

RESTRICTED(FOR OFFICIAL USE ONLY)*Not to be communicated to anyone outside H.M. Service***ADMIRALTY FLEET ORDER****ADULT EDUCATION—EDUCATIONAL AND VOCATIONAL
TRAINING—TOOLS, EQUIPMENT AND MATERIALS FOR
PRACTICAL SUBJECTS**ADMIRALTY, S.W.1,
19th July, 1945.

The following Order having been approved by My Lords
Commissioners of the Admiralty is hereby promulgated
for information and guidance and necessary action.

By Command of Their Lordships,

H. V. Markham

*To Commanders - in - Chief, Flag
Officers, Senior Naval Officers,
Captains and Commanding Officers
of H.M. Ships, Vessels and C.O.
Craft (see A.F.O. 1628/45) Super-
intendents or Officers in Charge of
H.M. Naval Establishments, and
Admiralty Overseers concerned.*

Note :—The Scale of Distribution is shown in the Admiralty Fleet Order
Volume, 1941, Instructions, paragraph 10.

*S
wards.*

3834.—Adult Education—Educational and Vocational Training—Tools, Equipment and Materials for Practical Subjects

(N. 15153/45.—19 Jul. 1945.)

In A.F.O. 2680/45, paragraph 14, it was stated that tools would be made available for practical work in certain E.V.T. subjects.

2. Collections of tools and equipment, conveniently referred to as tool units, have now been specified for the following pre-vocational courses:—

- (A) Trades Woodwork ... carpentry, joinery and cabinet making.
 (B) Trades Metalwork ... bench fitting.*
 (C) Trades Metalwork ... sheet metalwork.*
 (D) Trades Metalwork ... forging.
 (E) Trades Metalwork ... turning.
 (F) Technical Drawing ... large unit for technical drawing taken as a separate course.
 (G) Workshop Drawing ... unit for drawing taken as a subject ancillary to woodwork and metalwork where the large unit for technical drawing is not available.
 (H) Motor Mechanics.
 (I) Boot Repairing.
 (J) Bricklaying.
 (K) Plastering.
 (L) Plumbing.
 (M) Painting and Decorating.

* Voltage of electrical supply to be stated when demanding.

The equipment, tools and initial supply of consumable material included in each tool unit are listed in the Appendix to this A.F.O.

3. In Trades Metalwork bench fitting is the basic course and should be selected where there is accommodation or demand for one section only. The other sections under the Trades Metalwork heading can be demanded separately as required.

4. Each tool unit (except Trades Metalwork—Turning) is adequate for the simultaneous instruction of at least 10 men in the syllabuses laid down in the Curriculum Handbook—Technical Education. If it is desired to replace broken tools or, in exceptional cases, to add special tools, demands must be made under paragraph 16 below.

5. The Trades Metalwork—Turning unit consists of one 7½-in. sliding, surfacing and screwcutting, back geared, power-driven lathe with motor and ancillary equipment. The standard motor is 2-h.p., 400-volts, 3-phase, 50-cycles, A.C. Demands for a Trades Metalwork—Turning unit must include details of the electrical supply available, viz. voltage, whether A.C. or D.C., and frequency, so that a non-standard motor may be supplied where necessary.

6. The tool units for Trades Woodwork, Bench Fitting and Motor Mechanics all include the necessary benches.

7. Tool units for Boot Repairing, Sheet Metalwork, Plumbing and Painting, and Decorating do not include benches, which should be demanded as required through the usual channels. Partitions (for wood and metal lathing) should be constructed locally if a plastering unit is demanded.

8. Cupboards and tables are not included in the units and should be demanded through the usual channels.

9. A demand for a tool unit should only be submitted if it is reasonably certain that it will be fully used for a minimum of eight hours each week.

10. The following schedule shows for each tool unit the minimum floor space required for reasonable working conditions. Two adjoining rooms could be used for work in one subject if necessary. In the majority of cases it would be preferable to use ground floors. Rooms on upper floors may be used provided that the floors are strong enough to withstand the additional strain which will be imposed on them. The floor space required is to be obtained as far as possible from existing resources, but should new construction or requisitioning of additional premises be required prior Admiralty approval is to be sought.

	Sq. ft.
Trades Woodwork	400
Trades Metalwork—	
Bench fitting and turning	450
Sheet metalwork	400
Forging	240
Technical Drawing	300
Boot Repairing	350
Motor Mechanics	400
Bricklaying	250
Plastering	250
Plumbing	300
Painting and Decorating	300

11. Initial stocks of tool units are being established in Malta and Ceylon in accordance with the following schedule:—

	Malta	Ceylon
(A) Trades Woodwork (carpentry, joinery, cabinet making)	4 units	4 units
(B) Trades Metalwork—bench fitting	3 units	3 units
(C) Trades Metalwork—sheet metalwork	2 units	2 units
(D) Trades Metalwork—forging	2 units	2 units
(F) Technical Drawing—large unit for technical drawing taken as a separate course.	4 units	4 units
(G) Workshop Drawing—unit for drawing taken as a subject ancillary to woodwork and metalwork when the large unit for technical drawing is not available.	3 units	3 units
(H) Motor Mechanics	3 units	3 units
(I) Boot Repairing	3 units	3 units
(J) Bricklaying	3 units	3 units
(K) Plastering	2 units	2 units
(L) Plumbing	2 units	2 units
(M) Painting and Decorating	2 units	2 units

12. In the Mediterranean Area and on the East Indies station demands for tool units may now be forwarded through Commanders-in-Chief to S.N.S.O., Malta, or Colombo respectively, or, in the case of boot repairing units to S.V.S.O., Malta, or Ceylon. Elsewhere demands may now be forwarded through Commanders-in-Chief to Admiralty (for D.E.D.).

