RESTRICTED

(FOR OFFICIAL USE ONLY)

Not to be communicated to anyone outside H.M. Service

ADMIRALTY FLEET ORDER

BRISTOL AERO ENGINES—ESTABLISHMENT
OF TOOLS

ADMIRALTY, S.W.1, 21st September, 1944.

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,

It.v. markham

Distribution Limited

To Commanders-in-Chief, Flag Officers, Senior Naval Officers, Captains and Commanding Officers of H.M. Ships and Vessels carrying Aircraft, Superintendents 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.

ead o	le «L»	BRANCE	1-108			
			-	-	-	
				-		
*						

3

4985.—Bristol Aero Engines—Establishment of Tools

(N.S. Air 8080/44.-21 Sep. 1944.)

The issue of engine tool kits for maintenance and repair of Pegasus VI, 30, Mercury 30 and Taurus XII engines fitted to naval aircraft has been discontinued. In future all tools are to be demanded as individual items and will be allowed to each service as detailed in the appendices to this order. Supply will be made to new services in accordance with these allowances.

- 2. All services concerned are to break down existing kits held into their component parts and to take the items on charge separately. Arrangements should then be made to adjust the range and quantities to conform to these allowances. Tools held surplus to allowances should be returned to the nearest R.N. store depot (at home) or storing yard (abroad) without delay in order that they may be re-issued to other services. In view of the great shortage of these tools Commanding Officers are to ensure that this order is complied with without delay.
 - 3. Accessory and salvage tools will be the subject of a further order.
- 4. The tools allowed will, broadly, limit the work which can be undertaken by these services to the following :-
 - (a) Squadrone Daily inspections. Daily maintenance. Minor inspections. Valve servicing.
 - (b) Catapult Ships As for squadrons.
 - (c) Aircraft Carriers (Fleet and Light Fleet).

Major inspections. Minor repairs and replacements which involve minor stripping only. Shock loading within the limits laid down in A.Ps. 1451D, 1491B and D. 1707A.

Changing of engines. Top overhaul.

- (d) Aircraft Carriers (Escort) As for (c) but on a reduced scale and excluding major inspections.
- (e) Aircraft Carriers (Merchant Air- As for Air Stations, Classes "D" and craft).
- (f) Naval Air Stations (Classes "A", Major inspections. " B" and " C")

Minor repairs and replacements which involve minor stripping only. Shock loading within the limits laid down in A.Ps. 1451D, 1491B and D,

1707A. Changing of engines. Top overhaul.

(g) Naval Air Stations (Classes " D " and " E ").

Daily maintenance. Daily inspections. Minor inspections. Valve servicing.

Minor repairs by replacement with complete assemblies which do not involve removal of engine from airframe.

(h) Repair Yards (Class " A ") ... Complete overhauls and major repairs including salvage of parts to approved schemes.

(i) Repair Yards (Class " B ") ... (i) Those yards specialising in the complete overhaul of Bristol engines as for Repair Yards, Class "A", with a slight reduction of salvage

work.

- (ii) Those not specialising in Bristol overhaul as for Naval Air Station, Class " A ".
- ... As for Repair Yards, Class "A", but (i) H.M.S. "Unicorn" on a limited scale.
- ... Those specialising in the complete over-(k) Engine Repair Ships haul of Bristol engines as for Repair Yard, Class "B" (i).
- 5. In general, work undertaken by the above-mentioned services is to come within limitations laid down in Air Publications 1451D, 1491B and D, 1707A and other approved reconditioning schedules.
- 6. To ensure economy, demands for tools are to be limited to immediate requirements.
- 7. The allowances are in no instance to be exceeded, irrespective of whether one or more types of the engines named are installed in the aircraft allotted. Where tools are common, the quantities to be held are not to exceed the allowances shown in either appendix.

			E	GIN	ES						ALLO	WAN	CES					
Ref.	Part No.	Description				per	ajips		ircra arrie				al Air tions			pair ards	so	Remarks
No.			Pegasus VI	Pegasus 30	Mercury 30	Squadrons per 6 I.E. Aircraft	Catapult Ships	Fleet and Light Fleet	Escort	Merchant Aircraft	Class A	Class B	Class C	Class D and E	Class A	Class B	Repair Ships	To-marks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
		SECTION 36R																
2162	FB.7781/2	Tools for Crankcase Spanner, box, for crankcase nuts and	x	x	x	2	Ť	2	2	3	5	4	4	4	6			
		propeller hub bolts.		A	A.											5	4	
0640 3073	FB.21712* \\ FB.57255 \	Protector, for connecting rods and crankcase.	X	X		9	2	36	27	2	54	45	27	27	90	63	54	
3626	FB.65972	Protector, for connecting rods and			x	9	2				54	45	27	27	81	54	45	
0769	FB.57280/2	erankease. Extractor, for erankease front half and	x	x	x			1	1		1	7	1	1	2	2	2	
0100		front cover.		-	-			3			*				2	4	2	
3122	FB.35227	Remover, for crankcase circlips	x	X	X										3	2	2	
	TT	Tools for Rear Cover				100												
5377 3063	FB.22817 FB.57273	Spanner, box, for oil filter cap Extractor, for inertia starter jaw	X	x	X	2	1	2	2	1	4	4	4	4	5	4	2	
0774	FB.35217	Extractor, for mertia starter jaw Extractor, for gun gear shaft bush :	X	X	X			1	- 1		1	1	1		2	1	1	
8432	FB.40395	Fixture, pressing in for gun gear shaft	x	X	X										1	1	1	
0821	TOD 51405	bush.													8			
0021	FB.51437	Jig, reaming (use up stocks of FB.35198) for gun gear shaft bush.	x	X	X										1	1	1	
10838	FB.35197	Reamer, for gun gear shaft bush	x	x	x	8				1					4	3	3	
8430	FB.40394	Fixture, pressing in, for cross drive bush	x	x	X						1				1	ï	1	
10816	FB.35203	Jig, reaming, for pressing in, for cross drive bush.	x	x	x									-	1	1	1	
10832	FB.35204	Reamer, for cross drive bush	x	x	x										4	3	3	

6	10814	FB.35624	Jig, reaming, for crankshaft tail piece	x	x				1	1					1	1	1	1	
(68516)	10830	FB.35187	bearing. Reamer, for crankshaft tail piece	x	x											4	3	3	
3	DOTTO	TATO ELEGO	bearing.																
	29572	FB.51739	Jig, reaming, for crankshaft tail piece bearing.			X										1	1	1	
	29590	FB.51737	Reamer, for crankshaft tail piece bearing.			x										4	3	3	
	CALLED A		Tools for Oil Sump				15												
	54042	FB.63028	Spanner, box, 1 in. × 16 in. B.S.F., for oil sump nuts.	X	x	x	3	1	4	4	1	8	6	6	6	12	10	10	
	53450	FB.66060	Spanner, box, 1-in. B.S.F., for breather tube connection.		х											3	2	2	
			Tools for Crankshaft			1													
	18250	FB.41011/2	Bar, alignment, for crankshaft front and rear.	x	x	x										5	4.	4	
	10616	FB.35218	Disc, for timing engine	x	x	x		1	1	1	1	1	1	1	1	2	2	2	
	10650	FB.35176	Pointer, for timing engine	x	X	x		1	1	î	i	1	1	1	ī	2	2 2	2	
	18210	FB.39936	Expander, Maneton, for crankshaft,	x	x	x								1		5	4	4	
	13278	FB.34941	rear. Extractor and insertor, for crankshaft	-									4			0.		-	
	10210	T D.04041	oil sleeve.	X	X						1					2	1	1	
	120023	FB.97300	Adaptor for extractor, for crankshaft inner races.			x										2	2	2	
	10758	FB.29580* \	Adaptor for extractor, for use on front	x	x	x		1	1	1		1	1	1	1	2	2	2	
	120024	FB.90164	end of crankshaft.	1		100		13				0		1		-	-		
	13206	FB.34942*	Adaptor for extractor, for use on rear	X	x	x										2	2	2	
	120020	FB.90163	end of crankshaft.	X	x	x													
	2186	FB.10245*	Tool, assembling and extracting, for	X	X	X		1.	1	1		1	1	1	1	2	2	2	All I
	120019	FB.90165	cam sleeve.						24							201	127		7W -
	13218	FB.34939	Extractor, for inner races of front and rear crankshaft bearings.	X	х	X										2	2	2	
	2191	FB.15010	Spanner, for extractor FB.10245 and FB.90165.	x	x	x		1	1	1		1	1	1	1	2	2	2	
	10785	FB.45728	Fixture, assembly, for crankshaft, front and rear.	x	x	x										2	2	2	
	18244	FB.39900	Jack, for insertion between crankwebs	x	x											1	1	1	
>	29394	FB.51163	Jack, for insertion between crankwebs			x				اا	-					1	1	1	
								_											

			EN	GIN	ES						ALL	OWAN	CES					
Ref.	Part No.	Description		1		per	hips	C	irera arrie				al Air			pair rds	sd	Remarks
190			Pegasus VI	Pegasus 30	Mercury 30	Squadrons per 6 I.E. Aircraft	Catapult Ships	Fleet and Light Fleet	Escort	Merchant	Class A	Class B	Class C	Class D and E	Class A	Class B	Repair Ships	Tiemarks.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)			(11)	(12)	(13)	(14)		(16)	(17)	(18)	(19)
120144	FB.97331	Tools for Crankshaft—contd. Piece, distance, for pressing front cover bearing on crankshaft and for use as a slave race.	x	×.	x			1	1		1	1	1	1	2	2	2	FB.37329* can be modified to suit.
10646 13124	FB.35174 FB.35228	Pliers, for crankshaft oil sleeve circlip Pliers, for bearing retaining rings and crankshaft rear retaining gear.	x x	x x	x x										4 4	3 3	3 3	
13102 29418 15024	FB.34926 FB.51167 FB.37253	Spanner, for crankpin oil cap Spanner, for crankpin oil cap Spanner, for crankshaft plugs	x	x	x										4 4	3 3 3	3 3 3	
29420 18268 10858	FB.51165 FB.39937 FB.35188/2	Spanner, for crankshaft plugs Spanner, for crankpin oil plug Spanner, for crankshaft locknut (front)	x	x	XXX			1	1						4	3	3	
13104 29580	FB.34930 FB.53399	Spanner for crankshaft rear half nut Micrometer, for checking stretch of	x	x	x				-		1		1	,	3 3 2	3 3 2	2 2 1	
39979 29422	FB.95863 FB.53355	crankshaft bolt. Tool for assembling crankshaft Spanner, for crankshaft bolt nut	x	x x	x										2 2	1	1	
29442	FB.53356	Tube, extension, for spanner for crank- shaft bolt nut.	x	x	x										2 2	1	1	
32078	FB.95069	Sleeve, screwed, for spanner for crank- shaft locknut (front).			x		1				1	1	1	1	3	3	2	For use with 36R/ 10858 FB.35188/2 on crankshafts in- corporating sha- dow Mod. MS.113 or Bristol Mod. E.871.

