ENGINE - POWER PLANT - EEC HARNESS WITH ADDITIONAL ANTI-CHAFE PROTECTION IN THE AREA OF THE LIGHTNING-STRIKE PROTECTION SLEEVES - CATEGORY CODE 6 - MOD.ENG-72-0256



1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320

(2) Engine: V2500 A1-Engines prior to Serial No.V0146

B. Reason

(1) Condition

Chafing of the Electronic Engine Control (EEC) harness can occur in the area of the lightning-strike protection sleeves.

(2) Background

The possible chafing has been found on an engine currently in service.

(3) Objective

The purpose of this Service Bulletin is to prevent damage to the harness.

(4) Substantiation

The changes introduced by this Service Bulletin are of a minor nature in a non-hazardous environment with no effect on the function of any component. No engine tests have been carried out but previous experience with this type of problem and solution has shown that this chafing problem has stopped.

(5) Effect of Bulletin on Workshop Procedures:

| | |
|---|---|
| Removal/Installation | Affected |
| Disassembly/Assembly | Not affected |
| Cleaning | Not affected |
| Inspection/Check | Not affected |
| Repair | Not affected |
| Testing | Not affected |

(6) Supplemental Information

None.

C. Description

(1) The changes introduced by this Service Bulletin are as follows:

(a) Re-inforced silicone rubber tape is put on the harness between clipping points 0535 and 0538. The tape covers the complete length of the harness contained within the sleeves and goes 25,4 mm (1.000in.) past the ends of the sleeves.

(b) The tape is secured at both ends with two turns of Scotchboy 69 (U320585) tape 25,4 mm (1.000in.) wide.

(c) Installation of the silicone tape prevents the shield ties being laced thru the harness wires as currently specified. The ties are now wound around the tape.

D. Approval

The part number changes and/or part modifications are given in Section 2 and 3 of this Service Bulletin. They obey the applicable Federal Aviation Regulations and are FAA-APPROVED for the engine model listed.

E. Compliance

Category code 6

Do this when the sub-assembly (That is modules, accessories, components, build groups) is disassembled sufficiently to get access to the affected parts.

F. Manpower

Estimate of man-hours necessary to do this Service Bulletin in full:

| Venue | Estimated Manhours |
|---|---|
| (1) In service | |
| (a) To get access .. .. | 16 minutes |
| (b) To change the EEC harness | 35 minutes |
| (c) To return to service .. | 20 minutes |
| Total | 1 hour 11 minutes |
| (2) At overhaul | |
| (a) To change harness .. | 35 minutes |

G. Material - Price and Availability

(1) A modification kit is not necessary

(2) See "Material Information" section for prices and availability of future spares.

H. Tooling - Price and Availability

Special tools are not necessary.

I. Weight and Balance

| | | |
|---|---|---|
| (1) | Weight change .. .. .. | None |
| (2) | Moment arm .. .. .. | None |
| (3) | Datum .. .. .. .. | Engine front mount centreline (Power Plant Station - PPS 100) |

J. Electrical Load Data

This Service Bulletin has no effect on the aircraft electrical load.

K. References

(1) Internal Reference No.

EC90VR011

(2) Other References

V2500 Standard Practices/Processes Manual, 70-41-00, Torque Tightening Technique.

L. Other Publications Affected

(1) V2500 Illustrated Parts Catalog, 71-51-41.

(2) V2500 Engine Manual, 72-00-32, Removal and Installation.

2. Accomplishment Instructions

NOTE: The rework instructions for the EEC fan harness does not require the removal of the harness from the engine.

