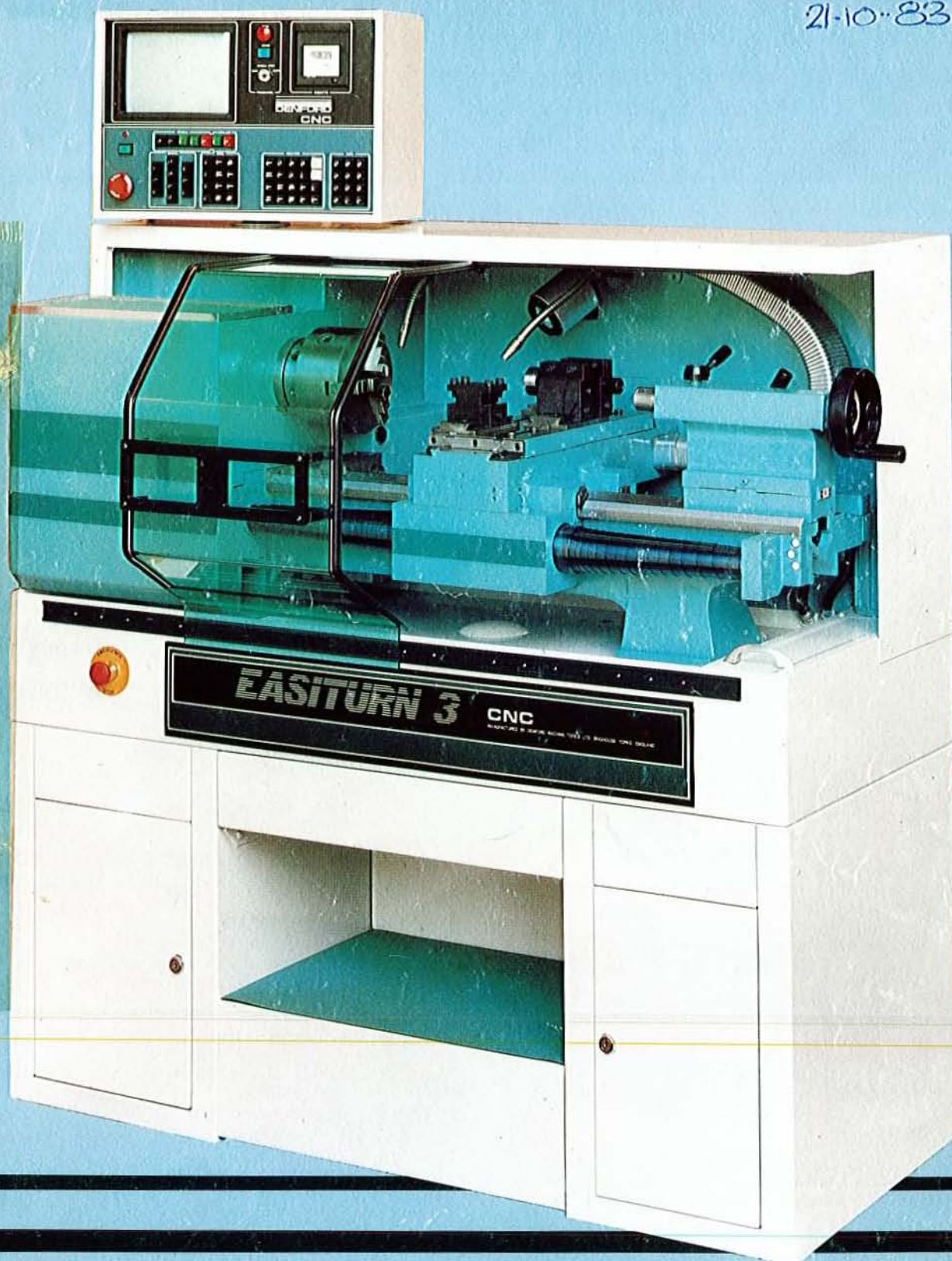
**NOW AVAILABLE WITH OPTIONAL  
PROGRAMMABLE SPEED CHANGE**

DENFORD MACHINE TOOLS LIMITED : BIRDS ROYD : BRIGHOUSE : WEST YORKSHIRE : Phone : 0484 712264 : Grams : Denmacto : Telex : 517478



# EASITURN 3

21-10-83



# MAKING

MACHINE TOOLS



# EASITURN 3

**Easiturn 3 CNC is a low cost CNC Lathe designed as an efficient production machine tool and also for training and re-training operators.**

**The machine combines precision with the very latest micro-processor technology allowing compatibility with full range of Denford CAD, CAM, DNC and FMS Systems.**

## GENERAL SPECIFICATIONS

### CNC CONTROL SYSTEM

1. 490 x 290 x 335 mm Self Contained Console mounted on swivel base.
2. Green on Black 9" V.D.U. with Anti-glare screen and outlet to external T.V. Monitor.
3. Alpha numeric keyboard allowing full Manual Data Input.
4. Mini Magnetic Cassette Unit for Multi Program Storage.
5. M.D.I. Single Step and Auto Selector for programs.
6. RS.232C Interface with 7 Din Pin connection to computers and paper tape punch units.
7. Parallel Printer Interface for obtaining hard copy of programs.
8. I.S.O. Format - allowing 'G' and 'M' Code Programming from DIN 66025 extract.
9. Full 'G' and 'M' Code Listings on V.D.U. when required to assist programming.
10. Single Mode Selection Keys.
11. Axis Jog on both Axes with variable feedrate and 0.01 mm step.
12. Feedrate over-ride from 1 mm/min. to 750 mm/min.
13. Programmable Spindle Speed 0-2000 rpm.
14. Linear Interpolation with vectorially correcting feedrates.
15. Circular Interpolation.
16. Absolute/Incremental, Inch/mm programming throughout program build-up.
17. Manual and Programmable Program Stops.
18. Repeat facility allowing build-up of canned cycles-subroutines, Do-Loops for turning and facing cycles, pecking and grooving cycles. (Repeats available - 10<sup>7</sup>).
19. Screwcutting from .1 mm-6 mm pitch (4-80 TPI). Alleviating the necessity of an undercut.
20. Floating Datum Facility.
21. 500 Block Memory (1000 blocks available).
22. Tool Offset for up to 16 tools with Tool Wear Compensation.
23. Programmable Coolant.
24. Programmable Dwell from 0.1 to 9999.9 secs.
25. 4 Auxiliary Outputs.
26. 6 Programmable Inputs.
27. System Resolution 0.01 mm (0.0004").
28. Program Offset allowing for dry run facility.

### SAFETY

Emergency Stop Button Ergonomically placed.  
Adjustable Overtravel Limits on Longitudinal Axis.  
Telescopic Covers on Ballscrew, Sliding Guard.

### MECHANICAL

Swing Over Bed	280 mm (11")
Swing Over Saddle Wings	240 mm (9½")
Swing Over Cross-slide	170 mm (6¾")
Spindle Bar Capacity	26 mm (1 1/16")
Optional extra	38 mm (1½")
Spindle Nose (Camlock)	D1
Optional extra	D1¼
Spindle Taper	No. 4
Optional extra	No. 5
Distance between centres	500 mm (20")
Spindle Speeds	0-2000 rpm
Tailstock Taper	No. 3
Bed	Hardened and Ground Ways
Cross Slide Travel	125 mm (5")
Optional extra with Gangtool Cross Slide	175 mm (7")
Z Axis Ballscrew	25 mm dia. 5 mm Pitch
X Axis Ballscrew	¾" dia. 1/8" Pitch
Base Height to Centre Line	1195 mm (47")
Toolpost - Multifix Quick Change with Repeatability	0.0001", 40 different locations.
Mechanical Resolution	0.01 mm (0.0004")

### Machine Dimensions:-

Height 1680 mm (66")	Length 1370 mm (54")
Width 610 mm (24")	Weight 600 Kilos (1320 lbs)

### ELECTRICAL

50 Hz - 1 phase 240 volts  
60 Hz - 3 phase 220 volts

### Spindle Motor

2 H.P. A.C. 1.5 kw 1420 rpm 6.7 amps incorporating AC Frequency Changer.

### Axes Motors

Stepper Motors - 200 Steps/Rev, 3.5 Amps, 1.1 Ohms.  
Automatic Lubrication System to all Slides and both Ballscrews.

### STANDARD EQUIPMENT

125 mm 5" 3 Jaw Self Centering Chuck.  
Multifix Quick Change Toolpost and One Holder.  
Totally Enclosed Sliding Chuck Guard.  
Flood Coolant - Electric.  
Lo Vo Light - Halogen.  
Automatic Lubrication System.  
Tool Kit including Centres, Wrenches, etc.  
Operation and Instruction Manual.  
2 Days Operator Training.

### EXTRA EQUIPMENT

1½" Spindle Bore, Spray Mist Coolant, Power Chucking, 5C Collet Attachment, Gangtool Cross-Slide, Printer, CAD/CAM and Off Line Computer Programming, Desk Top Programmer, Additional Tools and Holders, Robot Work and Toolchanger (FMS).





MEMORANDUM

FROM: S E CONWAY

TO: P CORP  
R PETTIFER  
L MUSTARDE  
K HIGGINS  
R VOGEL  
IAN CRAIG (INGMAR)  
G HOPWOOD  
B BAKER ) CNC MID-  
J FEENAN) LANDS

REF: SEC/APR

DATE: 17TH JULY 1989

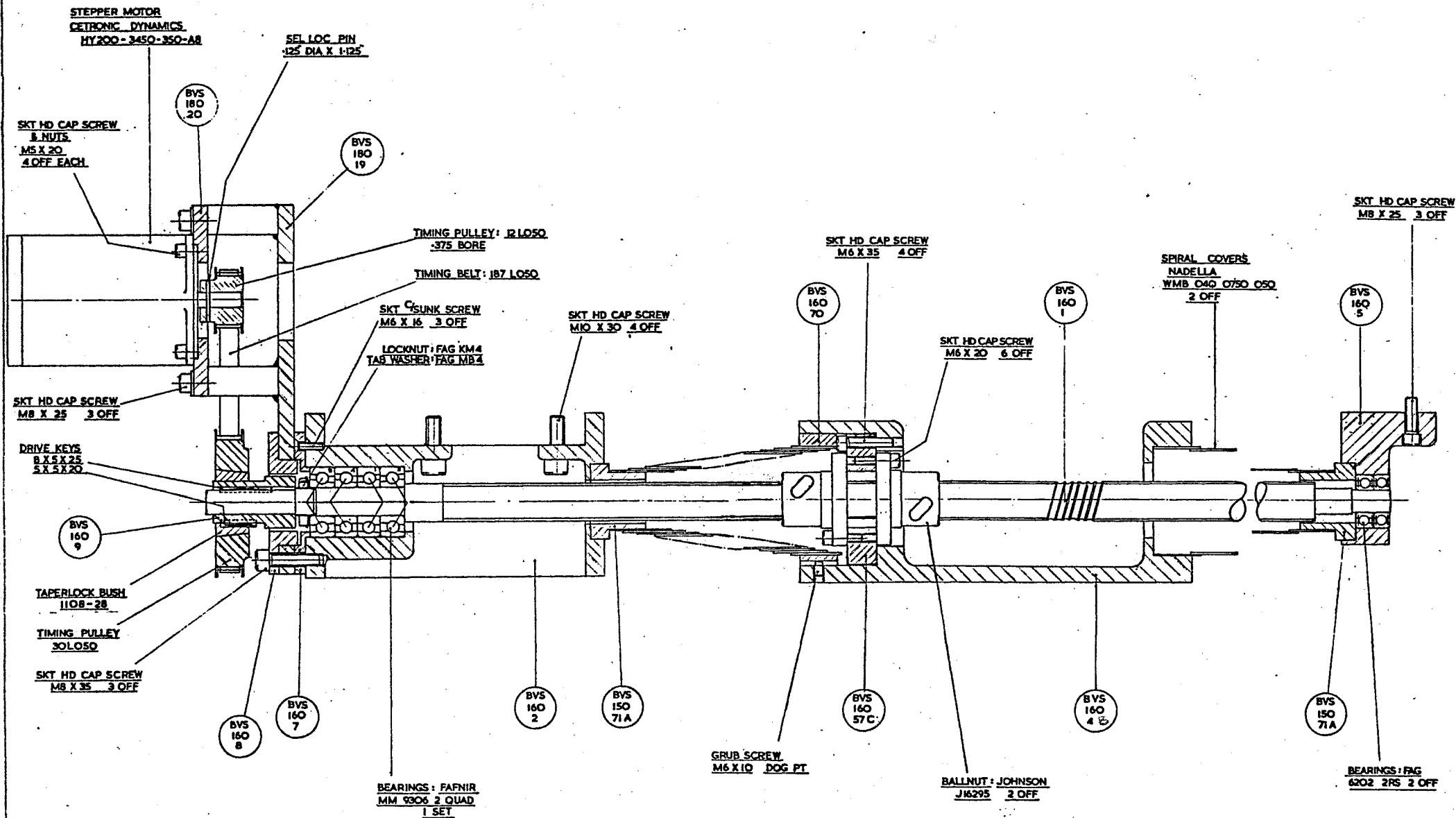
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RE: MACHINE AVAILABILITY - EASITURN

WE HAVE JUST BEGUN PRODUCTION OF THE LAST 2 EASITURN LATHES, THESE HAVE BEEN ASSIGNED FOR EXPORT, THEREFORE WE HAVE NO MORE EASITURN (FAGOR) LATHES AVAILABLE FOR HOME MARKET SALES.

DISTRIBUTION: A M DENFORD  
B KELLETT  
N J DENFORD  
FILE  
RUNNING FILE





DENFORD MACHINE TOOLS LTD. BRIGHOUSE, YORKSHIRE.

