TEMPORARY REVISION NUMBER 10

DATED 18 MAY 2015

MANUAL TITLE          Model 100 Series Service Manual (1963 Thru 1968)
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MANUAL DATE 1 September 1968   REVISION NUMBER 1   DATE 4 August 2003

This Temporary Revision consists of the following pages, which add to existing pages in the paper copy manual.

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REASON FOR TEMPORARY REVISION
1. To add the requirement to use the Severe Inspection Limits for airplanes equipped with floats or skies.
2. To add additional SID inspection requirements for the vertical stabilizer on 150 model series airplanes.
3. To add additional SID inspection requirements for the horizontal stabilizer aft attach points on 180 and 185 model series airplanes.
4. To provide revised Corrosion Severity Maps in Section 2A-30-01.

FILING INSTRUCTIONS FOR THIS TEMPORARY REVISION
1. For Paper Publications, file this cover sheet behind the publication's title page to identify inclusion of the temporary revision in the manual. Insert the new pages in the publication at the appropriate locations.
2. For CD Publications, mark the temporary revision part number on the CD label with permanent red marker. This will be a visual identifier that the temporary revision must be referenced when the content of the CD is being used. Temporary revisions should be collected and maintained in a notebook or binder near the CD library for quick reference.

EXPORT COMPLIANCE
1. This publication contains technical data and is subject to U.S. export regulations. This information has been exported from the United States in accordance with export administration regulations. Diversion contrary to U.S. law is prohibited. ECCN: 9E991
1. Scope
   
   A. This provides the mandatory times and inspection time intervals for components and airplane structures. This section also gives the required details to monitor them using scheduled inspections. This section applies to items such as fatigue components and structures, which are part of the certification procedures. Refer to the description paragraph below for detailed information concerning each of these sections.

   NOTE: The time limits and maintenance checks listed in this section are the minimum requirements for airplanes operated under normal conditions. For airplanes operated in areas where adverse operating conditions may be encountered, such as high salt coastal environments, areas of high heat and humidity, areas where industrial or other airborne pollutants are present, extreme cold, unimproved surfaces, etc., the time limits should be modified accordingly.

   NOTE: The inspection guidelines contained in this section are not intended to be all-inclusive, for no such charts can replace the good judgment of certified airframe and power plant mechanics in performance of their duties. As the one primarily responsible for the airworthiness of the airplane, the owner or operator should select only qualified personnel to maintain the airplane.

2. Inspection Requirements
   
   A. Two types of inspection requirements are available based on operating usage and two additional types of inspections are available based on operating environment.
      
      (1) Operating Usage
          
          (a) Severe Usage Environment
              
              1 If the average flight length is less than 30 minutes, then you must use the SEVERE inspection time limits.
              
              2 If the airplane has been engaged in operations at low altitudes such as pipeline patrol, fish or game spotting, aerial applications, police patrol, sightseeing, livestock management, etc. more than 30% of its life you must use the SEVERE inspection time limits.
              
              3 Airplanes which are equipped with floats or skis must use the SEVERE inspection time limits.
          
          (b) Typical Usage Environment
              
              1 If neither 2(A)(1)(a)(1) or 2(A)(1)(a)(2) or 2(A)(1)(a)(3) above applies, the TYPICAL usage environment applies.

      (2) Operating Environment
          
          (a) Severe Corrosion Environment
              
              1 If the airplane is operating more than 30% of the time in a zone shown as severe on the corrosion severity maps in Section 2A-30-01, then the SEVERE CORROSION environment time limits apply.
          
          (b) Mild or Moderate Corrosion Environment
              
              1 If 2(A)(2)(a)(1) does not apply, then the MILD/MODERATE CORROSION environment time limits apply.

   B. After the operating usage and the operating environment are determined, make a logbook entry that states which inspection schedules (TYPICAL or SEVERE operating usage and MILD/MODERATE or SEVERE operating environment) are being used.

3. Description
   
   NOTE: Listed below is a detailed description and intended purpose of the following sections.
   
   A. Section 2A-10-00, Time Limits/Maintenance Checks - General. This section provides a description and purpose of the inspection time intervals.
B. Section 2A-10-01, Inspection Time Limits.
   (1) This section lists, in chart format, all inspection requirements which must be performed. Each page contains the following five columns:
      (a) Revision Status provides the date that a given item was added, deleted or revised. A blank entry in this column indicates no change since the reissue of this manual.
      (b) Inspection Requirements provide a short description of the maintenance item.
      (c) Inspection Interval indicates the frequency of the item.
      (d) Applicable Operation(s) indicates the applicable inspection operation currently containing the inspection item. The frequencies corresponding to each operation are listed in Inspection Interval Requirements in this section.
      (e) Applicable Zone refers to the physical location(s) in the airplane affected by the item.
   (2) Primary purpose of the Inspection Time Limits section is to provide a complete listing of all inspection items in an order that allows easy access for the information listed previously. This section is not intended to be utilized as a guideline for inspection of the airplane.
   (3) The Inspection Time Limits Table shows the recommended intervals at which items are to be inspected, based on usage and environmental conditions. The operator's inspection intervals shall not deviate from the inspection time limits shown in this table except as provided below:
      (a) Each inspection interval can be exceeded by 10 hours (if time-controlled) or by 30 days (if date-controlled) or can be performed early at any time prior to the regular interval as provided below:
         1 In the event of late compliance of any operation scheduled, the next operation in sequence retains a due point from the time the late operation was originally scheduled.
         2 In the event of early compliance of any operation scheduled, that occurs 10 hours or less ahead of schedule, the next operation due point may remain where originally set.
         3 In the event of early compliance of any operation scheduled, that occurs more than 10 hours ahead of schedule, the next operation due point must be rescheduled to establish a new due point from the time of early accomplishment.

C. Section 2A-20-01, Expanded Maintenance. This section provides additional information on some maintenance/inspection procedures. It describes where the component/item is located, what to inspect for, how to inspect it, etc. Detailed requirements, such as functional checks, operational checks, etc., are listed in the appropriate section of the Model 100 Series Service Manual. Refer to the appropriate section for complete detailed information.

D. Section 2A-30-00, Corrosion Prevention and Control Program (CPCP). This section gives the guidelines and applications of the CPCP. This is a program used to control the corrosion in the airplane's primary structure. The objective of the CPCP is to help to prevent or to control the corrosion so that it does not cause a risk to the continued airworthiness of the airplane.

4. Inspection Time Limits
A. A complete airplane inspection includes all inspection items as required by 14 CFR Part 43, Appendix D, Scope and Detail of annual/100-hour inspections. Refer to Section 2 of the Model 100 Series Service Manual.
B. The intervals shown are recommended intervals at which items are to be inspected.
   (1) The 14 CFR Part 91 operator's inspection intervals shall not deviate from the inspection time limits shown in this manual except as provided below: (Refer to 14 CFR 91.409)
      (a) The airplane can only exceed its inspection point up to 10 hours, if the airplane is en route to a facility to have the inspection completed.
      (b) In the event of late compliance of any operation scheduled, the next operation in sequence retains a due point from the time the late operation was originally scheduled.
      (c) In the event of early compliance of any operation scheduled, that occurs 10 hours or less ahead of schedule, the next phase due point may remain where originally set.
      (d) In the event of early compliance of any operation scheduled, that occurs more than 10 hours ahead of schedule, the next operation due point must be rescheduled to establish a new due point from the time of early accomplishment.
5. **Inspection Time Limits Legend**

A. Each page of the inspection listed in Inspection Time Limits, Section 2A-10-01, contains the following five columns:

1. **REVISION STATUS** - This column provides the date that a given item was added, deleted or revised. A blank entry in this column indicates no change since the reissue of this manual.

2. **TASK** - This column provides a short description of the inspection and/or servicing procedures. Where a more detailed description of the procedure is required, a reference will be made to either another section located within the Model 100 Series Service Manual or a specific reference to a supplier publication.

3. **INTERVAL** - This column lists the frequency of the inspection.

4. **OPERATION** - All of the inspections included in one operation are grouped together in the 2A-12-XX documents (XX equals the operation number).

5. **ZONE** - This column locates the components within a specific zone. For a breakdown of how the airplane is zoned, refer to 2A-30-00, Figure 1, Airplane Zones.