13. Tools and equipment will be supplied to the Supply Officer of the ship or establishment and are to be taken on charge.

14. Demands may arise for instruction in a vocational subject for which the necessary small tools, equipment and materials have not been provided under paragraph 2. In such a case, and subject to the approval of the Commander-in-Chief, the initial requirements, at a cost up to £100, may be demanded under the procedure laid down in A.F.O. 1652/45, paragraph 38, sections (c), (d), (e) and (h). Such demands should only be made if it is reasonably certain that the condition in paragraph 9 above will be complied with.

15. If machinery or tool units which are not available under paragraphs 2 and 14 of this Order are required demands should be forwarded to Admiralty (for D.E.D.).

16. Tools required to replace those broken or worn out and additional tools where required are to be obtained from Naval stores or by local purchase under the procedure laid down in A.F.O. 1652/45, paragraph 38, sections (c), (d), (e), (h).

17. *Consumable Materials.*—(a) Details of the initial supply of consumable materials included with each tool unit are given in the Appendix.

(b) Other materials including metal, leather for boot repairing, bricks, sand, etc., but excluding timber, are to be ordered in accordance with A.F.O. 1652/45, paragraph 38, sections (c), (d), (e), (h).

(c) Timber supplies are restricted and for the present shorts and offcuts of home-grown timber only will be generally available. Demands (in cubic feet) on a minimum basis should be made in accordance with A.F.O. 4250/43. For the time being sawn timber should be used only in exceptional circumstances.

18. Articles made by trainees may be sold to them, or other persons, at a price equal to the cost of materials used in accordance with A.F.O. 1652/45, paragraph 38 (o). Sums so obtained are to be credited to Navy Votes.

19. *Expenditure on Tool Replacement and Consumable Materials.*—(a) Commanding Officers may sanction a net expenditure on tool replacements and consumable materials for prevocational courses up to a maximum of 1s. per hour that each tool unit is in use for organized instruction. It is intended that this sum should represent the average expenditure over all tool units in use. It may thus be exceeded in some cases provided there is a corresponding reduction in others.

(b) If, in exceptional circumstances, expenditure in excess of this limit is necessary the Commander-in-Chief's approval must be obtained.

(c) By net expenditure is meant the balance between the cost of stores, other than complete tool units, demanded or purchased and the sums realized by the sale of articles in accordance with paragraph 18.

(d) Expenditure on tools and materials under this A.F.O. is to be reported in accordance with A.F.O. 1652/45, paragraph 5.

20. The arrangements described in this A.F.O. do not alter, in any way, the provision made in A.F.O. 1652/45, paragraph 38, for the supply of equipment and materials for handicrafts, etc.

APPENDIX
TOOL UNIT A
TRADES WOODWORK
Carpentry, Joinery and Cabinet Making

No.	Size	Description	D.H.T. No.
5	Double	Carpenters' benches	—
10	9-in.	Vices—quick grip metal	2988
1	28-in.	Saw, half rip	2198
3	26-in.	Saw, hand	2187
10	14-in.	Saw, tenon	2215
2	8-in.	Saw, dovetail	2211
1	10-in.	Saw, bow	2206
1	16-in.	Saw, bow	—
1	9-in.	Saw, pad	2200
1	19-in.	Saw, compass	2163
1	7-in.	Saw, coping	—
2	2½-in.	Planes, trying	1794
10	2½-in.	Planes, jack	1751
3	2½-in.	Plane, smoothing	1790
1	1-in.	Plane, rebate, wood, square mouth	—
1	1-in.	Plane, rebate, wood, skew mouth	1772
1	1-in.	Plane, bull nosed, metal	1714
1	8-in. × 1-in.	Plane, shoulder, metal	—
1	7½-in.	Plane, router, open throat	—
1	—	Plane, plough	1761
1	2-in.	Chisels, firmer (handled)	—
1	1½-in.	Chisels, firmer (handled)	—
10 each	1-in., ¾-in., ½-in., ¼-in.	Chisels, firmer (handled)	402-413
1	⅞-in.	Chisels, firmer (handled)	—
1 each	⅞-in., ⅝-in., ⅜-in., ⅜-in.	Chisels, bevel edged (handled)	—
1 each	⅝-in., ⅜-in., ⅜-in., ⅜-in.	Chisels, mortise, sash (handled)	—
3 each	⅜-in., ¼-in.	Chisels, mortise, sash (handled)	423, 424
10	—	Gauges, marking	1050
1	—	Gauges, cutting	1052
2	—	Gauges, mortise	1051