EASITURN 3

SADDLE DRIVE

LIMITS ON DIMENSIONS UNLESS  
OTHERWISE STATED.  
ANGULAR ±1° 3 PLACE DECIMAL ± .001°  
FRACTIONAL ± .001" 3 PLACE DECIMAL ± .0001"

DATE  
MATERIAL  
MATERIAL  
MATERIAL

DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
				1-25-88	

DRAWING No. BVS160/400B



EASITURN 3.HEADSTOCKBVS.160/100

<u>PART No.</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
BVS.160/55	MAIN SPINDLE	1
56	BEARING COLLAR	1
62	SPINDLE COOLANT RETURN	1
63	HEADSTOCK	1
101	TRAY EDGES	2
102	TRAY FRONT STRIPS	2
MVS.100/119	CAMLOCK KEY	1
120	CAMLOCK CAM	3
122	DETENT PLUNGER	3
124A	CHROME BEARING CAP	1
151A	REAR BEARING CAP	1
152	FRONT BEARING CAP	1
SP.169	TOMMY BAR	1

<u>DESCRIPTION</u>	<u>MANUFACTURER &amp; REF.</u>	<u>COMPUTER No.</u>	<u>QTY.</u>
BEARING	FAG 6209 2RS	BI 00113A	1
BEARING	HAUGH 18720 CUP	BI 00166	2
BEARING	HAUGH 18790 CONE	BI 00167	2
SPRING	H1634A		3



EASITURN 3CABINETBVS.160/200

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
BVS.100/201.S	CABINET	1
202.S	DOOR STD	1
202.LH	DOOR LH	1
204	SUMP COVER	1
205	DRAIN PLUG	1
206	RETURN PLUG	1
207	DOOR HINGE	4
BVS.150/64	CABINET FOOT	4
BVS.160/43B	REAR SPLASH GUARD	1
44B	INSPECTION COVER	1
45	DRIVE GUARD COVER	1
47C	SLIDING GUARD	1
48B	SLIDING GUARD (LH)	1
50A	GUARD HANDLE	2
53	SLIDING RAIL BASE SUPPORT	2
54	GUARD HANDLE SPACERS	8
77	SPINDLE CONTROL BOX & LID	1
78A	PNC.3 SOCKET	1
79	DRIVE INSPECTION COVER	1
80	LIFTING BRACKET	4
86	LO-VO LIGHT SPACER	1
87	ISOLATOR COVER	1
93	FLEXIBLE CONDUIT BRACKET	1
94	CABINET LIFTING BUSH	8
95A	MICRO SWITCH BRACKET	2
96A/B	GUARD MICRO SWITCH RAILS	2
97A	GUARD BOTTOM SUPPORT	2
98	SPINDLE INSPECTION COVER	1
99	ELECTRICAL INSPECTION COVER	1
101	HEADSTOCK TRAY SIDE	2
102	HEADSTOCK TRAY FRONT	2
104	CONNECTION BOX	1
106	GUARD STOP	1
ML.100/219A	CABINET DRAIN FILTER	1
SP.106	HINGE BUSH	4
CH.265	ELECTRIC SYMBOL	2
CH.267.C	SPECIFICATION PLATE	1
CH.269	ELECTRIC WARNING PLATE	2
CH.288.B	"EASITURN" NAMEPLATE	1
CH.344	YELLOW ARROW	2
CH.345	GUARD NAMEPLATE	1
CH.325	'WARNING LOW LUBE' PLATE	1
CH.438	NAMEPLATE "DENFORD"	1
SP.197	BED MOUNTING PLATE	1
SP.198	BED MOUNTING PLATE	1
EM.100/41	SUPPORT BUSH	1

CONT: 2A



EASITURN 3CABINET Cont:

<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF: No.</u>	<u>QTY.</u>
DOOR LOCK	LOW & FLETCHER	SB.44	2
FLEXIBLE CONDUIT	STABIFLEX	0.0.GGOSSECC/011435Hx45"	1
GUARD TRIM	TEROSON HEIDELBERG	TYPE 18mm (TEROTRIM)	
HANDLE	HEMO	102-5"	1
RIVITS (BLACK)	HARMSWORTH TOWNLEY	201-03-2409-00	14
RUBBER MAT	DOLBY	3/16"FLUTED (BLACK)	
SLIDING TRACK	WIDNEY	2012-FN	2
MICRO SWITCH	BURGESS KB 5E QR	55500380	2



<u>EASITURN 3</u>	<u>B.V.S.160/300</u>	<u>COOLANT</u>
<u>PART No.</u>	<u>DESCRIPTION</u>	<u>No. OFF.</u>
BVS.180/40L	COOLANT ADAPTOR BLOCK	1
EM.100/28	$\frac{1}{2}$ " B.S.P. TAILPIECE ADAPTOR	2
SP.164	$\frac{1}{4}$ " B.S.P. TAILPIECE ADAPTOR	2
189	$\frac{1}{2}$ " HOSE ADAPTOR	1

<u>DESCRIPTION</u>	<u>MANUFACTURER &amp; REF.</u>	<u>COMPUTER No.</u>	<u>QTY</u>
PUMP	M.G.ELECTRICS		
	AQ3/2/SS 3 PHASE	55500398	1
TAP	ALCO $\frac{1}{8}$ " B.S.P.	55501116C	1
PIPE	LOCKLINE COOLANT PIPE	55501102B	1
PLUG	ADAMS NP.50.G.	55501114	1
CLIP	JUBILEE 22-30mm		2
DEPRESSED PLUG	$\frac{1}{2}$ " B.S.P.		1
CLEAR TUBE	GRIFLEX $\frac{3}{4}$ " BORE X 20"	55501110A	1
BRAIDED TUBE	" " " $\frac{1}{4}$ " BORE X 36"	555011108	1



EASITURN 3BED ASSEMBLY

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.100/402	BED	1
BVS.160/64 A 72B	SADDLE STOP	1
	MICRO SWITCH TRIP	1
83	STUD	4
ML. 100/404	BED TENON	2
405	HEADSTOCK STRIP	1
AC.100/215	SADDLE STOP CLAMP PLATE	1

-oOo-

<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF. NO.</u>	<u>NO.</u>
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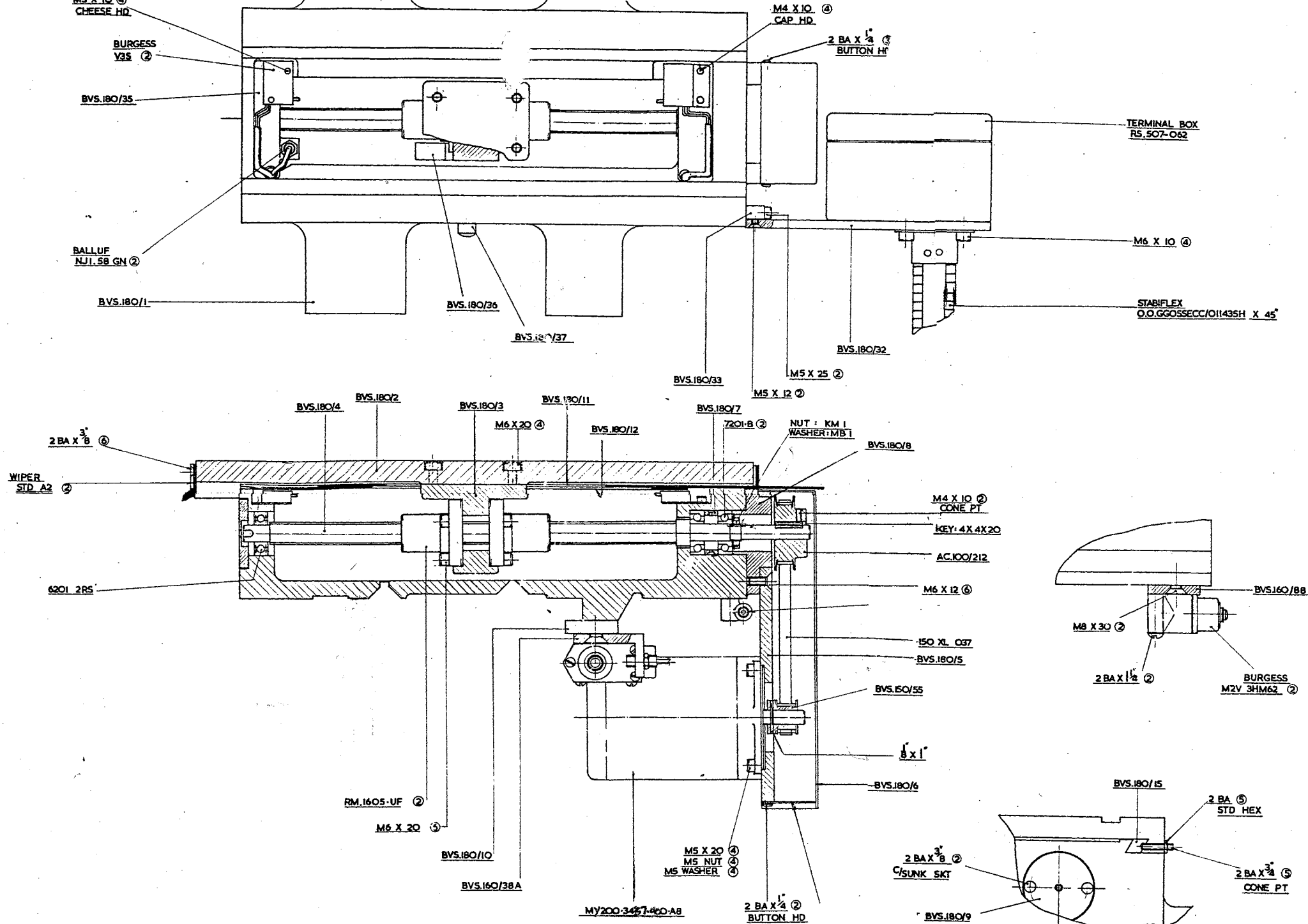
EASITURN 3(2 HP)  
SPINDLE DRIVEBVS.160/100A

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.160/51	MOTOR PULLEY	1
52C	SPINDLE PULLEY (2500 RPM)	1
58A	MOTOR BRACKET	1
59A	MOTOR BRACKET FOOT	1
60A	SPINDLE SENSOR BRACKET	1
67A	ADJUSTING STUD	1
68	MOTOR BRACKET PIVOT PIN	2

-oOo-

<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF. NO.</u>	<u>NO.</u>
DRIVE MOTOR	ASEA	MK.110 021-5 MT 90L-4	1
DRIVE BELT	WM. KENYONS	32QJ10 (2500)	1
SPHERICAL WASHER	WDS	401-203 MALE	2
SPHERICAL WASHER	WDS	401-203 FEMALE	2
ENCODER DISC	NEWING HALL	Z 95	





DENFORD MACHINE TOOLS LTD. BRIGHOUSE, YORKSHIRE.

EASITURN 3

SADDLE & CROSS SLIDE DRIVE

LIMITS ON DIMENSIONS UNLESS OTHERWISE STATED.

ANGULAR ± 1° 3 PLACE DECIMAL ± .005°  
FRACTIONAL ± .000" 4 PLACE DECIMAL ± .0005"

MATL.  
MATL. SIZE  
MIL REQD.  
MACHINE AT °V  
GRIND AT °C

DRAWN ✓ TRACED CHECKED APPROVED DATE 1-4-84 SCALE 1:1

DRAWING No. BVS.180/500.

DESCRIPTION  
ALTERATIONS

CHECKED DATE



EASITURN 3SADDLE DRIVE

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.160/1	BALLSCREW	1
2	FEEDBOX	1
4 B	APRON	1
5	END BRACKET	1
7	BEARING CAP	1
8	MOTOR BRACKET LOCATING RING	1
9	EXTENSION BUSH	1
57 C	BALLNUT FLANGE	1
70	REDUCING RING	1
105	'Z' AXIS CONNECTION BOX	1
BVS.180/19	SADDLE DRIVE BRACKET	1
20	MOTOR PLATE	1
BVS.150/71.A	GUARD RETAINING RING	2

-oOo-

<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF.</u>	<u>NO.</u>
STEPPING MOTOR	CETRONIC DYNAMICS	HY200-3450.350.A8	1
TIMING BELT	UNIROYAL	187 L 050	1
TIMING BULLEY	FENNER	12 L 050	1
TIMING PULLEY	FENNER	30 L 050	1
TAPER LOCK BUSH	FENNER	1108-28	1
BALL SCREW BEARINGS	FAFNIR	MM9306 W1.2.QUAD	1 SET
BALL BEARINGS	FAG	6202 2RS	2
LOCKNUT	FAG	KM 4	1
TAB WASHER	FAG	MB.4	1
SPIRAL COVERS	NADELLA	WMB.040.0750.050	2
BALLNUT	WARNER	RM.2505.A	1
BALLNUT	WARNER	RM.2505 UF	1



EASITURN 3SADDLE & CROSS SLIDE DRIVE

<u>PART No.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
BVS.180/1	SADDLE	1
2	CROSS SLIDE	1
3	CROSS SLIDE NUT BRACKET	1
4	CROSS SLIDE BALLSCREW	1
5	DRIVE BRACKET	1
6	DRIVE COVER	1
7	BEARING SPACER	1
8	DRIVE BRACKET SPIGOT	1
9	BEARING END CAP	1
10	JIB STRIP	1
11	TOP SLIDING COVER	1
12	BOTTOM SLIDING COVER	1
15	CROSS SLIDE JIB STRIP	1
32	JUNCTION BOX BRACKET	1
33	" " " SUPPORT	1
34	MULTI-FIX TOOL PALLET	1
35	SENSOR & SWITCH BRACKET	1
36	SENSOR TRIP	1
38	BEDWAY WIPERS	2 Sets
39	CONNECTION BOX	1