(68516)	29610 64080 10931 32266	FB.51430 FB.57349 FB.55292 FB.95061	Extractor and Insertor, for crankshaft oil sleeve. Extractor, for airscrew shaft bush Insertor, for airscrew shaft bush Insertor, for airscrew shaft bush	x x	x x	x	1 1	1 1	1 1 1 1	1 1 1	1 1 1	2 2 1 1	1 1 1 1	1 1 1 1	Existing stocks of 36R/10931 FB, 55292 can be used up on engines not incorporating shadow Mod. S.113 or Bristol Mod. E.871, or can be
	32262 5560	FB.95062	Adaptor for insertor for airscrew shaft bush. Jig, reaming, for insertor for airscrew shaft bush.	x	х	x	1	1	1	1	1	1	1	1	modified to make 36R/32266 RB. 95061 by replacing the screw. Screw FB.95061-4 for use with RB. 95061 on crankshafts incorporating shadow Mod. MS.113 or Bristol Mod. E.871.
	29584	FB.51222	Reamer, for insertor for airserew shaft	x	x	x	1	1	1	1	1	3	2	2	
	13213	FB.57265	bush. Cutter, for facing and bedding maneton	x	x	x						3	2	2	
	13286	FB.57264	bolt nut face seating. Holder for cutter, for facing and bed-	x	x	X							1	1	
			ding maneton bolt nut face seating.		1										
	13249	FB.57266	Nut, dummy, for facing and bedding maneton bolt nut face seating.	X	X	X						1	1_	1	
	40222	FB.95860	Extractor, for crankpin sleeve		x	x						1	1	1	Existing stocks of
	120317	{FB.97377 FB.97254	Fixture, for assembling crankpin sleeve Guide, for assembling crankpin sleeve		x	x						1	1	1	36R/40223 FB. 95861 may be supplied in lien of Pegasus 30 en-
A = 3	120055	FB.97298	Gauge, blueing for crankpin shoulder		x	x						1	1	1	gines only.

	•		,		
į	١	ľ	i	5	
ì	į	i	ļ	Š	
1	í		2	2	

			444							A	LLOW	ANCI	ES						985
D. C			EN	GIN	ES	er ft	sd		irera arrie:			Nava Stat				pair irds			
Ref. No.	Part No.	Description	Pegasus VI	Pegasus 30	Mercury 30	Squadrons per 6 I.E. Aircraft	Catapult Ships	Fleet and Light Fleet	Escort	Merchant	Class A	Class B	Class C	Class D and E	Class A	Class B	Repair Ships	Remarks	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)			(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
2320S	FB.97257	Tools for Crankshaft—contd. Lap, hand, complete for crankpin diameter.		x	x										2	2	2		
23209 23210	FB.97257/4 FB.97258	Lap (spare insert), for crankpin diameter Lap, hand for crankpin shoulder		x x	x										4 4	3 3	3 3		
13062 29370 10813 10668 29414 13098 18290	FB.34931 FB.51225 FB.57301 FB.33439 FB.51161 FB.34933 FB.40283	Tools for Connecting Rod Drift, for artic rod pins Drift, for artic rod pins Jig, for drifting out artic rod pins Spanner, box, for artic rod pin bolts Spanner, box, for artic rod pin bolts Spanner, box, for artic rod pin nuts Tool, compressing for oil retainer springs	x x x x	x x x x	x x x x										4 4 2 6 6 6 8 2	3 3 1 5 5 5	3 3 1 3 3 3 1		0
54256	FB.10244	Clip for piston ring	x	x	x	1	1	3	2	1	4	3	3	2	5	4	3	Existing stocks of FB.26417 may be	
10644 29400 10709	FB.26487 FB.51160 FB.26474	Pliers, for removing gudgeon pin circlip Pliers, for removing gudgeon pin circlip Plug, for gudgeon pin when assembling	x	x x	x	1 1 1	1 1 1	4 3	3 2	1	5 5 4	4 4 3	4 4 3	3 3 2	6 6 5	5 5 4	3 3 3	supplied in lieu.	
29939	FB.51169	gudgeon pin circlip. Plug, for gudgeon pin when assembling			x	1	1				4	3	3	2	5	4	3		
29941	FB.26475	gudgeon pin circlip. Tube, inserting, for assembling gudgeon pin circlip.	x	x	x	1	1	3	2	1	4	3	3	2	5	4	3		

10547	FB.53235	Tools for Cylinders and Valves Compressing tool for inlet valve	x	x	x	1	1	3 3	2 2	1	4	3	3	21 21 33 33	6	4	3 3	
10550	FB.53236	Compressing tool for exhaust valve	х	x	X	1	1	3	2	1	4	3	3 3	2	6	4	3	
32004	FB.57285	Pliers, for removing circlip			X	2	1	4	3	1	4	3 3	3	9	6	4	3	
13008	FB.59757	Spanner, for lug nut	X	X	X	2		4	9	1	4	3	3	3	6	4	3	
10544	FB.26416	Spanner, for lug nut	X	X	X	2 6	1 3	6	6	4	10	8	8	6	12	10	8	
10560	FB.56095	Spanner, for 18 mm, spark plug (short)	X	Z	X	6	3	6	R	4	10	8	8	6	12	10	8	
10564	FB.56096/2	Spanner, for 18 mm, spark plug (long)	X	X	X	6	3 3	6	B	4	10	8	8	6	12	10	8	
10551	FB.50951	Wrench, ratchet for spark plugs	X	X	X	1	1	3	6 2	3	4	3	3	2	6	4	3	
5387	FB.37103	Valve, holding tool for removing valve springs.	х	x	х	1	1			1	*			31	0			
23040	FB.45830	Indicator, for piston top dead centre	X	X	1 1	1	1	3	2	1;	4	3	3	2	5	4	2	
18240	FB.40091	Indicator, for piston top dead centre			x	1	1		5	-	4	3	3	2	5	4	6	
98096	FB.90132	Spanner, for cylinder nut	X	X	X	2	1	4	4	1	6	5	5	3	10	8		
10680	FB.26411	Spanner, extended, for cylinder nut	X	x		2 2	1	4	4	1	6	5	5	3	10	8	6	
29428	FB.51170	Spanner, extended, for cylinder nut	X	X	x	2	1	18			6	5	5	3	10	8	6	
10662	FB.37494	Spanner, box, 2 B.A., for induction pipe nuts.	x	x	Х	3	3	6	6	4	12	10	10	8	12	12	10	
5523	FB.22440	Tool, for assembling exhaust valve cir- clip.	x	x		2	1	3	2	1	5	4	4	3	6	6	3	
8354	FB.21161	Tool for assembling inlet valve circlip	x	X		2	1	3	2	1	5	4	4	3	6	6	3	
10648	FB.21173	Tool for removing circlip from valves	x	x		2 2	1	3	2	1	5	4	4	3	6	6	3	
29436	FB.53830/2	Compressor, for valve springs	x	X	x	100		3 3	2 3	8	4	3	3	1	6	4	3	
10686	FB.35179	Drift, for assembling cylinder heading	x	x	x	1	1	3	2	1	4	3	3	2	6	4	3	
1		to rocker bracket.		1		1												
13230	FB.35225	Fixture for fitting and scruffing cylinder	X	X	X			3	2 2		9	6	6	2	12	9	6	
10786	FB.35226	Fixture for holding cylinder	X	X	x			3			9	6	6	2	12	9	6	
5469	FB.48950	Cutter, for inlet and exhaust valve seats	X	X	0			6	6		6	6	6		6	6	6	
5470	FB.48951	Cutter, truing, for inlet and exhaust valve seats.	X	x				6	6		6	6	6	1	6	6	6	
5471	FB.48952	Cutter, flat facing for exhaust valve seat	X	X				6	6		6	6	6		6	6	6	
5472	FB.48953	Cutter for truing valve ports	x	x				6	6		6	6	6		6	6	6	
23213	FB.65983	Gauge, plug, for exhaust valve guide bore.	x	x		-	-	2	1		3	2	2		4	4	3	
44856	FB.65916	Gauge, plug, for exhaust valve guide bore.			x						3	2	2		4	4	3	
44854	FB.65915	Gauge, plug, for inlet valve guide bore	1		x						3	2	2	1	4	4	3	
10800	FB.35208	Gauge, socket, angle for exhaust valve	x	x	x			2	1		3	2	2	1	4	3	2	
		guide seat.				1	1		1		1				1			
13237	FB.51580	Gauge, socket angle, for exhaust valve guide seat.	X	x	x			2	1		3	2	2		4	3	2	

			EN	IGIN	ES						ALLO	WANC	ES				_	
Ref.	Part No.	Description	-			per raft	Ships		irera arrie				al Air tions			pair	ps	Remarks
140.			Pegasus VI	Pegasus 30	Mercury 30	Squadrons per 6 I.E. Aircraft	Catapult S	Fleet and Light Fleet	Escort	Merchant Aircraft	Class A	Class B	Class C	Class D and E	Class A	Class B	Repair Ships	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)			(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
13239	FB.51581	Tools for Cylinders and Valves—contd. Gauge, socket angle, for exhaust valve guide seat.	x	x	x			2	1		3	2	2		4	3	2	
13241	FB.51582	Gauge, socket angle, for exhaust valve guide seat.	x	x	x			2	1		3	2	2		4	3	2	
5789	FB.29721	Gauge, socket angle, for inlet valve	x	x	x			2	1		3	2	2		4	3	2	
13231	FB.51577	guide scat. Gauge, socket angle, for inlet valve	x	x	x			2	1	1	3	2	2		4	3	2	
13233	FB.51578	Gauge, socket angle, for inlet valve	x	x	x			2	1		3	2	2		4	3	2	
13235	FB.51579	guide seat. Gauge, socket angle, for inlet valve	x	x	x			2	1		3	2	2		4	3	2	
5910 120307	FB.39728 FB.97397	guide seat. Gauge, seat, for exhaust valve (91° angle) Gauge, seat, for exhaust valve (91° angle)	x	x	x			2	1		3 2	2	2		4 2	3 2	2	For engines fitted with salvaged valves.
5912 29822 5917 23237	FB.39729 FB.57365 FB.46241 FB.77600	Gauge, seat, for inlet valve (90° angle) Gauge, seat, for inlet valve (90° angle) Gauge, for inlet valve seat dia. Gauge, for exhaust valve seat dia.	x x	x x	x			2 2 2	1 1 1		3 3 3	2 2 2 2	2 2 2 2		4 4 4	3 3 3 3	2 2 2 2	VBIVES.
29820 29821 120308	FB.57363 FB.57364 FB.97399	Gauge, for inlet valve seat dia Gauge, for exhaust valve seat dia Gauge, for exhaust valve seat dia			x x x						3 2	2 2 1	2 2 1		4 2	3 3 2	2 2 2 1	For engines fitted
																		with salvaged valves.