6. **Inspection Interval Requirements**

<table>
<thead>
<tr>
<th>Operation</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 -</td>
<td>Every 100 hours of operation or 12 months, whichever occurs first.</td>
</tr>
<tr>
<td>2 -</td>
<td>Corrosion Prevention and Control Program Inspections (Baseline Program) items that are to be examined every 12 months. Refer to Section 2A-30-00, Corrosion Prevention and Control Program, for additional information concerning repeat Corrosion Program Inspection intervals.</td>
</tr>
<tr>
<td>3 -</td>
<td>Corrosion Prevention and Control Program Inspections (Baseline Program) items that are to be examined every 24 months. Refer to Section 2A-30-00, Corrosion Prevention and Control Program for additional information concerning repeat Corrosion Program Inspection intervals.</td>
</tr>
<tr>
<td>4 -</td>
<td>Corrosion Prevention and Control Program Inspections (Baseline Program) items that are to be examined every 36 months. Refer to Section 2A-30-00, Corrosion Prevention and Control Program for additional information concerning repeat Corrosion Program Inspection intervals.</td>
</tr>
<tr>
<td>5 -</td>
<td>Corrosion Prevention and Control Program Inspections (Baseline Program) items that are to be examined every 48 months. Refer to Section 2A-30-00, Corrosion Prevention and Control Program for additional information concerning repeat Corrosion Program Inspection intervals.</td>
</tr>
<tr>
<td>6 -</td>
<td>Corrosion Prevention and Control Program Inspections (Baseline Program) items that are to be examined every 60 months. Refer to Section 2A-30-00, Corrosion Prevention and Control Program for additional information concerning repeat Corrosion Program Inspection intervals.</td>
</tr>
<tr>
<td>7 -</td>
<td>Supplemental Inspection Document items that are to be examined after the first 4,000 hours of operation or 10 years, whichever occurs first. The inspection is to be repeated every 1,000 hours of operation or 3 years, whichever occurs first, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>8 -</td>
<td>Supplemental Inspection Document items that are to be examined after the first 10,000 hours of operation or 20 years, whichever occurs first. The inspection is to be repeated every 3,000 hours of operation or 5 years, whichever occurs first, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>Operation</td>
<td>Details</td>
</tr>
<tr>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td>9 -</td>
<td>Supplemental Inspection Document items that are to be examined after the first 3,000 hours of operation or 5 years, whichever occurs first. The inspection is to be repeated every 3,000 hours of operation or 5 years, whichever occurs first, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>10 -</td>
<td>Supplemental Inspection Document items that are to be examined after the first 10,000 hours of operation or 20 years, whichever occurs first. The inspection is to be repeated at engine overhaul, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>11 -</td>
<td>Supplemental Inspection Document items that are to be examined after the first 20 years. The inspection is to be repeated every 10 years after the initial inspection has been accomplished, for airplanes operating in a mild or moderate corrosion environment.</td>
</tr>
<tr>
<td>12 -</td>
<td>Supplemental Inspection Document items that are to be examined after the first 5 years. The inspection is to be repeated every 5 years after the initial inspection has been accomplished, for airplanes operating in a mild or moderate corrosion environment.</td>
</tr>
<tr>
<td>13 -</td>
<td>Supplemental Inspection Document items that are to be examined after the first 10 years. The inspection is to be repeated every 5 years after the initial inspection has been accomplished, for airplanes operating in a severe corrosion environment.</td>
</tr>
<tr>
<td>14 -</td>
<td>Supplemental Inspection Document items that are to be examined after the first 3 years. The inspection is to be repeated every 3 years after the initial inspection has been accomplished, for airplanes operating in a severe corrosion environment.</td>
</tr>
<tr>
<td>15 -</td>
<td>Supplemental Inspection Document items that are to be examined after the first 1,000 hours. The inspection is to be repeated every 1,000 hours after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>16 -</td>
<td>Supplemental Inspection Document items that are to be examined after 3,000 hours or 10 years, whichever occurs first. The inspection is to be repeated every 500 hours or 5 years, whichever occurs first, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>17 -</td>
<td>Supplemental Inspection Document items that are to be examined after 3,000 hours or 5 years, whichever occurs first. The inspection is to be repeated every 1,000 hours or 5 years, whichever occurs first, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>18 -</td>
<td>Supplemental Inspection Document items that are to be examined after the first 10 years. The inspection is to be repeated every 10 years after the initial inspection has been accomplished, for airplanes operating in a mild or moderate corrosion environment.</td>
</tr>
<tr>
<td>19 -</td>
<td>Supplemental Inspection Document items that are to be examined after the first 5 years. The inspection is to be repeated every 5 years after the initial inspection has been accomplished, for airplanes operating in a severe corrosion environment.</td>
</tr>
<tr>
<td>20 -</td>
<td>Supplemental Inspection Document items that are to be examined after 12,000 hours or 20 years, whichever occurs first. The inspection is to be repeated every 2,000 hours or 10 years, whichever occurs first, after the initial inspection has been accomplished, for airplanes operating in a typical usage environment.</td>
</tr>
<tr>
<td>Operation</td>
<td>Details</td>
</tr>
<tr>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td>21</td>
<td>Supplemental Inspection Document items that are to be examined after the first 6,000 hours of operation or 10 years, whichever occurs first. The inspection is to be repeated every 1,000 hours of operation or 5 years, whichever occurs first, after the initial inspection has been accomplished, for airplanes operating in a severe usage environment.</td>
</tr>
<tr>
<td>22</td>
<td>Supplemental Inspection Document items that are to be examined after the first 5,000 hours of operation or 20 years, whichever occurs first. The inspection is to be repeated every 2,000 hours of operation or 5 years, whichever occurs first, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>23</td>
<td>Supplemental Inspection Document items that are to be examined after the first 2,000 hours of operation or 5 years, whichever occurs first. The inspection is to be repeated every 2,000 hours of operation or 5 years, whichever occurs first, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>24</td>
<td>Supplemental Inspection Document items that are to be examined after the first 1,000 hours of operation or 3 years, whichever occurs first. The inspection is to be repeated every 1,000 hours of operation or 3 years, whichever occurs first, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>25</td>
<td>Supplemental Inspection Document items that are to be examined after the first 100 hours of operation or 1 year, whichever occurs first. The inspection is to be repeated every 100 hours of operation or 1 year, whichever occurs first, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>26</td>
<td>Supplemental Inspection Document items that are to be examined after the first 2,500 hours of operation or 5 years, whichever occurs first. The inspection is to be repeated every 2,500 hours of operation or 5 years, whichever occurs first, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>27</td>
<td>Supplemental Inspection Document items that are to be examined every time when skis are installed or removed.</td>
</tr>
<tr>
<td>28</td>
<td>Supplemental Inspection Document items that are to be examined after the first 1,000 hours of operation. The inspection is to be repeated every 100 hours of operation, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>29</td>
<td>Supplemental Inspection Document items that are to be examined after the first 4,000 hours of operation. The inspection is to be repeated every 100 hours of operation, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>30</td>
<td>Supplemental Inspection Document items that are to be examined after the first 2,000 hours of operation or 4 years, whichever occurs first. The inspection is to be repeated every 2,000 hours of operation or 4 years, whichever occurs first, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>Operation</td>
<td>Details</td>
</tr>
<tr>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td>31</td>
<td>Expanded Maintenance Inspection items that are to be examined after the first 100 hours of operation. The inspection is to be repeated every 600 hours of operation or 12 months, whichever occurs first, after the initial inspection has been accomplished.</td>
</tr>
<tr>
<td>32</td>
<td>Supplemental Inspection items that are to be examined after 5,000 hours of operation or 20 years, whichever occurs first. The inspection is to be repeated every 2,000 hours or 5 years, whichever occurs first, after the initial inspection has been completed for airplanes operating in a typical usage environment.</td>
</tr>
<tr>
<td>33</td>
<td>Supplemental Inspection items that are to be examined after 3,000 hours of operation or 10 years, whichever occurs first. The inspection is to be repeated every 500 hours or 5 years, whichever occurs first, after the initial inspection has been completed for airplanes operating in a severe usage environment.</td>
</tr>
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# Inspection Items