BVS.160/26	TOOLPOST STUD	1
38A	SENSOR COVER ARM	1
88	MICRO-SWITCH PLATE	1

BVS.150/55	12T PULLEY	1
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AC.100/212	30T PULLEY	1
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TP.110/21	TAILSTOCK STOP	1
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<u>DESCRIPTION</u>	<u>MANUFACTURER &amp; REF</u>	<u>COMPUTER No.</u>	<u>QTY</u>
STEPPING MOTOR	CETRONICS:HY200.3437 .400.A8	55500421A	1
TIMING BELT	UNIROYAL : 150 XL 037	55500650	1
BEARING	FAG : 6201 2RS	55500110A	1
BEARING	FAG : 7201.B	55500102A	2
LOCK NUT	FAG : KM.1	55500186A	1
TAB WASHER	FAG : MB.1	55500186B	1
SLIDEWAY WIPER	HYDRAQUIP : STD A1	55501424	
" "	" ; STD A2	55501425	
BALLNUT	WARNER : RM.1605.UF	55500178A	2
SENSOR	BALLUF : NJ1.58.GN	55500401A	2
MICROSWITCH	BURGESS : M2V 3HM6S	55500381A	2
"	" : V3S	55500425	2
OILER	BENNET : A1404	OILER 3/8"	1

EASITURN 3TAILSTOCKBVS.100/700

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
MVS.100/701	TAILSTOCK BODY	1
702	TAILSTOCK SHOE	1
703	END CAP	1
705E	BARREL (IMPERIAL)	1
705M	BARREL (METRIC)	1
707	NUT	1
701A/B	BARREL CLAMPS	1 SET
711	EJECTOR PIN	1
712	CLAMP HANDLE STOP	1
BVS.100/706	TAILSTOCK SCREW	1
SP. 135	CLAMP PAD	1
147A	CLAMP ECCENTRIC	1
148A	CLAMP PIN	1
171A	LOCKING STUD	1
172	TEE KEY	1

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<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF.</u>	<u>NO.</u>
HANDWHEEL	ELESA	VDO-125FP.1	1
LEVER ARM	ELESA	BL.366.10x155	1
CONTROL LEVER	ELESA	LEB.37/85/A10	1
OILER	LUMATIC	B04	2
GROOVE PIN		3MM x 45	1
GROOVE PIN		$\frac{1}{8}$ " x $1\frac{1}{2}$ "	1
GRUB SCREW (PLAIN CUP PT)		MB - 45	2
GRUB SCREW (DOG PT)		M6 x 6	1
GRUB SCREW (KNL CUP)		M6 x 6	1
GRUB SCREW (KNL CUP)		M5 x 6	3
NYLOC NUT		M10	1
STD. WASHER		M10	1
SKT. HD. CAP SCREW		M6-20	4



EASITURNPNEUMATIC TAILSTOCKBVS.100/750

<u>PART No.</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
BVS.100/751	POWER TAILSTOCK BARREL	1
752	TAILSTOCK END CAP	1
MVS.100/701	TAILSTOCK BODY	1
702	TAILSTOCK SHOE	1
712	CLAMP HANDLE STOP	1
SP.135	TAILSYOCK CLAMP PAD	1
147A	CLAMP ACCENTRIC	1
148A	CLAMP PIN	1
172	TEE KEY	1

<u>DESCRIPTION</u>	<u>MANUFACTURER &amp; REF.</u>	<u>COMPUTER No.</u>	<u>QTY.</u>
CYLINDER	ENOTS 60 252 00 0100	BI	1
LEVER ARM CLAMP	ELESA BL 366/10 X155	BI 01217	1
OILER	LUMATIC B04		1
BULKHEAD ADAPTOR	ENOTS 97 1508 02	BI 01123S	4
BULKHEAD LOCKNUT	ENOTS 36 0520 01	BI 01123Q	4
BRAIDED PIPE	42 002 00 0600	BI 01126G	
TEE CONNECTOR	ENOTS 97 1514 02	BI 01128D	2
STRAIGHT ADAPTOR	ENOTS 97 1530 02	BI 01128N	8
SILENCER	MARTONAIR S/S1	BI 01128T	2
NIPPLED CONNECTOR	ENOTS 36 0633 01	BI 01128U	2
RETURN VALVE	MARTONAIR S/520	BI 01128W	3
FLOW VALVE	MARTONAIR S/836	BI 01128X	1
SOLENOID VALVE	MARTONAIR X4 1155 50 110	BI 01130Z	1
REGULATOR	KAY KMPR1/3H	BI 01131A	1
SUB BASE	KAY KMB PR 4P	BI 01131C	1
STRAIGHT ADAPTOR	ENOTS 97 1505 04	BI 01451E	1

EASITURN 3      LUBRICATION SYSTEMBVS.160/800

<u>DESCRIPTION</u>	<u>MANUFACTURER &amp; REF.</u>	<u>COMPUTER No.</u>	<u>QTY</u>
OIL PUMP	BIJUR C-2894	55501120	1
METER UNIT	" " FSB 3/0 B-8717	55501123E	4
" " " "	" " FJB 3/0 B-6548	55501123F	2
COMPRESSION BUSH	" " B-1371	55501123H	8
BLANKING PLUG	" " B-3714	55501123N	1
8 WAY JUNCTION	" " B-3265	55501123V	1
COMPRESSION SLEEVE	" " B-1061	55501126A	14
" " " " NUT	" " B-1095	55501124A	6
COUPLING-FEMALE	" " A-2899	55501123Z	1
COPPER PIPE	YORKSHIRE IMPERIAL		
	4mm O/D X 0.6mm WALL	55501123J	1.5M
NYLON PIPE	BIJUR 5N25	55501126F	5M
GROMMET	16 mm DIA.		1
THREADED COPPING	BIJUR B-1371		1

FOR LAYOUT DRAWINGS SEE SK.776 &amp; SK.780 B



EASITURN 3HEADSTOCKBVS.170/100

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.170/1	4" MAIN SPINDLE	1
2	HEADSTOCK	1
3	FRONT NOSE CAP	1
4	REAR NOSE CAP	1
5A	LOCKNUT	1
6	SPINDLE COOLANT RETURN	1
8	FRONT BEARING SPACER	1
9	REAR BEARING SPACER	1
10	CAMLOCK KEY	1
11	CAM	3
16	SPINDLE END TUBE	1
17	SPINDLE END TUBE NUT	1
18	4" NOSE CATCHPLATE	1
19	250mm FACEPLATE	1
20	CAMLOCK STUD	3
22	POWER CHUCK BACKPLATE	1

MVS.100/122

DETENT PLUNGER

3

SP.169

TOMMY BAR

1

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<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF.</u>	<u>NO.</u>
/ ROLLER BEARING	FAG	320 13X	2
/ STD. BEARING	FAG	6211 2RS	1
/ GREASE NIPPLE	LUMATIC	HP2/45	1
SQ. DRIVE KEY		$\frac{3}{8}$ " SQ x 2"	1

(EXTRA EQUIPMENT)

EASITURN 3SPINDLE DRIVE 3H.P.BVS.170/100A

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.170/7	SPINDLE PULLEY (2200 RPM)	1
14	MOTOR PULLEY	1
15	MOTOR BRACKET	1
BVS.160/59A	MOTOR BRACKET FOOT	1
60 A	SPINDLE SENSOR BRACKET	1
61		
67A	ADJUSTING STUD	1
68	MOTOR BRACKET PIVOT PIN	2
44A	3 HP INSPECTION COVER	1

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<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF.</u>	<u>NO.</u>
✓ DRIVE MOTOR	ASEA	MT 100 LA 28-4	1
✓ DRIVE BELT	WM. KENYONS	360J10	1
SPHERICAL WASHER	WDS	401.203 MALE	1
SPHERICAL WASHER	WDS	401.203 FEMALE	1
ENCORDER DISC	NEWING HALL	Z95	1



<u>PART No.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
BVS.170/1	4" MAIN SPINDLE	1
2	HEADSTOCK	1
3	FRONT NOSE CAP	1
4	REAR NOSE CAP	1
5A	LOCKNUT	1
6	SPINDLE COOLENT RETURN	1
7C	SPINDLE PULLEY	1
8	FRONT BEARING SPACER	1
9	REAR BEARING SPACER	1
10	CAMLOCK KEY	1
11	CAM	3
14A	MOTOR PULLEY	1
15	MOTOR BRACKET	1
16	SPINDLE END TUBE	1
17	SPINDLE END TUBE NUT	1
18	4" NOSE CATCHPLATE	1
19	250mm FACEPLATE	1
20	CAMLOCK STUD	3
21	SPINDLE ENCODER PULLEY	1
BVS.160/44A	3 H.P. INSPECTION COVER	1
59A	MOTOR BRACKET FOOT	1
67A	ADJUSTING STUD	1
68	MOTOR BRACKET PIVOT PIN	2
101	TRAY EDGES	2
102	TRAY FRONT STRIPS	2
MVS.100/122	DETENT PLUNGER	3
AC.4/503	SPINDLE ENCODER BRACKET	1
SP.169	TOMMY BAR	1

<u>DESCRIPTION</u>	<u>MANUFACTURER &amp; REF</u>	<u>COMPUTER No.</u>	<u>QTY</u>
DRIVE MOTOR	ASEA MT 100 LA 28-4	BI 00312	1
DRIVE BELT	POLY 'V' 360 J 10	BI 00627A	1
ROLLER BEARING	FAG 320 13X	BI 00192	2
STD. BEARING	FAG 6211 2RS	BI 00113B	1
GREASE NIPPLE	LUMATIC HDEFV4/45	BI 01113B	1
CONVEX WASHER		BI 00196C	2
CONCAVE WASHER		BI 00196B	2
TIMING PULLEY	FENNER 30L050	BI 00649A	1
TAPER LOCK BUSH	FENNER	BI 00647E	1
ENCODER	HEIDENHAIN ROD 420/250	BI 00442Q	1
TIMING BELT	FENNER 270L050	BI 00646C	1
IE CAST BOX	RS.509-125 220 x 120	RS.509-125	1

## (EXTRA EQUIPMENT)

EASITURN 3TOOLINGBVS.180/100

<u>PART No.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
BVS.180/13	TOOL PALLET	3
14	TOOL PALLET KEY	6
16A	TOOLPOST TYPE A 16mm STD	2
16B	" " B 16mm EXT	1
16C	" " C No. 3 MT	1
16D	" " D COLLET	3
16E	" " E REAR	1
16F	" " F SIDE	1
16G	" " G REAR SIDE	1
16H	" " H REAR EXT	1
17A	COLLET 6mm DIA	1
17B	" 8mm DIA	1
17C	" 10mm DIA	1
17D	" 16mm DIA	1
17E	" 20mm DIA	1
17F	No. 3 & 4 CENTRE DRILL HOLDER	1
41	TOOL TURRET (BARUFFALDI RH 80)	1
42	TOOLPOST BASE " "	1

DESCRIPTIONMANUFACTURER & REFCOMPUTER No.qty



(EXTRA EQUIPMENT)

'EASITURN 3'POWER CHUCKBVS.160/900

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.160/89	BULKHEAD FLANGE	3
90	SPLIT BUSH	3
91	RETAINING ARM	1
92	AIR REGULATOR SUPPORT BKT.	1
103	BOTTOM PLATE	1
CH.307	AIR PRESSURE PLATE	1
CH.308	POWER CHUCK DIRECTION PLATE	1

<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF.</u>	<u>NO.</u>
160MM 3 JAW D1-3"	PRATT BURNERD	1742-2170	1
CHUCK CONTROL	" "	1156-27100	1
HARD TOP JAWS	" "	2740-17611	1

EASITURN 3 INDEXING TOOLPOSTPARTS LIST

<u>PART No.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
TP.110/1	TOOLPOST BODY	1
2	TURRET	1
3	MAIN SHAFT	1
4	WORM SHAFT	1
5	WORM GEAR	1
6	WORM SHAFT END CAP	1
7	RATCHET STOP	1
8	RETAINING PIN	1
9	FRONT PLATE	1
10	REAR PLATE	1
11	TRANSDUCER DISC	1
12A	MOTOR JACKET	1
13		
14		
15	ELECTRICAL COVER	1
16		
17A,B&C	COLLETS 6,8&12 DIA } see list TP.110.A (Page 14)	1 set
18	CHUCK ADAPTOR	1
19	GREASE RETAINING PLATE	1
20	SENSOR BOARD BRACKET	1
21		1
22		
23		
24		
BVS.180/14	KEY	2
CH.321	'D' SYMBOL	1
CH.364	LIFTING WARNING PLATE	1

<u>DESCRIPTION</u>	<u>MANUFACTURER &amp; REF</u>	<u>COMPUTER No.</u>	<u>QTY</u>
MOTOR	TRIDENT: 2332.912 11.151 000	55500302	1
GEARBOX	TRIDENT: 2938.804 0060.0 000	55500302A	1
BEARING	FAG : 7205 B	55500102B	1
BEARING	FAG : 6200 2RS	55500110	1
OILITE BUSH	16/22/25	55500195F	1
LOCKNUT	FAG : KM5	55500184A	1
TABWASHER	FAG : MB5	55500184B	1
OPTO SWITCH	RS 307 913	307 913	3
GREASE NIPPLE	LUMATIC : HDFV4		1
DISC SPRING	ANDERTON : AL 4017	55500196D	1
DRILL CHUCK	JACOBS : K10 ACG <sup>3</sup> / <sub>8</sub> x24M		1
W'RING	G ANGUS: RM0416-24	55500198C	1



EASITURN 3' INDEXING TOOLPOST

PARTS LIST

TP.110.A

COLLET & CHUCK

<u>PART No.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
TP.110/17A	COLLET 6 DIA	1
17B	COLLET 8 DIA	1
17C	COLLET 12 DIA	1
18	CHUCK ADAPTOR	1

<u>DESCRIPTION</u>	<u>MANUFACTURER &amp; REF</u>	<u>COMPUTER No.</u>	<u>QTY</u>
DRILL CHUCK	JACOBS : K10 ACG $\frac{5}{8}$ x24M	55500047A	1

'EASITURN 3'

LEVER OPERATED COLLET CHUCK

<u>ART No.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
BVS.160/107	ANCHOR	1

