HUNTER AIRCRAFT SERVICING SCHEDULES

MK.57
(H.S.A.5)

BAY SERVICING
SECTION 4 BREAK-DOWN AND PACKING OF E.C.U.

VOLUME 5, PART 6

ENGINE N.C.O.

Item No.	ITEM	OPERATION
1.	E.C.U.	(i) Supervise breakdown and preparation for packing. (ii) Check against Engine Checking List.
2.	(a) Moisture and vapour proof bag. (b) Desiccant bandoliers.	(i) Supervise fitment. (ii) Ensure secure and undamaged.
3.	E.C.U. and transportation stand.	Supervise fitment to packing case base.
4.	Moisture and vapour proof bag.	(i) Ensure humidity indicator is reading 'SAFE'. (ii) Enter details on the relevant Documents. (iii) Inspect in accordance with A.P.4771A Vol.1, Part 1, Sect.1 (or relevant authorised instructions).
5.	Engine Documents.	Record the necessary entries and place into packing case.

Item No.	ITEM	OPERATION
6.	Engine packing case.	(i) Supervise attachment of four point sling to the lid. (ii) Supervise fitment of the lid to the packing case.
7.	Servicing Documents.	Sign for completing the relevant Servicing.

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Item No.	ITEM	OPERATION
N.B.	Item 1 is applicable only to AVON 100 Series engines.	
1.	Engine fuel system (100 Series engines)	Inhibit as follows:-
	N.B. When inhibiting there will be a continuous flow of oil from the high pressure side of the fuel system to the low pressure side, which is used to flush out and fill the low pressure side. The excess of this flow issues from the engine fuel inlet union at the rate of approximately one gallon per minute and any restrictions will result in series damage to the L.P. units.	
	(a) Oil tank.	Ensure contents are sufficient to lubricate wheelcase bearings during engine turning.
	(b) Throttle.	Set to 'CLOSED' position.
	(c) H.P. cock.)	
	(d) L.P. cock.)	Set to 'OFF'.
	(e) Fuel isolation switch.)	
	(f) H.P. fuel pump.)	(i) Remove domed blanking nuts from bleed points.
	(g) Intake guide vane ram.)	(ii) Fit bleed tools.
	(h) H.P. fuel pump.	(i) Remove plug from ibhibiting point. (ii) Fit 1/8" B.S.P. union. (iii) Fit rig delivery pipe.

Item No.	ITEM	OPERATION
1.	Engine fuel system (100 Series engines) (contd.)	
	(j) L.P. fuel filter assembly.	(i) Remove lockwasher from drain cock. (ii) Loosen drain cock and allow to drain. NOTE:- During this operation, depress the bleed tool plungers and manually operate the intake guide vane ram to assist draining.
	(k) L.P. fuel filter element.	(i) Remove. (ii) Inspect for cleanliness and damage. (iii) Renew as necessary. (iv) Refit, using new sealing ring.
	(l) Inhibiting rig.	Check contents. Minimum 5 gallons of oil to required Specification.
	(m) Engine fuel inlet union.	(i) Remove blank. (ii) Fit slave union and large bore return pipe. (iii) Lead pipe back to the tank.
	(n) Inhibiting rig.	(i) Start the rig pump and increase pressure gradually to 400 p.s.i.

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Item No.	ITEM	OPERATION
1.	Engine fuel system (100 Series engines) (contd.) (n) Inhibiting rig (contd.)	(ii) Stop after 30 seconds running. NOTE:- During this period, the oil pressure acting on the fuel pump will cause the engine to rotate in the reverse direction, thus ensuring adequate circulation of inhibiting oil through the fuel pump chambers. The following operations must be carried out with the engine prevented from turning. This can be achieved by fitting a spanner to the auxiliary drive flange and holding by hand. (iii) Start the pump and increase pressure to maximum. (iv) Depress the bleed tool plungers until oil is emitted in a steady stream, free from air.

Item No.	ITEM	OPERATION
1.	Engine fuel system (100 Series engines) (contd.)	
	(n) Inhibiting rig (contd.)	(v) Run the rig for ½ minute, during which time open the throttle and H.P. cock three times for 5-second periods. A pressure of 1250 p.s.i. should be obtained with the throttle and H.P. cock closed. If this pressure is not obtained repeat the throttle and H.P. cock manipulations.
		(vi) Close the throttle and H.P. cock.
		(vii) Turn the rig pump 'OFF'.
		(viii) Disconnect the rig delivery and return liner. Blank off immediately to prevent loss of oil.
	(o) Engine fuel inlet union.	(i) Remove bleed tools.
	(p) H.P. fuel pump.)	(ii) Refit domed blanking nuts.
	(q) Intake guide vane ram.)	(i) Remove the 1/8" B.S.P. union.
	(r) H.P. fuel pump.	(ii) Refit plug.