23241 5919	FB.77564 FB.44599*	Gauge, for lap FB.77563 Gauge, for lap FB.44598	x	x				2	1		3	2	2		4	3	2	
29569	FB.57370	Marine Carlan ED MODALA			-						3	2	2		4	3	0	
120309	FB.97398	Commercial			X						2	1	1	1 5	2	2	2	For engines fitted
120000	2 35.07.000	Gauge, for lap FB.97394			×						-		*		-	2		with salvaged
10811	FB.36477	Gauge, 18.025 mm., for spark plug	x	x	x			2	1		3	2	2		4	3	2	valves.
5481	FB.47327	adaptor. Holder, for valve seat cutters	x	x				2	9		2	2	2		2	2	2	
2200	FB.13092	Holder, for valves when lapping	X	x		1	1	2 3	2 2	1	3	2 2 2 2	2 2 2	2	2 4	2 3	2 2 2 2	
29567	FB.57439	Holder, for valves when lapping		-	x	î	1		-1		3	2	2	2 2	4	3	2	
10869	FB.46239	Insertor and extractor for inlet and ex-	x	x	-			2	2		3	2	2		4	3	2	
29607	FB.57371/2	haust valve guides. Insertor and extractor for inlet and exhaust valve guides			x						3	2	2		4	3	2	
5921	FB.44598*	1	-30			-	6		3						0			
23033	FB.77563	Lap, for exhaust valve seat	X	X		11	1	0	4	1	6	4	4	4	8	6	4	
120022	FB.79944	Lap, for exhaust valve seat			x	1	1				6	4	4	4	8	8	4	Service Company
120310	FB,97394	Lap, for exhaust valve seat			х	1	1				3	2	2	2	4	3	2	For engines fitted with salvaged valves.
23253	FB.77561	Reamer, for exhaust valve guide bore	x	×				10	8		12	10	10		24	20	18	vaives.
44864	FB.65914	Reamer, for exhaust valve guide bore	-51		x			10	0		12	10	10	1	24	20	18	a management
20311	FB.97893	Reamer, for exhaust valve guide bore			x						6	5	5		12	10	9	For engines fitted with salvaged valves.
13369	FB.90091	Reamer, for inlet valve guide bore	x	x				10	8		12	10	10		24	20	18	1,000
44866	FB.65913	Reamer, for inlet valve guide bore		0	x			-	~		12	10	10		24	20	18	
13319	FB.90092	Gauge, plug, for inlet valve guide bore	x	x	000			3	2		6	4	4		8	6	4	
10839	FB.35733	Reamer (.005 in. o/size) for inlet valve guide hole in cylinder head.	X	x	x			4	3		6	4	4		10	8	6	
10841	FB.49986	Reamer (.010 in. c/size) for inlet valve guide hole in cylinder head.	х	X	x			4	3		6	4	4		10	8	в	
10843	FB.49987	Reamer (.015 in. o/size) for inlet valve guide hole in cylinder head.	x	X	x			4	3		в	4	4		10	8	6	
10849	FB.49988	Reamer, (·040 in. o/size) for inlet valve guide hole in cylinder head.	x	х	x			2	2		3	2	2		5	4	3	
13254	FB.57377	Reamer (rougher, for ·040 in. o/size) for inlet valve guide hole in cylinder head.	x	x	x			2	2		3	2	2		5	4	3	
10836	FB.35725	Reamer, (.005 in. o/size) for exhaust valve guide hole in cylinder head.	x	x	x			4	3		6	4	4		10	8	6	

			EN	GINE	es						ALL	OWAN	ICES						985
				1 1		r. ft	ps		rcraf			Nava Stat				pair			
Ref. No.	Part No.	Description	Pegasus VI	Pegasus 30	Mercury 30	Squadrons per 6 1.E. Aircraft	Catapult Ships	Fleet and Light Fleet	Escort	Merchant Aircraft	Class A	Class B		Class D and E	Class A	Class B	Repair Ships	Remarks	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
13258	FB.35726	Tools for Cylinders and Valves—contd. Reamer, (·010 in o/size) for exhaust valve guide hole in cylinder head.	x	х	x			4	3		6	4	4		10	8	6		
13260	FB.35727	Reamer (.015-in, o/size) for exhaust	x	x	x			4	3		6	4	4		10	8	6		
10850	FB.49991	valve guide hole in cylinder head. Reamer (·040·in. o/size) for exhaust valve guide hole in cylinder head.	x.	x	x			2	2		3	2	2		5	4	3		12
13255	FB.57376	Reamer (rougher for ·040-in. o/size) for exhaust valve guide hole in cylinder head.	х	x	x			2	2		3	2	2		5	4	3		
10873	FB.54891	Tool, caulking for cylinder head valve	х	x		. }		2	1		2	1	1		4	3	2	7	
10877	FB.54892	seats. Tool, caulking, for cylinder head valve	x	x				2	1		2	1	1		4	3	2		
10929	FB.54893	seats. Tool, caulking, for cylinder head valve seats.	x	x				2	1		2	1	1		4	3	2		
10855	FB.52974	Spanner for testing tool for testing tightness of valve seat.	x	x				2	1		2	1	1		3	2	2	Not required for	
10024	FB.51050	Tool for testing tightness of valve seat Tool, for testing tightness of valve seat	x	X X				2 2 2	1		2 2	1	1		3 3	2 2	2 2	seats.	
10925 10926	FB.51960 FB.52973	Wrench, for testing tool for testing tightness of valve seat.	x	x				2	î		2	î	1		3	2	2		
5821	FB.46357	Gauge, for checking plungers on centre, popping tool.	x	x		1		1	1		1	1	1		1	1	1		
5822	FB.46358	Gauge, for checking plungers on centre, popping tool.	x	X				1	1		1	1	1		1	1	1	1	
5823	FB.46356	Plunger, o/size for centre, popping tool	x	x		1	1	4	2		4	2	2	1	0	4	4		

5824	FB.46350	Shim (.005 in.), for centre, popping tool (inlet).	x	x		1	1	2	1	1	2	1	1	3	2	2	}	
5825	FB.46351	Shim (.010 in.), for centre, popping tool	x	x				2	1		2	1	1	3	2	2		
5826	FB.46352	(inlet). Shim (·020 in.), for centre, popping tool	х.	x				2	1	1	2	1	1	3	2	2		
5827	FB.46353	(inlet). Shim (.005 in.) for centre, popping tool,	x	x				2	1		2	1	1	3	2	2	Not required for	
5828	FB.46354	(exhaust). Shim (-010 in.), for centre, popping tool	x	x				2	1		2	1	1	3	2	2	serrated valve seats.	
5829	FB.46355	(exhaust). Shim (·020 in.), for centre, popping tool	x	x				2	1		2	1	1	3	2	2		
5868	FB.40851/2	(exhaust). Tool, centre popping, for inlet valve	x	x				2	1		2	1	1	3	2	2		
5867	FB.39822/2	seat. Tool, centre popping, for exhaust valve	x	x				2	1		2	1	1	3	2	2		
13207	FB.57277	seat. Bush, pilot (.005 in, o/size) for reamer.	x	x	x			3	2		9	6	6	12	9	6		
13208	FB.51559	for truing valve guide sockets (inlet) Bush, pilot (010 in. o/size) for reamer,	x	x	x			3	2		9	6	6	12	9	6		
13209	FB.51560	for truing valve guide sockets (inlet) Bush, pilot (·015 in. o/size) for reamer.	x	x	x			3	2		9	6	6	12	9	6		_
13210	FB.51561	for truing valve guide sockets (inlet) Bush, pilot (.040 in. o/size) for reamer,	x	x	x			2	1		6	4	4	8	6	4		13
13211	FB,57278	for truing valve guide sockets (inlet). Bush, pilot (.005 in. o/size) for reamer,	x	x	x			3	2		9	6	6	12	9	6		
13214	FB.51556	for truing valve guide sockets (exhaust) Bush, pilot (.010 in. o/size) for reamer,	x	x	x			3	2		9	6	6	12	9	6		
13215	FB.51557	for truing valve guide sockets (exhaust) Bush, pilot (-015 in. o/size) for reamer,	x	x	x			3	2		9	6	6	12	9	6	P-1	
13217	FB.51558	for truing valve guide sockets (exhaust) Bush, pilot (.040 in. o/size) for reamer,	x	x	x			2	1		6	4	4	8	6	4		
13264	The second second	for truing valve guide sockets (exhaust)											4	10	8	6		
5818	FB.57276 FB.36472/2	Reamer for truing valve guide sockets Taps, 18 m/m (2nd and plug), for spark	x	x	x	1	1	4	3		6	4	4	8	6	6		
13245	FB.51565	plug hole. Gauge, plug (-005 in. o/size) for inlet	x	x	x			3	2		4	3	3	6	5	4		
13247	FB.51566	valve guide hole in cylinder head. Gauge, plug (-010 in. o/size) for inlet	x	x	x			3	2		4	3	3	6	5	4		
13252	FB.51567	valve guide hole in cylinder head. Gauge, plug (·015 in. o/size) for inlet valve guide hole in cylinder head.	x	x	x			3	2		4	3	3	6	5	4		4985

APPENUI										A	LLOW	ANCI	es						1985
Ref		7		NGIN		per aft	ips		ircra arrie			Na va Stat				pair irds	80	Remarks	
No.	Part No.	Description	Pegasus VI	Pegasus 30	Mercury 30	Squadrons per 6 I.E. Aircraft	Catapult Ships	Fleet and Light Fleet	Escort	Merchant	Class A	Class B	Class C	Class D and E	Class A	Class B	Repair Ships	Remarks	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
- 13253	FB.51568	Tools for Cylinders and Valves—contd. Gauge, plug (·040 in. o/size) for inlet valve guide hole in cylinder head.	x	x	X			1	1		2	1	1		3	2	2		
13257	FB.51569	Gange, plug (.005 in. o/size) for exhaust	K	x	x			3	2		4	3	3		6	5	4		
13259	FB.51570	valve guide hole in cylinder head. Gauge, plug (*010 in. o/size) for exhaust	×	z	×			3	2		4	3	3		6	5	4		14
13261	FB.51571	valve guide hole in cylinder head. Gauge, plug (*015 in. o/size) for exhaust	x	x	x			3	2		4	3	3		6	5	4		***
13263	FB.51572	valve guide hole in cylinder head. Gauge, plug (*040 in. o/size) for exhaust valve guide hole in cylinder head.	x	x	x			1	1		2	1	1		3	2	2		
		(a) Tools for Valve Seats																	
120944 5900 5911	FB.113495 FB.38331/2* FB.57330/2*	Fixture, complete, for grinding valve seats.	x	x	x			1	1		2	1	1		3	2	1		
5980	FB.41016	Belt, endless vee, for fixture for grinding valve seats.	X	x	x			2	2		4	2	2		6	3	2		
5904	FB.40908*)	Bracket, angle, for fixture for grinding	x	x				1	1		2	1	1		3	2	1		
120642 69398	FB.123803 (FB.74624*)	valve seats. Bracket, angle, for fixture for grinding			x						2	1	1		3	2	1		
120643 69404	FB.123804 / FB.74625	valve seats. Case, packing, for fixture for grinding	x	N	x			1	1		2	1	1		3	2	1		
5982	FB.41014	valve seats. Diamond, in holder, for fixture for grinding valve seats.	x	x	x			1	1		2	1	1		3	2	1		