| | Procedure | Supplementary Information |
|---|---|---|
| (1) | Find the clipping points CP0539, CP0538, CP1064, CP0536, CP0535 and CP0534 | Refer to Figure 2 |
| (2) | Make two marks on harness to identify the area to be reworked lin. (25,4 mm) from CP0538 and CP0535 | Refer to Figure 2<br>Use applicable marker |
| (3) | At CP0534, remove the 4W0104 bolt, 5W1086 washer, TA025074-17 clamp and 4W0001 nut | Refer to Figure 2 |
| (4) | At CP0535, remove the 4W0164 bolt, 5W1088 washer, FEC3002-24B clamp and 4W0002 nut | Refer to Figure 2 |
| (5) | At CP0536, remove the 4W0164 bolt, 5W1088 washer FEC3002-24B clamp and 4W0002 nut | Refer to Figure 2 |
| (6) | At CP1064, remove the 4W0164 bolt, 5W1088 washer, FEC3002-24B clamp and 4W0002 nut | Refer to Figure 2 |
| (7) | At CP0538, remove the 4W0165 bolt, 5W1088 washer, FEC3002-24B clamp and 4W0002 nut | Refer to Figure 2 |
| (8) | At CP0539, remove the 4W0104 bolt 5W1086 washer, TA025074-17 clamp and 4W0001 nut | Refer to Figure 2 |
| (9) | Remove 718G lacing tape from the lightning strike protection sleeves at 4 positions | Refer to Figure 1 |
| (10) | Remove the split sleeves PN5A9345 (2 off), PN5A9342 (2 off) and the scotchboy tape No.69 from the EEC harness at 4 positions | Refer to Figure 1 |

| | |
|---|---|
| (11) Apply the re-inforced silicon rubber tape PN3105002 onto the EEC harness. Weave into harness and wind silicon rubber tape the complete length as marked | Refer to Figure 2 |
| (12) Secure the silicon rubber tape at both ends with two turns of scotchboy tape PNU320585 | Refer to Figure 2 |
| (13) Mark the four clipping points 0538, 1064, 0536 and 0535 on the silicon rubber tape | Refer to Figure 2<br>Use appicable marker |
| (14) Apply scotchboy tape No.69 at four clipping points as marked | Refer to Figure 2 |
| (15) Refit the split sleeves. PN5A9345 (2 off) and PN5A9342 (2 off) and re-tie with lacing tape PN718G at four positions | Refer to Figure 3<br>to Figure 14 |
| (16) Secure the EEC harness at existing clipping point 0534, using TA025074-17 clamp, 4W0104 bolt, 5W1086 washer and 4W0001 nut | Refer to Figure 2 |
| (17) Secure the EEC harness at existing clipping point 0535, using FEC3002-24B clamp, 4W0164 bolt, 5W1088 washer and 4W0002 nut | Refer to Figure 2 |
| (18) Secure the EEC harness at existing clipping point 0536, using FEC3002-24B clamp, 4W0164 bolt, 5W1088 washer and 4W0002 nut | Refer to Figure 2 |
| (19) Secure the EEC harness at existing clipping point 1064, using FEC3002-24B clamp, 4W0164 bolt, 5W1088 washer and 4W0002 nut | |