<u>DESCRIPTION</u>	<u>MANUFACTURER &amp; REF</u>	<u>COMPUTER No.</u>	<u>QTY</u>
CHUCK (D1-3") OR	PRATT BURNERD LC 10	55500018B	1
YUCK (D1-4")	PRATT BURNERD LC 15	55500018C	1

EASITURN

BVS. 160/1000

PNEUMATIC GUARD



## ELECTRICAL PARTS LIST:- EASIRN 3.

SHEET 1 OF 4

PART DESCRIPTION	PART NUMBER OR CAT. NUMBER	QUANTITY USED SELECT TO SUIT MACHINE ORDER				
		COMBIVERT 3PH. 2HP	COMBIVERT 1PH. 2HP	PARAJUST 1PH. 2HP		
LIMIT SWITCH.	BURGESS M2V3M6S	2	2	2		
LIMIT SWITCH.	BURGESS V3S	2	2	2		
DATUM SENSORS	BALLUF NJ1-58GN.	2	2	2		
STEPPER MOTORS	CETRONIC HY20013450/350/A8	2	2	2		
SPINDLE MOTOR	ASEA MT-90L24F/65-4	1	1	1		
COOLANT PUMP MOTOR 3PH.	N.G. ELECTRIC'S AQ3/2/Q/SS	1				
COOLANT PUMP MOTOR 1PH.	N.G. ELECTRIC'S AQ3/1/E/SS		1	1		
ENCODER DISC	NEWING HALL Z 95	1	1	1		
ALL THE ABOVE ITEMS ARE WITHDRAWN ON THE MECHANICAL PARTS LIST ARE LISTED HERE FOR REFERENCE ONLY						
MAGNETIC PANEL ASSEMBLY 380/415 3PH	P4899/V1 MP-011	1				
MAGNETIC PANEL ASSEMBLY 220/240 1PH	MP-010		1			
MAGNETIC PANEL ASSEMBLY 220/240 1PH				1		
FOR VOLTAGES NOT LISTED ABOVE PLEASE SEE		DRAWING	OFFICE			
PNC 3	PNC 3	1	1	1		

A4-300023

## ELECTRICAL PARTS LIST:- EASI RN 3 CONT'D.

SHEET 2 OF 4

PART DESCRIPTION	PART NUMBER OR CAT. NUMBER	QUANTITY			SELECT TO SUIT MACHINE ORDER	
		COMBIVERT 3PH-2HP	COMBIVERT 1PH-2HP	PARAJUST 1PH-2HP		
COMBIVERT 3PH.		1				
COMBIVERT 1PH.			1			
PARAJUST 1PH.				1		
WIRE HARNESS FROM LATHE TO PNC 3	WH 004	1	1			
WIRE HARNESS FROM LATHE TO PNC 3	WH 005			1		
CONNECTION BOX	R.S. 507-062 -	1	1	1		
CONNECTION BOX	R.S. 509-923 ✓	1	1	1		
SURFACE STEEL BOX	MK- 891-ALM	1	1	1		
BLANK PLATE	MK- 3370-ALM	1	1	1		
ISOLATING SWITCH.	KLOCKNER-MUELLER. PI-32-EQ-SMB	1	1	1		
LOW-VOLTAGE LIGHT.	SK- 2739	1	1	1		
SPINDLE R.P.M. DETECTOR	NORTH EASTERN ELECTRONICS	1	1	1		
OIL FLOAT SWITCH.		1	1	1		
PILOT LAMP BODY	BBC TYPE 174502.001/13 ORDER CODE GHV87190/13/R1	1	1	1		
PILOT LAMP SOCKET	BBC TYPE 171206 001 ORDER CODE GHV87901-DIR1	1	1	1		
PILOT LAMP 24V. 1-2WATT	BBC TYPE 1900060-014 ORDER CODE GMN 976163-P46	1	1	1		

A4-300023

PART DESCRIPTION	PART NUMBER OR CAT. NUMBER	QUANTITY			SELECT TO SUIT MACHINE ORDER	
		COMBIVERT 3PH - 2HP	COMBIVERT 1PH - 2HP	PARAJUST 1PH - 2HP		
16mm FLEXIBLE CONDUIT	ADAPTA FLEX SP16	470mm	470mm	470mm		
16mm STRAIGHT CONNECTORS	ADAPTA FLEX SP16/M16/D	4	4	4		
20mm To 16mm REDUCER		2	2	2		
16mm RING LOCKNUTS	LRS/M16	4	4	4		
20mm FLEXIBLE CONDUIT	ADAPTA FLEX SP20	2130mm	2130mm	2130mm		
20mm STRAIGHT CONNECTORS	ADAPTA FLEX SP20/M20/D	10	10	10		
20mm RING LOCKNUTS	LRS/M20	12	12	12		
CABLE GRAND	RS 544-011	5	5	5		
DUCTING 40mm x 40mm	E.G.A. YT/5	2m	2m	2m		
TERMINAL BLOCK	2435-2	1X12WAY + 6 SINGLE	1X12WAY + 6 SINGLE	1X12WAY + 6 SINGLE		
COPPER SADDLES	BILL RC 32	8	8	8		
BUNNY TUBE		1030mm	1030mm	1030mm		
CABLE SLEEVING 6mm	RS 398-521	1MTR	1MTR	1MTR		
PLEASE NOTE:- FOR SINGLE PHASE	COMBIVERT AND PARAJUST MACHINES	A P.N.C3 AND PRINTED				
CIRCUIT BOARD FROM NORTH EASTERN	ELECTRONICS IS REQUIRED	AND SHOULD BE SENT TO				
<del>ELECTRONICS TO BE FITTED TO THE MAGNETIC PANEL.</del>						





LEAVE.

EASITURN FAGOR

ELECTRICAL CABINET

QUANTITY	DESCRIPTION	MANUFACTURER	COMPUTER NO.
✓ 110	TERMINALS	KLIPPON	BI 00363B
<del>43</del>	EARTH TERMINALS	KLIPPON	BI 00363F
✓ 4	PLATES	KLIPPON	BI 00363C
✓ 6	ENDSTOPS	KLIPPON	BI 00363D
<del>23</del>	SUPPRESSORS	MURRELEKTRONIK RC 21011	BI 00430B
new 72	3PH SUPPRESSOR	PLASTIC TECHNOLOGY	BI 00430
✓ 1	DIODES	RS	261-176
✓ 1	11 PIN RELAY BASE	RS	BI 00362D
✓ 4	24V DC RELAYS	MURRELEKTRONIK 51551	BI 00362H
✓ 1	24V DC RELAYS	RS	BI 00362C
7 7	FUSES	HARRISONS	BI 00402E/F
2	END STOPS	HARRISONS	BI 00402D
2	CONTACTORS	BBC-B9-30-10-110V	B9-30-10-110V
1	OVERLOAD	BBC T25 0.28-0.42	T25 0.28-0.42
1	EARTH BAR	HARRISONS	BI 00402I
4	EARTH CLIPS	HARRISONS	BI 00402J
5	MAINS TERMINALS	PHONIX	BI 00402K
1	MAINS ISOLATOR	STROMBERG OETL 40DI	BI 00366A
1	SPINDLE DRIVE	IMO JAGUAR	BI 00432X
2	CIRCUIT BREAKERS	BBC S273-10A	BI 00366I
1	CIRCUIT BREAKER	BBC S273-10A	BI 00366H
1	NORWIN DRIVE 2 AXIS	NORWIN	BI 00346B

EASITURN FAGOR  
TRANSFORMER BOX

QUANTITY	DESCRIPTION	MANUFACTURER	COMPUTER NO.
1	CONTROL TRANSFORMER 110V	BOARDMAN 2KVA	BI 00374F
1	AXIS CONTROL TRANS	NORWIN 1.5KVA	BI 00346A
1	WORKLIGHT TRANSFORMER		BI 00376

EASITURN FAGOR

OPERATORS PANEL

QUANTITY	DESCRIPTION	MANUFACTURER	COMPUTER NO.
1	80MM 110V FAN	R.S.	509-046
1	80MM FILTER	R.S.	507-911
1	80MM FINGER GUARD	R.S.	509-052
1	E STOP BUTTON	HARRISONS	BI 00365D
4	PUSHBUTTONS	HIGHLAND	BI 00365I/J
1	LENS GREEN	HIGHLAND	BI 00365L
1	LENS ORANGE	HIGHLAND	BI 00365N
1	LENS RED	HIGHLAND	BI 00365K
1	LENS WHITE	HIGHLAND	BI 00365M
4	24V BULBS	R.S.	586-655

'EASITURN' CNC LATHE.

PARTS LIST

DENFORD MACHINE TOOLS LTD.,  
BRIGHOUSE,  
WEST YORKS.

JANUARY 1983.



DENFORD MACHINE TOOLS LIMITED.

REPLACEMENT PARTS LIST.

'EASITURN' CNC LATHE.

HEADSTOCK

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.160/63	HEADSTOCK	1
160/55	MAIN SPINDLE	1
160/62	SPINDLE COOLANT & RETURN	1
MVS.100/119	CAMLOCK KEY	1
120	CAM	3
122	DETENT PLUNGER	3
124	BEARING CAP	1
127	LOCKNUT	2
152	FRONT BEARING SPACER	1
SP. 169	TOMMY BAR	1
181	SOFT CENTRE (NO. 4 MT)	1
BVS.160/ 56	BEARING COLLAR	1

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CABINET

BVS.100/204	SUMP COVER	1
205	DRAIN PLUG	1
206	RETURN PLUG	1
207	DOOR HINGE	2
208A	COOLANT PUMP COVER PLATE	1
ML.100/219A	CABINET DRAIN FILTER	1
SP. 106	HINGE BUSH	2
BVS.100/201S	CABINET	1
64	CABINET FOOT	4
160/36A	CONTROL HOUSING	1
41B	REMOTE CONTROL HOLDER	1
43A	REAR SPLASH GUARD	1
44	INSPECTION COVER	1
45	DRIVE GUARD COVER	1
47	SLIDING GUARD	1
50	GUARD HANDLE	1
53	SLIDING RAIL BASE SUPPORT	1
54	GUARD HANDLE SPACERS	4
73	DIVIDING PANEL	1
75	TRANSFORMER MOUNTING PLATE	1

REPLACEMENT PARTS LIST'EASITURN' CNC LATHE.CABINET - CONTINUED

<u>PART NO.</u>	<u>DESCRIPTION.</u>	<u>NO.</u>
CH.263	LO VO LIGHT SOCKET LABLE	1
265	ELECTRIC SYMBOL	1
268	EMERGENCY STOP SURROUND	1
269	ELECTRICAL WARNING LABEL	2
284B	STARTER BOX PANEL	1

COOLANT.

BVS.150/32	COOLANT PIPE	1
SP. 164	TAILPIECE ADAPTOR	2
189	$\frac{1}{2}$ " HOSE ADAPTOR	1
EM.100/28	$\frac{1}{2}$ " B.S.P. TAILPIECE ADAPTOR	2

BED ASSEMBLY

BVS.100/402	BED	1
150/ 84	REAR SENSOR COVER	1
160/ 37	MICRO SWITCH SPACER	1
38	SENSOR COVER ARM	1
64	ADJUSTABLE MICRO SWITCH HOUSING	1
ML. 100/404	BED TENON	2
405	HEADSTOCK STRIP	1
406	BED END STOP	1
SP. 180	STUD	4

SPINDLE DRIVE

BVS.160/ 51	MOTOR PULLEY	1
52B	SPINDLE PULLEY (2000 RPM)	1
52C	SPINDLE PULLEY (3000 RPM)	1
58A	MOTOR BRACKET	1
59A	MOTOR BRACKET FOOT	1
60	SPINDLE SENSOR BRACKET	1
61	SPINDLE SENSOR PLATE	1
67	MOTOR BRACKET STOP	1
68	MOTOR BRACKET PIVOT PIN	2
74	MOTOR PULLEY (4000 RPM)	1

REPLACEMENT PARTS LIST.'EASITURN' CNC LATHESADDLE DRIVE.

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.160/ 1	BALLSCREW	1
2	FEEDBOX	1
3	MOTOR BRACKET	1
4A	APRON	1
5	END BRACKET	1
7	BEARING CAP	1
8	MOTOR BRACKET LOCATING RING	1
9	EXTENSION BUSH	1
10	INTERMEDIATE DRIVE SHAFT	1
11	LOCATING BUSH	4
BVS.150/71A	GUARD RETAINING RING	2
83	SENSOR TRIP BRACKET	2
BVS.160/ 40	16T INTERMEDIATE PULLEY	1
57B	BALNUT FLANGE	1
70	REDUCING RING	1

REPLACEMENT PARTS LIST.'EASITURN' CNC LATHESADDLE & CROSS SLIDE DRIVE.

