

## CHAPTER 3 MAIN AND NOSE UNDERCARRIAGE AND DOORS

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#### **General**

1. For wear limits for undercarriage legs, jacks, etc., reference should be made to the appropriate accessory manual or leaflet. The nose and main undercarriage, undercarriage doors, and locking mechanism should be adjusted as shown in Section 3, Chapter 5 of the appropriate Volume 1; where backlash occurs and the adjustments cannot be made, or the satisfactory operation of the system cannot be ensured, worn parts should be renewed even though

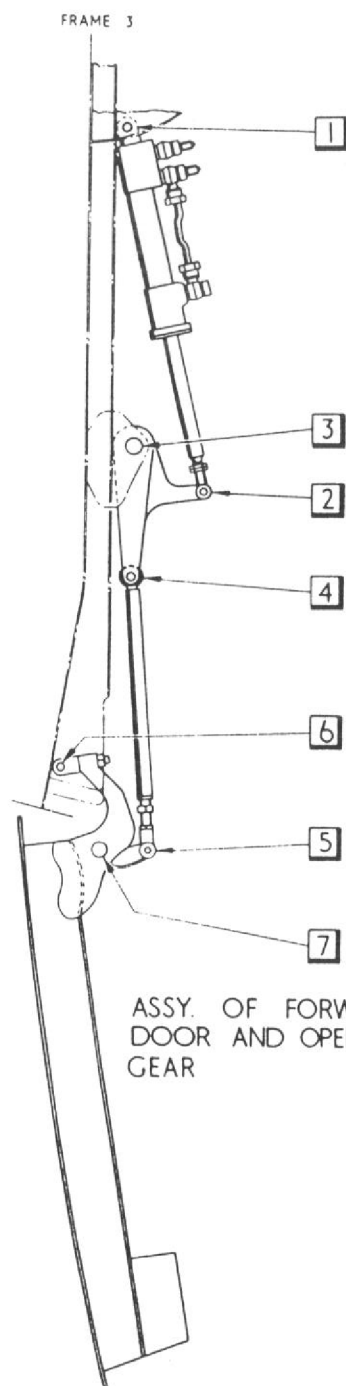
they may not have exceeded the maximum permissible worn dimensions.

#### **Nose undercarriage door locks**

2. Any wear in the lock is overcome only by complete renewal of the lock (Pt.No. B.219281).

#### **Main undercarriage door locks**

3. Any wear in the locks is overcome only by complete renewal of the lock concerned (Pt.No. B.210757).



ASSY. OF FORWARD  
DOOR AND OPERATING  
GEAR

# NOTES

1. FOR DOOR LOCK OPERATING MECHANISM  
SEE PARAGRAPH OF TEXT
2. NUMBERS SHOWN THUS **2** ARE REF  
NUMBERS FOR THE ACCOMPANYING SCHEDULES