No.	Size	Description	D.H.T. No.
2	3-in.	Screwdrivers, oval, cabinet	2252
2	6-in.	Screwdrivers, oval, cabinet	2251
2	3-in.	Screwdrivers, oval, cabinet	2249
2	2½-in.	Spokeshaves, iron, round faced, adjustable.	—
2	2½-in.	Spokeshaves, iron, flat faced, adjustable	—
1 each	1-in., ¾-in., ½-in., ¼-in., ¼-in.	Gouges, paring	—
1 each	1-in., ¾-in., ½-in., ¼-in.	Gouges, firmer	1115-1120
10	6-in.	Try squares	2535
2	9-in.	Try squares	2536
1	7½-in.	Sliding bevel	154
1	10½-in.	Sliding bevel	155
10	—	Marking knives	1514
10	12-in.	Rules, steel, marked, ½-in. and ⅛-in.	—
2	24-in.	Rules, folding, boxwood	2124
10	6-in.	Mallets, carpenters'	1582
10	No. 4	Hammers, Warrington	1187
1	—	Hammers, claw	1190
6	—	Bradawl handles	—
36	Assorted	Bradawl blades	82-86
2	—	Countersinks, snail	229
1 set	¼-in. to 1¼-in.	Bits, centre	216-226
1 set	¼-in. to ¾-in.	Bits, shell or spoon	234-238
1 set	¼-in. to ½-in.	Bits, Russell Jennings	—
1	—	Bits, turn screw	246
2 pairs	8-in.	Wing compasses	483
1 pair	5-in.	Dividers, spring	573
2	10-in.	Braces, carpenter's ratchet	196
1	Small	Nail punch	—
1	Medium	Nail punch	—
2 pairs	8-in.	Pincers	1694
2	5-in.	Cabinet scrapers, flat steel	2218
2	10-in.	Rasps, half-round, second cut... ..	2102
1	—	File, card	480
2	5 ft.	Cramps, sash, self gripping	—
2	4 ft.	Cramps, sash, self gripping	—
4	8-in.	Cramps, G, ribbed	—
2	12-in.	Bench holdfasts... ..	—
2	16-in.	Hand screws, wooden	—
1	1 pint	Glue pot	—
1	Medium	Oilstone, Carborundum	—
1	—	Oilstone, Washita	—
1	Medium	Oilstone, India gouge slip, curved and tapered.	—
1	—	Oilcan, bench	—
1	24-in. × 3½-in.	Grindstone, with grinding apparatus...	—
<i>Consumable Materials</i>			
12	10-in.	Blades, bow saw	2208
12	16-in.	Blades, bow saw	—
12	9-in.	Blades, padsaw	2201
36	—	Blades, coping saw	—
2	Medium	Gluepot brushes	—
14 lb.	—	Glue, powdered	—
6 quires	Assorted	Glasspaper	—
2 lb. each	½-in., ¾-in., 1-in., 1½-in.	Oval brads	—

No.	Size	Description	D.H.T. No.
<i>Consumable Materials—contd</i>			
7 lb. each	1½ in. and 2½ in.	French wire nails	—
1 gross	½ in., No. 3	Screws, countersunk, iron	—
1 gross	⅝ in., No. 4	Screws, countersunk, iron	—
2 gross	¾ in., No. 6	Screws, countersunk, iron	—
1 gross	1 in., No. 8	Screws, countersunk, iron	—
1 gross	1¼ in., No. 8	Screws, countersunk, iron	—
1 gross	1½ in., No. 8	Screws, countersunk, iron	—
1 gross	2 in., No. 10	Screws, countersunk, iron	—
1 gross	⅝ in., No. 4	Screws, round head, brass	—
1 gross	⅝ in., No. 4	Screws, round head, blued iron	—
2 lb.	—	Cotton waste	—
<i>To be made in centre</i>			
Shooting boards.			
Sawing boards.			
Mitre blocks.			
Sawing stools.			

TOOL UNIT B.
TRADES METALWORK
Bench Fitting

No.	Size	Description	D.H.T. No.
2	10-ft.	Metalwork benches, constructed in soft wood, 2-ft. 3-in. wide, left in white, tops covered with 22 gauge sheet iron, turned down, and fixed underside. Fitted with vices as below.	—
10	4½-in. jaw	Parallel metalworkers' vices	2955
5	1-lb.	Hammers, engineers' ball pane	1201
10	10-in.	Files, bastard cut, flat, safe edge	800
10	10-in.	Files, bastard cut, half-round	784
5	10-in.	Files, bastard cut, round	849
10	10-in.	Files, second cut, flat, safe edge	809
10	8-in.	Files, second cut, flat, safe edge	808
10	8-in.	Files, second cut, half-round	—
5	8-in.	Files, second cut, round	—
10	8-in.	Files, smooth cut, flat, safe edge	814
10	6-in.	Files, smooth cut, half-round	792
10	6-in.	Files, smooth cut, 3 square	887
5	6-in.	Files, smooth cut, round	854
5	6-in.	Files, dead smooth, Swiss pillar	—
3	4-in.	Files, smooth cut, flat, safe edge	812
3	6-in.	Files, smooth cut, knife edge	822
3	4-in.	Files, smooth cut, round	853
3	4-in.	Files, smooth cut, half-round	791
3	4-in.	Files, smooth cut, 3 square	886
3	Assorted	Files, riffer	—
36	Assorted	File handles	—
10	12-in.	Rules, graduated to 1/64ths	—
10	6-in.	Try squares, all steel	2552
5 pairs	6-in.	Callipers, spring, inside	341

