

SECTION I

**UNPACKING AND PREPARING
FOR INSTALLATION**

RESTRICTED

Section 1.—UNPACKING AND PREPARING FOR INSTALLATION

(Completely revised)

Note.—This section applies to Avon Mk. 10901, 11301, 11501, 12101 and 12201
Engine Change Units and Associated Jet Pipes

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LIST OF SUPPLEMENTS

	Supp.		Supp.
Mk. 10901 e.c.u.	1	Mk. 11301, 11501, 12101 and 12201 e.c.u.	2

1. The instructions contained in this section describe the preparations for installing an engine change unit (e.c.u.). All e.c.u.'s except the Mk. 10901 are fitted with handling rollers which, in conjunction with a system of rails in the aircraft structure, enable the unit to be rolled into position from the rear of the engine compartment.

2. Instructions regarding installation procedure and sequence of operations are given in the appropriate aircraft Air Publication.

Note . . .

Before coupling the jet pipe to the e.c.u., check that the sealing ring in the rear flange of the exhaust unit is correctly located in its groove, and that the ends of the ring are approx. at the twelve o'clock position and secured by the small bridging link.

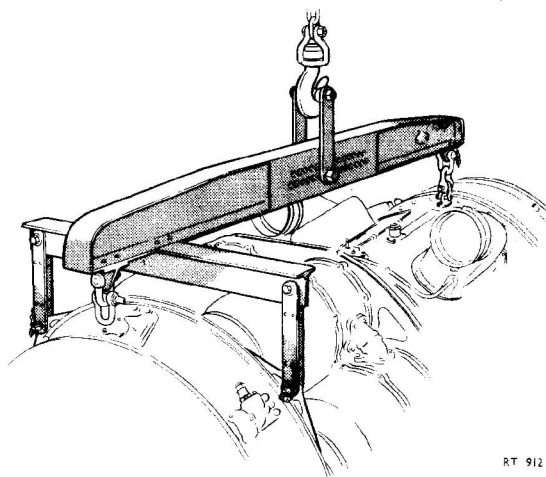


Fig. 1 E.c.u. sling

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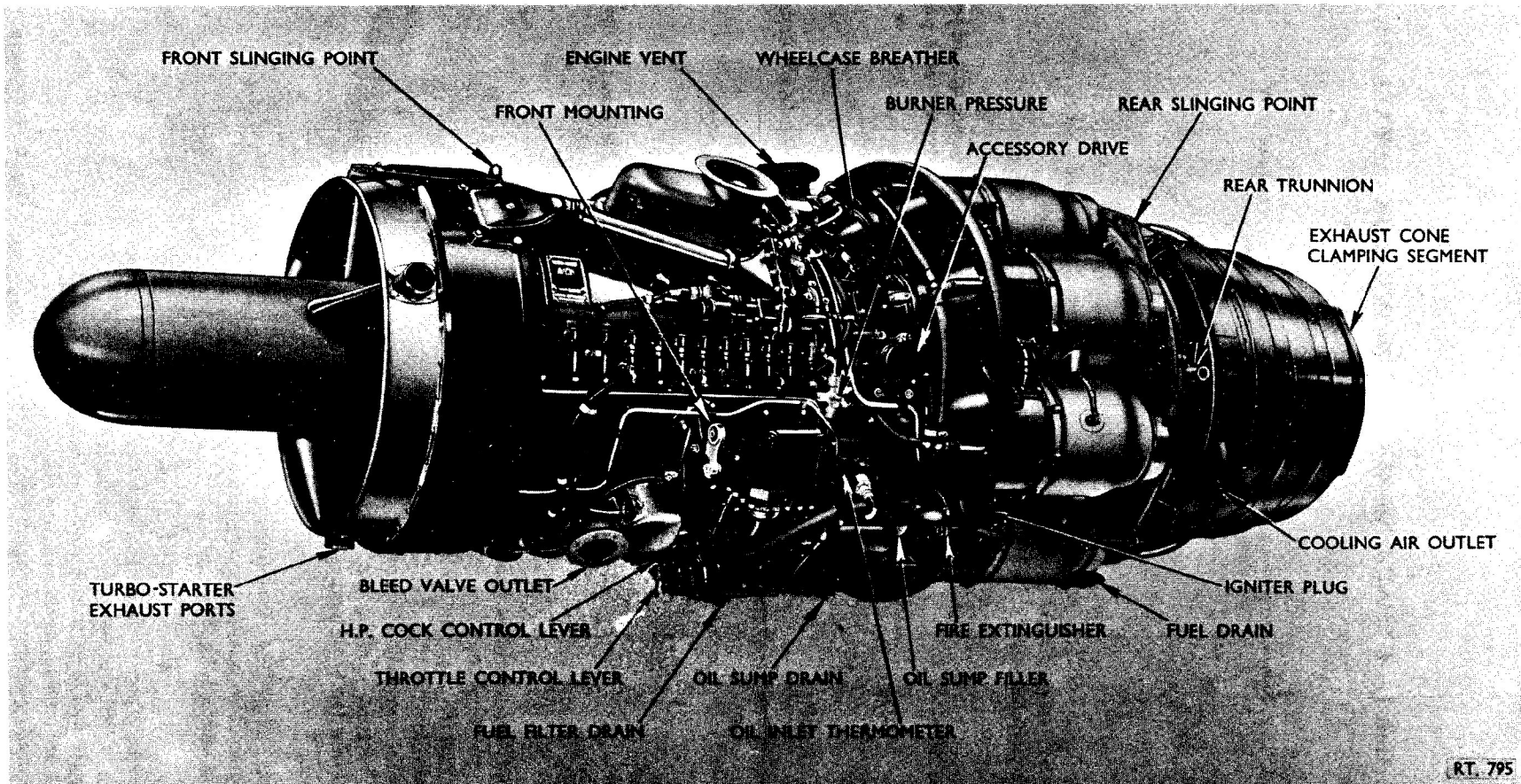