5922	FB.40970	Motor, electric (220 volts D.C. 2-wire),	x	x	x		. 1	i i	,							
		for fixture for grinding valve seats.	-	^	^	1 1 5	1							1		
5926	FB.40974	Motor, electric (230 volts single phase, 50 periods), for fixture for grinding valve seats.	х	х	X				2	1	1	3	2			
5936	FB.40910	Ring, packing, for fixture for grinding valve seats.	х	x		1	1		2	1	1	3	2	1		
0120	FB.2319	(b) Tools used with Grinding Fixture									2			2		
2132 23239	FB.77601	Bar, tommy, 1-in. dia. x 6-in. long Gauge, for final depth of 15° exhaust valve seat.	x	x	Z	3	3		6 2	3	3	10	6 2	3		
29818	FB.57361	Gauge, for maximum re-grinding of inlet seat.			х				2	1	1	3	2	1		
29819	FB.57362	Gauge, for maximum re-grinding of exhaust seat.			х				2	1	1	3	2	1		
5946 5942	FB.40195 FB.40197	Spanner, for drive spindle locknut Spanner, for drive spindle	x x	x x	x	1 1	1		2 2	1	1	3	2 2	1		
		(c) Spindles and Equipment for Grinding Valve Seats														
5953	FB.57291	Spindle, complete, for grinding inlet	x	x		4	3		6	4	4	10	8	6		15
5939 29824	FB.57291/1 FB.57357	Shaft, for grinding spindle Spindle, complete, for grinding inlet valve seat.	x	х	x	4	3		6	4	4	10 10	8	6		
44916.	FB.57357/1	Shaft, for grinding spindle			x				6	4	4	10	8	6		
23425	FB.77562/2	Spindle, complete, for grinding exhaust valve seat.	x	x		4	3		6	4	4	10	8	6	Existing stocks of FB.77562 may be supplied in lieu.	
23413	FB.77562/ 2/1	Shaft, for grinding spindle	x	x		4	3		6	4	4	10	8	6	Existing stocks of FB.77562/1 may be supplied in lieu.	
20825	FB.57358/2	Spindle, complete, for grinding exhaust			x				6	4	4	10	8	6		
44918	FB.57358/	Shaft, for grinding spindle			x				6	4	4	10	8	6		
8550	FB.41017	Bearing, ball	x	x	x	6	6		12	6	6	18	12	6		4985

á	rei	-

1			E	IGIN	ES						ALLO	WAN	CES		1			
Ref.	2002			1	1	er ft	sď		ircra				al Air			pair		
No.	Part No.	Description	Pegasus VI	Pegasus 30	Mercury 30	Squadrons per 6 I.E. Aircraft	Catapult Ships	Fleet and Light Fleet	Escort	Merchant	Class A	Class B	Class C	Class D and E	Class A	Class B	Repair Ships	Remarks
(1)	(2)	(3) (c) Spindles and Equipment for Grinding Valve Seats—contd.	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
5984 5943	FB.41015 FB.57290/ 2/18	Drive, flexible Shank, driving	x	x	x			2	2		4 2	2	2		6 3	4 2	2	Existing stocks of FB.57290/18 may be supplied in
5948	FB.40198	Spanner, for grinding wheel securing nut.	x	x	x			2	2		4	2	2		6	4	2	lieu.
5944 5954 5958	FE.40199 FB.40145 FB.40146	Spanner, for ball race locknut Wheel, grinding, for 45° inlet valve seat Wheel, grinding, for 45° exhaust valve seat.	x x x	x	x x			2 12 12	2 10 10		4 20 20	2 15 15	2 15 15		6 50 50	4 30 30	2 25 25	
5960	FB.40147	Wheel, grinding, for 30° inlet and exhaust race.	x	x	x			12	10		20	15	15		50	30	25	
5956 5962 120312	FB.40148 FB.40149 FB.97396	Wheel, grinding, for 15° exhaust face Wheel, grinding, for 70° inlet throat Spindle, complete, for grinding exhaust valve seat.	x	x	x x			12 12	10 10		20 20 3	15 15 2	15 15 2		50 50 5	30 36 4	25 25 3	1
120313	FB.97396/1	Shaft for spindle, for grinding exhaust valve seat.			x						3	2	2		5	4	3	For engines fitted with salvaged
120314	FB.105152	Gauge, for maximum re-grinding of valve seats.			x						1	1	1		2	2	1	valves.
5804 18722	FB.41913 FB.45238	(d) Tools for Cylinder Union Adaptor Plug, testing, for adaptor Cutter (4 mm. o/size), for bedding face of adaptor.	x	x				1	1		1 1	1	1 1		1	1 1	1	

5800	FB.45237	Cutter (2 mm. o/size), for bedding face of adaptor.	x	x				1	1	1	1	1	1	1	1	1	1		
5808	FB.41912	Holder, for cutter	x	x				1	1		1	1	1						
18726	FB.52465	Gauge, bedding, for bedding face of adaptor.	x	x				î	1		i	1	1		1	1	1		
5796	FB.41614	(e) Tools for Spark Plug Adaptor Cutter, hand, for bedding face of spark	x	x	x			2	2		2	2	2		3	2	2		
18724	FB.52464	plug adaptor. Gauge, bedding, for bedding face of spark plug adaptor.	x	x	x			1	1		1	1	1		1	1	1		
5504	FB.19806	Tools for Rocker Mechanism Spanner, for rocker adjusting screw																	
10632	FB.44447/2	Gauge, for angle of attack of rockers.	x	x	x	2	1	6 3	4 2	1	8	6	6	4	12	10	8		
29384	FB.51435/2	Gauge, for angle of attack of rockers	-	-	x	i	î	0	2	1	4	3	3	3 3	6	5 5	4		
10666	FB.35180	Spanner, box, for rocker bracket bolt nut.	X	x	x	2	1	6	4	1	8	6	6	4	12	10	8		
10703	FB.56420	Tool, inserting and extracting, for rocker bracket bolt.	x	x	x	1	1	3	2	1	4	3	3	2	6	5	4		
10705	FB.35184/3	Tool, for pressing in and out rocker button bush.	x	x	x	1	1	3	2	1	4	3	3	.2	6	5	4		_
10696	FB.35177	Drift, for pressing ball races on exhaust rockers.	x	x				2	2		3	2	2		6	4	4		17
10660	FB.21706	Spanner, box, 1-in. B.S.F., for tie rod nuts.	x	x	x	2	1	6	3	1	6	3	3	2	12	10	8		
10690	FB.35617	Tool, for inserting and extracting inlet rockers and arms.	x	x				3	2		4	3	3		6	4	4		
29432 29434	FB.57341 FB.57343	Tool, for inserting inlet rockers			X						4	3	3		6	4	4		
10624	FB.35178	Tool, for inserting inlet rocker arms Tool, for withdrawing cylinder headlug from bracket.	х	x	х	1	1	3	2	1	4	3 2	3 2	2	6 5	4 3	3	For engines prior to amendment A.669 for Pegasus VI	
																		and 30 engines.	
120021	FB.97266	Tool, for withdrawing cylinder headlug from bracket.	x	x	x	1	1	3	2	1	4	2	2	2	5	3	3	Subsequent to	
5512	FB.21157	Tool, alignment, for rocker bracket lugs	x	x	x	1	1	3 2	3	1	6	3	3	3	9	6	6	amendment A.669.	
120434 29369	FB.87066 FB.57345	Tool, for releasing push rod cover tube Drift, for pressing ball races in exhaust rockers.	x	x	x	1	1	2	1	1	3	1 2	1 2	1	8	2 4	2 4		4985
																			85

APPEND	x T		BRIS	TOL	ENG	INE	TO	OLS-	-conto	7.									49
			TAN	CITAT	race.						ALLO	WAN	CES						4985
			EN	GIN	ES				ircra			Nava				pair			
Ref.	Part No.	Description	1	0	0	per	Ships		Carrie	rs		Stat	ions		Ya	rds	sd	Remarks	
			Pegasus VI	Pegasus 30	Mercury 30	Squadrons 6 I.E. Airo	Catapult S	Fleet and Light, Fleet	Escort	Merchant Aircraft	Class A	Class B	Class C	Class D and E	Class A	Class B	Repair Ships		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)			(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
29371	FB.57342	Tools for Rocker Mechanism—contd. Extractor, for inlet rockers and rocker arm.			x						3	2	2		4	3	3		
10871	FB.35211	Inserter and extractor, for rocker bracket bush.	x	X	x			1	1		1	1	1		3	2	1		
13080 10607	FB.35186 FB.34937	Reamer, for rocker bracket bush		X	x			2	2 2		3	2	2		10	8	6		18
		Cutter, external, for rocker bracket trunnion bush.	X	X	X			2	2		3	2	2		8	6	6		00
10626	FB.35181/2	Extractor, for rocker bracket trunnion bush.	X	X	x			1	1		1	1	1		3	2	1		
10698	FB.35182	Tool, for pressing on rocket bracket	x	X	x			1	1		1	1	1		3	2	1		

2 2

1

3 3

1 2

2 2

1 2

2 2

1

1 2

2

6

4

3 6

2

8

3

2 2 4

1 4

2

2 2 4

Use with extractor

for crankshaft inner races

inner races 36R/120019 FB.

90165 (or any stocks of 36R/ 2186 FB.10245) and 36R/2191 FB.15010.

Tools for Cam and Tappet Gear Adaptor, for withdrawing cam gear and

Adaptor, for withdrawing can gasteeve.

Drift, for removing push rod end ...

Extractor and vice holder, for push ford, lower end.

Extractor, for "gits" oil seal...

Holder, for cam gear layshaft

Rod, for setting cam sleeve for timing engine.

Sleeve, for protecting crankshaft sleeve Tool guide, for inserting tappet ...

engine.