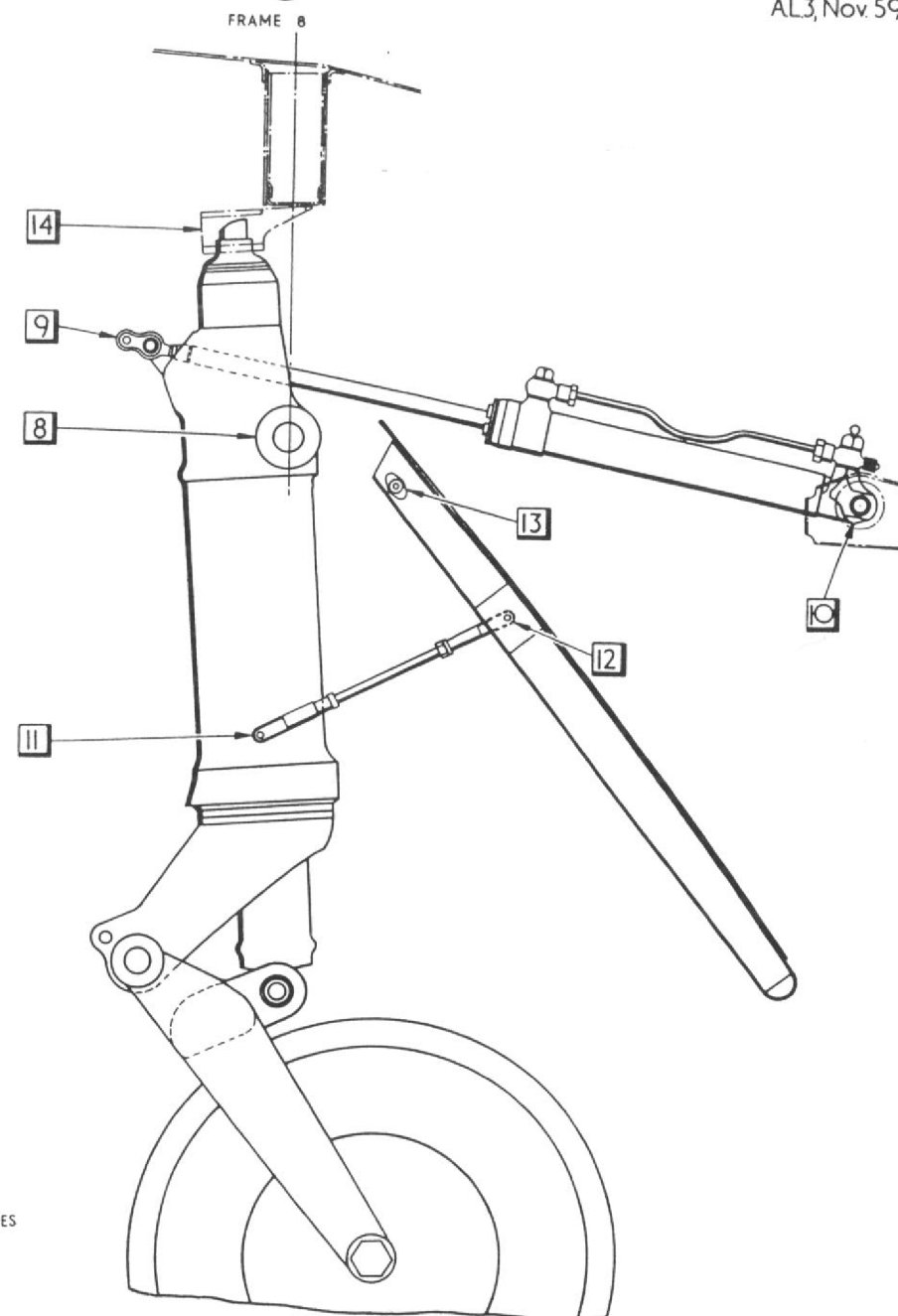


FIG. 1. BEARING LOCATION DIAGRAM - NOSE UNDERCARRIAGE AND DOORS  
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# SCHEDULE OF WEAR LIMITS FOR NOSE UNDERCARRIAGE AND DOORS

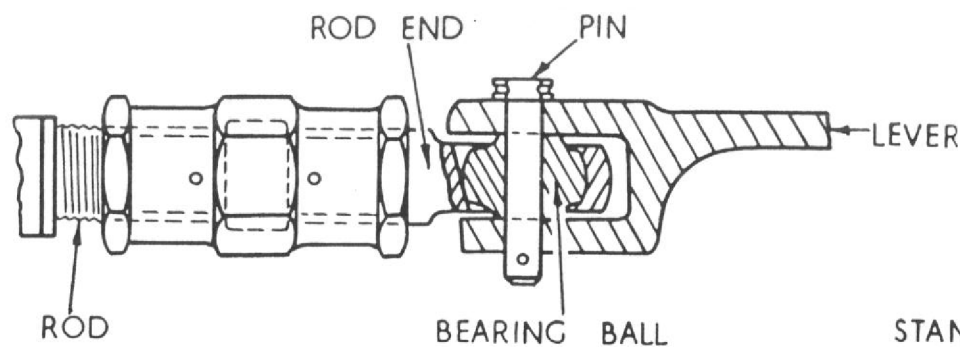
| Ref.No.<br>on<br>Diagram | Part and Description                                                                                                                                                                                          | Dimension<br>New (in.)    | Permissible<br>Dimensions (in.) |                       | Clearance<br>New (in.) | Permissible<br>Worn<br>Clearance<br>(in.) | Remarks                                                                                                                                                                                                                      |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------|-----------------------|------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |                                                                                                                                                                                                               |                           | Non-<br>Selective<br>Assembly   | Selective<br>Assembly |                        |                                           |                                                                                                                                                                                                                              |
| 1/1                      | Nosewheel door jack anchorage,<br>assembly of jack with anchorage<br>brackets, using bolt F.152672,<br>bearings F.179027 and bushes                                                                           | Bolt                      | $\frac{0.3120}{0.3115}$         | 0.3110                | 0.3090                 | $\frac{0.0015}{0.000}$                    | Bolt and bearing<br>0.003                                                                                                                                                                                                    |
|                          |                                                                                                                                                                                                               | Bearings<br>and<br>bushes | $\frac{0.3130}{0.3120}$         | 0.3140                | 0.3150                 | $\frac{0.0015}{0.000}$                    | Bolts and bushes<br>0.003                                                                                                                                                                                                    |
| 1/2                      | Assembly of jack with lever<br>A.178908 using bolt F.156330<br>and bush                                                                                                                                       | Bolt                      | $\frac{0.3120}{0.3115}$         | 0.3110                | 0.3090                 | $\frac{0.0015}{0.000}$                    | Bolt and lever<br>0.003                                                                                                                                                                                                      |
|                          |                                                                                                                                                                                                               | Lever<br>and bush         | $\frac{0.3130}{0.3120}$         | 0.3140                | 0.3150                 | $\frac{0.0015}{0.000}$                    | Bolt and bush<br>0.003                                                                                                                                                                                                       |
| 1/3                      | Assembly of cross shaft, pivots<br>using spigot F.168113 and bush<br>F.216173                                                                                                                                 | Spigot                    | $\frac{0.62375}{0.62225}$       | 0.6220                | 0.61950                | $\frac{0.0035}{0.00075}$                  | 0.005                                                                                                                                                                                                                        |
|                          |                                                                                                                                                                                                               | Bush                      | $\frac{0.62575}{0.62450}$       | 0.6270                | 0.62875                |                                           | Renew bush F.216173.<br>Renew spigot only if<br>necessary                                                                                                                                                                    |
| 1/4                      | Assembly of levers A.178907<br>(port) and A.178908 (stbd.)<br>with connecting rod A.218521<br>(port and stbd.), using pins<br>F.204656, bearing sockets<br>F.179104, and rod end<br>bearing balls A.G.S.589/3 | Pin                       | $\frac{0.1893}{0.1890}$         | 0.1890                | 0.1875                 | $\frac{0.0015}{0.0002}$                   | 0.002                                                                                                                                                                                                                        |
|                          |                                                                                                                                                                                                               | Lever                     | $\frac{0.1905}{0.1895}$         | 0.1910                | 0.1913                 |                                           | Renew pin(s) F.204656,<br>renew levers A.178907<br>(port) and A.178908<br>(stbd.) only if necessary.<br>Wear at bearings unlikely.<br>Complete failure rectified<br>by renewing balls<br>A.G.S.589/3 and sockets<br>F.179104 |