Fig. 2 Installation connections (left-hand side)

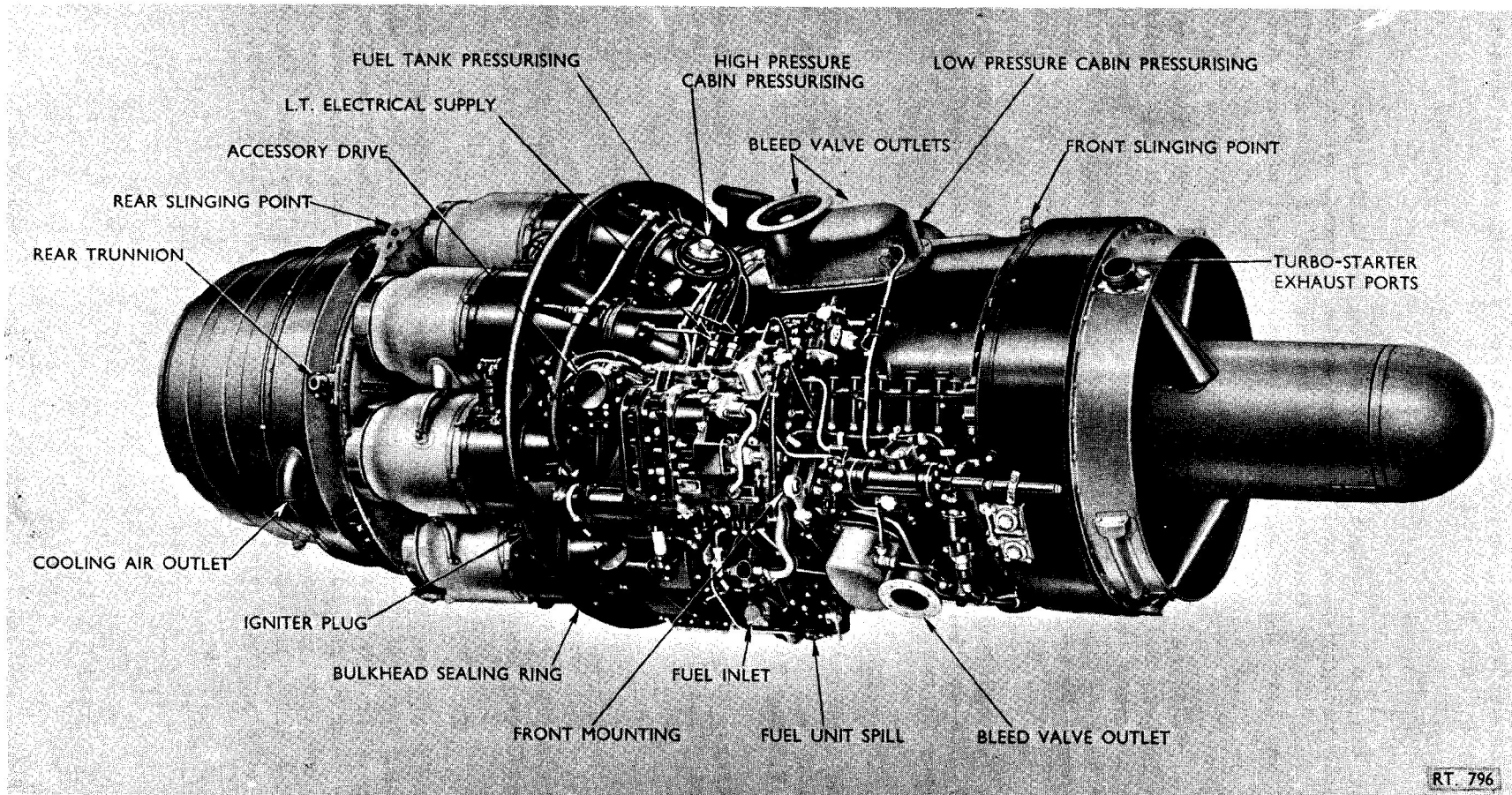


Fig.3 Installation connections (right-hand side)

3. The part numbers for all equipment and tools mentioned in this section are contained in Vol.6, Part 1, Sect.1.

UNPACKING

4. To unpack the e.c.u., remove the bolts from the bottom end of each metal strap around the packing case and from the angle brackets which provide additional securing points. Fit the four-hook sling to the lifting eyes at the top ends of the straps and lift the box-type lid vertically clear of the e.c.u.

E.c.u. sling

5. The e.c.u. handling sling is illustrated in fig.1. The slinging attachment is loosely bolted to the fore and aft beam, and alternative positions are provided, but the sling may not be suitable for installing the e.c.u. in the aircraft. The sling specified in the appropriate aircraft Air Publication should be used for installation purposes.

Note...

The e.c.u. slinging eyes must not be used to lift the e.c.u. and stand together. The special beam sling, equipped with four hooks to fit the lifting eyes on the stand, should be used for this purpose.

Removal of e.c.u. from plastic envelope

6. Check the humidity indicator, then remove the e.c.u. from the protective plastic envelope and transportation stand as described in A.P.4471A, Vol.1, Part 2, Sect.2, Chap.5.

7. For information on the inspection, repair, storage and history card endorsement of plastic envelopes, reference should again be made to A.P.4471A.

PREPARING FOR INSTALLATION

Cleaning

8. Clean the e.c.u. externally with a brush and white spirit, taking care that the spirit does not enter the engine.

Checking

9. Check the e.c.u. externally for any corrosion or damage which may have occurred during transit; remove corrosion and reprotect surfaces, where necessary, as described in A.P.4471A. Inspect all flexible pipes for cracks and crazing; crazing may be accepted, but any deep crack will necessitate rejection of the pipe. Check all pipe lines, connections and electrical harness connections for security and correct locking; ensure that the fire extinguisher spray pipe discharge holes are clear, as described in Sect.3, Chap.1.