<u>PART NO.</u>	<u>DESCRIPTION.</u>	<u>NO.</u>
MVS.100/513	SADDLE REAR GIB STRIP	1
BVS.150/10	CROSS SLIDE	1
11	SADDLE	1
13B	CROSS SLIDE BALL SCREW	1
14A	CROSS SLIDE END COVER	1
37A	30T PULLEY	1
38A	BALL NUT ADAPTOR	1
42A	SIDE PLATE	1
68	DRIVE BRACKET DOWELS	2
73	REAR CLUTCH GUARD	1
79	FRONT SPINDLE	1
80	CROSS SLIDE WIPER	1
85	BELT TENSION ARM	1
ML.100/507	SWIVEL SLIDE LOCKING PIN	3
508B	CROSS SLIDE GIB STRIP	1
512	CROSS SLIDE SPIGOT INSERT	1
CH. 186	IMPERIAL DIAL DIVISION CHART	2
BVS.160/15A	BASE	1
16	COMPOUND SLIDE	1
17	TOP SLIDE	1
18	DIAL	2
19	RH FEED SCREW	1
20	RH FEED NUT	1
21	LH FEED SCREW	1
22	LH FEED NUT	1
23	GIB STRIP	1
24	END PLATE	1
25	END PLATE	1
26	TOOL POST STUD	1
27	ADAPTOR SLEEVE	1
28	CROSS SLIDE BEARING HOUSING	1
29	DRIVE BUSH	1
35	DRIVE SPINDLE	1
42	CROSS SLIDE DRIVE BRACKET	1
64	ADJUSTABLE MICRO-SWITCH HOUSING	1
65	CLAMP PLATE	1
69	SADDLE FRONT GIB STRIP	1
72	MICRO-SWITCH TRIP	1



REPLACEMENT PARTS LIST'EASITURN' CNC LATHETAILSTOCK

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
MVS. 100/701	TAILSTOCK BODY	1
702	TAILSTOCK SHOE	1
703	END CAP	1
705E	BARREL (IMPERIAL)	1
705M	BARREL (METRIC)	1
707	NUT	1
701A/B	BARREL CLAMPS	1 SET
711	EJECTOR PIN	1
712	CLAMP HANDLE STOP	1
BVS. 100/706	TAILSTOCK SCREW	1
SP. 135	CLAMP PAD	1
147A	CLAMP ECCENTRIC	1
148A	CLAMP PIN	1
171A	LOCKING STUD	1
172	TEE KEY	1

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REPLACEMENT PARTS LIST'EASITURN' CNC LATHEBOUGHT OUT ITEMSHEADSTOCK

<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF. NO.</u>	<u>NO.</u>
BEARING	FAG	6209 2RS	1
ROLLER BEARING	TIMKEN	CONE: 18790	2
ROLLER BEARING	TIMKEN	CUP: 18720	2
GREASE NIPPLE	LUMATIC	HP2/45	1
SQUARE DRIVE KEY		$\frac{3}{8}$ " SQ x 2"	1

SPINDLE DRIVE CONTROL

DRIVE MOTOR	ASEA	MK 110 021 - 5	
DRIVE BELT	WM. KENYONS	MT 90L - 4	1
		340J10 (2000 RPM)	1
		320J10 (3000 RPM)	
		380J10 (4000 RPM)	

CABINET.

DOOR LOCK	LOW & FLETCHER	SB. 44	1
KNOBS	ELESA	VTR. 40B. M8	1
NYLON GLAND	EGATUBE	A2 251	7
HANDLES	HEMO	102. 5"	3
PLASTIC RIVETS (BLACK)	HARMSWORTH TOWNLEY	201 080551 00	10
PLASTIC RIVETS	HARMSWORTH TOWNLEY	239 ED 868	12
EMERGENCY STOP			
RUBBER MAT	DOLBY	3/16" FLUTED (GREEN) 16"x13 $\frac{1}{2}$ "	1
ALUMINIUM ANGLE		$\frac{1}{2}$ "x $\frac{1}{2}$ "x $\frac{1}{8}$ " - 33 $\frac{1}{2}$ "	2
ALUMINIUM ANGLE		$\frac{1}{2}$ "x $\frac{1}{2}$ "x $\frac{1}{8}$ " - 8"	2
ALUMINIUM ANGLE		$\frac{1}{2}$ "x $\frac{1}{2}$ "x $\frac{1}{8}$ " - 16"	2
ALUMINIUM ANGLE		$\frac{1}{2}$ "x $\frac{1}{2}$ "x $\frac{1}{8}$ " - 13 $\frac{1}{2}$ "	2
GUARD TRIM	TEROSON HEIDELBERG	TYPE 18 MM (TEROTRIM)	

REPLACEMENT PARTS LIST'EASITURN' CNC LATHEBOUGHT OUT ITEMSCOOLANT SYSTEM

DESCRIPTION	MANUFACTURER	REF. NUMBER	NO.
COOLANT PUMP	M.G. ELECTRICS	AQ3/2/SS 3-phase	1
COOLANT TAP	DRAINWALL	25/4440/00	1
FEMALE ELBOW	ENOTS	34-0328-17	2
JUBILEE CLIP		22-30 mm	2
CLEAR TUBE	GRIFLEX	$\frac{3}{4}$ " BORE x 20"	1
CLEAR TUBE	GRIFLEX	$\frac{1}{2}$ " BORE x 4"	1
CLEAR BRAIDED	GRIFLEX	$\frac{1}{4}$ " BORE x 23"	1
DRAIN PLUG	ADAMS	NP.50.G.	1
SKT. HEAD CAP SCREW		M5-16	2
-do-		M6-12	2
SKT. HEAD BUTTON		M6-12	3

REPLACEMENT PARTS LIST'EASITURN' CNC LATHEBOUGHT OUT ITEMSSADDLE DRIVE

<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF: NO.</u>	<u>NO.</u>
STEPPING MOTOR	CETRONIC DYNAMICS	HY200-3450-350-A8	1
TIMING BELT	UNIROYAL	187 L 050	2
TIMING PULLEY	FENNER	16 L 050	1
TIMING PULLEY	FENNER	24 L 050	1
TIMING PULLEY	FENNER	27 L 050	1
TIMING PULLEY	FENNER	28 L 050	1
TAPER LOCK BUSH	FENNER	1108 - 20	1
TAPER LOCK BUSH	FENNER	1108 - $\frac{3}{8}$ "	1
TAPER LOCK BUSH	FENNER	1108 - 28	1
BALL SCREW BEARINGS	FAFNIR	MM9306 W1-2-Quad	1 SET
BALL BEARINGS	FAG	6202 2RS	4
LOCKNUT	FAG	KM. 4	1
TABWASHER	FAG	MB. 4	1
SPIRAL COVERS	NADELLA	WMB 040 0750-050	2
SQUARE DRIVE KEY		8 x 25	1
SQUARE DRIVE KEY		6 x 47	1
SQUARE DRIVE KEY		5 x 20	1
SK. HD. CAP SCREW		M10 x 30	4
SK. HD. CAP SCREW		M8 x 40	3
SK. HD. CAP SCREW		M8 x 20	7
SK. HD. CAP SCREW		M6 x 25	6
SK. HD CAP SCREW		M5 x 16	4
SK. COUNTERSUNK SCREW		M6 x 20	3
MICRO-SWITCH	BURGESS	M2V3HM6S	2
BALINUT	WARNER ELECTRIC	RM 2505 A	1
BALINUT	WARNER ELECTRIC	RM 2505 UF	1

REPLACEMENT PARTS LIST'EASITURN' CNC LATHEBOUGHT OUT ITEMS.SADDLE & CROSS SLIDE DRIVE

<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF: NO.</u>	<u>NO.</u>
STEPPING MOTOR	SIGMA	21 3435 D200 FO 5	1
TIMING BELT	UNIROYAL	110 XL 037	1
TIMING <del>BELT</del> <i>PULLEY</i>	FENNER	24 x L 037	1
<del>JOCKEY PULLEY</del>	<del>NADELLA</del>	<del>GC. 16 EE</del>	<del>1</del>
THRUST BEARING	S. K. F.	XRX 203502	1
THRUST PLATE	S. K. F.	AS 2035	2
THRUST BEARING	TORRINGTON	NTA 613	4
THRUST PLATE	TORRINGTON	TRA 613	8
NEEDLE BEARING	NADELLA	RAX. 725	1
LOCKNUT	FAG	KM2	1
TAB WASHER	FAG	MB 2	1
SLIDE WAY WIPER	HYDRAQUIP	STD. A1	6"
TOOLBOX	HAHN & KOLB	'A' TYPE	1 SET
OILER	LUMATIC	BO 4	3
SKT. HD. CAP SCREW		5/16" BSW x 1 $\frac{1}{4}$ "	2
SKT. HD. CAP SCREW		5/16" BSW x 1"	2
SKT. HD. CAP SCREW		M8 x 35	2
SKT. HD. CAP SCREW		M6 x 16	1
SKT. HD. CAP SCREW		M6 x 12	7
SKT. HD. CAP SCREW		M5 x 16	4
SKT. HD. CAP SCREW		M5 x 10	4
SKT. HD. CAP SCREW		2 BA x 1"	2
GRUB SCREW		M10 x 10	3
GRUB SCREW		2BA x $\frac{7}{8}$ "	3
GRUB SCREW		2BA x $\frac{1}{2}$ "	3
STD. HEX NUT		2BA	6
STD. WASHER		5/16"	2
GROOVE PIN		3/16" DIA x 1 $\frac{1}{2}$ "	1
GROOVE PIN		3mm x 20	2
BEARING INNER BUS	NADELLA	1M 20. 25. 20. 4	1
THRUST PLATE	NADELLA	CP. 25. 42.	1



REPLACEMENT PARTS LIST'EASITURN' CNC LATHEBOUGHT OUT ITEMSTAILSTOCK

DESCRIPTION	MANUFACTURER	REF. NO.	NO.
HANDWHEEL	ELESA	VDO-125FP+1	1
LEVER ARM	ELESA	BL 366.10x155	1
CONTROL LEVER	ELESA	LER.37/85/A10	1
OILER	LUMATIC	BO4	2
GROOVE PIN		3MM x 45	1
GROOVE PIN		1/8" x 1.1/2"	1
GRUB SCREW (PLAIN CUP PT)		M8 - 45	2
GRUB SCREW (DOG PT)		M6 x 6	1
GRUB SCREW (INL CUP)		M6 x 6	1
GRUB SCREW (INL CUP)		M5 x 6	3
NYLOC NUT		M10	1
STD. WASHER		M10	1
SKT. HD CAP. SCREW		M6 - 20	4

USED UP TO 22/6/84.

EASITURN 3

CABINET

BVS.160/200

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.100/201.S	CABINET	1
202.S	DOOR STD.	1
202.LH	DOOR LH.	1
204	SUMP COVER	1
205	DRAIN PLUG	1
206	RETURN PLUG	1
207	DOOR HINGE	4
ML. 100/219A	CABINET DRAIN FILTER	1
SP 106	HINGE BUSH	4
BVS.150/64	CABINET FOOT	4
BVS.160/43B	REAR SPLASH GUARD	1
44 B	INSPECTION COVER	1
45	DRIVE GUARD COVER	1
47	SLIDING GUARD	1
50	GUARD HANDLE	1
53	SLIDING RAIL BASE SUPPORT	1
54	GUARD HANDLE SPACERS	4
77	SPINDLE CONTROL BOX & LID	1
78 A	P.N.C.3 SOCKET	1
79	DRIVE INSPECTION COVER	1
80	LIFTING BRACKET	4
86	LO-VO LIGHT SPACER	1
87	ISOLATOR COVER	1
93	FLEXIBLE CONDUIT BRACKET	1
CH.267.C	SPECIFICATION PLATE	1
CH.269	ELECTRIC WARNING PLATE	2
CH.265	ELECTRIC SYMBOL	2
CH.288B	EASITURN NAMEPLATE	1

<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF. NO.</u>	<u>NO.</u>
DOOR LOCK	LOW & FLETCHER	SB.44	2
HANDLE	HEMO	102-5"	1
RIVETS (BLACK)	HARMSWORTH TOWNLEY	201-03-2409-00	14
RUBBER MAT	DOLBY	3/16" FLUTED (GREEN)	
ALUMINIUM ANGLE		1/2" x 1/2" x 1/8" x 16"	2.
ALUMINIUM ANGLE		-do- -do- 13 1/2"	
GUARD TRIM	TEROSON HEIDELBERG	TYPE 18MM (TEROTRIM)	
SLIDING TRACK	WIDNEY	2012-FM	2.
FLEXIBLE CONDUIT	STABIFLEX	O.O.GGOSSECC/011435H X 45"	1.

BVS.160/94	CABINET LIFTING BUSH	8
<del>95</del>	<del>REED SWITCH BRACKET</del>	<del>1</del>
<del>96</del>	<del>GUARD TOP SUPPORT</del>	<del>2</del>

'E A S I T U R N' C N C L A T H E

P A R T S L I S T

DENFORD MACHINE TOOLS LTD.  
BRIGHOUSE, WEST YORKSHIRE

JANUARY 1983

DENFORD MACHINE TOOLS LIMITED

REPLACEMENT PARTS LIST

'EASITURN' CNC LATHE

HEADSTOCK

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO</u>
BVS.160/63	HEADSTOCK	1
BVS.160/55 <del>BVS.100/102</del>	MAIN SPINDLE	1
BVS.160/62	SPINDLE COOLANT & RETURN	1
MVS.100/119	CAMLOCK KEY	1
120	CAM	3
122	DETENT PLUNGER	3
124	BEARING CAP	1
127	LOCKNUT	2
128	SPINDLE SPACER	1
<del>130A</del>	<del>REAR BEARING CAP</del>	1
152	FRONT BEARING SPACER	1
SP. 169	TOMMY BAR	1
SP. 181	SOFT CENTRE (NO. 4 MT)	1
BVS.160/56	BEARING COLLAR	1

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CABINET

BVS.100/204	SUMP COVER	1
205	DRAIN PLUG	1
206	RETURN PLUG	1
207	DOOR HINGE	2
208A	COOLANT PUMP COVER PLATE	1
ML. 100/219A	CABINET DRAIN FILTER	1
SP. 106	HINGE BUSH	2
BVS.100/201.5. <del>BVS.150/58</del>	CABINET	1
<del>59</del>	<del>LIFTING HOLE CAP</del>	4
64	CABINET FOOT	4
<del>72</del>	<del>OIL PUMP SPACER</del>	1
BVS.160/ <del>33A</del>	<del>END DRIVE GUARD</del>	1
36 A	CONTROL HOUSING	1
41 <del>AB</del>	REMOTE CONTROL HOLDER	1
43 A	REAR SPLASH GUARD	1
44	INSPECTION COVER	1
45	DRIVE GUARD COVER	1
<del>46</del>	<del>HEADSTOCK COVER</del>	1
47	SLIDING GUARD	1
<del>48</del>	<del>HEADSTOCK FRONT COVER</del>	1
<del>49</del>	<del>APRON FRONT COVER</del>	1
50	GUARD HANDLE	1
BVS.160/ 53	SLIDING RAIL BASE SUPPORT	1
54	GUARD HANDLE SPACERS	4
73	DIVIDING PANEL	1
75	TRANSFORMER MAINTAINING RATE	1