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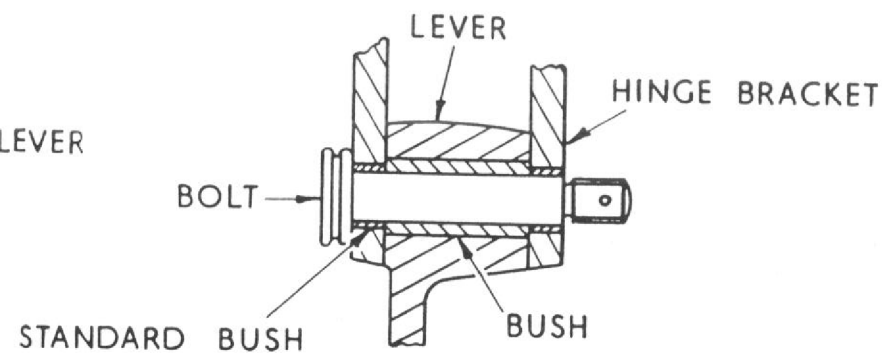
# SCHEDULE OF WEAR LIMITS FOR NOSE UNDERCARRIAGE AND DOORS

| Ref.No.<br>on<br>Diagram | Part and Description                                                                                                                                                     | Dimension<br>New (in.) | Permissible Worn<br>Dimensions (in.) |                       | Clearance<br>New (in.) | Permissible<br>Worn<br>Clearance<br>(in.) | Remarks                                                                                                                                                                        |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------|-----------------------|------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |                                                                                                                                                                          |                        | Non-<br>Selective<br>Assembly        | Selective<br>Assembly |                        |                                           |                                                                                                                                                                                |
| 1/5                      | Assembly of levers B.222397 (port) and B.222398 (stbd.) with connecting rod A.218521 (port and stbd.) using pin F.204657, rod end A.218085 and bearing ball A.G.S.589.3  | Pin                    | $\frac{0.1893}{0.1890}$              | 0.1890                | 0.1873                 |                                           | Renew pin(s) F.204657, renew levers B.222397 (port) and B.222398 (stbd.) only if necessary. Wear at bearing unlikely. Complete failure rectified by renewing balls A.G.S.589.3 |
|                          |                                                                                                                                                                          | Lever                  | $\frac{0.190}{0.1895}$               | 0.1910                | 0.1913                 | $\frac{0.001}{0.0002}$                    |                                                                                                                                                                                |
| 1/6                      | Assembly of front door hinge using hinge pin F.211656, bush F.187682 and bearing F.207781                                                                                | Pin                    | $\frac{0.3120}{0.3115}$              | 0.3110                | 0.3090                 | $\frac{0.0015}{0.000}$                    | Renew bush F.187682, renew pin F.211656. Renew bearing F.207781 only if necessary. Note:- Bearing secured to structure by rivets A.S.164.406 (8 off)                           |
|                          |                                                                                                                                                                          | Bush and bearing       | $\frac{0.3130}{0.3120}$              | 0.3140                | 0.3150                 | $\frac{0.0015}{0.000}$                    |                                                                                                                                                                                |
| 1/7                      | Assembly of levers B.222397 (port) and B.222398 (stbd.) with hinge bracket B.188320 (port) and B.188321 (stbd.) using bushes F.187670 and Std.608.1 and bolt Std.323.110 | Bolt                   | $\frac{0.250}{0.247}$                | 0.246                 | 0.2445                 | $\frac{0.0035}{-0.0005}$                  | Renew bush F.187670 and/or bolt Std.323.110<br><br>Note:- Rotation of bolt in standard bushes is unlikely                                                                      |
|                          |                                                                                                                                                                          | Bush and std. bushes   | $\frac{0.2505}{0.2495}$              | 0.2510                | 0.2550                 | $\frac{0.0035}{-0.0005}$                  |                                                                                                                                                                                |
| 1/8                      | Assembly of undercarriage leg pivot using axle B.186301. Axle blocks A.164928 and bush                                                                                   | Axle                   | $\frac{1.37325}{1.37150}$            | 1.3705                | 1.36875                | $\frac{0.00425}{0.0015}$                  | Renew bush (see Dowty repair scheme.) Renew axle B.186301 only if necessary                                                                                                    |
|                          |                                                                                                                                                                          | Axle block             | $\frac{1.3760}{1.3745}$              | 1.3765                | 1.37925                | Axle and axle block                       |                                                                                                                                                                                |
|                          |                                                                                                                                                                          | Bush                   | $\frac{1.37575}{1.37475}$            | 1.3765                | 1.37925                | $\frac{0.0045}{0.00125}$                  |                                                                                                                                                                                |

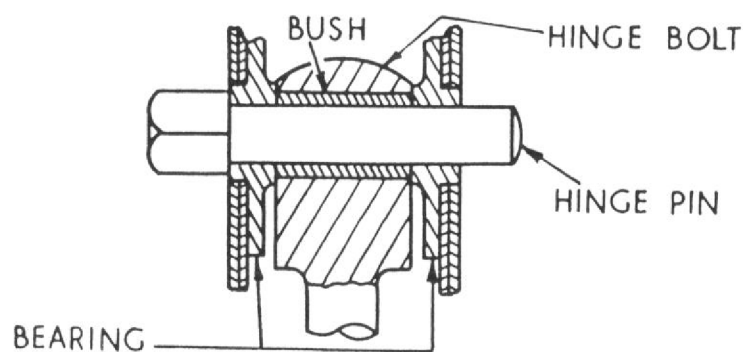
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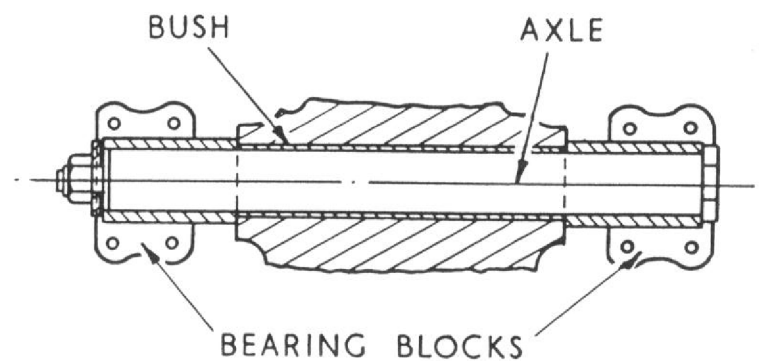
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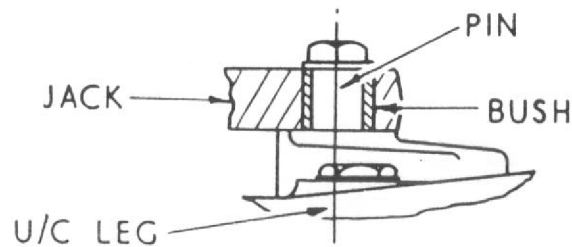