- CAUTION: 1. WHEN REMOVING THE TRANSPORTATION BLANKS DURING INSTALLATION, MAKE A SPECIAL CHECK TO ENSURE THAT THE COVER HAS BEEN REMOVED FROM THE COMPRESSOR SEAL VENT; SERIOUS DAMAGE MAY BE CAUSED IF THE ENGINE IS STARTED WITH THIS VENT OBSTRUCTED.
2. ENSURE THAT THE CABIN PRESSURIZING CONNECTION (MK.12201) IS CORRECTLY FITTED BEFORE THE E.C.U. IS INSTALLED, OTHERWISE, WHEN THE FLEXIBLE PIPE FOR THE AIR SUPPLY IS FITTED TO THE CONNECTION, A FOUL MAY OCCUR WITH THE COMPRESSOR SEAL VENT PIPE. FIT THE CONNECTION SO THAT THE ACUTE ANGLE BETWEEN THE STUB AND THE FLANGE OF THE CONNECTION, FACES THE TOP CENTRE OF THE FIREPROOF BULKHEAD.

Transportation blanks

10. Do not remove transportation blanks until the individual connections are to be made. If any pipes and fittings are difficult to fit when the unit is installed, they should, if possible, be fitted when the e.c.u. is on the transportation stand or suspended on the handling sling.

WARNING: THE SYNTHETIC LUBRICATING OIL IN THIS ENGINE MAY CAUSE SKIN IRRITATION IF SKIN CONTACT IS REPEATED OR PROLONGED.

CAUTION: OIL SPILT DURING FILLING MUST BE WIPED OFF IMMEDIATELY, AS IT IS INJURIOUS TO PAINTWORK AND CERTAIN TYPES OF RUBBER.

Oil system

11. Ensure that the oil sump is empty by removing the filters. When refitting the filters, lightly coat the retaining bolt or nut with engine oil, torque load to 90 lbs.in, then refit the lockplates. After the e.c.u. is installed, fill the sump as described in Part 2, Sect.3, Chap.1, with oil of the grade specified in Leading Particulars.

Fireproof bulkhead seal

12. Ensure that the circumferential channel is free from distortion, and check the rubber seal for cuts, abrasion and deterioration. Check that the two vent holes are clear and that the seal is correctly positioned in the circumferential channel.

Controls

13. The throttle and h.p. cock levers may require repositioning to ensure full travel when coupled to the aircraft linkage; reference should be made to the appropriate aircraft Air Publication.

14. Remove excessive grease from intake guide vane operating ram and control ball ends.

Trunnion mountings

15. Remove the spherical collars from the rear mounting brackets on the aircraft; clean and lightly grease them, using grease XG-275 (Ref.No.34B/9100512). Clean and lightly grease the e.c.u. trunnions and fit the spherical collars over the trunnions. On single-engine installations, insert a locating pin through the left-hand collar and trunnion, leaving the right-hand collar free, to allow for diametrical expansion of the e.c.u. On twin-engine installations, fit the locating pins to the inboard collars and trunnions.

JET PIPE

16. Using the appropriate sling, remove the jet pipe from the packing case and examine it to ensure that no damage was caused during transit.

REMOVAL OF INSTALLED E.C.U. AND JET PIPE

17. Instructions for removing an e.c.u. and jet pipe from an airframe are given in the appropriate aircraft Air Publication.

ANTI-CORROSIVE TREATMENT AND PACKING

18. Details of anti-corrosive treatment, blanking and packing are given in AP 102C-1512 to 1517 and 1522-7.

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Supplement 1.—Mk. 10901 ENGINE CHANGE UNIT**Accessory gearbox**

1. If the e.c.u. is to be installed in a right-hand position, remove the cover from the left-hand gearbox drive on the e.c.u. and fit an extension shaft to the gearbox drive flange.

Engine change unit items

2. The basic engine will be received from the manufacturer complete with the following 'engine change unit' items. With these items incorporated, the complete unit is designated Avon Mk. 10901 engine change unit.

Item No.	Ref. No.	Description
1	37F/11005	Starter, triple breech, B.T.H. type T.B.S.720 Mk. 2
2	6A/1912	Switch, fuel pressure warning, Mk. 1E, Smiths type 126/3PG
3	6A/3344	Generator, tachometer, Mk. 8C, Smiths type 106RV/SB
4	—	Plate, e.c.u. identification, BA.44883

Supplement 2**Mk. 11501, 12101 and 12201 ENGINE CHANGE UNITS****Engine change unit items**

1. The basic engines will be received from the manufacturer complete with the following 'engine

change unit' items. With these items incorporated, the complete units are designated Avon 11501, 12101 and 12201 engine change units.