N.B. Item 2 is applicable only to AVON 200 Series engines.

2. Engine fuel system (200 Series engines) — Inhibit as follows:-

N.B. When inhibiting there will be a continuous flow of oil, from the high pressure side of the fuel system to the low pressure side, which is used to flush out and fill the low pressure side. The excess of this flow issues from the L.P. fuel filter at the rate of approximately one gallon per minute and any restrictions will result in serious damage to the L.P. units.

(a) Combined throttle control/H.P. cock. — Set to 'CLOSED' position.

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Item No.	ITEM		OPERATION
2.	Engine fuel system (200 Series engines) (contd.)		
	(b) H.P. fuel pump. (c) Intake guide vane ram. (d) Intake guide vane ram governor pump.	(i)	Remove domed blanking nuts from bleed points.
		(ii)	Fit bleed tools.
		(iii)	Place ends of bleed tool hoses into clean containers.
	(e) L.P. fuel filter assembly.	(i)	Remove lockwasher from drain cock.
		(ii)	Loosen drain cock and allow to drain.
			NOTE:- During this operation, the H.P. fuel pump air intake guide vane ram and ram governor pump bleed tool plungers are to be depressed and the air intake guide vane ram operated manually.
	(f) L.P. fuel filter element.	(i)	Remove end cover.
		(ii)	Remove from housing.
		(iii)	Examine for cleanliness and damage.
		(iv)	Renew as necessary.
		(v)	Refit to housing.
		(vi)	Refit end cover and new sealing ring.

Item No.	ITEM		OPERATION
2.	Engine fuel system (200 Series engines) (contd.)		
	(g) H.P. fuel pump inhibiting point.	(i)	Remove blanking plug.
		(ii)	Fit 1/8 in., B.S.P. union.
		(iii)	Connect delivery hose of inhibiting rig to union.
	(h) L.P. fuel filter inlet.	(i)	Remove blank.
		(ii)	Connect inhibiting rig oil return pipe to union and place the other end into a clean container.
	(j) Inhibiting rig.	(i)	Ensure there are at least 5 gallons of oil to required Specification in inhibiting rig tank.
		(ii)	Operate pump at a pressure of 50 p.s.i.
		(iii)	Allow the first half gallon of spill from inhibiting rig oil return pipe to flow into container.
		(iv)	Set pump to 'OFF'.
		(v)	Connect inhibiting rig oil return pipe to inhibiting rig oil tank.

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Item No.	ITEM		OPERATION	
2.	Engine fuel system (200 Series engines) (contd.)			
	(k) H.P. fuel pump.	)	(i)	Operate pump at a pressure to 50 p.s.i.
	(l) Air intake guide vane ram.	)	(ii)	Depress bleed tool plunger until oil flows free from air and fuel.
	(m) Air intake guide vane ram governor pump.	)	(iii)	Close bleed tools.
			(iv)	Move air intake guide vane ram to rear position.
			(v)	Allow air intake guide vane ram to return to the forward position.
	(n) Inhibiting rig.		(i)	Increase pressure to 1000 p.s.i., and maintain for a period of 3 minutes. During the last half of this operation, move throttle control and H.P. fuel shut-off cock control lever to 'ON' several times to ensure delivery of inhibiting oil to the burner manifolds. The throttle control and H.P. fuel shut-off cock control lever are to be returned to the 'OFF' position.
			(ii)	Set pump to 'OFF'.

Item No.	ITEM		OPERATION
2.	Engine fuel system (200 Series engines) (contd.)		
	(o) H.P. fuel pump.	(i)	Remove bleed tools.
		(ii)	Refit domed blanking nuts to bleed points and lock with wire.
		(iii)	Remove inhibiting rig delivery hose from inhibiting point.
		(iv)	Remove 1/8 in. B.S.P. union from inhibiting point.
	(p) Air intake guide vane ram.)	(i)	Remove bleed tool.
	(q) Intake guide vane ram governor pump.)	(ii)	Refit domed blanking nuts to bleed points and lock with wire.
3.	Starter motor (if fitted)	(i)	Remove.
		(ii)	Fit blanking plates and covers.
4.	E.C.U.	(i)	Clean externally with kerosine or white spirit and dry thoroughly.
		(ii)	Examine all light alloy components for corrosion and damage.
		(iii)	Fit blanks to all apertures and seal with adhesive tape.
		(iv)	Assist Engine N.C.O. to check E.C.U. against the Engine Documents.
		(v)	Wrap all rubber pipes with greaseproof paper and secure with adhesive tape.