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REPLACEMENT PARTS LIST'EASITURN' CNC LATHECABINET - CONTINUED

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
CH.263	LO VO LIGHT SOCKET LABLE	1
CH.265	ELECTRIC SYMBOL	1
CH.268	EMERGENCY STOP SURROUND	1
CH.269	ELECTRICAL WARNING LABEL	2
CH.284 B	STARTER BOX PANEL	1

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COOLANT

BVS.150/32	COOLANT PIPE	1
SP. 164	TAILPIECE ADAPTOR	2
SP. 189	$\frac{1}{2}$ " HOSE ADAPTOR	1
EM.100/28	$\frac{1}{2}$ " B.S.P. TAILPIECE ADAPTOR	2

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BED ASSEMBLY

BVS.100/402	BED	1
BVS.150/ 84	REAR SENSOR COVER	1
BVS.160/ 37	MICRO SWITCH SPACER	1
38	SENSOR COVER ARM	1
64	ADJUSTABLE MICRO SWITCH HOUSING	1
ML.100/ 404	BED TENON	2
405	HEADSTOCK STRIP	1
406	BED END STOP	1
SP. 180	STUD	4

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SPINDLE DRIVE

BVS.160/ 51	MOTOR PULLEY	1
52 B	SPINDLE PULLEY (2000 RPM)	1
52 C	SPINDLE PULLEY (3000 RPM)	1
58 A	MOTOR BRACKET	1
59 A	MOTOR BRACKET FOOT	1
60	SPINDLE SENSOR BRACKET	1
61	SPINDLE SENSOR PLATE	1
67	MOTOR BRACKET STOP	1
68	MOTOR BRACKET PIVOT PIN	2
74	MOTOR PULLEY (4000 RPM)	1



REPLACEMENT PARTS LIST'EASITURN' CNC LATHESADDLE DRIVE

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.160/ 1	BALLSCREW & <del>NUTS</del>	1
2	FEEDBOX	1
3	MOTOR BRACKET	1
4 A	APRON	1
5	END BRACKET	1
<del>6</del>	<del>FEEDBOX COVER PLATE</del>	<del>1</del>
7	BEARING CAP	1
8	MOTOR BRACKET LOCATING RING	1
9	EXTENSION BUSH	1
10	INTERMEDIATE DRIVE SHAFT	1
11	LOCATING BUSH	4
<del>12</del>	<del>COVER RETAINER</del>	<del>1</del>
<del>13</del>	<del>COVER RETAINER</del>	<del>1</del>
<del>14</del>	<del>APRON SIDE PLATE</del>	<del>1</del>
BVS.150/ 71 A	GUARD RETAINING RING	2
<del>82</del>	<del>SENSOR TRIP ROD</del>	<del>1</del>
83	SENSOR TRIP BRACKET	2
BVS.160/ 40	16T INTERMEDIATE PULLEY	1
57 B	BALLNUT FLANGE	1
70	REDUCING RING	1

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REPLACEMENT PARTS LIST'EASITURN' CNC LATHESADDLE & CROSS SLIDE DRIVE

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
MVS.100/513 - <del>BVS.150/6</del>	SADDLE REAR GIB STRIP	1
<del>BVS.150/9</del>	<del>SADDLE SUPPORT BRACKET</del>	<del>2</del>
BVS.150/10	CROSS SLIDE	1
11	SADDLE	1
13B	CROSS SLIDE BALL SCREW	1
14A	CROSS SLIDE END COVER	1
37A	30T PULLEY	1
38A	BALL NUT ADAPTOR	1
42BA	SIDE PLATE	1
68	DRIVE BRACKET DOWELS	2
73	REAR CLUTCH GUARD	1
79	FRONT SPINDLE	1
80	CROSS SLIDE WIPER	1
85	BELT TENSION ARM	1
ML.100/507	SWIVEL SLIDE LOCKING PIN	3
ML.100/508B	CROSS SLIDE GIB STRIP	1
512	CROSS SLIDE SPIGOT INSERT	1
CH. 186	IMPERIAL DIAL DIVISION CHART	2
BVS.160/15A	BASE	1
16	COMPOUND SLIDE	1
17	TOP SLIDE	1
18	DIAL	2
19	RH FEED SCREW	1
20	RH FEED NUT	1
21	LH FEED SCREW	1
22	LH FEED NUT	1
23	GIB STRIP	1
24	END PLATE	1
25	END PLATE	1
26	TOOL POST STUD	1
27	ADAPTOR SLEEVE	1
28	CROSS SLIDE BEARING HOUSING	1
29	DRIVE BUSH	1
35	DRIVE SPINDLE	1
42	CROSS SLIDE DRIVE BRACKET	1
64	ADJUSTABLE MICRO-SWITCH HOUSING	1
65	CLAMP PLATE	1
69	SADDLE FRONT GIB STRIP.	1
72	MICRO-SWITCH TRIP.	1

REPLACEMENT PARTS LIST'EASITURN' CNC LATHEBOUGHT OUT ITEMSHEADSTOCK

<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF. NO.</u>	<u>NO.</u>
BEARING	FAG	6209 2RS	1
ROLLER BEARING	TIMKEN	CONE:18790	2
ROLLER BEARING	TIMKEN	CUP: 18720	2
GREASE NIPPLE	LUMATIC	HP2/45	1
SQUARE DRIVE KEY.		<del>1/4" SQ x 5/8"</del> 3/8" SQ x 2"	1

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SPINDLE DRIVE CONTROL

DRIVE MOTOR	CROMPTON PARKINSON	D90L 195139 Q	1
DRIVE BELT	WM.KENYONS	340.J.10 (2000 rpm) 320.J.10 (3000 rpm) 380.J.10 (4000 rpm)	1 ? ?

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CABINET

DOOR LOCK	LOW & FLETCHER	SB.44	21
KBOBS	ELESA	VTR.40B.M8	1
NYLON GLAND	EGATUBE	A2 251	7
HANDLES	HEMO	102. 5"	3
PLASTIC RIVETS (BLACK	HAMWORTH & TOWNLEY	201.080551.00	10
PLASTIC RIVETS	-do-	239.ED.868	12
EMERGENCY STOP			
RUBBER MAT	DOLBY	3/16" FLUTED (GREEN) 16"x13 1/2"	1
ALUMINIUM ANGLE		1/2"x1/2"x1/8" - 33 1/2"	2
ALUMINIUM ANGLE		-do- 8"	2
ALUMINIUM ANGLE		-do- 16"	2
ALUMINIUM ANGLE		-do- 13 1/2"	2
GUARD TRIM	TEROSON HEIDELBERG	TYPE 18 MM (TEROTRIM)	

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REPLACEMENT PARTS LIST'EASITURN' CNC LATHEBOUGHT OUT ITEMSSADDLE DRIVE

DESCRIPTION	MANUFACTURER	REFERENCE NO.	NO.
STEPPING MOTOR	CETRONIC DYNAMICS	HY200-3450-350-AB	
	SIGMA	20-3450-D200-F 1.2	1
TIMING BELT	UNIROYAL	187 L 050	2
TIMING PULLEY	FENNER	16 L 050	1
TIMING PULLEY	FENNER	24 L 050	1
TIMING PULLEY	FENNER	27 L 050	1
TIMING PULLEY	FENNER	28 L 050	1
TAPER LOCK BUSH	FENNER	1108 - 20	1
TAPER LOCK BUSH	FENNER	1108 - 3/8"	1
TAPER LOCK BUSH	FENNER	1108 - 28	1
BALL SCREW BEARINGS	FAFNIR	MM9306 W1-2-QUAD	1 SET
BALL BEARINGS	FAG	6202.2RS	4
LOCKNUT	FAG	KM.4	1
TABWASHER	FAG	MB.4	1
SPIRAL CENTRY COVERS	BEAKBANE	WMB 040-0750-050	2
SQ. DRIVE KEY	NADELLA	8 x 25	1
-do-		6 x 47	1
-do-		5 x 20	1
SK. HD. CAP. SCREW		M10 x 30	4
-do-		M8 x 40	3
-do-		M8 x 20	7
-do-		M6 x 25	6
-do-		M5 x 16	34
-do-		2BA x 1/2"	10
-do-		4BA x 3/8"	3
SK. C/SUNK SCREW		M6 x 20	3
GRUB SCREW		M5 x 5	1
MICRO-SWITCH	BURGESS	M2V3HMGS	2

BALL NUT.

WARNER ELECTRIC

RM 2505 A

1

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"

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RM 2505 UF

1

REPLACEMENT PARTS LIST'EASITURN' CNC LATHEBOUGHT OUT ITEMSSADDLE & CROSS SLIDE DRIVE

DESCRIPTION	MANUFACTURER	REF. NUMBER	NO.
STEPPING MOTOR	SIGMA	21.34350.D200 FO.5	1
TIMING BELT	UNIROYAL	110 XL 037	1
TIMING PULLEY	FENNER	24 x L 037	1
JOCKEY PULLEY	NADELLA	GC.16 EE	1
THRUST BEARING	S.X.F.	XRX 203502	1
THRUST PLATE	SKF	AS 2035	2
THRUST BEARING	TORRINGTON	NTA 613	4
THRUST PLATE	TORRINGTON	TRA 613	8
NEEDLE BEARING	NADELLA	RAX.725	1
LOCKNUT	FAG	KM2	1
TAB WASHER	FAG	MB 2	1
SLIDE WAY WIPER	HYDRAQUIP	STD.A1	6"
<del>TURCITE 'B' SLIDWAY</del>	<del>SHAMBA</del>	<del>S-50515/30</del>	<del>2.42</del>
TOOLBOX	HAHN & KOLB	'A' TYPE	1 SET
OILER	LUMATIC	BO 4	3
SKT. HD. CAP SCREW		5/16" BSW x 1 1/4"	2
-do-		5/16" BSW x 1"	2
-do-		M8 x 35	2
-do-		M6 x 16	1
-do-		M6 x 12	7
-do-		M5 x 16	4
-do-		M5 x 10	4
-do-		2 BA x 1"	2
GRUB SCREW		M10 x 10	3
-do-		2BA x 7/8"	3
-do-		2BA x 1/2"	3
STD. HEX NUT		2BA	6
STD. WASHER		5/16"	2
GROOVE PIN		3/16" DIA x 1 1/2"	1
GROOVE PIN		3 MM x 20	2
BEARING INNER BUSY	NADELLA	1M.20,25,20.4	1
THRUST PLATE	NADELLA	CP.25.42	1

DENFORD MACHINE TOOLS LTD.

REPLACEMENT PARTS LIST

'EASITURN' CNC LATHE

HEADSTOCK

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.100/101	HEADSTOCK	1
BVS.100/102	MAIN SPINDLE	1
BVS.100/103	HEADSTOCK LAYSHAFT	1
BVS.100/104	BACKGEAR PINION	1
BVS.100/105	GEAR ON LAYSHAFT	1
BVS.100/106	PLUG	1
BVS.100/107	FIXED SPINDLE PINION	1
BVS.100/108	GEAR ON SPINDLE	1
BVS.100/109	LOOSE SPINDLE PINION	1
110	BEARING CAP	1
111	SPACE	1
112A	SHIFTER	1
113	SHIFTER GEAR	1
114A	SHIFTER SHAFT	1
116	RACK	1
117A	SHIFTER GEAR SHAFT	1
118	BUSH FOR SHIFTER SHAFT	1
119	SPACER	1
MVS.100/119	CAMLOCK KEY	1
120	CAM	3
122	DETENT PLUNGER	3
124	BEARING CAP	1
126	TRANSDUCER GEAR	1
127	LOCKNUT	1
128	SPINDLE SPACER	1
130A	REAR BEARING CAP	1
152	FRONT BEARING SPACER	1
153	PROXIMITY SWITCH SUPPORT	1.
ML. 100/112	GEAR SHIFTER DOG BUSH	1
SP. 169	TOMMY BAR	1
SP. 181	SOFT CENTRE (NO. 4 MT)	1
CH. 254	HEADSTOCK NAMEPLATE	1



REPLACEMENT PARTS LIST'EASITURN' CNC LATHESPINDLE DRIVE CONTROL

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
SL.100/102	HEADSTOCK COVER	1
100/103	CONTROL HOUSING	1
104	PRESSURE ARM	1
105	PRESSURE ARM.BRACKET	1
106	PRESSURE ARM FORK	1
107	PUSH ROD	1
108	CROSS BAR	1
109	ADJUSTING NUT	2
110	FORK	1
111	PIVOT PIN	1
112	CONTROL SHAFT	1
113	CONTROL LEVER BODY	1
114	CONTROL LEVER	1
115	LEVER ROD	1
116	CONTROL LEVER CAP	1
117	CONTROL LEVER PIN	1
118	MOTOR BACKPLATE	1
119	LOCATING PIN	1
120	ADJUSTING COLLAR	1
SP 117	HANDLE	1
CH 250	TOP INNER PLATE	1
BVS.103/119	ELECTRICAL GUARD	1
100/124	GUARD MICRO SWITCH CAM	1

REPLACEMENT PARTS LIST'EASITURN' CNC LATHECABINET

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.100/203	DRAWER	3
204	SUMP COVER	1
205	DRAIN PLUG	1
206	RETURN PLUG	1
207	DOOR HINGE	2
208A	COOLANT PUMP COVER PLATE	1
ML.100/ 219A	CABINET DRAIN FILTER	1
SP. 106	HINGE BUSH	2
BVS.150/25	SLIDING GUARD HANDLE	1
26	REAR SPLASH GUARD	1
27	SLIDING GUARD	1
28	SLIDING RAIL	1
41	RAIL SUPPORT	3
43	SLIDING GUARD - SHORT AXLE	2
44	SLIDING GUARD - LONG AXLE	2
45	SLIDING GUARD - FRONT ROLLER	2
46	SLIDING GUARD - REAR ROLLER	2
47	SLIDING GUARD - COLLAR	4
48	SLIDING GUARD - AXLE SUPPORT	4
49	SLIDING GUARD - TIE BAR	2
50	SLIDING GUARD - TOP RAIL	1
51	SLIDING GUARD - BOTTOM RAIL	1
58	CABINET	1
58A	CABINET DOOR	1
59	LIFTING HOLE CAP	4
60	REAR ELECTRIC GUARD	1
64	CABINET FOOT	4
72	OIL PUMP SPACER	1
BVS.160/33	END DRIVE GUARD	1
34	MOTOR DRIVE GUARD	1
36	CONTROL HOUSING	1
41	REMOTE CONTROL HOLDER	1