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<th>Operation</th>
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<tr>
<td></td>
<td>Inspect aircraft records to verify that all applicable Cessna Service Information Letters, Cessna Service Bulletins and Supplier Service Bulletins are complied with.</td>
<td>Every 100 hours or 12 months, whichever occurs first.</td>
<td>1</td>
<td>ALL</td>
</tr>
<tr>
<td></td>
<td>Inspect aircraft records to verify that all applicable Airworthiness Directives and Federal Aviation regulations are complied with.</td>
<td>Every 100 hours or 12 months, whichever occurs first.</td>
<td>1</td>
<td>ALL</td>
</tr>
<tr>
<td></td>
<td>Inspect aircraft records to verify that all logbook entries required by the Federal Aviation Regulations are complied with.</td>
<td>Every 100 hours or 12 months, whichever occurs first.</td>
<td>1</td>
<td>ALL</td>
</tr>
<tr>
<td></td>
<td>Inspect aircraft records to verify that all SID Inspections have been complied with as scheduled.</td>
<td>Every 100 hours or 12 months, whichever occurs first.</td>
<td>1</td>
<td>ALL</td>
</tr>
<tr>
<td></td>
<td>For All Models, inspect rudder pedal torque tube and cable attachment arms. Refer to 2A-14-01, Supplemental Inspection Document 27-20-01, for inspection procedure.</td>
<td>Initial: 10,000 hours or 20 years, whichever occurs first; Repeat: 3,000 hours or 5 years, whichever occurs first.</td>
<td>1</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td>Elevator trim system for Models 150, 172 and 182. 1. Inspect elevator trim brackets and actuator support brackets. 2. Inspect pulleys, attaching structure and fasteners. Refer to Section 2A-14-02, Supplemental Inspection Document 27-30-01, for inspection procedures.</td>
<td>Initial: 1,000 hours; Repeat: 1,000 hours</td>
<td>15</td>
<td>330, 340</td>
</tr>
<tr>
<td></td>
<td>Elevator trim system for Models 180 and 185. 1. Inspect elevator trim brackets and actuator support brackets. 2. Inspect pulleys, attaching structure and fasteners. Refer to Section 2A-14-03, Supplemental Inspection Document 27-30-02, for inspection procedures.</td>
<td>Initial: 1,000 hours; Repeat: 1,000 hours</td>
<td>15</td>
<td>330, 340</td>
</tr>
<tr>
<td></td>
<td>For Models 180 and 185, inspect trim screw barrels and stabilizer screw-jack actuator threads. Refer to Section 2A-14-04, Supplemental Inspection Document 27-42-01, for inspection procedures.</td>
<td>Initial: 1,000 hours; Repeat: 1,000 hours</td>
<td>15</td>
<td>330, 340</td>
</tr>
<tr>
<td></td>
<td>For Model 172, replace U-bolts securing the flat leaf main landing gear assembly. Refer to Section 2A-14-05, Supplemental Inspection Document 32-11-01, for inspection procedures.</td>
<td>Initial: 1,000 hours or 3 years, whichever occurs first; Repeat: 1,000 hours or 3 years, whichever occurs first.</td>
<td>24</td>
<td>721, 722</td>
</tr>
<tr>
<td>TASK</td>
<td>INTERVAL</td>
<td>OPERATION</td>
<td>ZONE</td>
<td></td>
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<tr>
<td>----------------------------------------------------------------------</td>
<td>---------------------------</td>
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<td></td>
</tr>
<tr>
<td>For All Models, this inspection is for mild/moderate corrosion environment. Inspect main landing gear spring and attach fittings for rust or damage to finish. Refer to Section 2A-14-06, Supplemental Inspection Document 32-13-01, for inspection procedure.</td>
<td>Initial: 20 years; Repeat: 10 years</td>
<td>721, 722</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For All Models, this inspection is for severe corrosion environment. Inspect main landing gear spring and attach fittings for rust or damage to finish. Refer to Section 2A-14-06, Supplemental Inspection Document 32-13-01, for inspection procedure.</td>
<td>Initial: 10 years; Repeat: 5 years</td>
<td>721, 722</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For All Models, inspect main landing gear axle. Refer to Section 2A-14-08, Supplemental Inspection Document 32-13-03, for inspection procedure.</td>
<td>Initial: 4,000 hours or 10 years, whichever occurs first; Repeat: 1,000 hours or 3 Years, whichever occurs first.</td>
<td>721, 722</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Models 180 and 185, inspect main landing gear spring axle attach bolt holes. Refer to Section 2A-14-09, Supplemental Inspection Document 32-13-04, for inspection procedure.</td>
<td>Initial: Every time skis are installed or removed; Repeat: Every time skis are installed or removed</td>
<td>721, 722</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Models 180 and 185, inspect main landing gear spring axle attach bolt holes. Refer to Section 2A-14-10, Supplemental Inspection Document 32-13-05, for inspection procedure.</td>
<td>Initial: 4,000 hours or 10 years, whichever occurs first; Repeat: 1,000 hours or 3 Years, whichever occurs first.</td>
<td>721, 722</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Models 150, 172 and 182, inspect nose landing gear torque links, bolts, bushings and fork. Refer to Section 2A-14-11, Supplemental Inspection Document 32-20-01, for inspection procedure.</td>
<td>Initial: 3,000 hours or 5 years, whichever occurs first; Repeat: 3,000 hours or 5 years, whichever occurs first.</td>
<td>720</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For All Models, this interval is for mild/moderate corrosion environment. Inspect the carry-thru spar area, door post bulkhead attach fittings and spar channel. Refer to Section 2A-14-12, Supplemental Inspection Document 53-11-01, for inspection procedure.</td>
<td>Initial: 20 years; Repeat: 10 years</td>
<td>721, 722</td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REVISION STATUS</th>
<th>TASK</th>
<th>INTERVAL</th>
<th>OPERATION</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>For All Models, this interval is for severe corrosion environment. Inspect the carry-thru spar area, door post bulkhead attach fittings and spar channel. Refer to Section 2A-14-12, Supplemental Inspection Document 53-11-01, for inspection procedure.</td>
<td>Initial: 10 years; Repeat: 5 years</td>
<td>13</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>For Models 150, 172, 180 and 185, this interval is for typical usage environment. Inspect fuselage forward doorpost bulkhead at the lower end, wing strut attach area and door hinge area. Refer to Section 2A-14-13, Supplemental Inspection Document 53-12-01, for inspection procedure.</td>
<td>Initial: 12,000 hours or 20 years, whichever occurs first; Repeat: 2,000 hours or 10 years, whichever occurs first.</td>
<td>20</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>For Models 150, 172, 180 and 185, this interval is for severe usage environment. Inspect fuselage forward doorpost bulkhead at the lower end, wing strut attach area and door hinge area. Refer to Section 2A-14-13, Supplemental Inspection Document 53-12-01, for inspection procedure.</td>
<td>Initial: 6,000 hours or 10 years, whichever occurs first; Repeat: 1,000 hours or 5 years, whichever occurs first.</td>
<td>21</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>For Model 182, inspect forward doorpost and surrounding structure. Refer to Section 2A-14-14, Supplemental Inspection Document 53-12-02, for inspection procedure.</td>
<td>Initial: 4,000 hours or 10 years, whichever occurs first; Repeat: 1,000 hours or 3 years, whichever occurs first.</td>
<td>7</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>For Models 172, inspect firewall structure. Refer to Section 2A-14-15, Supplemental Inspection Document 53-12-03, for inspection procedure.</td>
<td>Initial: 2,000 hours or 5 years, whichever occurs first; Repeat: 2,000 hours or 5 years, whichever occurs first.</td>
<td>23</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>For All Models, this interval is for mild/moderate corrosion environment. Inspect the cabin interior skin panels, frames and stringers. Refer to Section 2A-14-16, Supplemental Inspection Document 53-30-01, for inspection procedure.</td>
<td>Initial: 20 years; Repeat: 10 years</td>
<td>11</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>For All Models, this interval is for severe corrosion environment. Inspect the cabin interior skin panels, frames and stringers. Refer to Section 2A-14-16, Supplemental Inspection Document 53-30-01, for inspection procedure.</td>
<td>Initial: 10 years; Repeat: 5 years</td>
<td>13</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>For Model 182, inspect vertical stabilizer attachment bolts, forward and aft vertical stabilizer structures and vertical stabilizer attach bulkheads. Refer to Section 2A-14-17, Supplemental Inspection Document 53-42-01, for inspection procedures.</td>
<td>Initial: 1,000 hours; Repeat: 100 hours</td>
<td>28, 320</td>
<td>310</td>
</tr>
<tr>
<td></td>
<td>For All Models, this interval is for mild/moderate corrosion environment. Inspect seat rails for corrosion. Refer to Section 2A-14-18, Supplemental Inspection Document 53-47-01, for inspection procedure.</td>
<td>Initial: 10 years; Repeat: 10 years</td>
<td>18</td>
<td>211</td>
</tr>
<tr>
<td>TASK</td>
<td>INTERVAL</td>
<td>OPERATION</td>
<td>ZONE</td>
<td></td>
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</tr>
<tr>
<td>For All Models, this interval is for severe corrosion environment. Inspect seat rails for corrosion. Refer to Section 2A-14-18, Supplemental Inspection Document 53-47-01, for inspection procedure.</td>
<td>Initial: 5 years; Repeat: 5 years</td>
<td>19</td>
<td>211</td>
<td></td>
</tr>
<tr>
<td>For All Models, inspect horizontal stabilizer and elevator, including spars, ribs, hinge bolts, hinge bearings, attach fittings and torque tube. Refer to Section 2A-14-19, Supplemental Inspection Document 55-10-01, for inspection procedures.</td>
<td>Initial: 5,000 hours or 20 years, whichever occurs first; Repeat: 2,000 hours or 5 years, whichever occurs first.</td>
<td>22</td>
<td>330, 340</td>
<td></td>
</tr>
<tr>
<td>For Model 172, inspect horizontal stabilizer forward spar. Refer to Section 2A-14-20, Supplemental Inspection Document 55-11-01, for inspection procedure.</td>
<td>Initial: 100 hours or 1 year, whichever occurs first; Repeat: 100 hours or 1 year, whichever occurs first.</td>
<td>25</td>
<td>330, 340</td>
<td></td>
</tr>
<tr>
<td>For Model 150, inspect horizontal stabilizer forward attachments. Refer to Section 2A-14-21, Supplemental Inspection Document 55-11-02, for inspection procedure.</td>
<td>Initial: 100 hours or 1 year, whichever occurs first; Repeat: 100 hours or 1 year, whichever occurs first.</td>
<td>25</td>
<td>330, 340</td>
<td></td>
</tr>
<tr>
<td>For Model 150, inspect vertical stabilizer attach bracket and horizontal stabilizer rear spar attachments. Refer to Section 2A-14-22, Supplemental Inspection Document 55-11-03, for inspection procedure.</td>
<td>Initial: 2,000 hours or 4 years, whichever occurs first; Repeat: 2,000 hours or 4 years, whichever occurs first.</td>
<td>30</td>
<td>310,320</td>
<td></td>
</tr>
<tr>
<td>For All Models, inspect vertical stabilizer and rudder, including spars, ribs, hinge bolts, hinge bearings and attach fittings. Refer to Section 2A-14-23, Supplemental Inspection Document 55-30-01, for inspection procedure.</td>
<td>Initial: 5,000 hours or 20 years, whichever occurs first; Repeat: 2,000 hours or 5 years, whichever occurs first.</td>
<td>22</td>
<td>310, 320</td>
<td></td>
</tr>
<tr>
<td>For All Models, this interval is for typical usage environment. 1. Inspect inboard wing structure and wing attachment to fuselage including working rivets. 2. Inspect flap actuator support structure. Refer to Section 2A-14-24, Supplemental Inspection Document 57-11-01, for inspection procedure.</td>
<td>Initial: 12,000 hours or 20 years, whichever occurs first; Repeat: 2,000 hours or 10 years, whichever occurs first.</td>
<td>20</td>
<td>510, 610</td>
<td></td>
</tr>
<tr>
<td>For All Models, this interval is for severe usage environment. 1. Inspect inboard wing structure and wing attachment to fuselage including working rivets. 2. Inspect flap actuator support structure. Refer to Section 2A-14-24, Supplemental Inspection Document 57-11-01, for inspection procedure.</td>
<td>Initial: 6,000 hours or 10 years, whichever occurs first; Repeat: 1,000 hours or 5 years, whichever occurs first.</td>
<td>21</td>
<td>510, 610</td>
<td></td>
</tr>
<tr>
<td>TASK</td>
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<tr>
<td>For All Models, this interval is for mild/moderate corrosion environment. Inspect wing for corrosion and missing or loose fasteners. Refer to Section 2A-14-25, Supplemental Inspection Document 57-11-02, for inspection procedure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For All Models, this interval is for severe corrosion environment. Inspect wing for corrosion and missing or loose fasteners. Refer to Section 2A-14-25, Supplemental Inspection Document 57-11-02, for inspection procedure.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>For Models 180 and 185, inspect wing main spar and rear spar. Refer to Section 2A-14-26, Supplemental Inspection Document 57-11-03, for inspection procedure.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>For All Models, this interval is for mild/moderate corrosion environment. Inspect wing splice joint at strut attach. Refer to Section 2A-14-27, Supplemental Inspection Document 57-11-04, for inspection procedure.</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>For All Models, this interval is for severe corrosion environment. Inspect wing splice joint at strut attach. Refer to Section 2A-14-27, Supplemental Inspection Document 57-11-04, for inspection procedure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For All Models, this interval is for mild/moderate corrosion environment. Inspect wing root rib. Refer to Section 2A-14-28, Supplemental Inspection Document 57-12-01, for inspection procedure.</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>For All Models, this interval is for severe corrosion environment. Inspect wing root rib. Refer to Section 2A-14-28, Supplemental Inspection Document 57-12-01, for inspection procedure.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>For All Models, this interval is for typical usage environment. Inspect wing strut and strut tube. Refer to Section 2A-14-29, Supplemental Inspection Document 57-40-01, for inspection procedure.</td>
<td></td>
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</tr>
<tr>
<td>For All Models, this interval is for severe usage environment. Inspect wing strut and strut tube. Refer to Section 2A-14-29, Supplemental Inspection Document 57-40-01, for inspection procedure.</td>
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<thead>
<tr>
<th>INTERVAL</th>
<th>OPERATION</th>
<th>ZONE</th>
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</thead>
<tbody>
<tr>
<td>Initial: 20 years; Repeat: 10 years</td>
<td>11</td>
<td>510, 520, 610, 620</td>
</tr>
<tr>
<td>Initial: 10 years; Repeat: 5 years</td>
<td>13</td>
<td>510, 520, 610, 620</td>
</tr>
<tr>
<td>Initial: 4,000 hours; Repeat: 100 hours</td>
<td>29</td>
<td>510, 520, 610, 620</td>
</tr>
<tr>
<td>Initial: 20 years, Repeat: 10 years</td>
<td>11</td>
<td>510, 610</td>
</tr>
<tr>
<td>Initial: 10 years, Repeat: 5 years</td>
<td>13</td>
<td>510, 610</td>
</tr>
<tr>
<td>Initial: 5 years, Repeat: 5 years</td>
<td>12</td>
<td>510, 610</td>
</tr>
<tr>
<td>Initial: 3 years, Repeat: 3 years</td>
<td>14</td>
<td>510, 610</td>
</tr>
<tr>
<td>Initial: 12,000 hours or 20 years, whichever occurs first; Repeat: 2,000 hours or 10 years, whichever occurs first.</td>
<td>20</td>
<td>510, 610</td>
</tr>
<tr>
<td>Initial: 6,000 hours or 10 years, whichever occurs first; Repeat: 1,000 hours or 5 years, whichever occurs first.</td>
<td>21</td>
<td>510, 610</td>
</tr>
<tr>
<td>TASK</td>
<td>INTERVAL</td>
<td>OPERATION</td>
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<tr>
<td>---------------------------------------------------------------------</td>
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</tr>
<tr>
<td>For All Models, inspect aileron hinges, hinge bolts,</td>
<td>Initial: 3,000 hours or 10 years, whichever occurs first; Repeat: 500 hours or 5 years, whichever occurs first.</td>
<td>16</td>
</tr>
<tr>
<td>hinge bearings and hinge and pushrod attach fittings. Refer to</td>
<td></td>
<td></td>
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<tr>
<td>Section 2A-14-30, Supplemental Inspection Document 57-51-01, for</td>
<td></td>
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<tr>
<td>inspection procedure.</td>
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<tr>
<td>For All Models, this interval is for mild/moderate corrosion</td>
<td>Initial: 20 years; Repeat: 10 years</td>
<td>11</td>
</tr>
<tr>
<td>environment. Inspect flap tracks for corrosion. Refer to Section</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For All Models, this interval is for severe corrosion environment.</td>
<td>Initial: 10 years; Repeat: 5 years</td>
<td>13</td>
</tr>
<tr>
<td>Inspect flap tracks for corrosion. Refer to Section 2A-14-31,</td>
<td></td>
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<tr>
<td>Supplemental Inspection Document 57-53-01, for inspection procedure.</td>
<td></td>
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</tr>
<tr>
<td>For All Models, inspect engine mount. Refer to Section 2A-14-32,</td>
<td>Initial: 10,000 hours or 20 years, whichever occurs first; Repeat: At Engine Overhaul</td>
<td>10</td>
</tr>
<tr>
<td>Supplemental Inspection Document 71-20-01, for inspection procedure.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Model 172, inspect engine mount brackets. Refer to Section</td>
<td>Initial: 2,500 hours or 5 years, whichever occurs first; Repeat: 2,500 hours or 5 years, whichever occurs first.</td>
<td>26</td>
</tr>
<tr>
<td>2A-14-33, Supplemental Inspection Document 71-20-02, for inspection procedure.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuselage lower internal structure beneath the floor panels for</td>
<td>Every 60 months</td>
<td>6</td>
</tr>
<tr>
<td>All Models. Make sure you inspect these areas: 1. Cabin structure</td>
<td></td>
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<tr>
<td>under floorboards. NOTE: Corrosion Prevention and Control Program</td>
<td></td>
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<tr>
<td>Inspection item (baseline interval, refer to Section 2A-30-00 for</td>
<td></td>
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<tr>
<td>additional inspection information).</td>
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</tr>
<tr>
<td>Fuselage internal structure in upper fuselage for All Models.</td>
<td>Every 60 months</td>
<td>6</td>
</tr>
<tr>
<td>Make sure you inspect these areas: 1. Cabin bulkhead corners. 2.</td>
<td></td>
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</tr>
<tr>
<td>Fuselage skin. NOTE: Corrosion Prevention and Control Program</td>
<td></td>
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</tr>
<tr>
<td>Inspection item (baseline interval, refer to Section 2A-30-00 for</td>
<td></td>
<td></td>
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<tr>
<td>additional inspection information).</td>
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</tr>
<tr>
<td>Areas of the cabin structure for All Models. Make sure you</td>
<td>Every 60 months</td>
<td>6</td>
</tr>
<tr>
<td>inspect these areas: 1. Firewall. 2. Firewall attachments. NOTE:</td>
<td></td>
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</tr>
<tr>
<td>Corrosion Prevention and Control Program Inspection item (baseline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>interval, refer to Section 2A-30-00 for additional inspection</td>
<td></td>
<td></td>
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<tr>
<td>information).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Passenger/Crew door retention system for All Models.
Make sure you inspect these areas:
1. Bell cranks.
2. Pushrods.
3. Handle.
4. Pin retention.
5. Pins.
8. Internal door framing.