x X X

X X x

X X X

X X

13216

10762

5772

13065

18216

10806

10654

13084

18294

FB.34938

FB.35212

FB.33405*

FB.57256

FB.40396

FB.35193

FB.35175

FB.34929

FB.40397

## S770 FB.21705 Bush, for lining up oil pump when assembling. 10778 FB.35935 FB.35935 FB.35935 Extractor, for removing oil pump from x x 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2	(6	5770	FB.21705	Rush for lining to ill		100	1	1 1			-1		1 . 1				1 4 1			
10778 FB.35935 FB.35935 FB.35936 FB.35936 FB.35937 FB.35937 FB.35937 FB.35937 FB.35937 FB.35937 FB.35937 FB.35938 FB.35939 Sampler, for fellow and the serving of	851	0110	E D.21100	Bush, for lining up oil pump when assembling.	x	x				1	1		1	1	1		2	2	2	
10778 FB.35935 Extractor, for removing oil pump from rear cover.	6)	32064	FB.52710	Bush, for lining up oil pump when			x						1	1	1		2	2	2	
Tear cover. Extractor, for removing oil pump from rear cover. Extractor, for removing oil pump from rear cover. Extractor, for oil sprayer valve		10778	FB.35935	Extractor, for removing oil nump from				1	1	1	1	-	1		9					
Tear cover. Extractor, for oil sprayer valve				rear cover.	4			1		1	1	1	1	4	1	1	2	2	2	
Extractor, for oil sprayer valve		29554	FB.51456	Extractor, for removing oil pump from			x	1	1				1	1	1	1	2	2	2	
Tools for Fuel Pump Spanner, for relief valve adjusting screw x x x 2 1 6 3 1 6 4 4 3 12 10 8		29372	FB.53437				x	1	1				1	1	1	1	9	0	0	
10521 FB.36776 FB.36775 FB.36775 FB.36775 FB.36775 FB.36775 FB.36775 FB.36775 FB.36775 FB.36775 FB.77546 FB.77546 FB.77546 FB.77546 FB.77546 FB.2039/3 FB.19604 FB.2039 FB.19604 FB.2039 FB.20074 FB.20493 120318 FB.20499 FB.20499 FB.20318 FB.74690/2 FB.74690/2 FB.74690/2 FB.2076 FB.2		-	1.000								1				*	*	2	2	4	
Spanner, for relief valve adjusting screw x x x 2 1 6 3 1 6 4 4 3 12 10 8		10591	ED SETTE	Tools for Fuel Pump																
Tools for Airscrew Hub Spanner, for hub retaining nut N				Spanner, for relief valve adjusting screw	100			2 9	1	6	3	1	6			3	12	10		
10538 FB.26399/3 FB.19604 Spanner, for hib retaining nut		20104	ED Mario	locknut.	-	-	A		1	0	0	.1	0		4	3	12	10	8	
10638 FB.26399/3 Spanner, for hub retaining nut		09134	FB.77546	Moulding tool, for gland packing			x	1	1	1			3	2	2	2	6	4	3	
10638 FB.26399/3 Spanner, for hub retaining nut				Tools for Aircress Huh																
FB.19604 Support, for hub nut spanner Syanner, for airserew hub nut Syanner, for hub nut spanner Syanner, for hub				Spanner, for hub retaining nut	X	x	x	1	ī	3	2		4	3	3	2	B	5		
10633 FB.42492* Spanner, for airscrew sleeve x x x 1 1 3 2 4 3 3 2 6 5 4				Spanner, for airscrew hub nut	x		x	1	1	3	2			3	3	2			4	
10633 FB.42492* Spanner, for airscrew sleeve x x x 1 1 3 2 4 3 3 2 6 5 4				Tool for pressing home bub				1	1	3	2			3		2		5	1.75	19
Tools for use with Ignition Fittings Guide, buffer, for H.T. cables x x x x 1 1 2 2 1 2 2 2 2 6 6 6 6		120318	FB.74690/2)	The state of the s		X	X	1	1	8 1			4	200	200		6	5	4	-
10876 FB.35190/2 10784 FB.35690 10782 FB.35619 10792 FB.20776/2 23230 FB.45239 FB.35232 10805 FB.35230/2 FB		5383	FB.42492* }	Spanner, for airscrew sleeve	X	x	x	1	1	3	2		4	3	3	2	6	5	4	
10876 FB.35190/2 10784 FB.35690 10782 FB.35619 10792 FB.20776/2 23230 FB.45239 FB.35232 10805 FB.35230/2 FB				Tools for use with Ignition Fittings																
Tools for use with Supercharger Drift, for spring drive centre x x x x x x x x x x x x x x x		10633	FB.51790/2	Guide, buffer, for H.T. cables	x	x	x	1	1	2	2	1	2	2	2	2	6	6	6	
10876 FB.35190/2 Drift, for spring drive centre x x x x x x x x x				Tools for use with Sumarahanaan										-		-				
10784 FB.35620 Extractor, for supercharger unit x x x x x x x x x				Drift, for spring drive centre	x	*	+			1	1		i	,	i		0	0		
10792 FB.35019 Extractor, for spring drive centre x x x x x x x x x				Extractor, for supercharger unit						î	1		î	î	î					
Support ring. Support ring				Extractor, for spring drive centre		x				1	1		î	1	1			2		
23230 FB.45239 Fixture, for checking end wobble on x x x x impellor. 10803 FB.35232 Blades For checking impellor and x x x x x x x x x x x x x x x x x x x		10102	F.D.20110/2	support ring	Z	x	X										2	2	2	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		23230	FB.45239	Fixture, for checking end wobble on	x	x	x										2	1	1	
10805 FB.35229/2 Gauge For checking impellor and X X X X X X X X X X X X X X X X X X X		10803	FR 25920	impellor.															*	
FB.35230/2 Gauge Volute casing clearance				Course For checking impellor and !															7	
* 10636 FB.23446 Holder, for inter, gear pinion x x x	No.	T0000	FB.35230/2	Gauge Volute casing clearance			100													-
©CT	:	10636	FB.23446	Holder, for inter, gear pinion																49
		-															-			200

	200	100
	TY	

BRISTOL ENGINE TOOLS-contd.

			777.7	OTEN	20						ALEO	WAN	CES						985
Ref	Part No.	Description		IGIN]		per aft	ips		ircra: arrie:			Nava Stat				pair rds	8d	Remarks	
No.	rart No.	A	Pegasus VI	Pegasus 30	Mercury 30	Squadrons per 6 I.E. Aircraft	Catapult Ships	Fleet and Light Fleet	Escort	Merchant	Class A	Class B	Class C	Class D and E	Class A	Class B	Repair Ships		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	=
10860 8091 8089 8395 10656	FB.35219 FB.14985 FB.14986 FB.20779 FB.36092 FB.35732	Tools for use with Supercharger—contd. Key, hox, for spring drive securing nut Key, box, for impellor gear Key, box, for impellor shaft nut Pincers, for assembling spring drive spring. Sleeve, supporting, for removing impellor gear. Sleeve, supporting, for impellor gear Spindle, for inter gear centre (for check-	x x x x	x x x x	x			1	1		1	1	1		6 6 6 3 3 2 3	6 6 6 2 2 2	5 5 5 2 2 1 2	Common also "Taurus".	to 20
8697 10763 10829 10657 29374 32090 29598 29410 29412 32152 32320 29596 29546 29583	FB.37254 FB.20781 FB.41141 FB.41140 FB.36091 FB.51128 FB.52403 FB.51226 FB.51162 FB.51162 FB.57270 FB.57270 FB.51221 FB.51432 FB.57267	ing end float). Spanner, for inter pinion nut Drift, to assemble impellor to shaft Plug to assemble impellor gear Sleeve to assemble impellor and gear Extractor, for impellor gear Holder, for intermediate gear pinion Sleeve, supporting, for impellor gear Spanner, holder for retaining nuts Spanner on impellor gear Spanner, for intermediate pinion nut Spindle, for intermediate pinion bearing inner race. Shim, for tool for checking end wobble on impellor. Drift for assembling impellor and Plug impellor gear.	x x x x	xxxx	x x x x x x x x x x x x x x										6 3 3 3 3 3 3 6 6 6 3 6 6 3 3 3	5 2 2 2 2 2 2 2 5 5 5 5 2 4 2 2 2	5 2 2 2 2 2 5 5 5 2 4 2 2	Common also "Taurus".	to

		1	2 2	2 2				1	1	1	X	x	X X	Gauge, length (nominal) Gauge, length, .002-in.	FB.57323 FB.57324	13234 13236
				2							A	^		o/size.		
		1	2	2							x	X	x	Gauge, length, ·004-in.	FB.57325	13238
		1	2	2						1	x	x	or central-	Gauge, length, ·006-in.	FB.57326	13240
		1	2	2							x	x	ising and x	Gauge, length, .008-in.	FB.57327	13242
		1	2	2							x	x	bedding pawl faces { x	o/size. Gauge, bedding (mini-	FB.57328	13244
		1	2	2						1	x	x	of spring drive x	mum). Gauge, bedding (maxi-	FB.57329	13246
		1	2	2						1	x	x	gear.	mum). Jig, centralising	FB.57317	13248
		1	2	2							x		- 11 "	Sleeve, for centralising	FB.57321	32315
		1	2	2								x	x	jig. Sleeve, for centralising	FB.57319	15140
		2	2	2							x	x	oing clutch x	jig. Driver) for la	FB.57346	15107
- 2		2	2	2							x	x	n interme-	Fixture, lapping diate	FB,57334	13225
17	5															
		0					0	0						Tools for use with Redu Extractor, for reduction	FB.14965	5410
		2	2	3	1	2	2	2		1	x	X		wheel.		
		2 2	2 2	3						1	x			Extractor, for rear bevel Extractor, for stationary	FB.40400 FB.51164	25220 29548
		1	1	1							x	x		race. Fixture, for checking	FB.38304	15136
											-	-,		reduction gear.		
		3	3	3	2	2	2	2		1			vel gear to x ing).	Gauge, assembly (from I	FB.40535	25020
		3	3	3	2	2	2	2					ing wheel to x	Gauge, assembly (from dri	FB.40534	25022
		2	2	3	1	2	2	2		1	x	x		Spanner, for reduction ge	FB.35623	10878
	Common also	2	2	3							X	X	ut x	Spanner, for bevel pinion	FB.35171	10670
	Luurus ,	3	3	4	1	2	2	2		2	x	x		Spanner, for airscrew shaft	FB.35215	10854
4985		2	2	3							х	x	ft lock nut x	Spanner, for airscrew sh (rear).	FB,35625	10856
200																

			EN	IGIN	ES						ALL	OWA	NCES						985
Ref.	W. A.N.					er ift	bs		ircra			Nava Stat				pair			
No.	Part No.	Description	Pegasus VI	Pegasus 30	Mercury 30	Squadrons per 6 I.E. Aircraft	Catapult Ships	Fleet and Light Fleet	Escort	Merchant	Class A	Class B	Class	Class D and E	Class A	Class B	Repair Ships	Remarks	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
5510 29612	FB.19953 FB.52477	Stand, for reduction gear Tool, for assembling stationary gear and bearing.	x x	x	x x						00				2 2	2 2	1		
25250	FB.45706	Wedges, centralising, for checking backlash.	x												12	12	12		
10810	FB.35206	Gauge, centralising, for reduction gear assembly.	x	x				1	1		1	1	1	1	2	2	1		22
13064	FB.35221	Gauge, assembly, from bevel gear to	13	x				2	2		2	2	2	2	3	3	3		
18220	FB,40537	face of reduction gear casing. Gauge, assembly (from driving wheel		x				2	2		2	2	2	2	3	3	3		
10772 10766	FB.35216/2 FB.35622	to front cover face). Extractor, for rear bevel wheel Extractor, for stationary gear and ball race.		x x											3 3	2 2	1		
10872	FB.35621	Tool, for assembling stationary gear and bearing.		X											2	2	1		
63724 32076 29552	FB.65931 FB.52771 FB.51433/2	Extractor, for oil seal housing Extractor, for rear bevel wheel Extractor, for oil valve casing			X X X		1	1	1	1	2	2	2	1	2 2 2	2 2 2	21 21 2		
32080	FB.53826	Gauge, assembly (from bevel gear to face of reduction gear case).			X		*				2	2	1 2	2	3	3	3		
32082	FB.53824	Gauge, assembly (from driving wheel to face of crankcase front cover).			X						2	2	2	2	3	3	3		

10985 10986	FB.53253 FB.53254	Tools for Air Intake Reamer, for bush Reamer, for bush	x x	x	x										3 3	2 2	2 2	
59020	FB.63054	Tools for Priming System Spanner, for union	x	x	x	2	1	6	3	2	6	4	4	3	12	10	8	
58598 18227 18229 29609	FB.66015 FB.41563 FB.41565 FB.57262	Tools for use with Generator Drive Extractor, for generator driven bevel Holder, for generator drive shaft Holder, for universal shaft end (long) Tool, inserting and extracting, for	x x x	x x x	x x x			1 1 1	1 1 1		1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1	3 3 3 3	2 2 2 2 2	2 2 2 2 2	
29588	FB,51224	generator driven assembly. Reamer, for universal coupling bush													4	3	3	
29424	FB.51438	Tools for use with Induction Elbow Spanner, for induction elbow and volute casing nuts.	x	x	x		1	3	2	1	3	2	2	1	6	5	4	
29576	16B.51227	Tools for Auxiliary Drive Fixture, reaming, for auxiliary drive shaft bush.			x										2	1	1	
29606	FB.51434	Insertor and extractor, for auxiliary drive shaft bush.			x										2	2	2	
10840 10822	FB.35199 FB.35200	Reamer, for auxiliary drive shaft bush Fixture, reaming, for auxiliary drive shaft bush.	x	x	х										8 2	6	4	
10875	FB.46325	Insertor and extractor, for auxiliary drive shaft bush.	x	x											2	1	1	
23028	FB.46004	Tools for Oil and Petrol Pump Drive Holder, for cross drive shaft	x	x	x			1	1		1	1.	1		4	2	2	
18236 18234 18230 18226 18272 13268 44848	FB.39979 FB.39977 FB.39976 FB.39975 FB.39978 FB.39982 FB.65973	Tools for Air Compressor Drive Holder, for driving shaft Holder, for driving shaft Holder, for petrol pump coupling Holder, for driven bevel Spanner, for bearing retaining nut Spanner, for \$\frac{3}{2}\$-in. B.S.P. plug Holder, for driving shaft	x x x x x	x x x x x	x x x x			1 1 1 1 1 1 1 1	1 1 1 1 1 1 1		1 1 1 1 1 1 1	1 1 1 1 1 1 1	1 1 1 1 1 1 1		4 4 4 4 8 8	3 3 3 6 6 2	2 2 2 4 4 2	
-								1-	1									