Item No.	Ref. No.	Description
1	37F/11005	Starter, triple breech, B.T.H. type T.B.S.720 Mk. 2
2	6A/1912	Switch, fuel pressure warning, Mk. 1E, Smiths type 126/3PG
3	6A/3344	Generator tachometer, Mk. 8C, Smiths type 106 RV/SB
*4	—	Plate, e.c.u. identification
5	—	Parts, transportation, BA.51356
†6	—	Assembly, compressor seal vent pipe
7	26FX/1618	Elbow, gun heating, A192131
8	26FX/1630	Pipe, wheelcase breather, A191851
9	—	Pipe, wheelcase breather, A.208982
10	—	Pipe, Wheelcase breather, B206628
11	26FX/5788	Clip, wheelcase breather pipe, STD853-49 (2 off)
12	28D/12512 or	Bolt, wheelcase breather pipe clip, A25-1-C (2 off)
12(a)	28D/7034	Bolt, wheelcase breather pipe clip, A15Y-1-C (2 off)
13	28M/12929 or	Nut, wheelcase breather pipe clip, A27-CP (2 off)
13(a)	28M/5316	Nut, wheelcase breather pipe clip, A16Y-CP (2 off)
14	28W/3098 or	Washer, spring, wheelcase breather pipe clip, AGS162-C (2 off)
14(a)	28W/13889	Washer, spring, wheelcase breather pipe clip, SP47-C (2 off)

Item No.	Ref. No.	Description
15	—	Clip, wheelcase breather pipe, F207889
16	26FX/2153	Clip, wheelcase breather pipe, A198100
17	26FX/2152	Bracket, wheelcase breather pipe, A198099
18	28D/12528	Bolt, wheelcase breather pipe bracket, A25-1-B (2 off)
19	28M/13086	Nut, wheelcase breather pipe bracket, A27-BP
20	28W/3097	Washer, spring, wheelcase breather pipe bracket, AGS162-B
21	26FX/1915	Pipe, fire extinguisher, A196397
22	28F/8235	Nipple, fire extinguisher pipe connection, AGS1142-F
23	26FX/1910	Bracket, fire extinguisher pipe, A196927
24	26FX/1914	Clip, fire extinguisher pipe, STD843-30
25	28D/12512 or	Bolt, fire extinguisher pipe clip, A25-1-C
25(a)	28D/7034	Bolt, fire extinguisher pipe clip, A15Y-1-C
26	28M/12929 or	Nut, fire extinguisher pipe clip, A27-CP
26(a)	28M/5316	Nut, fire extinguisher pipe clip, A16Y-CP
27	28W/3098 or	Washer, spring, fire extinguisher pipe clip, AGS162-C
27(a)	28W/13889	Washer, spring, fire extinguisher pipe clip, SP47-C

The preceding items, with the exception of items 2 and 3 which are not featured on the Mk. 12201, are common to Mk. 11501, 12101 and 12201 e.c.u.'s; items 4 and 6 have, however, different part numbers for each mark.

*The manufacturer's part numbers for item 4 are BA.66241 (Mk. 11501), BA.95289 (Mk. 12101), and GP.4836 (Mk. 12201).

†The manufacturer's part numbers for item 6 are D.215736 (Mk. 11501), and D.213178 (Mk. 12101 and 12201).

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2. The following additional items are required for Mk. 12201 engine change units.

Item No.	Ref. No.	Description
28	—	Angle, port, vent pipe supporting, F220765
29	—	Bracket, port, vent pipe supporting, F220767
30	—	Angle, starboard, vent pipe supporting, F222991
31	—	Bracket, starboard, vent pipe supporting, F222992
32	—	Tabwasher, securing angle, F220768
33	—	Tabwasher, securing angle, F220769
34	—	Clip, securing pipe to bracket, AGS605 Mk.2 (2 off)
35	—	Bolt, angle to supporting bracket, A25-1-E (4 off)
36	—	Washer, securing bolt, SP15-E (4 off)
37	—	Nut, securing bolt, AGS2002-E1 (4 off)

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