No.	Size	Description	D.H.T. No.
5 pairs	6-in.	Callipers, spring, outside	340
10	—	Scribers (knitting needles)	2311
10 pairs	5-in.	Dividers, spring	573
1	15-in. × 10-in.	Surface plate	1809
1	2-in.	Surface block	—
1	9-in. pillar	Scribing block, surface gauge	1096
1 pair	2-in.	Vee blocks	166
10	¼-in.	Centre punches	1873
1 each	1-in., 2-in. and 3-in.	Micrometers	—
1 pair	6-in.	Vernier callipers	—
3	12-in.	Hacksaw frames	2176
1	—	Combination set	—
1 set	—	Chipping chisels, flat	349
2 each	¾-in. and ½-in.	Chipping chisels, cross-cut	360 and 358
1	to ½-in.	Drill, breast	647
1	to ¼-in.	Drill, hand	648
2 sets	⅛-in. to ½-in.	Drills, twist	—
1 set	—	Rivet sets	2330-2
1 set	¼-in.	Punches, letters and figures and A	2607, 2601, 2625
1	12-in.	Screwdriver, London, flat handle	2278
1	2½-in. × ½-in.	Screwdriver, electrician's	—
1	4-in. × ½-in.	Screwdriver, electrician's	—
1	5-in. × ⅜-in.	Screwdriver, electrician's	2301
1 set	¼-in. to ½-in.	Stocks, taps and dies (taper, second and plug).	—
B.S.W.	—	Stocks, taps and dies (taper, second and plug).	—
1 set	¼-in. to ½-in.	Stocks, taps and dies (taper, second and plug).	—
B.S.F.	—	Stocks, taps and dies (taper, second and plug).	—
1 set	0 to 10	Stocks, taps and dies (taper, second and plug).	—
B.A.	—	Stocks, taps and dies (taper, second and plug).	—
1	½ pint	Oil can, engineer's	—
1 pair	6-in.	Pliers, combination	1835
1 pair	6-in.	Pliers, round-nosed	1842
1	adjust.	Piercing saw frame	—
1	½-lb.	Soldering bit, electric	—
1 pair	12-in.	Tinman's snips	2349
1	1-in. wheel	Grinding head, Carborundum, self contained A.C. electric (single-phase supply, 8-in. × 1-in. wheels).	420
2	—	File cards	—
1	—	Dresser, emery wheel	590
1	18-in. round	Brazing hearth with blowpipe, with foot bellows.	—
<i>Consumable Materials</i>			
72	12-in.	Blades, hacksaw	2185
72	—	Blades, piercing saw	—
2-lb.	—	Soft solder	—
1 quart	—	Oil, lubricating	—
6	8-in. or 10-in.	Files, old for scrapers	—
1-lb.	—	Copper sulphate crystals	—
6-lb.	—	Cotton waste	—
1 box	—	Chalk, white	—
1-pint	—	Soldering fluid	—

TOOL UNIT C
TRADES METALWORK
Sheet Metalwork

No.	Size	Description	D.H.T. No.
2	—	Irons, bick	159
2	—	Irons, creasing	1458
2	—	Stakes, side	—
1	—	Stakes, pipe	2563
2	Assorted	Stakes, funnel	2558
3	Assorted	Stakes, bottom	—
1	—	Stakes, extinguisher	—
1	—	Stakes, pan	—
2	—	Stakes, hatchet	2560
3	—	Stakes, half-moon	2559
1	—	Stakes, tinman's horse	1376
6	Assorted	Stakes, round and oval heads for horse	1381-86
1	—	Tinman's anvil	13
1	Large	Bench, mandril	—
1	Small	Bench mandril	—
2	—	Hammers, pane	1272
6	—	Hammers, square faced	1276
1 set	—	Hammers, block	1266-7
1	Large	Hammers, planishing	1275
6	Assorted	Hammers, stretching	—
1 each	$\frac{1}{8}$ in., $\frac{1}{4}$ in., $\frac{3}{8}$ in.	Metal groovers	2908-12
6	$2\frac{3}{4}$ in.	Tinman's mallets	1613
1 pair	—	Scotch shears	2344
6 pairs	12 in.	Tinman's snips—straight	2349
3 pairs	10 in.	Tinman's snips, curved	2345
1	18 in. × 15 in.	Tinman's surface plate	—
3	18 in. × 12 in.	Steel squares	2549
6	$1\frac{1}{2}$ lb.	Soldering bits, electric	—
3 pairs	8 in.	Wing compasses	483
3 pairs	12 in.	Wing compasses	484
1	—	Wooden hollowing block	—
1	—	Tinman's jenny	—
1	—	Folding machine	—
1 set	30 in.	Tinman's rollers... ..	—
<i>Consumable Materials</i>			
112 lb.	4 ×	Tin plate	—
2 sheets	8 lb.	Copper sheet	—
2 sheets	8 lb.	Brass sheet	—
1 lb.	$\frac{1}{16}$ in. to $\frac{3}{16}$ in.	Rivets, iron, flat head	—
each.	—	—	—
14 lb.	—	Tinman's solder	—
6 bottles	—	Tinman's soldering fluid	—
1 coil	8, 10, 12 g.	Tinned iron wire	—
each.	—	—	—