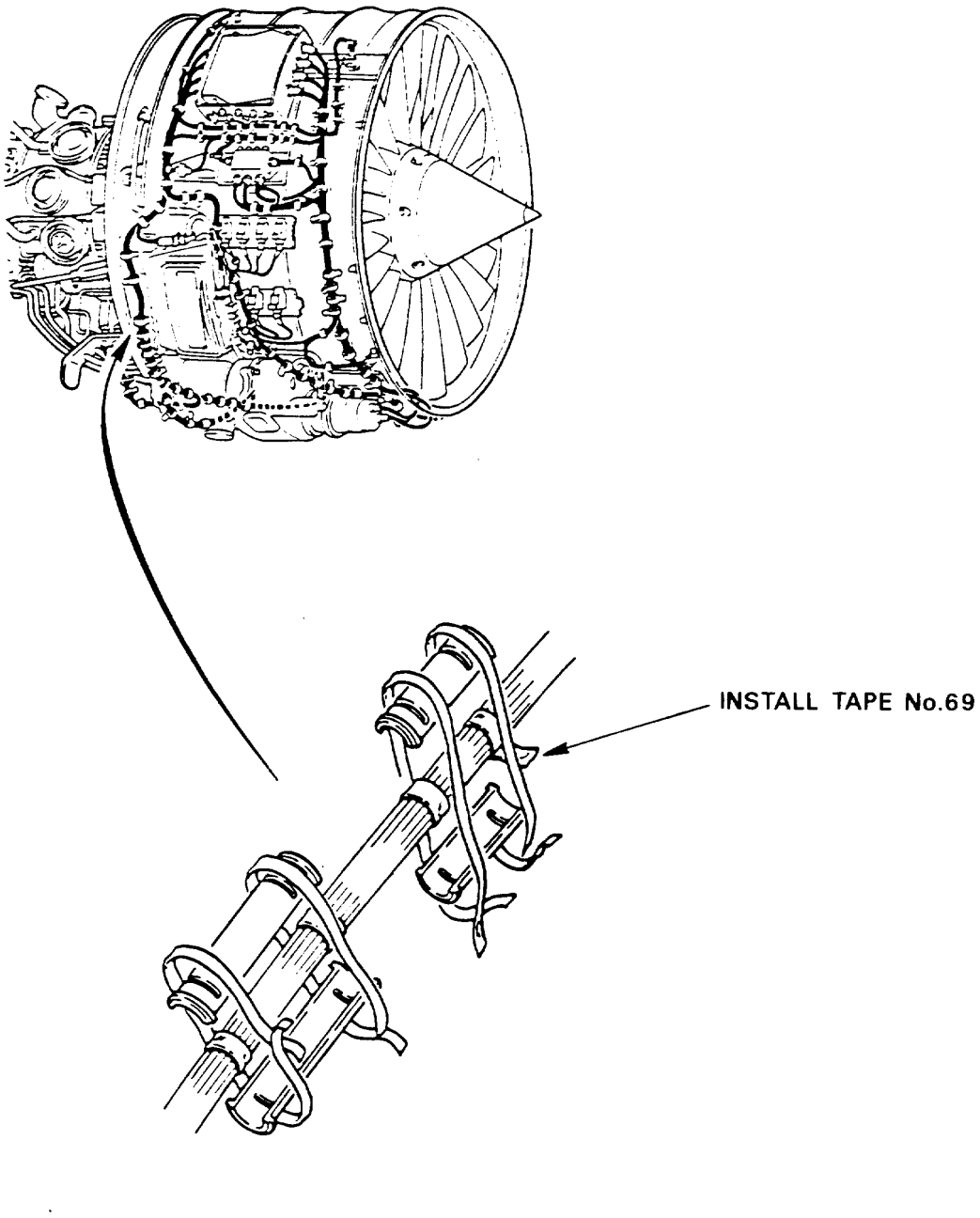
(20) Secure the EEC harness at existing clipping point 0538, using FEC3002-24B clamp, 4W0165 bolt, 5W1088 washer and 4W0002 nut

(21) Secure the EEC harness at existing clipping point 0539, using TA025074-17 clamp, 4W0104 bolt, 5W1086 washer and 4W0001 nut