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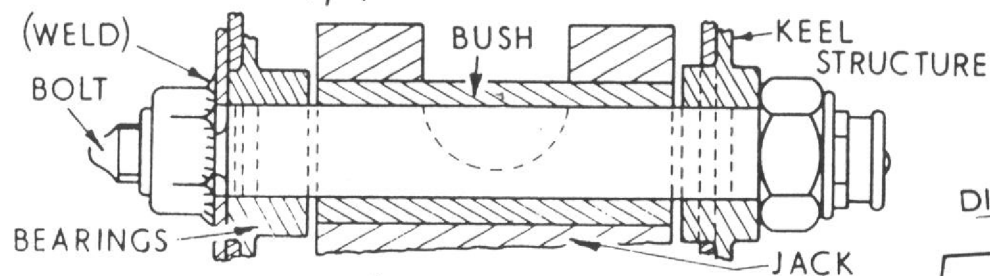
# SCHEDULE OF WEAR LIMITS FOR NOSE UNDERCARRIAGE AND DOORS

| Ref. No.<br>on<br>Diagram | Part and Description                                                                                    |      | Dimension<br>New (in.)  | Permissible Worn<br>Dimensions (in.) |                       | Clearance<br>New (in.)                                                                         | Permissible<br>Worn<br>Clearance<br>(in.) | Remarks                                                                              |
|---------------------------|---------------------------------------------------------------------------------------------------------|------|-------------------------|--------------------------------------|-----------------------|------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------|
|                           |                                                                                                         |      |                         | Non-<br>Selective<br>Assembly        | Selective<br>Assembly |                                                                                                |                                           |                                                                                      |
| 1/9                       | Assembly of undercarriage leg<br>and undercarriage jack using<br>bush and pin                           | Pin  | $\frac{0.4995}{0.4992}$ | 0.4990                               | 0.4975                | $\frac{0.0013}{0.000}$                                                                         | 0.002                                     | See Dowty repair scheme                                                              |
|                           |                                                                                                         | Bush | $\frac{0.5005}{0.4995}$ | 0.5010                               | 0.5015                |                                                                                                |                                           |                                                                                      |
| 1/10                      | Assembly of undercarriage jack<br>anchorage using bolt F.186304<br>and bush                             | Bolt | $\frac{0.4995}{0.4992}$ | 0.4990                               | 0.4975                | $\frac{0.0013}{0.000}$                                                                         | 0.002                                     | Renew bush (see Dowty<br>repair scheme).<br>Renew bolt F.186304 only<br>if necessary |
|                           |                                                                                                         | Bush | $\frac{0.5005}{0.4995}$ | 0.5010                               | 0.5015                |                                                                                                |                                           |                                                                                      |
| 1/11                      | Assembly of door operating<br>rods A.208260 with under-<br>carriage leg using bush<br>Std.608.2         | Pin  | $\frac{0.249}{0.248}$   | 0.2475                               | 0.2455                | $\frac{0.0025}{0.0005}$                                                                        | 0.004                                     | Renew bush Std.608.2.<br>For details of pin see<br>Dowty repair scheme               |
|                           |                                                                                                         | Bush | $\frac{0.2505}{0.2495}$ | 0.2515                               | 0.2530                |                                                                                                |                                           |                                                                                      |
| 1/12                      | Assembly of door operating rods<br>A.208260 with door using<br>bolt Std.323.68.N and bush<br>Std.608.13 | Bolt | $\frac{0.250}{0.247}$   | 0.2465                               | 0.2445                | $\frac{0.0035}{0.0005}$                                                                        | 0.005                                     | Renew bush Std.608.13.<br>Renew bolt Std.323.68.N<br>only if necessary               |
|                           |                                                                                                         | Bush | $\frac{0.2505}{0.2495}$ | 0.2515                               | 0.2550                |                                                                                                |                                           |                                                                                      |
| 1/13                      | Assembly of rear door hinge using<br>bolt F.188114 and bush F.186759                                    | Bolt | $\frac{0.3117}{0.3112}$ | 0.3110                               | 0.3090                | $\frac{0.0018}{0.0003}$                                                                        | 0.003                                     | Renew bush F.186759. Renew<br>bolt F.188114 only if necessary                        |
|                           |                                                                                                         | Bush | $\frac{0.3130}{0.3120}$ | 0.3140                               | 0.3147                |                                                                                                |                                           |                                                                                      |
| 1/14                      | Nose undercarriage unit anchorage<br>using undercarriage stop fitting<br>B.177144                       |      |                         |                                      |                       | Clearance<br>between stop<br>and plunger<br>(Dimension ('A')<br>must not be<br>less than 0.001 |                                           | Renew undercarriage stop<br>fitting B.177144                                         |