TOOL UNIT D
TRADES METALWORK
Forging

No.	Size	Description	D.H.T. No.
1	30-in. × 24-in.	Forge, hood type, wrought iron, fan blast	—
1	112-lb.	Smith's anvil, with stand, $\frac{3}{4}$ -in. square hole.	8
1	24-in. × 12-in. × 12-in.	Water trough	—
1 set	—	Hearth tools	—
6	Assorted	Smith's tongs	2788-2801
1	14 lb.	Smith's sledge hammer	1256
1	7-lb.	Smith's hammer	1254
2	2-lb.	Smith's hammer, hand	—
1 set	$\frac{1}{4}$ -in. to 1-in.	Swages, top and bottom, $\frac{3}{8}$ -in. shank	—
1 set	$\frac{1}{4}$ -in. to 1-in.	Fullers, top and bottom, $\frac{3}{8}$ -in. shank... ..	—
1	—	Hardie or bottom set, $\frac{3}{8}$ -in. shank	536
2	2-in. × 2-in.	Flatters	899
1	$2\frac{1}{2}$ -lb.	Cold set	2315
1	$2\frac{1}{2}$ -lb.	Hot set	2319
1	$\frac{1}{2}$ -in.	Punch, square drift	—
1	$\frac{1}{2}$ -in.	Punch, round drift	—
1	—	Swage block	—
1	$4\frac{1}{2}$ -in. jaw	Leg vice	2964

TOOL UNIT E
TRADES METALWORK
Turning

No.	Size	Description	Rate Book No.
1	$7\frac{1}{2}$ -in.	Lathe, automatic, sliding, surfacing and screwcutting. Back geared, power-driven with independent motor with accessories.	—
1	$7\frac{1}{2}$ -in.	Chuck, 3-jaw with 2 sets of jaws	—
1	10-in.	Chuck, 4-jaw, independent	—
1 set	—	Tool holders (4) and boring bar with tool bits.	—
1	to $\frac{3}{8}$ -in. cap	Drill chuck	—
1	—	Knurling tool	—
1 set	1-in. to 3-in.	Lathe carriers	—
All above to fit lathe			
1	B.S.W.	Gauge, screw pitch	4693
1	B.A.	Gauge, screw pitch	764
1 set	—	Gauge, feeler	780
1	—	Gauge, radius	—
<i>Consumable Materials</i>			
2	—	Glue brushes, for lubricating	—
14 lb.	—	Soft soap	—
14 lb.	—	Soda	—
$\frac{1}{2}$ gall.	—	Paraffin	—
} for lubricants			—

TOOL UNIT F
TECHNICAL DRAWING

(Large unit for technical drawing taken as a separate course)

No.	Size	Description	Code No.
2	32 in. × 23 in.	Drawing boards, engineers.	
9	23 in. × 16 in.	Drawing boards, engineers.	
2	32 in.	Squares, Tee, tapered, mahogany.	
9	24 in.	Squares, Tee, tapered, pearwood.	
2	12 in.	Squares, set 45°, celluloid	} Stout quality.
2	12 in.	Squares, set 60°, celluloid	
9	8 in.	Squares, set 45°, celluloid	
9	8 in.	Squares, set 60°, celluloid	
10	12 in.	Scales, marked $\frac{1}{16}$ and —	
2 set	10 to 60	Scales (3 per set).	
2	—	Scales, Armstrong.	
1	36 in.	Straight edge.	
1	18 in.	Parallel rule, roller.	
2	8 in.	Protractors, celluloid.	
9	5 in.	Protractors, celluloid.	
3	12 in.	Assorted architectural curves.	
2 set	6 in.	Drawing instruments—needle point.	
9 pairs	6 in.	Compasses, pen, pencil and divider.	
1	48 in. × 36 in.	Blackboard.	
1 ft.	6 ft.	Easel.	
1	—	Blackboard tee square.	
1	45°	Blackboard set square.	
1	60°	Blackboard set square.	
1 pair	18 in.	Blackboard compasses.	
<i>Consumable Materials</i>			
1 ream	Imp.	Cartridge drawing paper	4-11
1 roll	24 yd. 30 in.	Tracing cloth	14-12
1 roll	20 yd. 30 in.	Tracing paper	14-32
100	—	Drawing pins	68-34
9 doz.	—	Pencils, HHH	48-37
3 doz.	—	Pencils, HB	48-75
1 doz.	—	Rubbers	39-12
1 bottle	1 oz.	Indian ink	42-21

TOOL UNIT G
WORKSHOP DRAWING

Unit for drawing taken as a subject ancillary to woodwork and metalwork where the large unit for technical drawing is not available.

No.	Size	Description	Code No.
10	23-in. × 16-in.	Drawing boards, deal, clamped.	
10	24-in.	T squares, tapered	
10	8-in.	Set squares, 45°, celluloid.	
10	8-in.	Set squares, 60°, celluloid.	
5	5-in.	Protractors, celluloid.	
5	5-in.	Compasses, pencil.	
10	12-in.	Rules, boxwood, marked $\frac{1}{16}$ in. and $\frac{1}{10}$ in.	