**NOTE:** Corrosion Prevention and Control Program Inspection item (baseline interval, refer to Section 2A-30-00 for additional inspection information).

**Note:** Remove interior panels for access.

- **Every 48 months**: 5, 210

### Areas of the cabin structure for the passenger/crew door for All Models.
Make sure you inspect these areas:
1. Door frames.
2. Door hinges.

**NOTE:** Corrosion Prevention and Control Program Inspection item (baseline interval, refer to Section 2A-30-00 for additional inspection information).

- **Every 48 months**: 5, 210

### Areas of the cabin structure for All Models.
Make sure you inspect these areas:
1. Cabin door forward and aft frames.
2. Window frames with emphasis at stringers and channel assemblies from aft of door frame to aft bulkhead.
3. Seat attachment structure.
4. Aft Cabin Bulkhead.

**NOTE:** Corrosion Prevention and Control Program Inspection item (baseline interval, refer to Section 2A-30-00 for additional inspection information).

- **Every 60 months**: 6, 210

### Flaps (All Models).
1. Check flap travel cable tension and travel time.
2. Check flap cable system, control cables and pulleys, in accordance with the flight cable inspection procedures in Section 2A-20-01, Expanded Maintenance, Control Cables.

- **Initial:** 100 hours; 31
- **Repeat:** every 600 hours or 12 months, whichever occurs first.

- **210, 510, 610**

### Aileron (All Models).
1. Check aileron travel and cable tension.
2. Check aileron cable system, control cables and pulleys, in accordance with the flight cable inspection procedures in Section 2A-20-01, Expanded Maintenance, Control Cables.

- **Initial:** 100 hours; 31
- **Repeat:** every 600 hours or 12 months, whichever occurs first.

- **210, 510, 520, 610, 620**

### Elevator (All Models).
1. Check elevator travel and cable tension.
2. Check elevator cable system, control cables and pulleys, in accordance with the flight cable inspection procedures in Section 2A-20-01, Expanded Maintenance, Control Cables.

- **Initial:** 100 hours; 31
- **Repeat:** every 600 hours or 12 months, whichever occurs first.

- **210, 310, 330, 340**

### Elevator Trim (All Models).
1. Check elevator trim travel and cable tension.
2. Check elevator trim cable system, control cables and pulleys, in accordance with the flight cable inspection procedures in Section 2A-20-01, Expanded Maintenance, Control Cables.

- **Initial:** 100 hours; 31
- **Repeat:** every 600 hours or 12 months, whichever occurs first.

- **210, 310, 330, 340**

### Rudder (All Models).
1. Check rudder travel and cable tension.
2. Check rudder cable system, control cables and pulleys, in accordance with the flight cable inspection procedures in Section 2A-20-01, Expanded Maintenance, Control Cables.

- **Initial:** 100 hours; 31
- **Repeat:** every 600 hours or 12 months, whichever occurs first.

- **210, 310, 320**
<table>
<thead>
<tr>
<th>TASK</th>
<th>INTERVAL</th>
<th>OPERATION</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing structure internal for All Models. Make sure you inspect these areas: 1. Main spar upper and lower carry-thru fittings. 2. Main spar upper and lower caps. 3. Main spar web.</td>
<td>Every 12 months</td>
<td>2</td>
<td>510, 520, 610, 620</td>
</tr>
<tr>
<td>Wing structure internal for All Models. Make sure you inspect these areas: 1. Wing front spar and lower spar caps. 2. Upper and lower wing attach spar fittings. 3. Wing lower skins.</td>
<td>Every 60 months</td>
<td>6</td>
<td>510, 520, 610, 620</td>
</tr>
<tr>
<td>Wing structure external for All Models. Make sure you inspect these areas: 1. Skin with emphasis at skin overlaps and under access panels. 2. Rear spar upper and lower caps. 3. Rear spar web.</td>
<td>Every 60 months</td>
<td>6</td>
<td>510, 520, 610, 620</td>
</tr>
<tr>
<td>Aileron attachments for All Models. Make sure you inspect these areas: 1. Aileron hinges. 2. Hinge bolts. 3. Hinge bearings. 4. Hinge and pushrod support structure.</td>
<td>Every 24 months</td>
<td>3</td>
<td>520, 620</td>
</tr>
<tr>
<td>Vertical stabilizer structure for All Models. Make sure you inspect these areas: 1. Forward spar attachment to tailcone bulkhead. 2. Aft spar attachment to lower vertical stabilizer spar. 3. Front and rear spars. 4. Rear spar rudder hinges.</td>
<td>Every 60 months</td>
<td>6</td>
<td>310, 320</td>
</tr>
<tr>
<td>Main landing gear axle assembly for All Models. Make sure you inspect these areas: 1. Main gear axle and attach bolts. 2. Wheel halves.</td>
<td>Every 36 months</td>
<td>4</td>
<td>721, 722</td>
</tr>
<tr>
<td>REVISION STATUS</td>
<td>TASK</td>
<td>INTERVAL</td>
<td>OPERATION</td>
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</tr>
<tr>
<td>Nose gear trunnion, steering assembly, torque link assembly, nose gear fork and axle for All Models. Make sure you inspect these areas: 1. Nose gear trunnion surface. 2. Steering collar and steering collar attach bolt. 3. Torque link, torque link attach pin and attach bolt. 4. Nose gear fork. 5. Nose gear axle. NOTE: Corrosion Prevention and Control Inspection Item (baseline interval, refer to Section 2A-30-00 for additional inspection information).</td>
<td>Every 36 months</td>
<td>4</td>
<td>720</td>
</tr>
<tr>
<td>Nose gear trunnion, torque link assembly and nose gear fork for All Models. Make sure you inspect these areas: 1. Nose gear trunnion upper and lower inner bore surface and bearing. 2. Torque link bolt and attach pin inner bore surface. 3. Nose gear fork lug inner bore surface. NOTE: Corrosion Prevention and Control Inspection Item (baseline interval, refer to Section 2A-30-00 for additional inspection information).</td>
<td>Every 36 months</td>
<td>4</td>
<td>720</td>
</tr>
<tr>
<td>Nose landing gear outer barrel assembly for All Models. Make sure you inspect these areas: 1. Outer barrel assembly. 2. Upper strut end and lower collar assembly. NOTE: Corrosion Prevention and Control Inspection Item (baseline interval, refer to Section 2A-30-00 for additional inspection information). NOTE: do not apply LPS-3 Heavy-Duty Rust Inhibitor to the sliding surfaces of the oleo strut.</td>
<td>Every 36 months</td>
<td>4</td>
<td>720</td>
</tr>
<tr>
<td>Nose gear axle assembly for All Models. Make sure you inspect these areas: 1. Nose gear axle and attach bolt. 2. Wheel halves. NOTE: Corrosion Prevention and Control Program Inspection item (baseline interval, refer to Section 2A-30-00 for additional inspection information). NOTE: Disassemble the nose gear strut to get access. NOTE: Do not apply LPS-3 Heavy-Duty Rust Inhibitor to the sliding surfaces of the oleo strut. NOTE: Coordinate with tire change.</td>
<td>Every 60 months</td>
<td>6</td>
<td>720</td>
</tr>
<tr>
<td>Horizontal stabilizer structure for All Models. Make sure you inspect these areas: 1. Stabilizer attachment to the tailcone bulkhead. 2. Front and rear spars. NOTE: Corrosion Prevention and Control Program Inspection item (baseline interval, refer to Section 2A-30-00 for additional inspection information).</td>
<td>Every 60 months</td>
<td>6</td>
<td>330, 340</td>
</tr>
<tr>
<td>Elevator trim system for All Models. Make sure you inspect these areas: 1. Elevator trim brackets. 2. Actuator support brackets and bearings. 3. Pulleys and attaching structure. NOTE: Corrosion Prevention and Control Inspection Item (baseline interval, refer to Section 2A-30-00 for additional inspection information). NOTE: Do not apply LPS-3 Heavy Duty Rust Inhibitor on hinge bearing.</td>
<td>Every 24 months</td>
<td>3</td>
<td>330, 340</td>
</tr>
<tr>
<td>TASK</td>
<td>INTERVAL</td>
<td>OPERATION</td>
<td>ZONE</td>
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<td>----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Rudder attachments for All Models. Make sure you inspect these areas: 1. Hinge brackets. 2. Hinge bolts. 3. Hinge bearings. NOTE: Corrosion Prevention and Control Inspection Item (baseline interval, refer to Section 2A-30-00 for additional inspection information).</td>
<td>Every 24 months</td>
<td>3</td>
<td>320</td>
</tr>
<tr>
<td>Rudder structure for All Models. Make sure you inspect these areas: 1. Skin. 2. Forward and aft spars at hinge locations. NOTE: Corrosion Prevention and Control Inspection Item (baseline interval, refer to Section 2A-30-00 for additional inspection information).</td>
<td>Every 24 months</td>
<td>3</td>
<td>320</td>
</tr>
<tr>
<td>Engine support structure for All Models. Make sure you inspect these areas: 1. Engine truss. Pay particular attention to vicinity of welds. NOTE: Corrosion Prevention and Control Program Inspection item (refer to Section 2A-30-00 for additional inspection information).</td>
<td>Every 12 months</td>
<td>2</td>
<td>120</td>
</tr>
<tr>
<td>Control Yoke for Models 172, 180 and 185. Make sure you inspect these areas: 1. Center section of control yoke. NOTE: Corrosion Prevention and Control Program Inspection item (refer to Section 2A-30-00 for additional inspection information).</td>
<td>Every 12 months</td>
<td>2</td>
<td>210</td>
</tr>
<tr>
<td>Vertical Fin Attachment for the Model 150 Series. Inspect the vertical fin attachment. Refer to Section 2A-14-34, Supplemental Inspection Document, 55-11-04 for the inspection procedure.</td>
<td>Every 100 hours or 1 year.</td>
<td>25</td>
<td>320</td>
</tr>
<tr>
<td>This interval is for typical usage environment on Models 180 and 185. Inspect stabilizer hinge bracket and tailcone reinforcement angle. Refer to Section 2A-14-35, Supplemental Inspection Documents 53-10-01 for inspection procedure.</td>
<td>Initial: 5,000 hours or 20 years, whichever occurs first. Repeat: Every 2,000 hours or 5 years, whichever occurs first.</td>
<td>32</td>
<td>310</td>
</tr>
<tr>
<td>This interval is for severe usage environment on Models 180 and 185. Inspect stabilizer hinge bracket and tailcone reinforcement angle. Refer to Section 2A-14-35, Supplemental Inspection Documents 53-10-01 for inspection procedure.</td>
<td>Initial: 3,000 hours or 10 years, whichever occurs first. Repeat: Every 500 hours or 5 years, whichever occurs first.</td>
<td>33</td>
<td>310</td>
</tr>
</tbody>
</table>
INSPECTION OPERATION 25