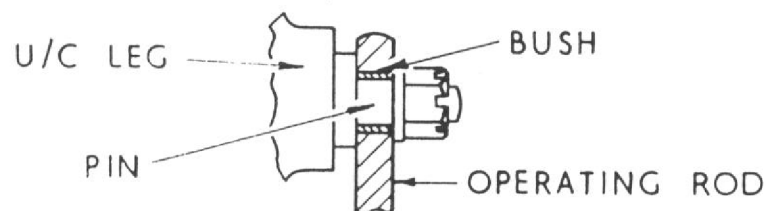
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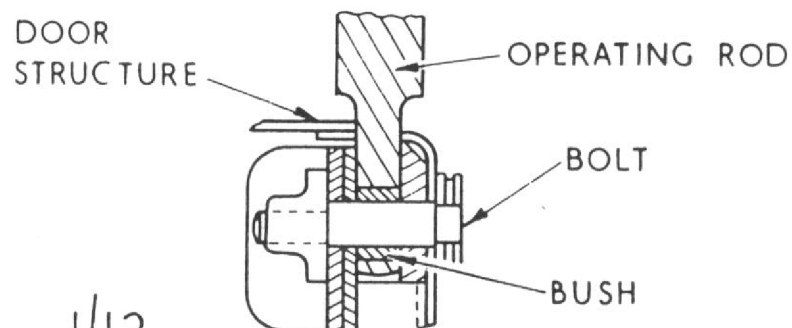
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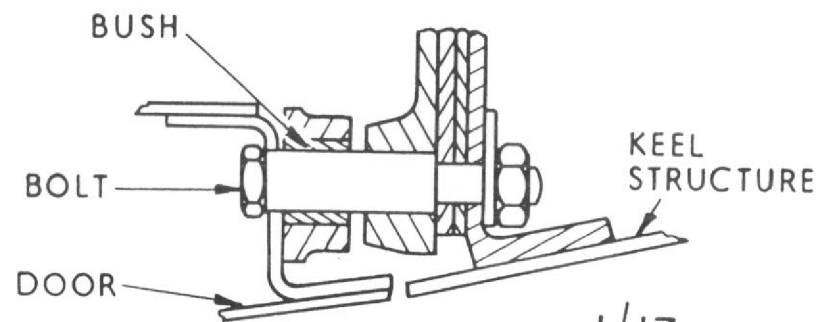
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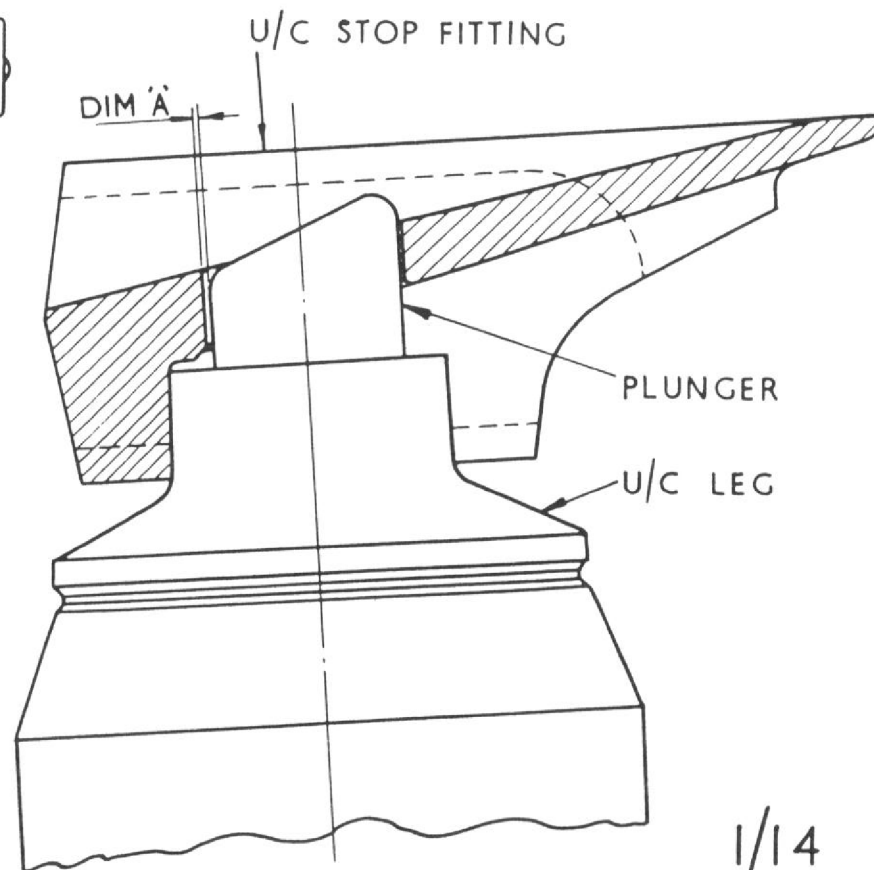
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1/13