No.	Size	Description	Code No.
<i>Consumable Materials</i>			
3 quire	Imperial	Cartridge drawing paper	4-11
100	—	Drawing pins	68-34
3 doz.	—	Pencils, HHH	48-37
1 doz.	—	Pencils, H.B.	48-75
1 doz.	—	Rubbers	39-12

TOOL UNIT H
MOTOR MECHANICS

No.	Size	Description	D.H.T. No.
1	Light	Car chassis, complete with engine (secondhand).	—
1	10 ft. × 2 ft.	Bench	—
3	4½-in. jaw	Vices, parallel	2955
1	4½-in. jaw	Vices, leg	2964
2	—	Jacks, hand type	—
1 set	$\frac{1}{2}$ in. to 1½ in.	Spanners, box, double ended	2455-64
1 set	$\frac{3}{8}$ in. to $\frac{5}{8}$ in.	Spanners, set screw	—
1 set	$\frac{1}{8}$ in. to 1 in.	Spanners, flat, double ended, drop forged.	2470-83
1 set	$\frac{3}{8}$ in. to 1½ in.	Spanners, box, ratchet head (R and L hand).	2503
1 each	6 in. and 15 in.	Spanners, adjustable	2419 and 2422
1	$\frac{1}{2}$ in. to 2½ in.	Wrench, Stillson	3025
3	12 in.	Screwdrivers, London, flat	2278
3	6 in. × $\frac{3}{16}$ in.	Screwdrivers, electrician's	—
3	4 in. × $\frac{1}{8}$ in.	Screwdrivers, electrician's	—
3	1 lb.	Hammers, engineer's ball pane	1201
3 pairs	6 in.	Pliers, combination	1835
3 pairs	5 in.	Pliers, electrician's, flat jaw, round nose	—
1 pair	8 in.	Pincers	1694
12	Assorted	Punches, pin and centre	—
1	to $\frac{1}{2}$ in.	Drill, breast	647
2 sets	$\frac{1}{16}$ in to $\frac{1}{2}$ in.	Drills, twist	—
1	—	Rose countersink, to fit drill	—
2	$\frac{1}{2}$ pint	Oilcans, engineer's	—
2	$\frac{1}{2}$ in.	Chisels, chipping	—
2	$\frac{1}{2}$ in.	Chisels, cross cut	—
3 each	10 in. and 8 in.	Files, bastard cut, flat	758-59
3 each	8 in. and 6 in.	Files, second cut, flat	766-67
3	4 in.	Files, smooth cut, flat	772
1 set	B.S.W.	} Stocks, taps and dies, taper, second and plug.	—
1 set	$\frac{1}{2}$ in. to $\frac{1}{2}$ in. B.S.F.		
1 set	$\frac{1}{2}$ in. to $\frac{1}{2}$ in. B.A. 0 to 10		
2	6 volt	Batteries	—
1	—	Scraper, bearing	—
1	—	Scraper, flat	2223
1	—	Surface plate	—
1	—	Oilstone, India, double sided	—
—	—	Engines	} any available secondhand.
—	—	Magnetos	
—	—	Carburettors, etc.	
1 set	4 in. taper	Feeler gauges	1075

No.	Size	Description	D.H.T. No.
<i>Consumable Materials</i>			
3 quires	Assorted	Emery paper	—
1 quart	—	Libricating oil.	—
1 gall.	—	Paraffin oil.	—
2 lb.	—	Grease.	—
14 lb.	—	Cotton waste.	—

TOOL UNIT I
BOOT REPAIRING

No.	Size	Description	D.H.T. No.
11	—	Revolving sockets with centre pegs ...	—
3 pairs each	6, 7, 8, 9	Lasts, men's	—
1 pair each	2, 3, 4	Lasts, women's, narrow toe, drop waist (or nearest).	—
1 pair each	6, 13, 3 and 5	Lasts, children's, boys' and youths' ...	—
12	wide	Swedish blades, without handles ...	—
6	—	Hacking knives	1519
12	Assorted 2, 3, 4	Irons, heel burnishing	—
12	—	Irons, forepart, single lip	—
3	No. 3	Hammers, double faced	—
11	No. 3	Hammers, single faced	1244
11	—	Rivet drivers	—
11 pairs	6½ in.	Nippers	1653
2 pairs	No. 2	Lasting pincers	—
11	9 in.	Rasps	—
1	—	Oilstone	—
36	assorted	Sewing awls	74
12	medium	Sewing awls, handles	—
12	medium	Stabbing awls	77
1	K.29	Singer patching machine	—
<i>Consumable Materials</i>			
14 lb.	7/16 in. × 17	Rivets, iron, small head	—
14 lb.	1/2 in. × 17	Rivets, iron, small head	—
7 lb.	7/16 in. × 17	Rivets, iron, small head	—
1 lb.	5/16 in. × 17	Rivets, iron, small head	—
4 lb.	3/8 in. × 17	Rivets, iron, small head	—
7 lb.	3/8 in. × 12	Plugs	—
3 lb.	—	Stick wax, black	—
1 lb.	—	Stick wax, brown	—
4 quire	No. 2 strong	Glasspaper	—
1 pint	—	Ink, Webster's burnishing, black ...	—
1/2 pint	—	Ink, Webster's burnishing, brown ...	—
2	small	Inking brushes	—
36	—	Webster's shoemaker's wax	—
1/2 lb.	F.B. No. 15	Hemp	—
2 lb. each	3/8 in. × 3/8 in.	Wire tangles	—
4 lb. each	7/16 in. × 1/2 in.	Wire tangles	—
2	10-12 lb.	Bends, leather	—
2	12-14 lb.	Bends, leather	—
14 lb.	—	Cheeks and faces, light	—
7 lb.	—	Press cuttings	—