Date: _______________
Registration Number: _______________
Serial Number: _______________
Total Time: _______________

1. Description
   A. Operation 25 gives Supplemental Inspection Document items that are to be examined after the first 100 hours of operation or 1 year, whichever occurs first. The inspection is to be repeated every 100 hours of operation or 1 year, whichever occurs first, after the initial inspection has been accomplished.
   B. Inspection items are given in the order of the zone in which the inspection is to be completed. Frequently, tasks give more information about each required inspection.
   C. The right portion of each page gives space for the mechanic's and inspector's initials and remarks. A copy of these pages can be used as a checklist when these inspections are completed.

2. General Inspection Criteria
   A. While each of the specified inspection tasks in this section are done, more general inspections of the adjacent areas must be done while access is available. These general inspections are used to find apparent conditions which can need more maintenance.
   B. If a component or system is changed after a required task has been completed, then that specified task must be done again to make sure it is correct before the system or component is returned to service.
   C. Do a preflight inspection after these inspections are completed to make sure all the required items are correctly serviced. Refer to the Approved Airplane Flight Manual.

<table>
<thead>
<tr>
<th>TASK</th>
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<th>MECH</th>
<th>INSP</th>
<th>REMARKS</th>
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</thead>
<tbody>
<tr>
<td>For Model 172, inspect horizontal stabilizer forward spar. Refer to Section 2A-14-20, Supplemental Inspection Document 55-11-01, for inspection procedure.</td>
<td>330, 340</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Model 150, inspect horizontal stabilizer forward attachments. Refer to Section 2A-14-21, Supplemental Inspection Document 55-11-02, for inspection procedure.</td>
<td>330, 340</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical Fin Attachment for the Model 150. Inspect the vertical fin attachment. Refer to Section 2A-14-34, Supplemental Inspection Document, 55-11-04 for inspection procedure.</td>
<td>320</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*** End of Operation 25 Inspection Items ***
INSPECTION OPERATION 32

Date: _______________
Registration Number: _______________
Serial Number: _______________
Total Time: _______________

1. Description
   A. Operation 32 gives Supplemental Inspection Document items that are to be examined after the first 5,000 hours of operation or 20 years, whichever occurs first. The inspection is to be repeated every 2,000 hours of operation or 5 years, whichever occurs first, after the initial inspection has been accomplished for airplanes operating in a typical usage environment.
   B. Inspection items are given in the order of the zone in which the inspection is to be completed. Frequently, tasks give more information about each required inspection.
   C. The right portion of each page gives space for the mechanic's and inspector's initials and remarks. A copy of these pages can be used as a checklist when these inspections are completed.

2. General Inspection Criteria
   A. While each of the specified inspection tasks in this section are done, more general inspections of the adjacent areas must be done while access is available. These general inspections are used to find apparent conditions which can need more maintenance.
   B. If a component or system is changed after a required task has been completed, then that specified task must be done again to make sure it is correct before the system or component is returned to service.
   C. Do a preflight inspection after these inspections are completed to make sure all the required items are correctly serviced. Refer to the Approved Airplane Flight Manual.

<table>
<thead>
<tr>
<th>TASK</th>
<th>ZONE</th>
<th>MECH</th>
<th>INSPIR</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>For the Models 180 and 185, inspect the stabilizer hinge bracket and tailcone reinforcement angle. Refer to Section 2A-14-35, Supplemental Inspection Document 53-10-01 for inspection procedure.</td>
<td>310</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*** End of Operation 32 Inspection Items ***
INSPECTION OPERATION 33

Date: _______________
Registration Number: _______________
Serial Number: _______________
Total Time: _______________

1. Description
   A. Operation 33 gives Supplemental Inspection Document items that are to be examined after the
      first 3,000 hours of operation or 10 years, whichever occurs first. The inspection is to be repeated
      every 500 hours of operation or 5 years, whichever occurs first, after the initial inspection has been
      accomplished for airplanes operating in a severe usage environment.
   B. Inspection items are given in the order of the zone in which the inspection is to be completed. Frequently, tasks give more information about each required inspection.
   C. The right portion of each page gives space for the mechanic's and inspector's initials and remarks. A copy of these pages can be used as a checklist when these inspections are completed.

2. General Inspection Criteria
   A. While each of the specified inspection tasks in this section are done, more general inspections of the
      adjacent areas must be done while access is available. These general inspections are used to find
      apparent conditions which can need more maintenance.
   B. If a component or system is changed after a required task has been completed, then that specified
      task must be done again to make sure it is correct before the system or component is returned to
      service.
   C. Do a preflight inspection after these inspections are completed to make sure all the required items
      are correctly serviced. Refer to the Approved Airplane Flight Manual.

<table>
<thead>
<tr>
<th>TASK</th>
<th>ZONE</th>
<th>MECH</th>
<th>INSP</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>For the Models 180 and 185, inspect the stabilizer hinge bracket and tailcone reinforcement angle. Refer to Section 2A-14-35, Supplemental Inspection Document 53-10-01 for inspection procedure.</td>
<td>310</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*** End of Operation 33 Inspection Items ***
1. Supplemental Inspection Document

A. Introduction
   (1) The Supplemental Structural Inspection Program for the Cessna Model 100 Series airplane is based on the affected Model 100 Series airplane current usage, testing and inspection methods. A practical state-of-the-art inspection program is established for each Principle Structural Element (PSE). A PSE is that structure whose failure, if it remained undetected, could lead to the loss of the airplane. Selection of a PSE is influenced by the susceptibility of a structural area, part or element to fatigue, corrosion, stress corrosion or accidental damage.
   (2) The Supplemental Structural Inspection Program was developed through the combined efforts of Cessna Aircraft Company, operators of affected Model 100 series airplanes and the FAA. The inspection program consists of the current structural maintenance inspection, plus supplemental inspections, as required, for continued airworthiness of the airplane as years of service are accumulated. The current inspection program is considered to be adequate in detecting corrosion and accidental damage. The emphasis of the Supplemental Structural Inspection Program is to detect fatigue damage whose probability increases with time.
   (3) Since fatigue damage increases at an increasing rate with increasing crack length, earlier detection and repair minimizes the damage and the magnitude of the repair.
   (4) The Supplemental Structural Inspection Program is valid for Model 100 series airplanes with less than 30,000 flight hours. Beyond this, continued airworthiness of the airplane can no longer be assured. Retirement of this airframe is recommended when 30,000 flight hours has been accumulated.

B. Function
   (1) The function of the Supplemental Structural Inspection Program is to find damage from fatigue, overload or corrosion through the use of the Nondestructive Inspections (NDI) and visual inspections. This Supplemental Inspection Document (SID) is only for primary and secondary airframe components. Engine, electrical items and primary and secondary systems are not included in this document. A list is included to show the requirements for the SID program for primary and secondary airframe components.
      (a) The airplane has been maintained in accordance with Cessna's recommendations or the equivalent.
      (b) If the SID is for a specific part or component, you must examine and evaluate the surrounding area of the parts and equipment. If problems are found outside these areas, report them to Cessna Aircraft Company on a reporting form. Changes can then be made to SID program, if necessary.
      (c) The inspections presented in the SID apply to all Model 100 Series airplanes. The inspection intervals presented are for unmodified airplanes. Airplanes that have been modified to alter the airplane's design, gross weight or performance may need to be inspected more frequently. Examples of common STCs, which will require modified inspection intervals, include non-Cessna wing extensions, winglets, speed brakes, STOL conversions, vortex generators, tip tanks, under wing tanks and nonstandard engines. The owner and/or maintenance organization should contact the STC holder(s) or modification originator for obtaining new FAA-approved inspection criteria.
   (2) A Corrosion Prevention and Control Program (CPCP) should be established for each airplane. Details of the CPCP are contained in Section 2A-30-00 of this manual.

2. Principal Structural Elements

A. Principal Structural Elements Description
   (1) An airplane component is classified as a Principal Structural Element (PSE) if:
      (a) The component contributes significantly to carrying flight and ground loads.
      (b) If the component fails, it can result in a catastrophic failure of the airframe.
   (2) The monitoring of these PSE's is the main focus of this Supplemental Structural Inspection Program.
   (3) Typical examples of PSE's, taken from FAA Advisory Circular 25.571, are shown in Table 1.
Table 1. Typical Examples of Principal Structural Elements

Wing and Empennage:
- Control surfaces, flaps and their mechanical systems and attachments (hinges, tracks and fittings)
- Primary fittings
- Principal splices
- Skin or reinforcement around cutouts or discontinuities
- Skin-stringer combinations
- Spar caps
- Spar webs

Fuselage:
- Circumferential frames and adjacent skin
- Door frames
- Pilot window posts
- Bulkheads
- Skin and single frame or stiffener element around a cutout
- Skin and/or skin splices under circumferential loads
- Skin or skin splices under fore and aft loads
- Skin around a cutout
- Skin and stiffener combinations under fore-and-aft loads
- Door skins, frames and latches
- Window frames

Landing Gear and Attachments

Engine Support Structure and Mounts

B. Selection Criteria

The factors used to find the PSE's in this document include:

1. Multiple sources of information were used to find the service discrepancies.
   a. Cessna Service Bulletins and Service Information Letters issued to repair common service discrepancies were examined.
   b. FAA Service Difficulty Records and Foreign certification agency Service Difficulty Records were examined.

2. Existing analyses were reviewed to identify components in areas that may have exhibited the potential for additional inspection requirements.

3. A review of test results applicable to the design was made to identify the critical areas of the PSE's.

4. The data collected was also used to find a component's susceptibility to corrosion or accidental damage as well as its inspectability.
3. Usage

A. Aircraft Usage
   (1) Aircraft usage data for the SID program is based on the evaluation of the in-service utilization of the aircraft. This data was used to develop the representative fatigue loads spectra. Operational data for development of the Supplemental Structural Inspection Program was obtained from surveys of aircraft operators.