1/14

DETAILS FOR NOSE UNDERCARRIAGE AND DOORS

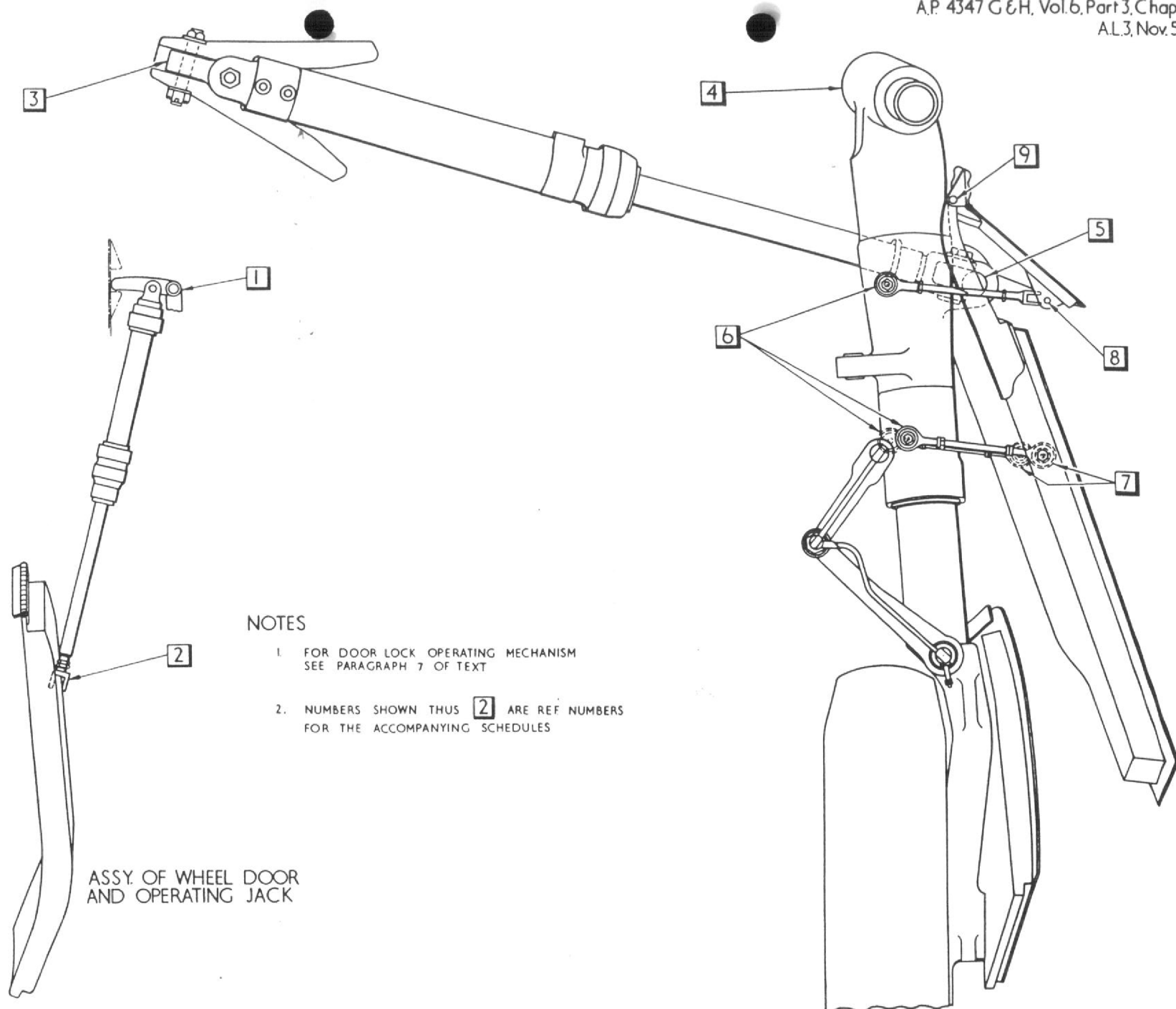


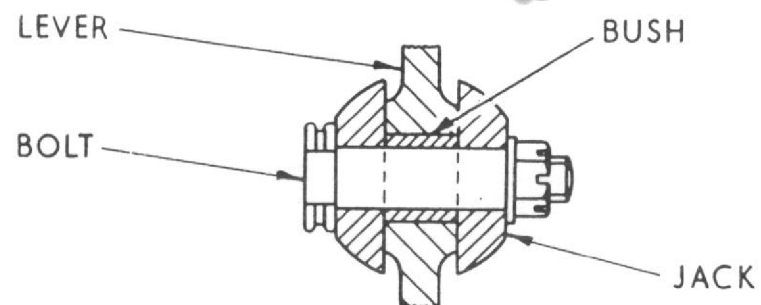
FIG. 2. BEARING LOCATION DIAGRAM-MAIN UNDERCARRIAGE AND DOORS

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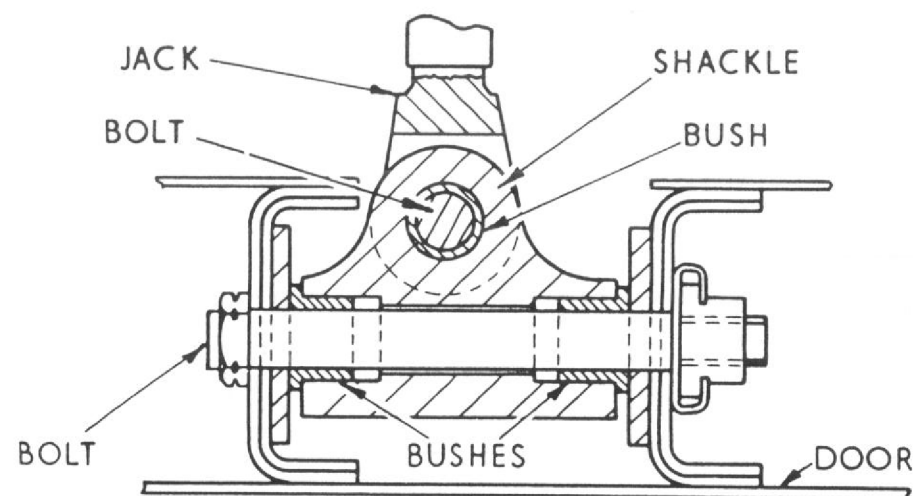
# SCHEDULE OF WEAR LIMITS FOR MAIN UNDERCARRIAGE AND DOORS