TOOL UNIT J
BRICKLAYING

No.	Size	Description	D.H.T. No.
10	12 in.	Trowels, brick	2919
2	6 in.	Trowels, pointing	2924
2 sets	—	Pins	—
4 knots	—	Line	—
2	4½ in.	Bolster, heavy	181
1	1 in.	Cold chisels	385
1	½ in.	Cold chisels	—
2	2½ lb.	Hammers, club	—
1	—	Hammers, brick	—
1	8 in.	Fry square, wooden stock	2535
1	24 in.	Plumb rule and level combination ...	—
1	—	Plumb bob	1862
1	10 in.	Spirit level	1562
1	24 in.	Rule, boxwood folding	2124
2	6 in. × 6 in.	Hawks	—
1	—	Scutch	1184
1 pair	8 in.	Wing compasses	483
1	10½ in.	Bevel, adjustable	155
1	—	Mixing shovel	2357
1	14 in.	Tenon saw	2215
2	—	Pails, galvanised	—
1	—	Sieve, sand washing	—
1	—	Bannister brush... ..	—
1	—	Scrubbing brush	—
<i>To be made at centre</i>			
1	3 ft.	Straight edge, marked to show courses per ft.	—
1	—	Pointing rule	—
1	large	Wooden square, for corners	—
2	30 in. × 30 in.	Mortar boards	—
—	—	Templates for arches, bays, etc. (as required).	—
1	48 in.	Plumb rule	—

TOOL UNIT K
PLASTERING

No.	Size	Description	D.H.T. No.
5	—	Trowels, laying, double hung	2921
1	—	Trowels, flooring	—
1	—	Trowels, twitcher or angle	—
1	—	Trowels, circle or cove	—
2 each	6 in. and 11 in.	Trowels, gauging	—
5	12 in × 4½ in.	Floats, wooden, skimming on	—
10	12 in. × 12 in.	Hawks	—
10	—	Brushes, stop, half and half	—
5	2 in.	Brushes, tool, flat, painter's, cheap ...	—
6	Assorted	Moulding or small tools	—
1 each	4½ in., 6 in., 9 in., 12 in. and 18 in.	Joint rules	—
1 each	9 in. and 12 in.	Set squares, steel	—

No.	Size	Description	D.H.T. No.
2	—	Hammer, lath	—
1	18 in.	Saw, hand	2186
1	18 in.	Plumb and level combination	—
1 pair	12 in.	Tinman's snips	2349
1	—	Shovel, mixing	2357
6 knots	—	Chalk line	—
1	24 in.	Rule, folding, boxwood	2124
1	—	Dusting brush, flat	—
2	—	Plumb bobs	1862
<i>To be made at Centre</i>			
—	30 in. high	Stand	—
—	36 in. × 36 in.	Spot board	—
—	4 in. × 1 in. app.	Floating rules, various lengths	—
—	4 in. × 1 in. app.	Feather edge rules, various lengths	—
—	—	Plumb rules, various lengths	—

TOOL UNIT L
PLUMBING

No.	Size	Description	D.H.T. No.
6	Medium	Dressers, boxwood	—
3	Large	Dressers, hornbeam	—
6	Assorted	Sticks, bending	—
6	Assorted	Sticks, bossing	—
3 each	2 in. and 2½ in.	Mallets, boxwood	—
1 each	4 in., 3½ in. and 3 in.	Bobbins	—
6 each	2 in., 1½ in. and 1¼ in.	Bobbins	—
3	1 in.	Bobbins	—
1 each	4 in., 3½ in., 3 in., 2 in., 1½ in., 1¼ in., and 1 in.	Mandrils	—
1 each	4 in., 2½ in. and 1½ in.	Turnpins	—
3	Assorted	Chase wedges	—
1 each	4 in., 3½ in., 3 in. and 2 in.	Cast iron followers	—
6	—	Dummies, short hand	—
2	—	Dummies, long	—
2	½ lb.	Hammers	1228
2	1½ lb.	Hammers	—
2	—	Knives, draw	—
1	—	Knives, chipping	—
2	—	Bending bolts	—
2	—	Drip plates	—
2	—	Scribing plates, double end	—
4 pairs	8 in.	Wing compasses	483
2	—	Pipe openers	—
5	12 in.	Steel rules	2133
2	—	Plumbers' saws	—
4	Assorted	Shavehooks	—
1	12 in. × 6 in.	Steel square	—
1	24 in. × 12 in.	Steel square	—