   (2) Usage for spectra determination is defined in terms of a single flight representing typical average in-service utilization of the aircraft. This usage reflects the typical in-service flight variation of flight length, takeoff gross weight, payload and fuel.

   (3) The flight is defined in detail in terms of a flight profile. The profile identifies the gross weight, payload, fuel, altitude, speed, distance etc., required to define the pertinent flight and ground parameters needed to develop the fatigue loads. The flight is then divided into operational segments, where each segment represents the average values of the parameters (speed, payload, fuel etc.) that are used to calculate the loads spectrum.

B. Stress Spectrum
   (1) A fatigue loads spectrum, in terms of gross area stress, was developed for each PSE to be analyzed based on the usage-flight profiles. The spectrum represents the following loading environments: flight loads (gust and maneuver), landing impact, taxi loads and ground-air-ground cycles. The resulting spectrum is a representative flight-by-flight, cycle-by-cycle loading sequence that reflects the appropriate and significant airplane response characteristics.

   (2) After reviewing the aircraft usage data and the way in which the surveyed aircraft were flown, two sets of stress spectra were developed. The first flight profile represents typical usage, while the second profile represents severe usage, as described in Paragraph 3 D. below.

C. Fatigue Assessment
   (1) The fatigue assessment provides the basis for establishing inspection frequency requirements for each PSE. The evaluation includes a determination of the probable location and modes of damage and is based on analytical results, available test data and service experience. In the analysis, particular attention is given to potential structural condition areas associated with aging aircraft. Examples include:
      (a) large areas of structure working at the same stress level, which could develop widespread fatigue damage;
      (b) a number of small (less than detectable size) adjacent cracks suddenly joining into a long crack (e.g. as in a line of rivet holes);
      (c) redistribution of load from adjacent failing or failed parts causing accelerated damage of nearby parts (i.e., the "domino" effect); and
      (d) concurrent failure of multiple load path structure (e.g. crack arrest structure).

   (2) Initial inspections of a particular area of structure are based on fatigue analytical results. For locations with long fatigue the maximum initial inspection was limited to 12,000 flight hours.

D. Classifications for Types of Operation
   (1) The severity of the operation environment needs to be identified to determine the correct inspection program.
      (a) You must first find the category of your airplane’s operation based on average flight length.
      (b) You must also find the number of hours and number of landings on the airplane, then find the average flight length based on the formula found below.

      \[
      \text{Average Flight Length} = \frac{\text{Number of Flight Hours}}{\text{Number of Flights}}
      \]

   (2) If the average flight length is less than 30 minutes, then you must use the SEVERE inspection time limits. For airplanes with an average flight length greater than thirty minutes, you must find the severity of the operating environment.

   (3) Airplanes which have engaged in operations at low altitudes such as pipeline patrol, fish or game spotting, aerial applications, police patrol, sightseeing, livestock management etc. more than 30% of its life must use the SEVERE inspection time limits.

   (4) Airplanes which are equipped with floats or skis must use the SEVERE Inspection Time Limits.
(5) For all other operating environments, inspections should be conducted using the TYPICAL Inspection Time Limits.

Corrosion Severity

(1) Prior to conducting the initial corrosion inspection, determine where the airplane has resided throughout its life. If the airplane has resided in a severe corrosion environment for 30% or more of the years to the initial inspection (refer to maps in Section 2A-30-01), use the severe inspection time, otherwise use the mild/moderate inspection time.

(2) Prior to conducting a repetitive corrosion inspection, determine where the airplane has resided since the last inspection. If the airplane has resided in a severe environment for 30% or more of the years since the last inspection, use the severe inspection time, otherwise use the mild/moderate inspection time.

4. Reporting - Communications

A. Discrepancies

(1) For the SID to continue to stay applicable, it is necessary to have a free flow of information between the operator, the FAA and Cessna Aircraft Company. The important information about the inspection results, repairs and modifications done must be supplied to Cessna Aircraft Company in order to assess the effectiveness of the recommended inspection procedures and inspection intervals.

(2) Also, the operator's inspections and reports can find items not included in the SID before. These items will be examined by Cessna Aircraft Company and will be added to the SID for all of the operators, if applicable.

(3) Cessna Customer Service has a system to collect the reports. The applicable forms are included in this document. Copies of these forms are also available from a Cessna Service Station or Cessna Field Service Engineer.

B. Discrepancy Reporting

(1) Discrepancy reporting is essential to provide for adjusting the inspection thresholds and the repeat times as well as adding or deleting PSE's. It may be possible to improve the inspection methods, repairs and modifications involving the PSE's based on the data reported.

(2) All cracks, multiple cut off fasteners and corrosion found during the inspection must be reported to Cessna Aircraft Company within ten days. The PSE inspection results are to be reported on a form as shown on the pages that follow.

C. Send the Discrepancy Form

(1) Send all available data, which includes forms, repairs, photographs, sketches etc., to:

Cessna Aircraft Company
Attn: Customer Service
P.O. Box 7706
Wichita, KS 67277
USA
Phone: (316) 517-5800
Fax: (316) 517-7271

NOTE: This system does not replace the normal channels to send information for items not included in the SID.

D. Cessna Aircraft Company Follow-Up Action

(1) All SID reports will be examined to find if any of the steps are necessary:
   (a) Complete a check of the effect on the structural or operational condition.
   (b) Complete a check of other high-time airplanes to find if a service bulletin shall be issued.
   (c) Find if a reinforcement is required.
   (d) Change the SID if required.
5. Inspection Methods

A very important part of the SID program is selecting and evaluating state-of-the-art nondestructive inspection (NDI) methods applicable to each PSE. Potential NDI methods were selected and evaluated on the basis of crack orientation, part thickness and accessibility. Inspection reliability depends on size of the inspection task, human factors (such as qualifications of the inspector), equipment reliability and physical access. Visual, fluorescent, liquid penetrant, eddy current and magnetic particle methods are used. A complete description of those methods are presented in Section 2A-13-01, "Nondestructive Inspection Methods and Requirements."

6. Related Documents

A. Existing Inspections, Modifications and Repair Documents
   (1) Cessna has a number of documents that are useful to maintaining continued airworthiness of airplanes.
      (a) Cessna Model 100 Series Service Manual (P/N D637-1-13).
      (b) Cessna Model 150 IPC (P/N P438-12), Model 172 IPC (P/N P529-12), Model 182 IPC (P/N P515-12) and Model 180 and 185 IPC (P/N P527-12)
      (c) Cessna Single Engine Service Information Letters and Service Bulletin Summaries.
      (d) Cessna Service Newsletters and Newsletter Summaries.

B. For information regarding these documents, contact:

   Cessna Aircraft Company
   Customer Service
   P.O. Box 7706
   Wichita, KS 67277
   USA
   Phone: (316) 517-5800
   Fax: (316) 517-7271

7. Applicability/Limitations

A. This SID is applicable to the Cessna Model 100 series (Model 150 Serial Numbers 644, 649, 15059701 thru 15069308, F150-0001 thru F150-0389; Model 172 Serial Numbers 639, 17249545 thru 17257161, F172-0001 thru F172-0447, P17257120 thru P17257188, FP172-0001 thru FP172-0003; Model 180 Serial Numbers 645, 18051184 thru 18051993; Model 182 Serial Numbers 18254424 thru 18259305, A182-0001 thru A182-0116 and Model 185 Serial Numbers 185-0513 thru 185-1149, and Model A185 Serial Numbers 185-0968 thru 185-1447.

B. STC Modifications
   (1) The Cessna Model 100 Series airplanes can have modifications that were done by STCs by other organizations without Cessna Engineering approval. The inspection intervals given in this SID are for unchanged airplanes.
   (2) Airplanes that have been modified to alter the airplane design, gross weight or airplane performance may need to be inspected more frequently. Examples of common STC's not covered by this SID document include non-Cessna wing extensions, winglets, speed brakes, STOL conversions, vortex generators, tip tanks, under wing tanks and nonstandard engines. The owner and/or maintenance organization should contact the STC holder(s) or modification originator for obtaining new FAA approved inspection criteria.

C. The SID inspection times are based on total airframe hours OR calendar times in service. If a specific airframe component has been replaced, the component is to be inspected, based on total component hours or calendar time requirements. However, any attachment structure that was not replaced when the component was replaced must be inspected, based on the total airframe hours or calendar time requirements. Inspections are due at the lessor of specified flight hours or calendar time. The inspections must be completed by June 30, 2014.
8. PSE DETAILS

A. Details
   (1) This section contains the important instructions selected by the rationale process described in
       Section 2, Principal Structural Elements. Those items are considered important for continued
       airworthiness of the Model 100 Series.

B. PSE Data Sheets
   A data sheet for each PSE is provided in Section 2A-14-XX - Supplemental Inspection Documents.
   Each data sheet contains the following:
   (1) Supplemental Inspection Number
   (2) Title
   (3) Effectivity
   (4) Inspection Compliance
   (5) Initial Inspection Interval(s)
   (6) Repeat Inspection Interval(s)
   (7) Purpose
   (8) Inspection Instructions
   (9) Access/Location/Zone
   (10) Detectable Crack Size
   (11) Inspection Procedure
   (12) Repair/Modification
   (13) Comments

   NOTE: Accomplishment of SID inspections does not in any way replace preflight inspections, good
       maintenance practices or maintenance and inspections specified in the Model 100 Series
       Service Manual.

   NOTE: Inspection intervals are given in both hour and calendar time. After the completion of
       each initial SID inspection, repeat inspections may be completed based on hour time if the
       Corrosion Prevention and Control Program (CPCP) in Section 2A-30-00 is included in the
       airplane maintenance program.

C. Repairs, Alterations and Modifications (RAM)
   (1) Repairs, alterations and modifications (RAM) made to PSE's may affect the inspection times
       and methods presented in the SID. The flowchart in Figure 1 can be used to determine if a new
       assessment and FAA approved supplemental inspections are required.
   (2) Repairs may be made in accordance with Section 19 of Model 100 Series Service Manual or
       the REPAIR/MODIFICATION Section of the SID.
   (3) Repairs not covered by the recommendations in these documents may be coordinated with
       Cessna Customer Service at telephone 316-517-5800 / FAX 316-517-7271.
Analytical Assessment Flowchart
Figure 1 (Sheet 1)
DISCREPANCY REPORT

SID NO: ______ AIRPLANE LOCATION: ________________________ S/N OF AIRPLANE: ________

INSPECTION CONDUCTED: Date _______ Airplane Total Hours _________ Cycles ____________

Component Total Hours _______ Cycles ____________

OWNER NAME ___________________________ OWNER PHONE NUMBER ________________

OWNER ADDRESS ________________________________________________________________

SERVICE HISTORY:

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

INSPECTION METHOD/LIMITS:

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

ACCESS REQUIRED:

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

REPAIR DESCRIPTION:

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

COMMENTS:

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

Enclose all available data including photos, sketches, etc., to:

Cessna Aircraft Company
Attn: SID Program
Customer Service
P.O. Box 7706
Wichita, Kansas USA 67277
FAX 316-517-7271
1. **Supplemental Inspection Procedures**

   A. Each of the supplemental inspections listed in this section has the instructions to do each Nondestructive Testing procedure needed.

   B. **Procedure**

      (1) Each 2A-14-XX section has the details of the inspection and if needed, a reference to the Nondestructive Testing procedure for that inspection.