í	J	ľ	3	9	É
ı	2	9			i
٩	ě				J
t	ő	ì	í	ľ	ì
,	ğ	i			•

			101	NGIN	ES					,	ALLO	WANG	CES					
Ref.	Part No	Description	-		1	per	hips	C	irera arrie			Nava Stati				pair	bs	Remarks
2104			Pegasus VI	Pegasus 30	Mercury 30	Squadrons per 6 I.R. Aircraft	Catapult Ships	Fleet and Light Fleet	Escort	Merchant	Class A	Class B	Class C	Class D and E	Class A	Class B	Repair Ships	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
29750	FB.51220	Tools for Distributor Drive Collar, for use with extractor for dis- tributor drive shaft bush.			x										4	2	2	
18577	FB.36621	Extractor, for distributor drive shaft	x	x	X										2	2	2	
10824	FB.35202	bush. Fixture, reaming, for distributor drive	x	N	x										2	1	1	
10842	FB.35201/2	shaft bush. Reamer, for distributor drive shaft bush	x	x	z										8	6	4	
54036 10793	FB.63029 FB.43619/2	Tools for Magneto and Drive Spanner, for magneto securing nuts Fixture, reaming, for magneto spring drive centre bush.	X X	x x	x	2	2	6	4	2	6	4	4	3	10	8	6	1
10847	FB.43620	Reamer, for magneto spring drive centre bush.	X	x											4	3	3	Required only for
10787	FB.43621	Fixture, reaming, for magneto drive bevel bush.	x	x											î	1	1	engines prior to Mod. E.1343.
10845	FB.43622	Reamer, for magneto drive bevel bush	x	x									1		4	3	3	
10791	FB.46714	Fixture, spring, compressing, for mag- neto driving bevel.	X.	x	x										2	2	2	
10615	FB.34936	Device, timing, for magneto	X	x	x	1	1	3	2	1	- 3	2	2	2	4	3	2	
10675	FB.38410	Spanner, for magneto coupling jaws	X	X	X	1	1 1 2	3	2	1	3	2	ĩ	ī	2	2	2	
54440	FB.57315	Expander, to advance magneto when timing.	x	х	x	2	2	6	4	2	6	4	2 1 4	1 2	8	2 8	6	36R/13006 FB. 40090* spring
54446	FB.57314	Spanner, to advance magneto when timing.	x	x	x	1	1	3	2	1	3	2	2	1	4	4	3	clip — alterna-

10506 8017 10530 10532 10534 10528 10526 10524 10522 10520 10518 120287 2156 5373 13090	FB.26456 FB.19160 FB.26407 FB.26583 FB.26582 FB.26460 FB.26461 FB.26463 FB.26464 FB.97332 FB.5427 FB.20130/2 FB.35234	Tools for General Use Bar, tommy Gun, oil, enots Spanner, box, ½-in. B.S.F. Spanner, box, ½-in. B.S.F. Spanner, ½-in. X-1½-in. B.S.F. Spanner, 2 B.A. X-1½-in. B.S.F. Spanner, box, 2 B.A. X-1½-in. B.S.F. Spanner, box, 2 B.A. X-1½-in. B.S.F. Spanner, box, 4 B.A. Spanner, box, 4 B.A.	x x x x x x x x x x x x x	x x x x x x x x x x x x x	x x x x x x x x x x x x x x x x x x x	6 1 6 6 3 3 3 3 6 6 6 6 6 6 6 6	4 2 4 4 2 2 2 2 4 4 4 4 4 2 4	12 3 12 12 6 6 6 6 6 12 12 12 12 12 12	828844448888	4 1 4 2 2 2 2 2 4 4 4 6 3	15 6 15 15 10 10 10 10 15 15 15 15 15 15	15 6 15 15 10 10 10 10 15 15 15 15 15 15 15	15 6 15 15 10 10 10 10 15 15 15 15 15 15 15	8 2 8 8 4 4 4 8 8 8 8 8 8 8 8 8 8 8 8 8	30 12 30 30 20 20 20 20 30 30 30 30 30 30	24 10 24 24 15 15 15 15 24 24 24 24 24 24	20 8 20 20 12 12 12 12 18 18 18 18 18	Common also to "Taurus". Common also to "Taurus".	
18547 18548 18549 18625 18624 18635 18623	FB.77616 FB.77617 FB.77618 FB.74797 FB.74792 FB.74796 FB.74788	Tools for Use at Inspection of Suspected Shock-loaded Engines Clamp, for use when testing airscrew shaft for cracks. Clamp, for use when testing airscrew shaft for cracks. Clamp, for use when testing airscrew shaft for cracks. Tool, extension, for test indicator Tool, for test indicator Tool, for test indicator Tool, for use when checking oil transfer housing.	x x x x x x	x x x x x x	x x x x x		1 1 1 1 1	2 2 2 2 2	1 1 1 1	1 1 1 1	2 2 2 2 2	1 1 1 1	1 1 1 1 1	1 1 1 1	2 2 2 2 2 2 2	2 2 2 2 2 2	2 2 2 2 2 2 2		25
18622	FB.74784	Tool, for use when checking front cover	х	x	x		1	2	1	1	2	1	1	1	2	2	2		4985

			ENGINE					ALL	OWAI	NCES						985
Ref.	Part No.	Description	BROINE	er ift		ircra arrie				al Air tions			pair rds			
No.	Tarv No.	Description	Taurus XII	Squadrons per 6 I.E. Aircraft	Fleet and Light Fleet	Escort	Merchant	Class A	Class B	Class C	Class D and E	Class A	Class B	Repair Ships	Remarks	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	-
		SECTION 36R.														
72606	FB.65984	Tools for Use with Crankcase Protector for crankcase and connecting rods (14 per set).	x	14	56	42	4	- 56	56	56	42	84	84	70		
72844	FB.72530	Drift to assemble sleeve driving gear	x									3	2	2		1.0
72846 72848	FB.72531 FB.66090	Drift to remove sleeve cranks Drift to insert or remove sleeve crank	x x									3	2 2	2 2		26
72850	FB.66091	bearing (front). Drift to insert or remove sleeve crank bearing (rear).	x									3	2	2		
72852	FB.66076	Extractor for crankcase front section and front cover.	x		1	1		1	1	1	1	1	1	1		
72854 72856	FB.72529 FB.66077	Extractor for sleeve driving gear Fixture, inserting for layshafts	x x									2	2	1		
72858	FB.66092	Pliers to remove sleeve crank bearing circlip.	x									1 3	1 2	1 2		
13124	FB.35228	Pliers for removing bearing retaining rings.	x									3	2	2		
72862 72864	FB.66087 FB.66088	Spanner box, for crankcase bolt nut Spanner, tube, for layshaft retaining	x x	1	3	2	1	4	3	3	2	6 4	5 4	4 3		
53452 72870	FB.71917 FB.72528	nut. Tool for assembling sleeve crank (short) Tool, for assembling sleeve crank (long)	x x									2 2	2 2	1		

									,		r	r				
		Tool for tightening retaining nut on sleeve cranks group, comprising :-														
72873	FB.79993	Bracket, steady, for spanner	X	1								3	2 14	2 14		
72874 72877	FB.72532 FB.79991	Holder, for sleeve crank Spanner, for nut	X X									14	3	3		
12011	-	Tool, for tightening sleeve crank lock-														
****	7372 manage	nut group, comprising :-					1						3	3		
72867	FB.79996 FB.79992	Bracket, steady, for spanner Spanner, for nut	X									4	3	3		
	23.70002			1												
F1000	FB.63029	Tools for Use with Rear Cover Spanner, universal box, & in. B.S.F.	-	3	0	a	.,	10	8	8	6	12	12	8		
54036 53208	F.B.65986	Extractor, for distance piece	X	1	8 2 4	6 2 2	3 1 2	3	2 2	2 2	2	3	3	2		
54450	FB.57389	Spanner, for union body and union nut	X	2	4	2	2	4	2	2	2	4	4	3		
120453	FB.105140	(2 per set). Spanner, tube, for auxiliary driveshaft	x	1	4	3	1	4	3	3	2	6	5	4		
120400	F D.105140	nut.		*				2					F			
13090	FB.35234	Spanner, box, 4 B.A. (for tachometer	X	1	4	3	2	4	3	3	2	6	5	4		
120301	FB.105154/2	casing nuts). Spanner, for starter nuts	X	2	4	3	2	5	4	4	2	6	5	4	Also used for two re-	
120001		Aparent, constitution and		1	177										taining nuts at top	27
120161	FB.66075	Extractor, for starter jaw	х		1	1	1	1	1	1		2	2	1	of rear cover.	7
120101	P.D.00070	Tools, for pump drive bush :-			1		-			,						
73404	FB.66070	Drift, for extracting	X									2	2	2		
54008 93043	FB.57387/2 FB.74644	Fixture, assembly Gauge, plug	X X									1	1	1		
54009	FB.57298/2	Jig, reaming	X									1	1	1		
54012	FB.57299	Reamer Tools for Auxiliary drive shaft bear-	Х									3	3	2		
		ing:-														
-		Gauge plug	x												II. noll long to PID #4044	
73416 54028	FB.66066 FB.57385	Jig, reaming Reamer	X									3	1 3	1 2	Use 36R/93043 FB.74644.	
04028	F D.01000	Tools, for magneto inter. lever bush —	Α.													
54030	FB.66025	Extractor	X									1	1	1		
120272 54034	FB.95023 FB.66072	Gauge, plug Insertor	X X									1	1	1		
73424	FB.66067	Jig, reaming	X			8			17 3			î	1	1		
54035	FB.57391	Reamer	X									3	3	2		49
													1			4985
			7	-												-