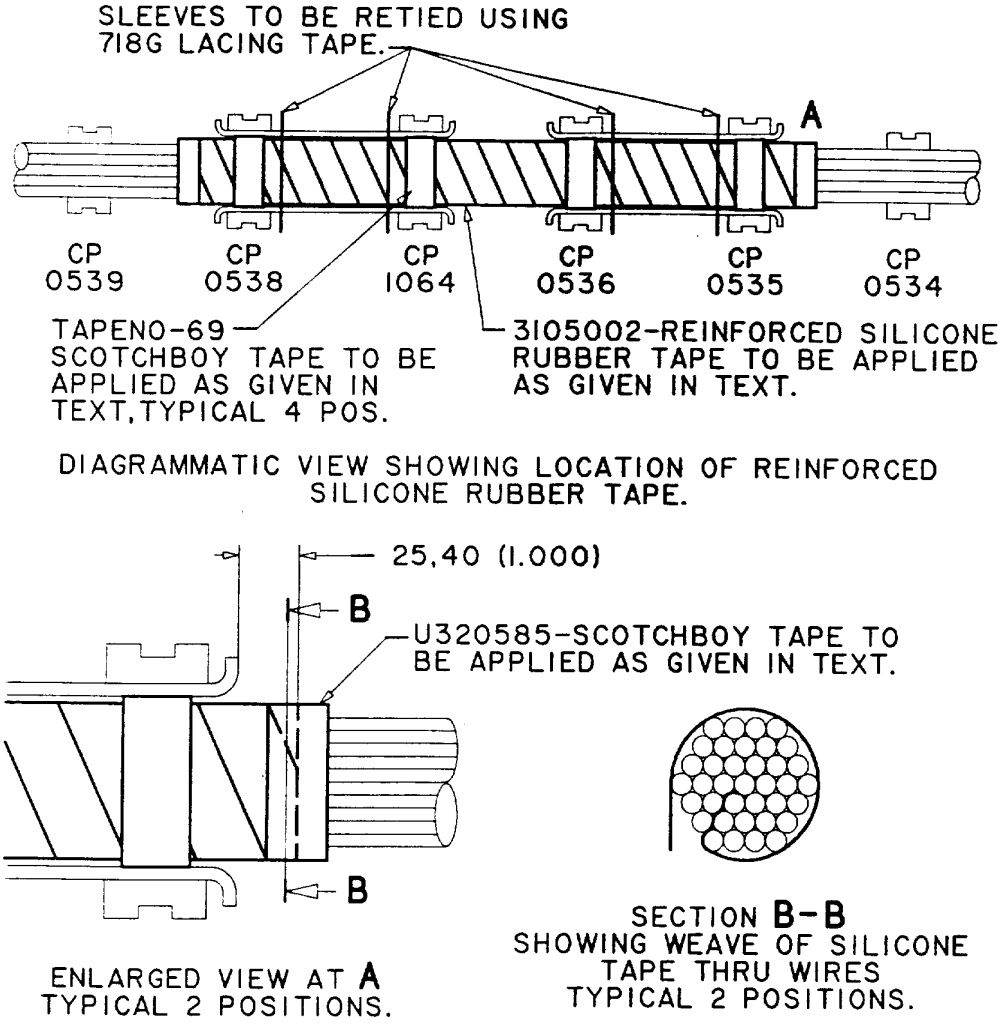
| | |
|---|---|
| (22) At clipping points 0534 and 0539, torque each nut to 36-45 lbfin. (4 to 5 Nm.) | Refer to Standard Practices/Procedures Manual, 70-41-00, Torque Tightening Technique |
| (23) At clipping points 0535, 0536, 1064, 0538, torque each nut to 85-105 lbfin. (10 to 12 Nm.) | Refer to Standard Practices/Procedures Manual, 70-41-00, Torque Tightening Technique |

B. Recording Instructions

(1) A record of accomplishment is necessary.




Location of EEC harness tape
Fig.1

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DIMENSIONS IN MILLIMETRES (INCHES).

View on lightning strike sleeves - After alteration
Fig.2

LACING METHOD FOR INSTALLING SPLIT SLEEVES

1. Put lacing tapes of 800 mm each or longer round the cables as shown in Fig 3 (lacing tape 1 to 4).

2. Take one of the split sleeves and push the lacing tape 1 and 2 through the slit of the split sleeve as shown in Fig 4 and Fig 5.

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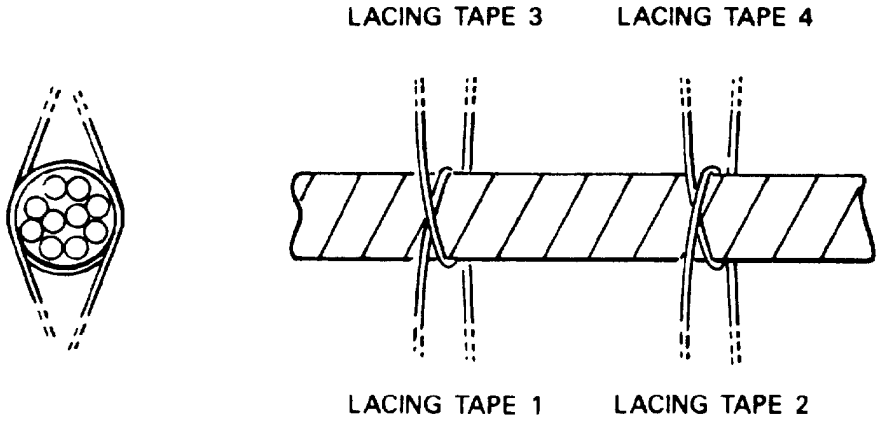


Fig 3

2. Take one of the split sleeves and push the lacing tape 1 and 2 through the slit of the split sleeve as shown in Fig 4 and Fig 5.