      (2) The supplemental inspections that reference a Nondestructive Testing procedure will refer to 2A-13-01 document for the details of the procedure.

      (3) The supplemental inspection numbers in the list below agree with the number for the Nondestructive Testing procedure, if applicable. Refer to Inspection Requirements - Hours to Years Equivalence.

   C. If an airplane has exceeded the inspection limits given, the inspection must be done before June 30, 2014. Inspections in subsequent revisions to the SID shall be accomplished in accordance with the requirements of the revised inspection.

   D. **Service Information Letters/Service Bulletins**

      (1) In addition to this service manual, the following service information will be required to complete the SID inspections (2A-14-XX document sections).

<table>
<thead>
<tr>
<th>Bulletin</th>
<th>Title</th>
<th>Associated Service Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE69-04</td>
<td>Improved Elevator Bellcrank Bracket (for Model 172 units 17251823 thru 17257161, F172-0086 thru F172-0559)</td>
<td>SK172-30</td>
</tr>
<tr>
<td>SE71-23</td>
<td>Horizontal Stabilizer Attachment (for Model 150 units 15059701 thru 15069308, F150-0001 thru F150-0389)</td>
<td>SK150-33A</td>
</tr>
<tr>
<td>SE74-10</td>
<td>Vertical Stabilizer Attachment and Nosewheel Fork and Heavy Duty Axle Bolt (for Model 150 units 15017001 thru 15069308, F150-0001 thru F150-0389)</td>
<td>SK150-11C</td>
</tr>
<tr>
<td>SE75-20</td>
<td>Aft Spinner Bulkhead Shim Installation and Fuselage Tailcone Station 95 Bulkhead Stiffener (for Model 150 units 15060088 thru 15069308, F150-0001 thru F150-0389)</td>
<td>SK150-11C</td>
</tr>
<tr>
<td>SE75-20</td>
<td>Aft Spinner Bulkhead Shim Installation and Fuselage Tailcone Station 95 Bulkhead Stiffener (for Model 150 units 15060088 thru 15069308, F150-0001 thru F150-0389)</td>
<td>SK150-11C</td>
</tr>
<tr>
<td>SE79-49</td>
<td>Nutplate Inspection - Vertical Fin Attach Bracket (for Model 150 units 15061533 thru 15069308, F150-0001 thru F150-0389)</td>
<td>SK182-46</td>
</tr>
<tr>
<td>SE72-29</td>
<td>Aft Tailcone Assembly - Inspection (for Model 182 units 18254424 thru 18259305)</td>
<td>SK182-22A</td>
</tr>
<tr>
<td>SE78-68</td>
<td>U-Bolt Replacement (for Model 172 units 17249545 thru 17257161, F172-0001 thru F172-0559 and P17257120 thru P17257188)</td>
<td>SK185-22A</td>
</tr>
<tr>
<td>SE79-62</td>
<td>185 Engine Mount (for Model 185 units 185-0968 thru 185-1447 equipped with IO-520-D engines)</td>
<td>SK185-22A</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Part Numbers</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SEB03-6</td>
<td>Vertical Tail Attach Bracket and Aft Horizontal Stabilizer Spar Inspection (for Model 150 units</td>
<td>649, 15061533 thru 15069308, F150-0001 thru F150-0389</td>
</tr>
<tr>
<td>SEB07-4</td>
<td>Floorboard/Seat Pan Crack Inspection (for Model 150 units 649, 15061533 thru 15069308, F150-0001</td>
<td>thru F150-0389</td>
</tr>
<tr>
<td>SEB87-4</td>
<td>Aileron Hinge Inspection</td>
<td></td>
</tr>
<tr>
<td>SEB95-3</td>
<td>Flap Support Inspection and Roller Washer Installation</td>
<td>SK180-44</td>
</tr>
<tr>
<td>SEB96-7</td>
<td>AN3-5A Bolt Inspection/Replacement</td>
<td></td>
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<tr>
<td>SEB07-2</td>
<td>Engine Mount Bracket Inspection (for Model 172 units 639, 17249545 thru 17257161, F172-0001 thru</td>
<td>F172-0559, P17257120 thru P17257188 and FP172-0001 thru FP172-0003</td>
</tr>
<tr>
<td>SEB07-5</td>
<td>Pilot and Copilot Secondary Seat Stop Installation (for Model 172 units 639, 17249545 thru 17257161, F172-0001 thru F172-0559, P17257120 thru P17257188, FP172-0001 thru FP172-0003, for Model 180 units 645, 18051184 thru 18051993, for Model 182 units 634, 18254424 thru 18259305, and for Model 185 units 185-0513 thru 185-1447)</td>
<td>SK210-174A, SK210-175A</td>
</tr>
<tr>
<td>SEB94-8</td>
<td>Horizontal Stabilizer Forward Spar Inspection/Modification (for Model 172 units 17249545 thru 17257161, F172-0001 thru F172-0559, P17257120 thru P17257188, and FP172-0001 thru FP172-0003)</td>
<td></td>
</tr>
<tr>
<td>SEB95-19</td>
<td>Lower Forward Doorpost and Strut Fitting Inspection and Modification (for Model 182 units 634, 18254424 thru 18259305, A182-0001 thru A182-0116)</td>
<td>SK182-115</td>
</tr>
<tr>
<td>SEB99-12</td>
<td>Vertical Stabilizer Aft Spar Attach Bulkhead Replacement (for Model 182 units 634, 18254424 thru 18259305)</td>
<td>SK210-161</td>
</tr>
<tr>
<td>SEB03-01</td>
<td>Elevator Rivet Installation (for Model 182 units 634, 18255846 thru 18259305)</td>
<td>SK172-53A, SK172-54A</td>
</tr>
</tbody>
</table>

## Supplemental Inspections

<table>
<thead>
<tr>
<th>DETAILS FOUND IN SECTION 2A-14-XX</th>
<th>SUPPLEMENTAL INSPECTION NUMBER</th>
<th>TITLE</th>
<th>INITIAL</th>
<th>REPEAT</th>
<th>INSPECTION OPERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2A-14-01</td>
<td>27-20-01</td>
<td>Rudder Pedal Torque Tube Inspection - All Models</td>
<td>10,000 Hours or 20 Years</td>
<td>3,000 Hours or 5 Years</td>
<td>8</td>
</tr>
<tr>
<td>2A-14-02</td>
<td>27-30-01</td>
<td>Elevator Trim Pulley Bracket and Actuator Bracket Structure Inspection - Models 150, 172 and 182</td>
<td>1,000 Hours</td>
<td>1,000 Hours</td>
<td>15</td>
</tr>
<tr>
<td>2A-14-03</td>
<td>27-30-02</td>
<td>Elevator Trim Pulley Bracket and Screw-Jack Structure Inspection - Models 180 and 185</td>
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<td>27-42-01</td>
<td>Horizontal Stabilizer Screw-Jack Actuator Inspection - Models 180 and 185</td>
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<td>2A-14-05</td>
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<td>U-Bolt Replacement - Model 172</td>
<td>1,000 Hours or 3 Years</td>
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<td>Main Landing Gear Flat Spring and Attachment Fittings Corrosion Inspection - All Models</td>
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<td>Main Landing Gear Spring Axle Attach Inspection (With Skis) - Models 180 and 185</td>
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<td>Nose Gear Torque Link Bolt and Fork Inspection - Models 150, 172 and 182</td>
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<td>Fuselage Forward Doorpost Inspection - Models 150, 172, 180 and 185</td>
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<td>53-12-02</td>
<td>Fuselage Forward Doorpost Inspection - Model 182</td>
<td>4,000 Hours or 10 Years</td>
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<td>Seat Rails and Seat Rail Structure Corrosion Inspection - All Models</td>
<td>MILD/MODERATE 10 Years</td>
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<td>Horizontal Stabilizer, Elevators and Attachments Inspection - All Models</td>
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<td>100 Hours or 1 Year</td>
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<td>55-11-02</td>
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<td>100 Hours or 1 Year</td>
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<td>INSPECTION COMPLIANCE (Refer to Note 1)</td>
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<td>Vertical Stabilizer Attach Bracket and Horizontal Stabilizer Rear Spar Attachment Inspection - Model 150</td>
<td>2,000 Hours or 4 Years</td>
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<td>Vertical Stabilizer, Rudder and Attachments Inspection - All Models</td>
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<td>Wing Spar Inspection - Models 180 and 185</td>
<td>4000 Hours</td>
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<td>2A-14-27</td>
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<td>Wing Splice Joint at Strut Attach Inspection - All Models</td>
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<td>Strut and Strut Wing Attachment Inspection - All Models</td>
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<td>57-51-01</td>
<td>Aileron Support Structure Inspection - All Models</td>
<td>3,000 Hours or 10 Years</td>
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<td>Flap Tracks Corrosion Inspection - All Models</td>
<td>MILD/ MODERATE 20 Years</td>
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<td>MILD/ MODERATE 10 Years</td>
<td>SEVERE 5 Years</td>
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<td>2A-14-32</td>
<td>71-20-01</td>
<td>Engine Mount Inspection - All Models</td>
<td>10,000 Hours or 20 Years</td>
<td>At Engine Overhaul</td>
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<td>2A-14-33</td>
<td>71-20-02</td>
<td>Engine Mount Inspection - Model 172</td>
<td>2,500 Hours or 5 Years</td>
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<td>55-11-04</td>
<td>Vertical Fin Attach Bracket</td>
<td>100 Hours or 1 Year</td>
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<td>2A-14-35</td>
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<td>Tailcone Reinforcement Inspection</td>
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<td>SEVERE 3,000 Hours or 10 Years</td>
<td>SEVERE 500 Hours or 5 Years</td>
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</table>

**NOTE 1:** Time limits for the INITIAL inspections are set by either flight hours or calendar time, whichever occurs first. Except for Section 2A-14-33, Supplemental Inspection Document 71-20-01, corresponding calendar inspection times are per REPEAT flight hour or calendar time specified whichever occurs first. Corrosion Prevention and Control Program (CPCP) remain calendar time based. If the INITIAL inspection has been completed, and a CPCP is in effect, then REPEAT inspections are based entirely on flight hours.
1. **TITLE:**
Vertical Stabilizer Attach Bracket and Horizontal Stabilizer Rear Spar Attachment Inspection - Model 150

2. **EFFECTIVITY**
Model 150 Serial Numbers 644, 649, 15059701 thru 15069308,
Model F150 Serial Numbers F150-0001 thru F150-0389

---

**INSPECTION COMPLIANCE**

<table>
<thead>
<tr>
<th>ALL USAGE:</th>
<th>INITIAL 2,000 Hours or 4 Years (NOTE)</th>
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<tbody>
<tr>
<td>REPEAT</td>
<td>2,000 Hours or 4 Years (NOTE)</td>
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</tbody>
</table>

**NOTE:** Refer to Note 1, Section 2A-14-00.

3. **PURPOSE**
To inspect the vertical and horizontal stabilizer rear spar attachments for signs of damage, cracks or deterioration.