29

			ENGINE	_	,			ALL	OWAI	NCES						
Ref.	Part No.	Description		per		Aircra Carrie				al Air tions		Re Ya	pair irds	90	Remarks	
			Taurus XII	Squadrons per 6 I.E. Aircraft	Fleet and Light Fleet	Escort	Merchant	Class A	Class B	Class C	Class D and E	Class A	Class B	Repair Ships	Lemarks	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	1	(16)	-
		Tools for Use with Rear Cover-contd.														
73428	FB.66073	Tools, for driving shaft bush:— Drift and stand for extracting					9							3		
73430	FB.66068	Fixture, inserting	x x				1					1	1	1		
93074 73432	FB.95024 FB.66063	Gauge, plug	x									1	1	1 1		
73434	FB.66064	Jig, reaming	x x									1	1	1		
88251	FB.66064/4	Reamer (spare)	x									3	1 3	1 2		
		Tools for Use with Front Cover														
72880 72882	FB.66096	Holder for pump drive shaft	x		1	1		1	1	1	1	2	2	1		
14002	FB.66094	Pliers for removing driven gear circlip	х		1	1		1	1	1	1	2 3	2 3	2		
120456	FB.105170	Tools for Use with Oil Sump														
120400	FB.105170	Spanner for oil sump nuts	x	2	6	4	1	6	6	6	4	8	8	6		
72884	FB.71944	Tools for Use with Crankshaft														
72886	FB.71947	Drift for crankshaft gear Drift for bearing inner race (rear)	x			1						2 2	2	2		
88410	FB.80005	Extractor and insertor for bearing	x									2 2	2 2	2 2		
120285	FB.79966	inner race (front).										4	2	2		
72894	FB.71945	Extractor for bearing inner race (rear) Extractor for crankshaft gear	X X									2	2 2	2		
72892	FB.71949	Extractor for reduction gear driving	X		1	1		1	9	1	1	2 2 2	2 2	2 2 2		
72900	FB.71939	wheel.				-		2					2	2		
	4. 2771000	Holder for reduction gear driving wheel	X		1	1		1	1	1	1	2	1	1		

72966	FB.72616	Insertor and extractor for centre	* 1	1 1	1	1 1	1	1	1	1	1	11	
		bearing. Spanner, box, for oil jet (use 36R/10530 FB.26407 in general section).	x										
72912	FB.72511	Spanner for front bearing retaining nut	x	1	1	1	1	1	1	2	2	1	Required for early
													type Taurus XII, XVI engines fitted with nut F.B.S.191.
120119	FB.97346	Spanner for front bearing retaining nut	x	1	1	1	1	1	1	3	2	2	with hat F.B.5.181.
72904	FB.72502	Spanner for bearing retaining nut	х							2	2	1	Required for early type Taurus XII, XVI engines fitted
87980	FB.71911	Spanner for bearing retaining nut	x							3	2	2	with nut F.B.S.187.
	. 21111111	Spanner for crankpin oil plug (use FB.79992 in crankcase section).	x							0	2	2	
72906	FB.71048	Spanner for reduction gear driving wheel nut.	x	1	1	2	1	1	1	3	2	2	
72962	FB.72515	Tool for assembling bearing on reduction gear driving wheel.	x	- 1	1	1	1	1	1	2	2	1	
72964	FB.72516	Tool for dismantling bearing on reduction gear driving wheel.	x	2	1	2	1	1	1	2	2	2	
89893	FB.87063	Wrench for turning engine Disc, timing, for engine group, comprising:—	x	1	1	1	1	1		2	2	2	
72888	FB.72509	Disc	x	1	1	1	1	1	1	2	2	2	
72890	FB.66078	Pointer Stand, for assembling crankshaft group,	х	1	1	1	1	1	1	2	2	2	
72914	FB.71901	comprising:— Bolts, lifting (4 per set)								Sets	Sets	Sets	
120082	FB.97230	Bracket, clamping, for connecting rods	x x							3 2	3 2	3 2	Existing stocks of
													36R/72918 FB.71907 may be supplied in lieu.
120083	FB.97231	Bracket, clamping, for connecting rods	x							2	2	2	Existing stocks of 36R/72922 FB.71905 may be supplied in
120084	FB.97229	Fixture	x							7	1	1	lieu.
72920	FB.71902	Ring, adaptor	x							i	î	1	
72924 72926	FB.66098 FB.66097	Stand	x							1	1	1) X
12020	. F.D.00081	dackie, litting 1	X							2	2	2	

		ı	c	Š
)	ζ	ì	Ġ	
1	ζ	į	X	

			BMOTHE					ALL	OWAN	CES						00
Ref.			ENGINE	ft		irera arrie			Nava Stat				pair ards			
No.	Part No.	Description	Taurus XII	Squadrons per 6 I.E. Aircraft	Fleet and Light Fleet	Escort	Merchant	Class A	Class B	Class C	Class D and E	Class A	Class B	Repair Ships	Remarks	
(1)	(2)	(3)	(4)	(5)		(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
72928 72930 72932 72938 74012 74016 77996 74003 74004 74005 74013 74014 72950 72956 72958 88201 72960	FB.71931 FB.71932 FB.71933 FB.71919 FB.97232 FB.97233 FB.79934 FB.97235 FB.97235 FB.97236 FB.97237 FB.97238 FB.77566 FB.72513 FB.72513 FB.72510	Tools used in Conjunction with Stand for Assembling Crankshaft. Bar, alignment Bar, alignment Extractor for front and rear crankshafts Expander, Maneton (front) Expander, Maneton (rear) Pilot, for crankshaft centre Spanner, for crankshaft bolt (front), group, comprising :— Holder Spanner Spanner for crankshaft bolt (rear) group, comprising :— Holder Spanner Spanner Spanner Spanner for crankshaft bolt (rear) group, comprising :— Holder Spanner Spanner Spanner for crankshaft centre Spanner for retaining bolt nut (2 per set). Steady, for assembling shaft Tool for assembling bearing sleeve, group, comprising :— Plate, locating Tool, assembling	X X X X X X X X X X X X X X X X X X X									21222331 01010 01014 21- 213	21 21 21 21 21 21 21 21 21 21 21 21 21 2	1 1 1 1 2 2 2 1 1 2 2 2 1 1 1 1 1 1 1 1		30

72940	FB.71935/2	Tool for dismantling bearing sleeve Tools for crankshaft bush:-	x	1	1	I	1	1	1	1		2	2	1		
73436	FB.72506	Extractor	x		1	-1		1	1		1	2	2	2		
73438	FB.72503	Fixture, reaming	x	- 4	1	1		1	1		1	1	1	1		
120277	FB.95027	Gauge, plug	x		2	1	1	2 1	2		1	3	2	2 1		
73440	FB.72504	Holder for reamer	x			1	1		1		1	1	1	1		
73442	FB.72669	Reamer	X		3	2		3	3		2	4	4	3		
73444	FB.72505	Tool, inserting	X		1	1		1	1		1	1	1	1		
manaa	FB.65999	Tools for Use with Connecting Rod								1		3	2	9		
72968 72970	FB.66000	Drift for inserting artic rod pin Drift for extracting artic rod pin	X X		2 1					8 (3	2	2 2 1		
72972	FB.65932	Jig for drifting out artic rod pin	X									2	ĩ	1		
12012	1 15.00002	Pliers for removing artic rod pin circlip	x						1	1		-		-	Use 36R/72882 FB.66094	
		There for removing more roa par energy						5 X							in front cover section.	
72976	FB.72522	Tool for assembling artic rod pin	x					3	. 0			4	3	3		
		circlip.	1 1						1							
92774	FB.74621	Tool for compressing oil retainer	X								9 3	2	2	1		
		springs.		1		100				1						
72614	FB.65990	Tools for Use with Piston Clip for piston and cylinder head rings	x	1	3	9	1	4	3	3	2	5	4	3		
54260	FB.57411	Pliers for removing gudgeon pin circlip	x	Î		3 2	î	5	4	4	3	6	5	3		
72618	FB.65992	Tool, inserting, for gudgeon pin circlip	x	I	4 3	2	1	4	3	3	2	5	4	3		31
		Tools for Use with Cylinders and					7							-		-
		Sleeves			1									4		
72512	FB,69551	Spanner for exhaust snout nut	X	3	6	5	3	8	8	6	4	12	10	8		
54054	FB.46045/2	Spanner for sparking plug	X	6	12	8 2	3	12	12	12	8	15	15	12		
120457	FB.105191	Spanner for relief valve body	x	1	3 6	4	1	6	3 6	3 6	2 3	10	5 8	6		
53220 72622	FB.65993 FB.65994	Hook for locking plate Holder for cylinder sleeve (for use when	X	1	2	2	1	3	2	2	2	6	6	4		
12022	T.D.00994	tightening sleeve ball housing nuts).		1	-	-	1	9	-	-	~		0	*	N.	
54258	FB.57296	Indicator, piston, top dead centre	x	1	6	1	1	2	2 10	1	1	3	3	2		
54272	FB.57409	Pilot for cylinder sleeve	x	2	6	4	1	12	10	10	6	18	18	12	(
		Spanners for cylinder and cylinder			1											
	and the same	head nuts, comprising :-		1						-		0	0			
98086	FB.90121	Adaptor, ratchet	x	1	4	3	1	6	5	5	3	8	6	5 5		
98090	FB,90130	Handle for spanner (for slackening	x	2	4	3	1	6	5	9	3	0	0	9		
92450	FB.90120/2	nuts). Spanner for cylinder nuts (extended)	x	2	4	3	1	6	5	5	3	10	8	6		
98096	FB.90120/2	Spanner for cylinder nuts (extended) Spanner for cylinder nuts	x	2	4	4	i	6	5	5	3	10	8	6	Use only for running down	
30000	13.00102	Spanies for Cymhaet Hale	-	1											nuts.	4
98098	FB.90124	Spanner for cylinder head nuts	x	2	4	3	1	6	5	5	3	10	8	6		4985
98100	FB.90119	Wrench, "Sunnen" tension	x	1	4	3	1	6	5	5	3	8	6	5		5
	-															

			ENGINE	8				ALL	OWAN	ICES					
Ref.	Part No.	Description		per	A	irera arrie			Na va Stat				pair ards	98	Remarks
No.	1.010 1117	Description	Taurus XII	Squadrons per 6 I.E. Aircraft	Fleet and Light Fleet	Escort	Merchant	Class A	Class B	Class C	Class D and E	Class A	Class B	Repair Ships	nemarax
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
3232 20150 54270	FB.57293 FB.97252 FB.46049	Tools for Use with Cylinders and Sleeves—contd. Spanner for induction belt bolts Spanner, flexible Spanner for sleeve ball housing nuts	x x x	2 1 1	4 3 4	3 2 3	2 1 1	6 4 5	5 3 4	5 3 4	3 2 2	10 6 8	8 5 8	6 4 6	36R/120647 FB.123831 together with 36W/ 130141 FB.113481 can
0290	FB.97333	Spanner for 2 B.A. nut in locking plate	x	2	4	3	1	6	5	5	3	10	8	6	be supplied in lieu.
2638	FB.65987	Tool, assembly, for cylinder Tool for assembling and removing	x	1	3	2	1	4	4	3	2 2	5	4	4	
7832	FB.79940	Tool for assembling and removing cylinder head ring.	X	1	3	2	1	4	4	3	2	6	G	4	
2640	FB,72611	Tool, for removing sleeve contracting	X	1	2	2	1	3	2	2	1	5	4	3	
3802	FB.72580	ring. Gauge, 14 mm. thread, for spark plug	x	1	2	2	1	2	2	2	1	4	3	2	
3804	FB.57424	adaptor.		3	10	8	2	10	10	10	6	12	12	12	
1000%	D.07424	Tap, 14 mm., for spark plug adaptor	x	3	10	0	2	10.	10	10	0	12	12	14	
10675	FB.38410	Tools for Use with Magneto and Drive Spanner for magneto driving drum Tool to advance magneto when timing group, comprising:—	x	1	1	1	1	1	1	1	1	2	2	2	
4440	FB.57315	Expander (2 per set)	X	2	6	4	2	6 3	4	4	2	8	8	6	
4446	FB.57314	Spanner	X	1	3	2	1	3	2	2	1	4	4	3	