REPLACEMENT PARTS LIST'EASITURN' CNC LATHECABINET - CONTINUED

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
SK. 629. A	SLIDING GUARD WINDOW	1
CH.262	LIFTING CAP LABEL	2
CH.263	LO VO LIGHT SOCKET LABEL	1
CH.265	ELECTRIC SYMBOL	1
CH.268	EMERGENCY STOP SURROUND	1
CH.269	ELECTRICAL WARNING LABEL	2

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COOLANT

BVS.150/32	COOLANT PIPE	1
SP.164	TAILPIECE ADAPTOR	2
SP.189	$\frac{1}{2}$ " HOSE ADAPTOR	1

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BED ASSEMBLY

BVS.100/402	BED	1
BVS.150/84	REAR SENSOR COVER	1
BVS.160/37	MICRO SWITCH SPACER	1
38	SENSOR COVER ARM	1
ML.100/404	BED TENON	2
405	HEADSTOCK STRIP	1
406	BED END STOP	1
SP. 180	STUD	4

REPLACEMENT PARTS LIST'EASITURN' CNC LATHESADDLE DRIVE

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS. 160/1	BALLSCREW & NUTS	1
2	FEEDBOX	1
3	MOTOR BRACKET	1
4	APRON	1
5	END BRACKET	1
6	FEEDBOX COVER PLATE	1
7	BEARING CAP	1
8	MOTOR BRACKET LOCATION RING	1
9	EXTENSION BUSH	1
10	INTERMEDIATE DRIVE SHAFT	1
11	LOCATING BUSH	4
12	COVER RETAINER	1
13	COVER RETAINER	1
14	APRON SIDE PLATE	1
BVS. 150/71	GUARD RETAINING RING	2
82	SENSOR TRIP ROD	1
83	SENSOR TRIP BRACKET	2
BVS. 160/40	16T INTERMEDIATE PULLEY	1
33	END DRIVE GUARD	1
34	MOTOR DRIVE GUARD	1
CH. 293	APRON FRONT PLATE	1
CH. 294	FEED BOX FRONT PLATE	1

REPLACEMENT PARTS LIST'EASITURN' CNC LATHESADDLE & CROSS SLIDE DRIVE

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.150/6	SADDLE REAR GIB STRIP	1
BVS.150/9	SADDLE SUPPORT BRACKET	2
10	CROSS SLIDE	1
11	SADDLE	1
13B	CROSS SLIDE BALL SCREW	1
14A	CROSS SLIDE END COVER	1
37A	30T PULLEY	1
38A	BALL NUT ADAPTOR	1
42B	SIDE PLATE	1
68	DRIVE BRACKET DOWELS	2
73	REAR CLUTCH GUARD	1
79	FRONT SPINDLE	1
80	CROSS SLIDE WIPER	1
85	BELT TENSION ARM	1
ML.100/507	SWIVEL SLIDE LOCKING PIN	3
ML.100/508B	CROSS SLIDE GIB STRIP	1
512	CROSS SLIDE SPIGOT INSERT	1
CH. 186	IMPERIAL DIAL DIVISION CHART	2
BVS.160/15	BASE	1
16	COMPOUND SLIDE	1
17	TOP SLIDE	1
18	DIAL	2
19	RH FEED SCREW	1
20	RH FEED NUT	1
21	LH FEED SCREW	1
22	LH FEED NUT	1
23	GIB STRIP	1
24	END PLATE	1
25	END PLATE	1
26	TOOL POST STUD	1
27	ADAPTOR SLEEVE	1
28	CROSS SLIDE BEARING HOUSING	1
29	DRIVE BUSH	1
35	DRIVE SPINDLE	1
42	CROSS SLIDE DRIVE BRACKET	1

REPLACEMENT PARTS LIST'EASITURN' CNC LATHETAILSTOCK

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
MVS. 100/701	TAILSTOCK BODY	1
702	TAILSTOCK SHOE	1
703	END CAP	1
705E	BARREL (IMPERIAL)	1
705M	BARREL (METRIC)	1
707	NUT	1
701A/B	BARREL CLAMPS	1 SET
711	EJECTOR PIN	1
712	CLAMP HANDLE STOP	1
BVS. 100/706	TAILSTOCK SCREW	1
SP. 135	CLAMP PAD	1
147A	CLAMP ECCENTRIC	1
148A	CLAMP PIN	1
171A	LOCKING STUD	1
172	TEE KEY	1

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'BASITURN' CNC LATHEBOUGHT OUT ITEMSHEADSTOCK

DESCRIPTION	MANUFACTURER	REF. NO.	NO.
ROLLER BEARING	TIMKEN	CONE: 18790	2
ROLLER BEARING	TIMKEN	CUP: 18720	2
BALL BEARING	FAG	L.J. - 1.3/8" 2RS	1
BALL BEARING	FAG	6204-2RS	3
OILITE BUSH	MANGANESE BRONZE	FGH.2 x 1"	2
OILITE BUSH	MANGANESE BRONZE	FGM.24 x 35	2
CIRCLIP	ANDERTON	1300/3"	1
CIRCLIP	ANDERTON	1400/20	1
TIMING BELT	WM. KENYON	187 L 100	1
TIMING PULLEY	WM. KENYON	20 L 100 F	1
TIMING PULLEY	WM. KENYON	36 L 100	1
PROXIMITY SWITCH	HIRD BROWN	Bi 2-13 YO	1
LEVER	ELESA	LBR 45/110/A12	1
OIL FILLER PLUG	ELESA	T.C.O. 1/4" BSP	1
NYLON GLAND		A2 251	1
GREASE NIPPLE	LUMATIC	HP2/45	1
RUBBER MAT	J. DOLMAN	FLUTED - 3/16" THICK	12" x 10"
STEEL BALL		3/16" DIA	1
COMPRESSION SPRING	DON SPRINGS	3/16" D.3/8" FL. 20 SWG 9 C.P.I.	1
SQUARE DRIVE KEY		5/16" SQ. x 1.1/2"	1
SQUARE DRIVE KEY		1/4" SQ. x 5/8"	1
SQUARE DRIVE KEY		1/4" SQ. x 1"	1
SQUARE DRIVE KEY		6 MM x 1.1/2"	1
SQUARE DRIVE KEY		3/16" SQ. x 2.1/2"	1
GROOVE PIN		3/16" DIA x 7/8"	6
GROOVE PIN		3 MM x 45	1
SEL-LOC PIN		3/16" DIA x 1/2"	1
SEL-LOC PIN		1/8" DIA x 1"	2

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## REPLACEMENT PARTS LIST

9.

EASITURN CNC LATHE.

HEADSTOCK (CONTINUED)

BOUGHT OUT ITEMS

DESCRIPTION	MANUFACTURER	REF. NO.	NO.
SKT. HD. CAP SCREW		M10 - 45	4
-do- -do-		M6 - 45	3
-do- -do-		M6 - 20	4
-do- -do-		M6 - 16	6
-do- -do-		M6 - 12	3
-do- -do-		M5 - 20	2
-do- -do-		M5 - 16	3
C/SUNK, SKT.HD. SCREW		M5 - 10	2
GRUB SCREW		M6 - 12	3
-do-		M6 - 6	3
-do-		M5 - 6	4
-do-		M4 - 16	2
-do-		2BA - 1/2	1

REPLACEMENT PARTS LIST'EASITURN' CNC LATHEBOUGHT OUT ITEMSCABINET

DESCRIPTION	MANUFACTURER	REF. NO.	NO.
DOOR LOCK	LOWE & FLETCHER	SB.44	2
KNOBS	ELESA	VTR.40B M8	1
NYLON GLAND	EGATUBE	A2 251	7
HANDLES	HEMO	102. 5"	3
PLASTIC RIVETS (BLACK)	HARMWORTH & TOWNLEY	201.080551.00	10
PLASTIC RIVETS	HARMWORTH & TOWNLEY	239.ED.868	12
RUBBER MAT	J. DOLMAN	FLUTED 3/16" THICK 5" x 12"	1
WINDOW SEAL	C.O.H. BAINES	I.R.S.736 WS	
EMERGENCY STOP			

REPLACEMENT PARTS LIST'EASITURN' CNC LATHEBOUGHT OUT ITEMSCOOLANT SYSTEM

DESCRIPTION	MANUFACTURER	REF. NUMBER	NO.
COOLANT PUMP	M.G. ELECTRICS	AQ3/2/SS 3-phase	1
COOLANT TAP	DRANWALL	25/4440/00	1
FEMALE ELBOW	ENOTS	34-0328-17	2
ST. NIPPLE		1/2" B.S.P.	2
JUBILEE CLIP		22-30 mm	2
CLEAR TUBE	GRIFLEX	3/4" BORE x 20"	1
CLEAR TUBE	GRIFLEX	1/2" BORE x 4"	1
CLEAR BRAIDED	GRIFLEX	1/4" BORE x 23"	1
DRAIN PLUG	ADAMS	NP.50.G.	1
SKT. HEAD CAP SCREW		M5-16	2
-do-		M6-12	2
SKT. HEAD BUTTON		M6-12	3

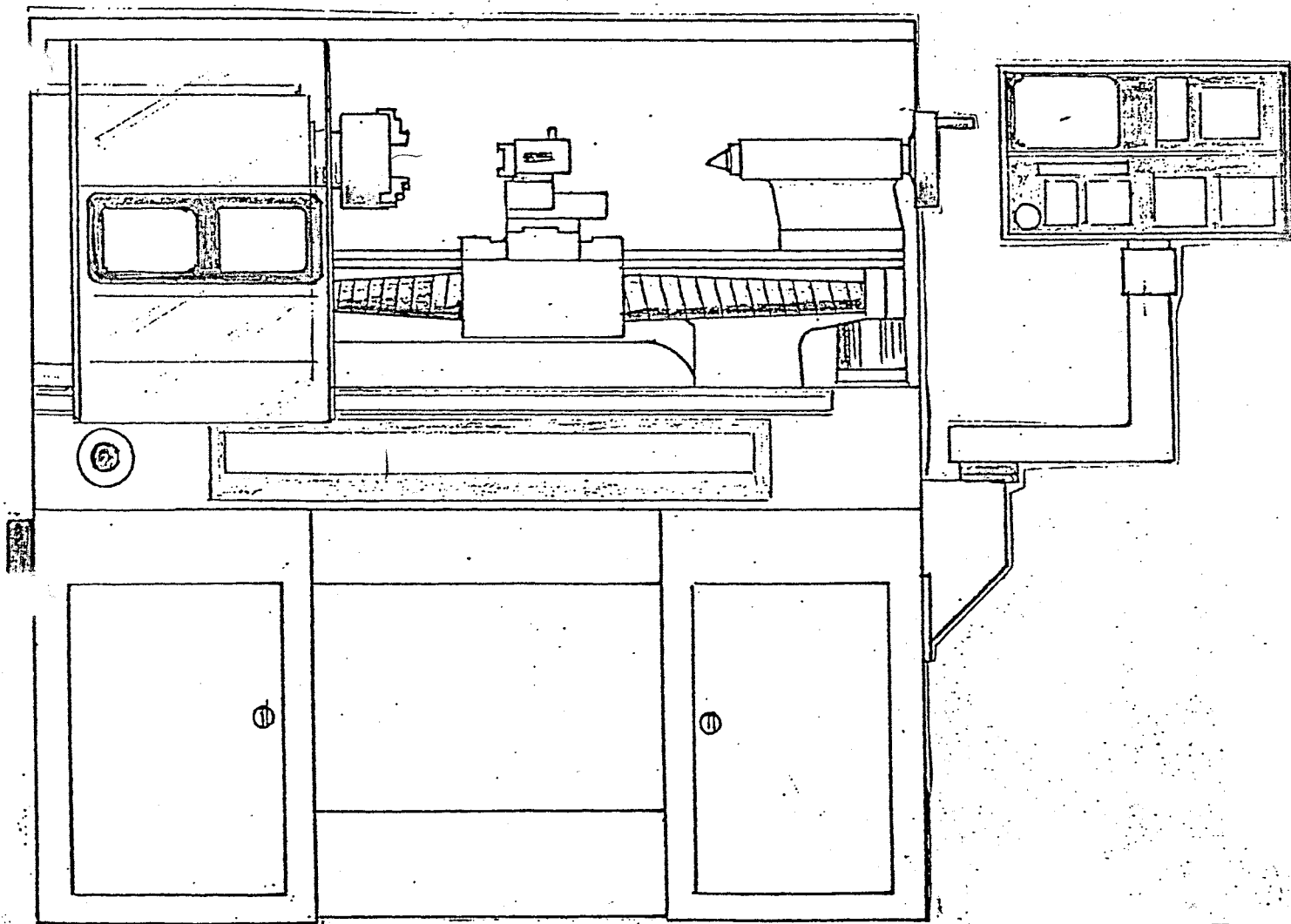
REPLACEMENT PARTS LIST'EASITURN' CNC LATHEBOUGHT OUT ITEMSSADDLE DRIVE

DESCRIPTION	MANUFACTURER	REFERENCE NO.	NO.
STEPPING MOTOR	SIGMA	20.34501.D200-F 1.2	1
TIMING BELT	UNIROYAL	187 L 050	2
TIMING PULLEY	FENNER	16 L 050	1
TIMING PULLEY	FENNER	24 L 050	1
TIMING PULLEY	FENNER	27 L 050	1
TIMING PULLEY	FENNER	36 L 050	1
TAPER LOCK BUSH	FENNER	1108 - 20	1
TAPER LOCK BUSH	FENNER	1108 - 3/8"	1
TAPER LOCK BUSH	FENNER	1108 - 28	1
BALL SCREW BEARINGS	FAFNIR	MM9306 W1-2-QUAD	1 SET
BALL BEARINGS	FAG	6202.2RS	4
LOCKNUT	FAG	KM.4	1
TABWASHER	FAG	MB.4	1
CENTRY COVERS	BEAKBANE	230	2
SQ. DRIVE KEY		8 x 25	1
-do-		6 x 47	1
-do-		5 x 20	1
SK. HD. CAP. SCREW		M10 x 30	4
-do-		M8 x 40	3
-do-		M8 x 20	7
-do-		M6 x 25	6
-do-		M5 x 10	3
-do-		2BA x 1/2"	10
-do-		4BA x 3/8"	3
SK. C/SUNK SCREW		M6 x 20	3
GRUB SCREW		M5 x 5	1

# MICROMASTER

## CNC TRAINER

MANUAL DE INSTALACION,  
PROGRAMACION Y MANTENIMIENTO



# DENFORD

M E X I C O

3" SPINDLE  
PNC3 CONTROL  
PENDANT ARM.