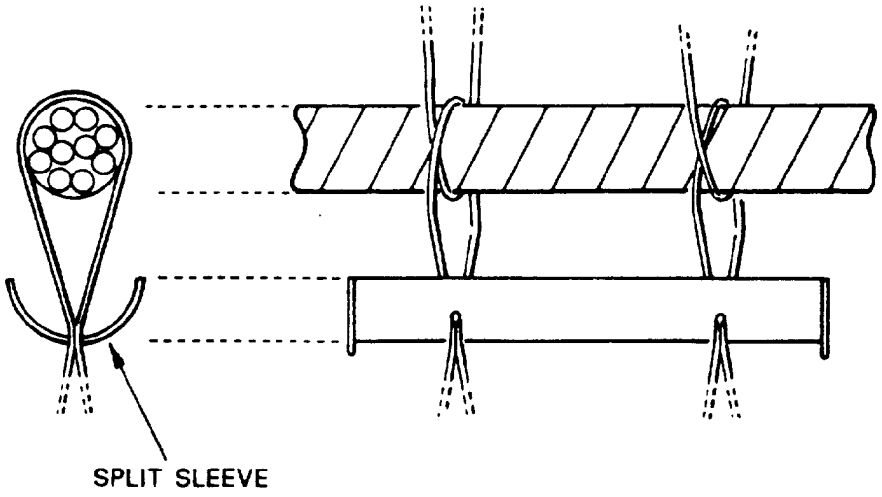


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Fig 4

and Fig.4
Fig.3

3. Take one end of the lacing tape and turn it around the bundle of cables four times. Be sure it is firm and tight. Be careful that the lacing tape does not go outside of the slit. See Fig 6.

4. After turning the lacing tape around the bundle of cables four times, make a close hitch as shown in Fig 7.

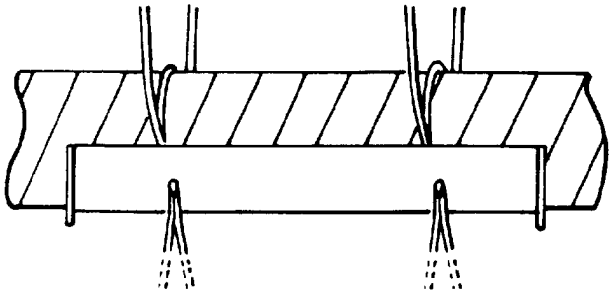

Fig 5

3. Take one end of the lacing tape and turn it around the bundle of cables four times. Be sure it is firm and tight. Be careful that the lacing tape does not go outside of the slit. See Fig 6.