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VOLUME 5, PART 6

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Item No.	ITEM	OPERATION
5.	(a) Control joints. (b) Intake guide vane ram and linkage.	(i) Clean with kerosine or white spirit. (ii) Lubricate with grease, XG-275.
6.	(a) Engine front suspension. (b) Engine trunnion mountings.	Examine for security of attachment and correct locking.
7.	E.C.U. N.B. Operation (i) is applicable only if E.C.U. is not to be packed in M.V.P. bag.	(i) Spray all parts forward of the combustion chamber air casing with Protective, PX-1. (ii) Remove all tools, rags and other Servicing materials. (iii) Fit exhaust unit blanking cover. (iv) Fit air intake blanking cover.
8.	Moisture and vapour proof bag. (a) E.C.U. and transportation stand.	(i) Fit sling to engine slinging eyes. (ii) Take weight of E.C.U. on crane. (iii) Remove trunnion retaining bolts. (iv) Remove front suspension link bolts from E.C.U. (v) Lift clear of stand, ensuring front suspension links are clear of engine.

Item No.	ITEM		OPERATION
8.	Moisture and vapour proof bag (contd.)		
	(b) Transit/servicing stand front suspension links.	(i)	Remove retaining bolts.
		(ii)	Remove from stand.
	(c) Moisture and vapour proof bag.	(i)	Unzip and examine for damage.
		(ii)	Fit over stand with the four hole reinforcement fitted over the bolt hole spigots of the front engine bearer platforms.
		(iii)	Assemble link plate to adapter plate so that moisture and vapour proof bag is correctly sandwiched between the two plates. NOTE:- Ensure correct positioning of link plate to suit E.C.U.
		(iv)	Refit and tighten retaining bolts.
		(v)	Position over rear trunnion mountings.
	(d) E.C.U. and transportation stand.	(i)	Lower on to stand.
		(ii)	Fit front suspension links and tighten retaining bolts.
		(iii)	Fit and tighten trunnion retaining bolts.
		(iv)	Carefully pad all sharp projections with cellulose wadding.

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Item No.	ITEM	OPERATION	
8.	Moisture and vapour proof bag (contd.)		
	(e) Moisture and vapour proof bag.	(i)	Place two strips of grease-resisting paper, 6 ft. x 1 ft., on each side of engine bulkhead to receive desicant bandoliers.
		(ii)	Fit carefully over E.C.U., and close each zip to within 12 inches of the engine bulkhead. NOTE:- Care is to be taken not to stretch M.V.P. bag.
		(iii)	Apply a coat of sealing compound, 5/8 in. wide, to the outer edge of the inside face of each flap and allow to dry.
		(iv)	Apply a second coat of sealing compound over first coat and, when tacky, stick edges together.
	(f) Desiccant bandoliers. N.B. Operation (f) is to be completed within 4 to 6 minutes.	(i)	Load each bandolier with 14 lb. of desiccant.

Item No.	ITEM		OPERATION
8.	Moisture and vapour proof bag (contd.)		
	(f) Desiccant bandoliers (contd.)	(ii)	Place inside M.V.P. bag and tie to each side of engine bulkhead with tapes provided.
		(iii)	Close remainder of each zip and apply a coat of sealing compound 5/8 in wide to the outer edge of the inside face of each flap and allow to dry.
		(iv)	Apply a second coat of sealing compound over the first coat and when tacky, stick the edges together.
		(v)	Apply a coat of Type 3 plastic over the entire length of the edges of each zip flap.
	(g) Moisture and vapour proof bag.	(i)	Examine for correct fitting.
		(ii)	Examine for damage.
9.	E.C.U. and transportation stand.	(i)	Transport to packing case.
		(ii)	Fit sling to transportation stand. NOTE:- The E.C.U. and stand is not to be lifted by the engine slinging eyes.
		(iii)	Take weight on crane.
		(iv)	Remove securing bolts from servicing trolley.

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Item No.	ITEM	OPERATION
9.	E.C.U. and transportation stand (contd.)	(v) Lift E.C.U. and transportation stand clear of servicing trolley. (vi) Fit to packing case base. (vii) Fit and tighten securing bolts. (viii) Take weight off crane. (ix) Remove sling.
10.	E.C.U. generally.	Remove all tools, rags and other Servicing materials.
11.	Engine packing case.	(i) Fit four point sling to case lid. (ii) Fit lid to packing case. (iii) Fit retaining bolts. (iv) Remove sling.
12.	Servicing Documents.	Sign for completing the relevant Servicing.

Item No.	ITEM	OPERATION