MICROMASTER CNC LATHE

P A R T S L I S T

DENFORD MACHINE TOOLS LTD.  
BRIGHOUSE  
WEST YORKSHIRE

SEPTEMBER 1983



DENFORD MACHINE TOOLS LIMITED

REPLACEMENT PARTS LIST

MICROMASTER CNC LATHE

HEADSTOCK

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.160/63	HEADSTOCK	1
160/55	MAIN SPINDLE	1
160/62	SPINDLE COOLANT & RETURN	1
MVS.100/119	CAMLOCK KEY	1
120	CAM	3
122	DETENT PLUNGER	3
124	BEARING CAP	1
151 A	REAR BEARING CAP	1
152	FRONT BEARING SPACER	1
SP. 169	TOMMY BAR	1
181	SOFT CENTRE (NO. 4 MT)	1
BVS.160/ 56	BEARING COLLAR	1
76	SPINDLE LOCKNUT	1

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<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF. NO.</u>	<u>NO.</u>
BEARING	FAG	6209 2RS	1
ROLLER BEARING	TIMKEN	CONE:18790	2
ROLLER BEARING	TIMKEN	CUP:18720	2
GREASE NIPPLE	LUMATIC	HP2/45	1
SQUARE DRIVE KEY		$\frac{3}{8}$ " SQ.x2"	1

COOLANT

BVS.150/32	COOLANT PIPE	1
SP 164	TAILPIECE ADAPTOR	2
189	$\frac{1}{2}$ " HOSE ADAPTOR	1
EM 100/28	$\frac{1}{2}$ " B.S.P. TAILPIECE ADAPTOR	2

/CONTINUED -

REPLACEMENT PARTS LIST

MICROMASTER CNC LATHE

COOLANT SYSTEM

BOUGHT OUT ITEMS

DESCRIPTION	MANUFACTURER	REF. NUMBER	NO.
COOLANT PUMP	M.G. ELECTRICS	AQ3/2/SS 3 phase	1
COOLANT TAP	DRANWALL	25/4440/00	1
FEMALE ELBOW	ENOTS	34-0328-17	2
JUBILEE CLIP		22-30 mm	2
CLEAR TUBE	GRIFLEX	$\frac{3}{4}$ " BORE x 20"	1
CLEAR TUBE	GRIFLEX	$\frac{1}{2}$ " BORE x 4"	1
CLEAR BRAIDED	GRIFLEX	$\frac{1}{4}$ " BORE x 23"	1
DRAIN PLUG	ADAMS	NP.50.G	1
SKT.HEAD CAP SCREW		M5-16	2
-do-		M6-12	2
SKT. HEAD BUTTON		M6-12	3

/CONTINUED -

REPLACEMENT PARTS LISTMICROMASTER CNC LATHEBED ASSEMBLY

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.100/402	BED	1
150/ 84	REAR SENSOR COVER	1
160/ 37	MICRO SWITCH SPACER	1
38	SENSOR COVER ARM	1
64	ADJUSTABLE MICRO SWITCH HOUSING	1
BVS.160/ 83	STUD	4
ML.100/404	BED TENON	2
405	HEADSTOCK STRIP	1
406	BED END STOP	1

		<u>SPINDLE DRIVE</u>
BVS.160/ 51	MOTOR PULLEY	1
52B	SPINDLE PULLEY	1
58A	MOTOR BRACKET	1
59A	MOTOR BRACKET FOOT	1
60	SPINDLE SENSOR BRACKET	1
61	SPINDLE SENSOR PLATE	1
68	MOTOR BRACKET PIVOT PIN	2

DRIVE MOTOR	ASEA	MK110 021-5	1
DRIVE BELT	WM KENYONS	MT 90L-4	1
		340J10 (2000 RPM)	

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REPLACEMENT PARTS LISTMICROMASTER LATHECABINET

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.100/201.S.	CABINET	1
202.S.	DOOR STD.	1
202.L.H.	DOOR L.H.	1
204	SUMP COVER	1
205	DRAIN PLUG	1
206	RETURN PLUG	1
207	DOOR HINGE	4
ML.100/219.A.	CABINET DRAIN FILTER	1
SP. 106	HINGE BUSH	4
BVS.150/ 64	CABINET FOOT	4
BVS.160/ 43.A	REAR SPLASH GUARD	1
44	INSPECTION COVER	1
45	DRIVE GUARD COVER	1
47	SLIDING GUARD	1
50	GUARD HANDLE	1
53	SLIDING RAIL BASE SUPPORT	1
54	GUARD HANDLE SPACERS	4
79	DRIVE INSPECTION COVER	1
CH. 253	NAMEPLATE	1
CH. 265	ELECTRIC SYMBOL	2
CH. 268	EMERGENCY STOP SURROUND	1

<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF.</u>	<u>NO.</u>
DOOR LOCK	LOW & FLETCHER	SB.44	2
HANDLE	HEMO	102-5"	1
RIVETS (BLACK)	HARMSWORTHY TOWNLEY	201-03-2409.00	14
RUBBER MAT	DOLBY	3/16" Fluted (GREEN)	1
ALUMINIUM ANGLE		$\frac{1}{2}$ "x $\frac{1}{2}$ "x $\frac{1}{8}$ "-16"	2
ALUMINIUM ANGLE		$\frac{1}{2}$ "x $\frac{1}{2}$ "x $\frac{3}{8}$ "-13 $\frac{1}{2}$ "	2
GUARD TRIM	TEROSON HEIDELBERG	TYPE 18MM (TEROSTRIM)	
SLIDING TRACK	WIDNEY	2012-FM	2

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## REPLACEMENT PARTS LIST

MICROMASTER LATHESADDLE DRIVE

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.160/1	BALLSCREW	1
2	FEEDBOX	1
4A	APRON	1
5	END BRACKET	1
7	BEARING CAP	1
8	MOTOR BRACKET LOCATING RING	1
9	EXTENSION BUSH	1
57A	BALLNUT FLANGE	1
70	REDUCING RING	1
BVS.180/19	SADDLE DRIVE BRACKET	1
20	MOTOR PLATE	1
BVS.150/71.A.	GUARD RETAINING RING	2

<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF.</u>	<u>NO.</u>
STEPPING MOTOR	CETRONIC DYNAMICS	HY200-3450-350-A8	1
TIMING BELT	UNIROYAL	187 L 050	1
TIMING PULLEY	FENNER	12 L 050	1
TIMING PULLEY	FENNER	30 L 050	1
TAPER LOCK BUSH	FENNER	1108-28	1
BALL SCREW BEARINGS	FAFNIR	MM9306 W1.2.QUAD.	1 SET
BALL BEARINGS	FAG	6202 2RS	2
LOCKNUT	FAG	KM.4	1
TAB WASHER	FAG	MB.4.	1
SPIRAL COVERS	NADELLA	WMB.040.0750.050	2
BALLNUT	WARNER	RM.2505 A.	1
BALLNUT	WARNER	RM.2505 UF.	1

PENDANT ARM

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
BVS.150/16	PENDANT BRACKET TOP FLANGE	1
17	PENDANT ARM CUP	1
18	PENDANT ARM RETAINING PLATES	2
19A	PENDANT BRACKET	1
20	PENDANT BRACKET FLANGE	1
21A	PENDANT BRACKET SIDE PLATE	2
23	PENDANT SWINGING ARM	1
EM.100/40	PNC.3. PENDANT SOCKET	1
41	PNC.3. SUPPORT BUSH	1

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REPLACEMENT PARTS LISTMICROMASTER LATHESADDLE & CROSS SLIDE DRIVE

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
MVS.100/513	SADDLE REAR GIB STRIP	1
BVS. 150/10	CROSS SLIDE	1
11	SADDLE	1
13B	CROSS SLIDE BALL SCREW	1
14A	CROSS SLIDE END COVER	1
37B	27 T PULLEY	1
38A	BALL NUT ADAPTOR	1
42A	SIDE PLATE	1
68	DRIVE BRACKET DOWELS	2
73	REAR CLUTCH GUARD	1
79	FRONT SPINDLE	1
80	CROSS SLIDE WIPER	1
85	BELT TENSION ARM	1
ML. 100/508B	CROSS SLIDE GIB STRIP	1
CH. 186	IMPERIAL DIAL DIVISION CHART	2
BVS.160/15A	BASE	1
16	COMPOUND SLIDE	1
17	TOP SLIDE	1
18	DIAL	2
19	RH FEED SCREW	1
20	RH FEED NUT	1
21	LH FEED SCREW	1
22	LH FEED NUT	1
23	GIB STRIP	1
24	END PLATE	1
25	END PLATE	1
26	TOOL POST STUD	1
27	ADAPTOR SLEEVE	1
28	CROSS SLIDE BEARING HOUSING	1
29A	DRIVE BUSH	1
35	DRIVE SPINDLE	1
42	CROSS SLIDE DRIVE BRACKET	1
65	CLAMP PLATE	1
69	SADDLE FRONT GIB STRIP	1
72 A	MICRO SWITCH TRIP	1

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## REPLACEMENT PARTS LIST

MICROMASTER CNC LATHE

BOUGHT OUT ITEMS

## SADDLE &amp; CROSS SLIDE DRIVE.

DESCRIPTION	MANUFACTURER	REF. NO.	NO.
STEPPING MOTOR	CETRONIC DYNAMICS	HY200 3450-350-A8	1
TIMING BELT	UNIROYAL	150 L050	1
TIMING BELT PULLEY	FENNER	17 L050	1
THRUST BEARING	S.K.F.	XR2 203502	1
THRUST PLATE	S.K.F.	AS.2035	2
THRUST BEARING	TORRINGTON	NTA 613	4
THRUST PLATE	TORRINGTON	TRA 613	8
NEEDLE BEARING	NADELLA	RAX.725	1
LOCKNUT	FAG	KM 2	1
TAB WASHER	FAG	MB 2	1
SLIDE WAY WIPER	HYDRAQUIP	STD. A1	6"
TOOLBOX	HAHN & KOLB	'A' TYPE	1 SET
OILER	LUMATIC	BO 4	3
SKT. HD. CAP SCREW		5/16" BSW x 1 1/4"	2
SKT. HD. CAP SCREW		5/16" BSW x 1"	2
SKT. HD. CAP SCREW		M8 x 35	2
SKT. HD. CAP SCREW		M6 x 16	1
SKT. HD. CAP SCREW		M6 x 12	7
SKT. HD. CAP SCREW		M5 x 16	4
SKT. HD. CAP SCREW		M5 x 10	4
SKT. HD. CAP SCREW		2 BA x 1"	2
GRUB SCREW		M10 x 10	3
GRUB SCREW		2BA x 7/8"	3
STD. HEX NUT		2BA	6
STD. WASHER		5/16"	2
GROOVE PIN		3/16" DIA x 1 1/2"	1
GROOVE PIN		3mm x 20	2
BEARING INNER BUSH	NADELLA	1M 20. 25. 20. 4.	1
THRUST PLATE	NADELLA	CP. 25. 42.	1

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REPLACEMENT PARTS LISTMICROMASTER CNC LATHETAILSTOCK

<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>NO.</u>
MVS. 100/701	TAILSTOCK BODY	1.
702	TAILSTOCK SHOE	1
703	END CAP	1
705 E	BARREL (IMPERIAL)	1
705 M	BARREL (METRIC)	1
707	NUT	1
701A/B	BARREL CLAMPS	1 SET
711	EJECTOR PIN	1
712	CLAMP HANDLE STOP	1
BVS. 100/706	TAILSTOCK SCREW	1
SP. 135	CLAMP PAD	1
147A	CLAMP ECCENTRIC	1
148A	CLAMP PIN	1
171A	LOCKING STUD	1
172A	TEE KEY	1

<u>DESCRIPTION</u>	<u>MANUFACTURER</u>	<u>REF. NO.</u>	<u>NO.</u>
HANDWHEEL	ELESA	VDO-125FP-1	1
LEVER ARM	ELESA	BL 366.10x155	1
CONTROL LEVER	ELESA	LER.37/85/A10	1
OILER	LUMATIC	BO4	2
GROOVE PIN		3MM x 45	1
GROOVE PIN		1/8" x 1.1/2"	1
GRUB SCREW (PLAIN CUP PT)		M8 - 45	2
GRUB SCREW (DOG PT)		M6 x 6	1
GRUB SCREW (KNL CUP)		M6 x 6	1
GRUB SCREW (KNL CUP)		M5 x 6	3
NYLOC NUT		M10	1
STD. WASHER		M10	1
SKT. HD CAP SCREW		M6 - 20	4