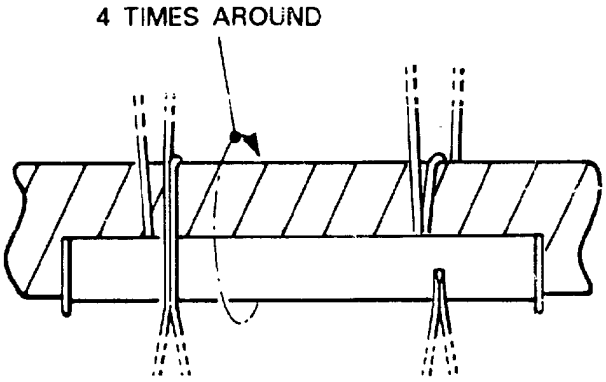


Fig 6

4. After turning the lacing tape around the bundle of cables four times, make a close hitch as shown in Fig 7.

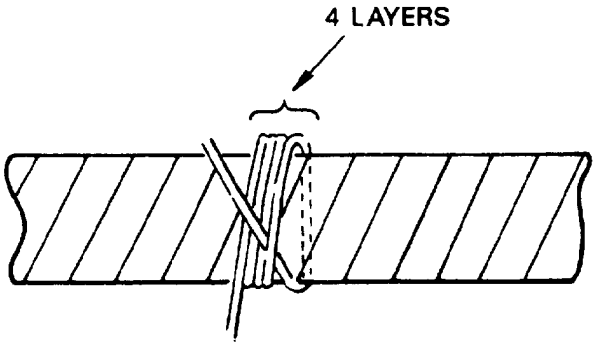


Fig 7

, Fig.6 and Fig.7
Fig.5

5. Pull both ends of lacing tight and securely reef knot (see Fig 8). Make a further hitch as shown in Fig 9 to Fig 12.

6. Repeat operations 2 to 5 on lacing tape 2. See Fig 13.

5. Pull both ends of lacing tight and securely reef knot (see Fig 8). Make a further hitch as shown in Fig 9 to Fig 12.

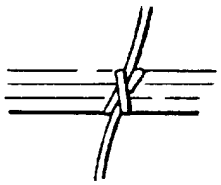

Fig 8

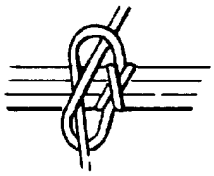

Fig 9

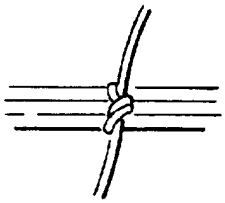

Fig 10

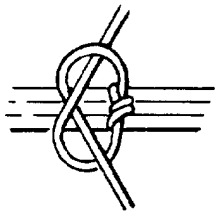

Fig 11

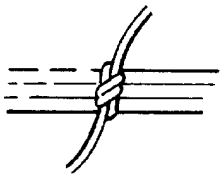

Fig 12

6. Repeat operations 2 to 5 on lacing tape 2. See Fig 13.

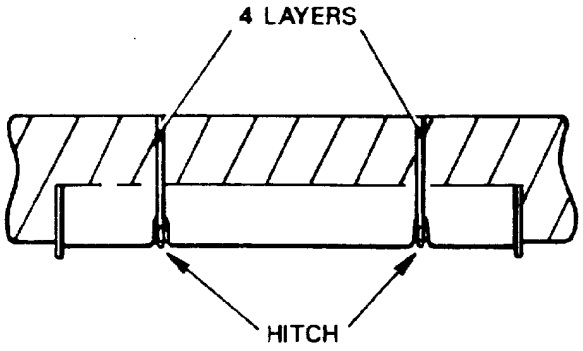


Fig 13

, Fig.9, Fig.10, Fig.11, Fig.12 and Fig.13
Fig.8

7. Take the other half of the sleeve and install it by following operations 2 to 6 again, making a hitch on lacing tapes 3 and 4. Fig 14 shows the operation finished view.

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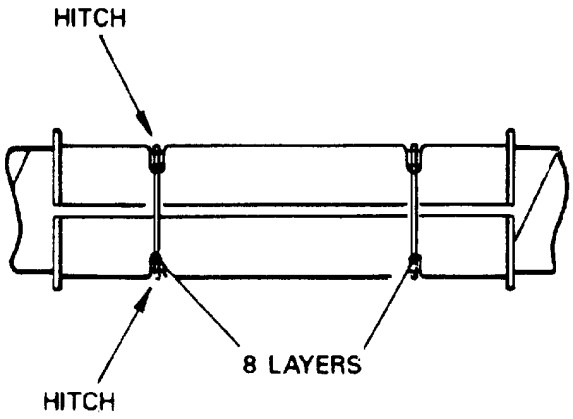


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Fig 14

Fig.14

3. Material Information

Applicability: For each V2500 Engine to incorporate this Bulletin.

A. Kits associated with this Bulletin:

None

B. Parts affected by this Bulletin:

| New Part No. (ATA No.) | Qty | Est'd Unit Price ($) | Keyword | Old Part No. (IPC No.) | Instructions Disposition |
|---|---|---|---|---|---|
| 718G (71-51-41) | A/R | 2.57 | Tape, lacing | 718G (01-491) | (A)(S1) |
| Tape No-69 (71-51-41) | A/R | 85.70 | Tape (Scotchboy) | Tape No-69 (01-492) | (A)(S1) |
| 3105002 (71-51-41) | A/R | 2.13 | Tape, 0.750 wide x 0.010 thick | - (99-530) | (B)(S1) |
| U320585 (71-51-41) | A/R | 2.35 | Tape - cut from U440030 | - (99-535) | (B)(S1) |

NOTE: The 1997 unit prices shown are an estimate and they are given for the purpose of planning only. For information about actual prices, refer to the IAE Price Catalog or contact IAE's Spare Parts Sales Department.

C. Instructions/Disposition Code Statements:

(A) Removed tape should be discarded and new tape should be used at re-assembly.
(B) Additional part.
(S1) Items coded (S1) must be fitted as a set.