| Ref. No.<br>on<br>Diagram | Part and Description                                                                                                                                  | Dimension<br>New (in.) | Permissible Worn<br>Dimensions (in.) |                       | Clearance<br>New (in.) | Permissible<br>Worn<br>Clearance<br>(in.) | Remarks                                                                                                                |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------|-----------------------|------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
|                           |                                                                                                                                                       |                        | Non -<br>Selective<br>Assembly       | Selective<br>Assembly |                        |                                           |                                                                                                                        |
| 2/1                       | Undercarriage wheel door jack anchorage, assembly of jack with lever A. 187854 (Port) or A. 187855 (Stbd.) Using bolt Std. 325.88 and bush Std. 608.4 | Bolt                   | $\frac{0.3125}{0.3095}$              | 0.3095                | 0.3080                 | $\frac{0.0035}{-0.0005}$                  | 0.004<br>Renew bush Std. 608.4.<br>Renew bolt Std. 325.88 only if necessary. For jack details see Dowty repair scheme  |
|                           |                                                                                                                                                       | Bush                   | $\frac{0.3130}{0.3120}$              | 0.3135                | 0.3165                 |                                           |                                                                                                                        |
| 2/2                       | Assembly of wheel door jack with shackle using bolt Std. 325.82 and bush Std. 608.6                                                                   | Bolt                   | $\frac{0.3125}{0.3095}$              | 0.3095                | 0.3080                 | $\frac{0.0035}{-0.0005}$                  | 0.004<br>Renew bush Std. 608.6.<br>Renew bolt Std. 325.82 only if necessary. For jack details see Dowty repair scheme. |
|                           |                                                                                                                                                       | Bush                   | $\frac{0.3130}{0.3120}$              | 0.3135                | 0.3165                 |                                           |                                                                                                                        |
|                           | Assembly of shackle with wheel door, using bolt F. 187537 and bushes F. 151801                                                                        | Bolt                   | $\frac{0.31225}{0.31175}$            | 0.3115                | 0.3100                 | $\frac{0.00125}{-0.00025}$                | 0.002<br>Renew bushes F. 151801 (2 off)<br>Renew bolt F. 187537 only if necessary                                      |
|                           |                                                                                                                                                       | Bushes                 | $\frac{0.3130}{0.3120}$              | 0.3135                | 0.31425                |                                           |                                                                                                                        |
|                           | Assembly of jack with jack anchorage, shackle A. 187623 using bolt A. 187625                                                                          | Bolt                   | $\frac{0.99925}{0.99875}$            | 0.9985                | 0.99675                | $\frac{0.00175}{0.0005}$                  | 0.003<br>Renew bolt A. 187625 and/or shackle A. 187623.<br>For jack details see Dowty repair scheme                    |
|                           |                                                                                                                                                       | Shackle                | $\frac{1.0005}{0.99975}$             | 1.0015                | 1.00225                |                                           |                                                                                                                        |
| 2/3                       | Assembly of shackle A. 187623 with anchorage brackets, using bolt A. 187624 and bushes F. 168628                                                      | Bolt                   | $\frac{0.99925}{0.99875}$            | 0.9985                | 0.99675                | $\frac{0.00175}{0.0005}$                  | 0.003<br>Renew bolt A. 187624 and/or shackle A. 187623                                                                 |
|                           |                                                                                                                                                       | Shackle                | $\frac{1.0005}{0.99975}$             | 1.0015                | 1.00225                |                                           |                                                                                                                        |
| 2/4                       | Main undercarriage pivot point<br>Bushes supplies with unit                                                                                           |                        |                                      |                       |                        |                                           | See Dowty repair scheme.<br>Note:- Bushes are Dowty part no. 4501.Y. 20                                                |

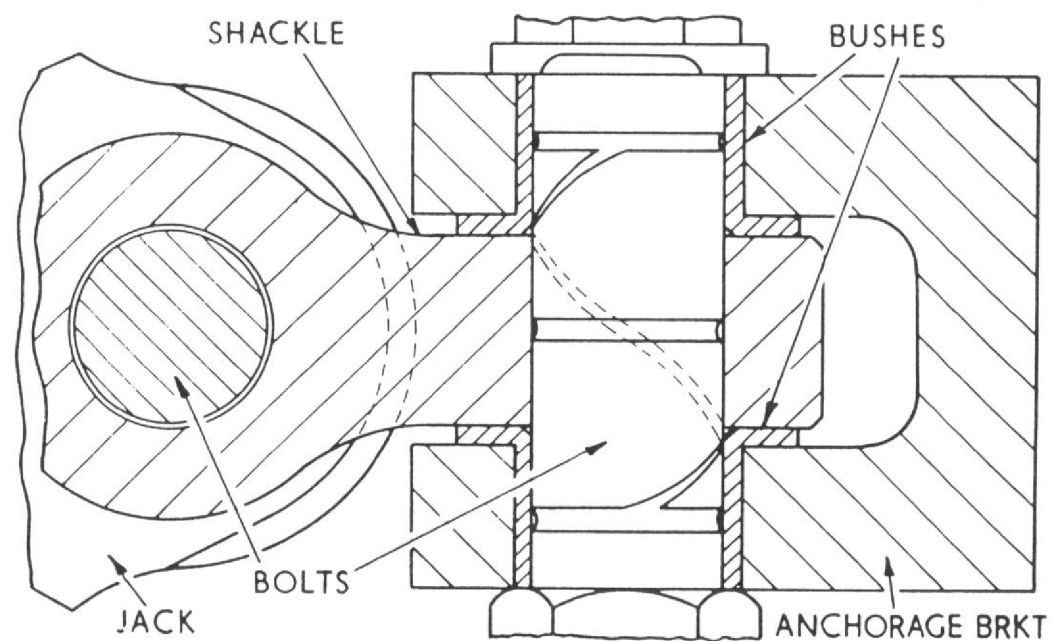
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2/2



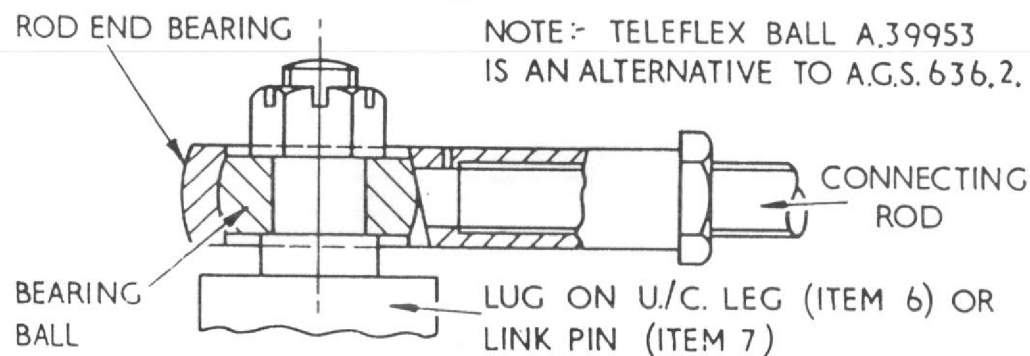
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DETAILS FOR MAIN UNDERCARRIAGE AND DOORS