No.	Size	Description	D.H.T. No.
2 pairs	12 in.	Snips	2349
2	1 lb.	Copper bits	1473
5	3½ in.	Ladles	—
1	—	Copper soil pot	—
5	14 in.	Rasps, smooth cut	—
2	12 in.	Files, bastard, half round	—
1	10 in.	Screwdriver, London, flat	—
3	—	Chalk line reels	—
4 knots	—	Chalk line	—
3 yds.	—	Moleskin cloth	—
3	1 pt.	Blowlamps, petrol	—
1	—	Solder pot, gas	—
1	¾ in.	Blowpipe, gas	—
1 pair	—	Bellows, foot	—
20 ft	¾ in.	Rubber tube, heavy	—
<i>Consumable Materials</i>			
7 lb.	—	Tallow	—
3 lb.	—	Plumbers' black, Carrs'	—
56 lb.	—	Plumbers' metal, gate	—
28 lb.	—	Plumbers' metal, stick	—
1 coil	½ in. × 6	Lead pipe	—
1 coil	¾ in. × 8	Lead pipe	—
1 coil	1 in. × 9	Lead pipe	—
1 coil	1¼ in. × 9	Lead pipe	—
1 coil	1½ in. × 12	Lead pipe	—
10 ft.	2 in. × 8 lb.	Waste pipe, lead	—
10 ft.	3 in. × 8 lb.	Waste pipe, lead	—
10 ft.	4 in. × 8 lb.	Waste pipe, lead	—
¼ sheet	5 lb.	Lead sheet	—
¼ sheet	6 lb.	Lead sheet	—

TOOL UNIT M
PAINTING AND DECORATING

No.	Size	Description	Rate Book No.
6	2 knot	Brushes, distemper, fibre	C.263
3 each	¼ in., ½ in., 1 in.	Brushes, lining fitch	C.269, 270, 272
6	1 knot	Brushes, paint	C.275
3 each	Nos. 2, 4, 6, 8, 12	Brushes, sash tools	C.277-281
3	—	Brushes, stencil	C.282
1	—	Brushes, stippling	C.283
1	4 in.	Brushes, varnish or enamel	C.286
1	3 in.	Brushes, varnish or enamel	C.287A
3	2 in.	Brushes, varnish or enamel	C.288
3	1 in.	Brushes, varnish or enamel	C.289
3 each	Nos. 1, 2, 3, 6	Brushes, sable writers	—
1	—	Brushes, badger softener	C.320
2	—	Brushes, dusting	C.265
3	—	Brushes, mottling	C.360
2	Maple	Brushes, overgrainers'	C.362

No.	Size	Description	Rate Book No.
2	Oak	Brushes, overgrainers'	C.363
1 set	3 in.	Combs, graining	95 to 95B
1 set	4 in.	Combs, graining	96 to 96B
2	—	Knives, painters' putty	—
2	—	Knives, glaziers' putty	—
2	8 in.	Knives, palette	—
2	2½ in.	Scrapers, painters	—
3	—	Shavehooks, painters	—
1	—	Plumb bob	—
1 pair	8 in.	Compasses, wing	—
1	24 in.	Rule, folding boxwood	—
1	½ pint	Blowlamp, petrol	—
10	5 in. dia.	Paint kettles, galvanised	—
3	2 gall.	Pails, galvanised	—
2	—	Paint strainers, removable gauzes	—
<i>Consumable Materials</i>			
14 lb.	—	White lead in oil.	
28 lb.	—	Dixon's or other leadless white in oil.	
7 lb.	—	Paste driers.	
2 gall.	—	American turpentine.	
3 gall.	—	Substitute turpentine.	
2 gall.	—	Refined linseed oil.	
¼ gall.	—	Boiled linseed oil.	
½ gall.	—	Terebine drier.	
¼ gall.	—	White knotting.	
¼ gall.	—	Japanner's goldsize.	
¼ gall.	—	Elastic carriage varnish	
¼ gall.	—	Undercoat carriage varnish.	
¼ gall.	—	Pale hard copal varnish.	
¼ gall.	—	Eggshell flattening varnish.	
¼ gall.	—	Black Japan.	
½ gall.	—	White enamel (high gloss)	
7 lb.	—	Golden ochre, in oil.	
4 lb.	—	Burnt turkey umber, in oil	
4 lb.	—	Raw turkey umber, in oil	
4 lb.	—	Venetian red, in oil	
4 lb.	—	Light Brunswick green, in oil.	
4 lb.	—	Raw sienna, in oil.	
4 lb.	—	Burnt sienna, in oil.	
2 lb.	—	Black, in oil.	
2 lb.	—	Pale zinc green, in oil.	
4 lb.	—	Drop black, in turpentine.	
½ lb. tube	—	Prussian blue, in oil.	
½ lb. tube	—	Ultramarine, in oil.	
½ lb. tube	—	Middle chrome, in oil.	
½ lb. tube	—	Azo vermilion, in oil	
1 lb.	—	Raw sienna, in water.	
1 lb.	—	Burnt sienna, in water.	
1 lb.	—	Drop black, in water.	
1 lb.	—	Mahogany lake, in water.	
2 lb.	—	Vandyke brown, in water.	
14 lb.	—	Whiting.	
¼ gall.	—	Paint remover.	
1 gall.	—	Petrol, for blowlamp	
6	—	Sponges.	
2	—	Chamois leathers.	
14 lb.	—	Soap.	
14 lb.	—	White rags.	
1 quire	—	No. 1 glasspaper.	

No.	Size	Description
1 quire	—	No. 1½ waterproof glasspaper.
1 quire	—	No. 00 waterproof glasspaper.
6	—	Patent pumice blocks.
1 lb.	—	Pumice stone.
5 lb.	—	Alabastine plaster filler.
2 lb.	—	Concentrated size.
1 box	—	White chalk.
1 box	—	Drawing pins.
1 ball	—	Twine
6 rolls	—	White lining paper.
50 sheets	—	Cartridge paper, half imperial.

(A.F.Os. 4250/43, 123/45, 1652/45 and 2680/45.)