72980	FB.72538/2	Holder, for sliding spindle	x		1	1		1	1	1		2	2	2	Existing stocks of FB. 72538 may be supplied
72982 92777	FB.72537 FB.97227	Holder for magneto driving drum Spanner for sliding spindle retaining	X X		1	1		1	1	1		2 3	2 3	2 2	in lien.
		nut. Device, for timing magneto group, com-			*	•						3	3	20	
53236	FB.65988/2	prising :— Device timing	x	1	3	2	1	3	2	2	2	4	3	2	Existing stocks of FB. 65988 can be modified
72644	FB.65996	Pointer ,	x	1	3	2	1	3	2	2					to meet this require- ment.
			**		9	-	1	9	2	2	2	4	3	2	
53003	FB.92635/3	Tools for Use with High Tension Wires Spanner, for spark plug elbow	x	3	6	4	2	8	6	6	4	12	12	8	
10521	FB.36776	Tools for Use with Oil Pump Key, adjusting, for relief valve	x	1	6		1	8				10	0		
10523	FB.36775	Spanner, for relief valve locknut	X	1	6	4	1	8	6	6	4	10 10	8	6 8	
72984 72986	FB.72539 FB.72540	Extractor, for oil pump Spanner, for pipe connection	x x	1 1	2 3	1 2	1	3 4	6 2 3	6 2 3	1 2	3 5	2 4	2 3	8
72988	FB.72543	Tools for Use with Supercharger													
12000	FD. 120%3	Drift and stand, for assembling impellor and distance piece to impellor shaft.	X									2	2	2	
78042	FB.79939	Drift, for inserting oil tube in main driving shaft.	x									3	2	2	
78044	FB.77663	Extractor, for oil tube in main driving shaft.	x									2	2	2	
72990	FB.72544	Extractor, for intermediate pinion spindle.	x									2	2	2	
		Fixture, for checking end wobble on impellor group, comprising:—													
63879 63904	FB.66080	Blocks (2 per set)	x									2	2	2	
09904	FB.66039	Gauge, for checking clearance between impellor and volute casing group,	X									1	1	1	
72996	FB.72541	comprising :—										-0			
- married	FB.72542	Gauge	X									1	1	1	4985

Ref. No.	Part No.		ENGINE				A	LLOW	VANC	ES					
		Description	Budhin	ner aft	Aircraft Carriers				Naval Air Stations				pair ards	bs	2000
			Taurus XII	Squadrons per 6 I.E. Aircraft	Fleet and Light Fleet	Escort	Merchant	Class A	Class B	Class C	Class D and E		Class B	Repair Ships	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
8395	FB.20779	Tools for Use with Supercharger—contd. Pincers, for assembling spring drive springs.	x									3	2	2	Common also to Pegasus
2004	FB.57285	Pliers, for oil tube circlip	x									3	2	2	and Meroury.
2998 3000 9412	FB.72549 FB.72548 FB.51168	Spanner, for front and rear impellor shaft nuts group, comprising:— Holder, for shaft Spanner, holder, for shaft Spanner, for nut	x x x									2 3 6	2 3 5	2 2 5	Common also to Pegasus
1004	FB.72546	Spindle, for checking end float on inter	x					1	1			2	2	1	and Mercury.
3450 3452 4060	FB.66050 FB.66055 F.B.66048	gear assembly. Fixture for lapping clutch blocks group, comprising: Adaptor Driver Fixture	x x x									2 2 2	1 1 1 1	1 1 1 1	
2604 8409	FB.65997 FB.87078	Tools for Use with Reduction Gear Wrench, for turning engine Base for oil retainer cover for removing oil retainer.	X X	1	3 1	2	1 1	4	3	3 1	2	5 2	4 2	3 2	
8160 2806 2804 2808	FB.87074 FB.72578 FB.72671 FB.72576	Drift, for removing oil retainer Drift, for airscrew shaft front bearing Drift, for bevel gear thrust bearing Drift, for bevel pinion thrust bearing	x x x		1	1	1	1	1	1	1	2 2 2 2	2 2 2 2	2 2 2 2	

72812	FB.72559	Extractor, for bevel pinion thrust bear-	x	1 1	1	1	1	1		1	1	2	2	2		
77864	FB.74798	ing. Extractor, for oil seal housing	x	1			- 1					2	9	1		
72810	FB.72560	Extractor for rear bevel gear	X									2	2 2	2		
Control	a de constante	Fixture, for checking backlash group,	- 0									-	-	-		
		comprising :-							1			- 1				
72816	FB.72565	Bush, for adaptor	X						1			1	1	1		
72818	FB.72561	Fixture	X		1		1			4		1	1	1		
72820	FB.79942	Gauge, pressure, and adaptor	X						1			1	1	1		
72822 72824	FB.72562 FB.72572	Ring, adaptor	X	1		4						1	1	1		
72824	F.D. (2012	Gauge, depth (face of reduction gear case to rear bevel gear).	x	1 1	1	1		1	1	1	1	2	2	2		
72826	FB.72575	Holder for stationary gear	x									1	1	1		
98184	FB.87075	Pilot, for assembling oil retainer cover	x		1	1	1	1	1	1	1	2	1 2	2		
2222		Pliers, for retaining ring	x			-					-	3	-		Use 36R/13124 FB.35228	
				1 1			1								in crank-case section.	
120226	FB.97269	Ring, distance, for assembling stationary	x			1	1					2	2	2		
10070	ED OFIEL	gear.											-			
10670	FB.35171	Spanner, for bevel pinion nut	X	1			1					3	2	2	Common also to Pegasus	
72830	FB.72557	Spanner, for retaining nut	x	1								3	9	2	and Mercury.	
72832	FB.72558	Spanner, for retaining nut Spanner, for thrust nut	x		1		- 1					1	2	i	Required for engines prior	00
, 200%	22112000	opening, for the market		1											to Mod. E.676.	01
98190	FB.79972	Spanner, for thrust nut	x									3	2	2	Required for engines sub-	
				1					0 1						sequent to Mod. E.676.	
63732	FB.71940	Stand, for reduction gear	x	1								2 2 2	1	1		
72836	FB.72576	Stand, for reduction gear	x	1 1								2	1	1		
72838	FB.72577	Tool for assembling front bearing,	х	1 1								2	1	1		
		stationary gear and oil seal housing on airscrew shaft.											1			
		Tool for extracting airscrew shaft from														
		front bearing and reduction gear case														
		Group comprising :-									7					
72840	FB.72569	Extractor	x									2	1	1		
72842	FB.72578	Pedestal for reduction gear case	X									2	1	1		
		Tool, for inserting oil retainer in oil re-								0. 9						
00000	FB.79973	tainer cover, Group comprising:					,	,	1			0	0	0		
98208 98210	FB.79974	Base	X		1	1 1 1	1	1	1	1	1	2 2 2	2 2 2	2 2		
88403	FB.79975	Diam Insultan	x		1	1	1	1	1	1	1	9	2	2		-
74017	FB.80088	Fixture for extracting bevel pinion bush	x			*		-	1	1		ī	1	i		4985
		- I I I I I I I I I I I I I I I I I I I	-				1									00

Ref. No.	Part No.		ENGINE					AL	LOW	ANCE	3					-
		Description		per raft	0	Aircraft Carriers				al Air		Repair Yards		sd	Remarks	
			Taurus XII	Squadrons per 6 I.E. Aircraft	Fleet and Light Fleet	Escort	Merchant	Class A	Class B	Class C	Class D and E	Class A	Class B	Repair Ships	Nemarka	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	_
		Tools for Use with Reduction Gear—contd. Fixture for inserting bevel pinion bush, Group, comprising:—														
206	FB.80081 FB.80074	Adaptor Base	X X									1	1	1		
708 014	FB.80082 FB.80085	Drift Gauge, plug, for bevel pinion bush Reaming jig, for bevel pinion bush, Group, comprising:—	x									1	1	1		
352 214	FB.77550 FB.80023	Jig, reaming	x									1	1	1		
002 354	FB.80019 FB.65012	Ring, locating Reamer, expanding	x									1 3	1 2	1 1 2		
006	FB.72594 FB.72597	Tools for Use with Auxiliary Drive Drift and stand, for auxiliary drive shaft Holder, for auxiliary drive shaft Insertor and extractor for ball bearing and "Gits" oil seal, Group	x x		1	1		1	1	1		1 2	1	1		
010	FB.74631 FB.72595	comprising:— Bush Insertor and extractor	x		1	1 1	1	1	1	1	1	2 2	2 2	1		

1		Tools for Use with Oil and Petrol Pump Drive		1 1	1											
54078 73458	FB.72671 FB.72668	Tools for pump drive housing bush :— Extractor Fixture, inserting	x x									1	1	1		
54082	FB.66028	Gauge, plug Jig, reaming	x									1	1	1	Use 36R/93043 F.B.74644	
54084	FB.66029	Reamer	x									3	3	2	in rear cover section,	
54088 54090 93114	FB.66035 FB.66036 FB.95025	Extractor	x x x x									1 1 1	1 1 1	1 1 1	Use 36R/73432 FB.66063	
73466	FB.66065	Reamer	x									3	3	2	in rear cover section.	
53250 53252 72656 53256	FB.74760 FB.65928 FB.74762 FB.74759	Tools for Use with Accessory Gear Box Tools for lining up gear box with drive on engine group, comprising:— Adaptor (for drive on engine) Fixture, alignment Mounting, adaptor (engine substitute) Spigot (for gear box)	x x x x	1 1 1 1 1	2 2 2 2 2	1 1 1 1 1	1 1 1 1	2 2 2 2	2 2 2 2	2 2 2 2 2	1 1 1	3 3 3 3	3 3 3 3	2 2 2 2 2		3/
8017	FB.19160	Gun, oil, "Enots"	x	1	3	2	1	6	6	6	2	12	10	8	Common also to Pegasus	
54050 10530 10518 10520	FB.63076 FB.26407 FB.26464 FB.26463	Spanner, Universal box, 2 B.A Spanner, box, ½ in. B.S.F Spanner, 2 B.A. × 4 B.A Spanner, ¼ in. × ½ in. B.S.F	x x x	6 6 6 6	12 12 12 12	8 8 8	4 4 4 4	15 15 15 15	15 15 15 15	15 15 15 15	8 8 8 8	30 30 30 30	24 24 24 24 24	20 20 18 18	and Mercury.	
10522 10524 10526 10528 2156 120287	FB.26462 FB.26461 FB.26460 FB.26459 FB.5427	Spanner, & in. × & in. B.S.F. Spanner, box, 2 B.A. × & in. B.S.F.	x x x	6 3 3 3 6	12 6 6 6 12	8 4 4 8	4 2 2 2 4	15 10 10 10 15	15 10 10 10 15	15 10 10 10 10	8 4 4 4 8	30 20 20 20 20 30	24 15 15 15 24	18 12 12 12 12 18	Common also to Pegasus and Mercury.	
2132 10506	FB.97332 FB.2319 FB.26456	Screw driver, for Jubilee clips Bar, tommy, ½ in. diameter Bar, tommy, ½ in. diameter	x x x	6 6	12 12 12	8 8 8	4 4	15 15 15	15 15 15	15 15 15	8 8	30 30 30	24 24 24	18 20 20	Common also to Pegasus and Mercury.	*
	FB.88091	Pilot, for engine bearer bolt (4 per set)	x	Set 1	Sets 4	Sets 3		Sets 4	Sets 4	Sets 4		Sets 6	Sets 6	Sets 5		CARE