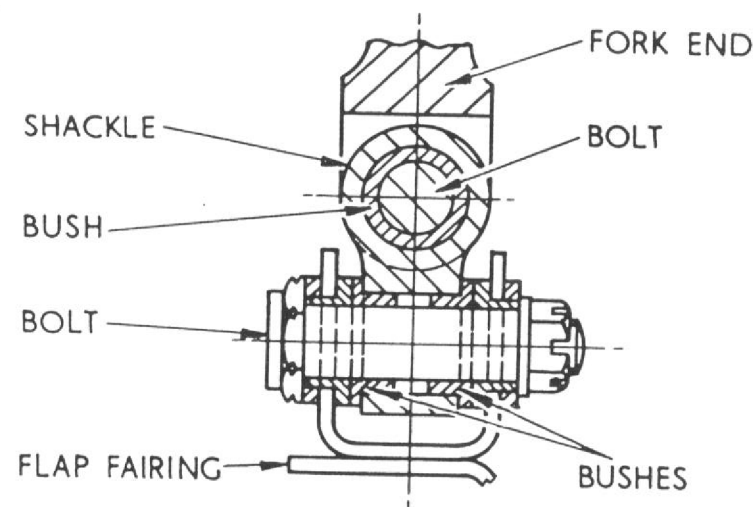
# SCHEDULE OF WEAR LIMITS FOR MAIN UNDERCARRIAGE AND DOORS

| Ref. No.<br>on<br>Diagram | Part and Description                                                                                                        | Dimension<br>New (in.) | Permissible Worn<br>Dimensions (in.) |                       | Clearance<br>New (in.) | Permissible<br>Worn<br>Clearance<br>(in.) | Remarks                                                                                                                                                 |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------|-----------------------|------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
|                           |                                                                                                                             |                        | Non -<br>Selective<br>Assembly       | Selective<br>Assembly |                        |                                           |                                                                                                                                                         |
| 2/5                       | Assembly of main undercarriage leg and jack.<br>Bushes and bolts supplied with units                                        |                        |                                      |                       |                        |                                           | See Dowty repair scheme                                                                                                                                 |
| 2/6                       | Assembly of undercarriage fairing links with undercarriage leg, using rod end bearings A. 18 7325 and balls A. G. S. 636. 2 |                        |                                      |                       |                        |                                           | Wear at bearings unlikely. Complete failure rectified by renewing bearings A. 18 7325 and balls A. G. S. 636. 2                                         |
| 2/7                       | Assembly of undercarriage fairing links with leg fairing. Using rod end bearings A. 18 7326 and balls A. G. S. 636. 2       |                        |                                      |                       |                        |                                           | Wear at bearings unlikely. Complete failure rectified by renewing bearings A. 18 7326 and balls A. G. S. 636. 2                                         |
| 2/8                       | Assembly of undercarriage fairing link fork end with undercarriage fairing shackle using bolt F. 151348 and bush F. 151346  | Bolt                   | 0.3735                               | 0.3715                | 0.0015<br>0.000        | 0.003                                     | Renew bush F. 151346.<br>Renew bolt F. 151348 only if necessary                                                                                         |
|                           |                                                                                                                             | Bush                   | 0.3755<br>0.3745                     | 0.3765                | 0.3775                 |                                           |                                                                                                                                                         |
|                           | Assembly of shackle with fairing using bolt F. 187237 and bushes F. 171177                                                  | Bolt                   | 0.3745<br>0.3740                     | 0.3735                | 0.3715                 | 0.0015<br>0.000                           | Renew bush F. 171177.<br>Renew bolt F. 187237 only if necessary                                                                                         |
|                           |                                                                                                                             | Bush                   | 0.3755<br>0.3745                     | 0.3765                | 0.3775                 |                                           |                                                                                                                                                         |
| 2/9                       | Assembly of leg fairing hinge using hinge pin F. 171532 and bush F. 170010                                                  | Hinge pin              | 0.3120<br>0.3110                     | 0.3105                | 0.3090                 | 0.002<br>0.000                            | Renew bush F. 170010.<br>Renew hinge pin F. 171532 only if necessary.<br>Note:- It is advised that both fore and aft hinges are rebushed simultaneously |
|                           |                                                                                                                             | Bush                   | 0.3130<br>0.3120                     | 0.3135                | 0.3150                 |                                           |                                                                                                                                                         |

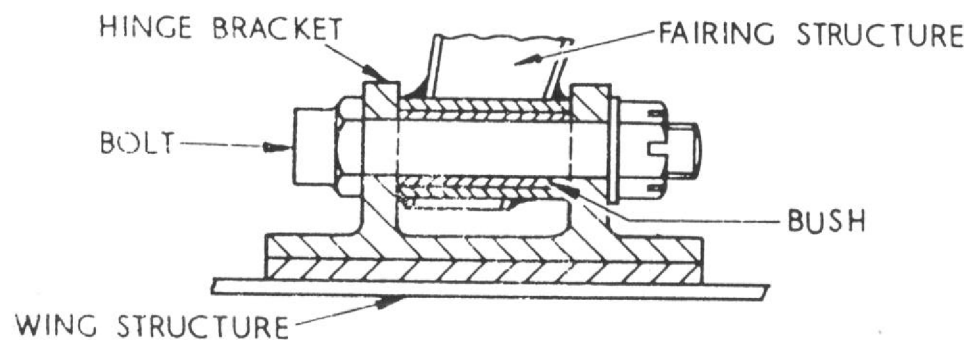
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2/6 & 2/7



2/8



2/9

DETAILS FOR MAIN UNDERCARRIAGE AND DOORS



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