4. **INSPECTION INSTRUCTIONS**

   A. Do an inspection of the vertical stabilizer to horizontal stabilizer aft spar fitting. Refer to Figure 1, Detail B.
      (1) Visually inspect the vertical stabilizer to horizontal stabilizer aft spar fitting for cracks or corrosion.
          (a) Clean area before inspecting if grime or debris is present.
          (b) Pay particular attention to the 0431009 brackets at the radius of the vertical to horizontal flanges.
      (2) For airplane serial numbers 15061533 thru 15069308 and F150-0001 thru F150-0389:
          (a) Do a surface eddy current inspection of the 0431009 brackets at the radius of the vertical to horizontal flanges. Refer to Section 2A-13-01, Nondestructive Inspection Methods and Requirements, Eddy Current Inspection, for additional inspection instructions.

   B. Visually inspect the 0432005-1 and -2 fittings that attach the horizontal stabilizer rear spar to the fuselage.
      (1) Inspect for loose screws in the attachment of the fittings to the horizontal stabilizer.

   C. Remove 0432004 bracket from 0432001–15 reinforcement and visually inspect the horizontal stabilizer rear spar and vertical stabilizer attach bracket for cracks. Refer to Figure 1, Detail C.
      (1) Clean area before inspecting if grime or debris is present.
      (2) Visually inspect bracket and reinforcement for cracks. Use inspection holes to inspect around nut plates on upper and lower flanges.
      (3) Pay particular attention to the edge of the plate welded to the aft side of the bracket.
      (4) Visually inspect 0432001-56 spar for cracks near bracket and reinforcement attach area. Remove the inspection plate on the top surface of the horizontal stabilizer and use a borescope to inspect the forward side of 0432001-56 spar.

   D. Detailed Inspection:
      (1) If no cracks are found on 0432004 bracket during visual inspection, conduct a surface eddy current inspection. If no cracks are found during the surface eddy current inspection, proceed to 4.E.
      (2) Conduct a surface eddy current inspection of 0432001–15 horizontal rear spar reinforcement, where the 0432004 bracket attaches. If no cracks are found during the surface eddy current inspection, proceed to 4.E.
      (3) Remove 0432001–15 rear spar reinforcement and conduct a surface eddy current inspection of 0432001–56 spar, where the 0432004 and 0432001–15 are installed.

   E. Install all removed parts. Refer to the Model 100 Series Service Manual.
5. ACCESS AND DETECTABLE CRACK SIZE

<table>
<thead>
<tr>
<th>ACCESS/LOCATION</th>
<th>DETECTABLE CRACK SIZE</th>
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<td>Rudder</td>
<td>Not Allowed</td>
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</table>

6. INSPECTION METHOD
Visual and Eddy Current

7. REPAIR/MODIFICATION
Replace damaged or cracked parts. 0431009-1 and -2 brackets may be replaced with 0431009-3 brackets. 0432004-1 or -9 fittings have been replaced by 0432004-10 fittings. The -10 fittings are heat treated after welding, and so cannot be rewelded and used without subsequent heat treatment. Repairs may be made in accordance with Section 19 (Structural Repair) of the Model 100 Series Service Manual. Any repair not available in Section 19 should be coordinated with Cessna Customer Service prior to beginning the repair.

8. COMMENTS
VERTICAL STABILIZER ATTACH BRACKET AND HORIZONTAL STABILIZER REAR SPAR ATTACHMENT INSPECTION - MODEL 150

Figure 1 (Sheet 1)
SUPPLEMENTAL INSPECTION NUMBER: 55-11-04

1. TITLE:
   Vertical Fin Attach Bracket Inspection - Model 150

2. EFFECTIVITY
   Model 150 Serial Numbers 15061533 thru 15069308
   Model F150 Serial Numbers F150-0001 thru F150-0389

   INSPECTION COMPLIANCE
   
   ALL USAGE: INITIAL 100 Hours or 1 Year (NOTE)
   REPEAT 100 Hours or 1 Year (NOTE)

   NOTE: Refer to Note 1, Section 2A-14-00.

3. PURPOSE
   To inspect the vertical stabilizer rear spar attachments for signs of corrosion or cracks.

4. INSPECTION INSTRUCTIONS
   A. Visually inspect the vertical stabilizer to horizontal aft spar fitting for cracks or corrosion. Refer to Figure 1.
      (1) Clean the area before inspecting if grime or debris is present.
      (2) Pay particular attention to the 0431009 brackets at the radius of the vertical to horizontal flanges of each bracket.
      (3) If a crack is suspected, do the following:
          (a) Do a surface eddy current inspection. Refer to Section 2A-13-01 Nondestructive Inspection Methods and Requirements, Eddy Current Inspection, for additional inspection instructions.
   B. Do an inspection of the vertical fin attachment nutplates in accordance with the latest revision of SE79-49.
   C. Install all removed parts. Refer to the applicable sections of the Model 100 Series Service Manual.

5. ACCESS AND DETECTABLE CRACK SIZE
   
   ACCESS/LOCATION DETECTABLE CRACK SIZE
   Vertical Stabilizer Not Allowed

6. INSPECTION METHOD
   Visual and Eddy Current

7. REPAIR/MODIFICATION
   Replace damaged or cracked parts. 0431009-1 and -2 brackets may be replaced with 0431009-3 brackets.

8. COMMENTS
VERTICAL STABILIZER ATTACH BRACKET INSPECTION - MODEL 150

Figure 1 (Sheet 1)
1. **TITLE:**
   Tailcone Reinforcement Inspection

2. **EFFECTIVITY**
   Model 180 Serial Numbers 645, 18051184 thru 18051993
   Model 185 Serial Numbers 185-0513 thru 185-1149
   Model A185 Serial Numbers 185-0968 thru 185-1447

3. **INSPECTION COMPLIANCE**
   TYPICAL: INITIAL 5,000 Hours or 20 Years (NOTE)
   REPEAT 2,000 Hours or 5 Years (NOTE)
   SEVERE: INITIAL 3,000 Hours or 10 Years (NOTE)
   REPEAT 500 Hours or 5 Years (NOTE)

4. **PURPOSE**
   To ensure the structural integrity of the horizontal bulkhead reinforcement.

5. **INSPECTION INSTRUCTIONS**
   A. Remove the vertical and horizontal stabilizers to get access to the aft horizontal attachment area near F.S. 230 (refer to the applicable sections of the service manual for stabilizer removal instructions).
   B. Do a visual inspection of the stabilizer hinge bracket (Part Numbers 0712302-1, -2) for crack(s).
      (1) If grime or debris is present in the inspection area, clean the area before doing the inspection.
   C. Do a visual inspection of the tailcone reinforcement angle (Part Numbers 0712207-1, -2) for crack(s) near F.S. 228.62. Inspect the rivet aft of F.S. 228.62 to make sure it is not loose or sheared. Replace any loose or sheared rivets.
      (1) If grime or debris is present in the inspection area, clean the area before doing the inspection.
   D. If no cracks are found, install item removed to accomplish this inspection.
      (1) Refer to the applicable sections of the service manual for horizontal and vertical stabilizer installation instructions.
   E. If one or more cracks are found in the inspection area, no further flight is permitted.
      (1) You must replace the cracked part(s) before further flight.

6. **ACCESS AND DETECTABLE CRACK SIZE**
   **ACCESS/LOCATION**
   Tailcone, Horizontal and Vertical Stabilizers
   **DETECTABLE CRACK SIZE**
   Not Allowed

7. **INSPECTION METHOD**
   Visual

8. **REPAIR/MODIFICATION**
   If one or more cracks are found, no further flight is permitted until the cracked parts are replaced.

9. **COMMENTS**
Tailcone Reinforcement Inspection

Figure 1 (Sheet 1)

DETAIL A

Angle – Tailcone Reinforcement

Bulkhead Assembly STA 209.00

Stabilizer Hinge Brackets. Inspect the brackets for cracks.

Bulkhead Assembly STA 230.187

Relationships

Angle – Tailcone Reinforcement

Inspect reinforcement angle for cracks in this area.

STA 228.62

DETAIL B

Inspect rivet for condition and security.
1. General
   A. This section describes corrosion to assist maintenance personnel in identification of various types of corrosion and application of preventative measures to minimize corrosion activity.
   B. Corrosion is the deterioration of a metal by reaction to its environment. Corrosion occurs because most metals have a tendency to return to their natural state.

2. Corrosion Characteristics
   A. Metals corrode by direct chemical or electrochemical (galvanic) reaction to their environment. The following describes electrochemical reaction:
      (1) Electrochemical corrosion can best be compared to a battery cell. Three conditions must exist before electrochemical corrosion can occur:
          (a) There must be a metal that corrodes and acts as the anode (+ positive).
          (b) There must be a less corrodible metal that acts as the cathode (- negative).
          (c) There must be a continuous liquid path between the two metals, which acts as the electrolyte. This liquid path may be condensation or, in some cases, only the humidity in the air.
      (2) Elimination of any one of the three conditions will stop the corrosion reaction process.
      (3) A simple method of minimizing corrosion is adding a layer of pure Aluminum to the surface. The pure Aluminum is less susceptible to corrosion and also has a very low electropotential voltage relative to the remainder of the alloyed sheet. This process is conducted at the fabricating mill and the product is called Alclad. Model 100 Series airplanes had sheet metal parts constructed of Alclad sheet.
      (4) One of the best ways to eliminate one of the conditions is to apply an organic film (such as paint, grease or plastic) to the surface of the metal affected. This will prevent electrolyte from connecting the cathode to the anode so current cannot flow and therefore, prevent corrosive reaction and was not available for production Model 100 Series airplanes.
      (5) Other means employed to prevent electrochemical corrosion include anodizing and electroplating. Anodizing and other passivating treatments produce a tightly adhering chemical film which is much less electrochemically reactive than the base metal. Because the electrolyte cannot reach the base metal, corrosion is prevented. Electroplating deposits a metal layer on the surface of the base material, which is either less electrochemically reactive (Example: chrome on steel) or is more compatible with the metal to which it is coupled (Example: cadmium plated steel fasteners used in aluminum).
      (6) At normal atmospheric temperatures, metals do not corrode appreciably without moisture. However, the moisture in the air is usually enough to start corrosive action.
      (7) The initial rate of corrosion is usually much greater than the rate after a short period of time. This slowing down occurs because of the oxide film that forms on the metal surfaces. This film tends to protect the metal underneath.
      (8) When components and systems constructed of many different types of metals must perform under various climatic conditions, corrosion becomes a complex problem. The presence of salts on metal surfaces (sea or coastal operations) greatly increases the electrical conductivity of any moisture present and accelerates corrosion.
      (9) Other environmental conditions that contribute to corrosion are:
          (a) Moisture collecting on dirt particles.
          (b) Moisture collecting in crevices between lap joints, around rivets, bolts and screws.

3. Types of Corrosion
   A. The common types of corrosion that are encountered in airplane maintenance are described in this section. In many instances more than one form of corrosion may exist at the same time. While this makes it difficult to determine the exact type of corrosion, it should still be possible to determine that a corrosive process is taking place. If it is impractical to replace an assembly or component, contact an authorized repair shop.
B. Direct Chemical Attack.
   (1) Direct chemical attack may take place when corrosive chemicals, such as battery electrolyte,
   caustic cleaning solutions or residual flux deposits are allowed to remain on the surface or
   become entrapped in cracks or joints. Welding or soldering flux residues are hydroscopic and
   will tend to cause severe pitting. Any potentially corrosive substance should be carefully and
   completely removed whenever such spillage occurs.

C. Pitting Corrosion.
   (1) The most common effect of corrosion on polished aluminum parts is called pitting. It is first
   noticeable as a white or gray powdery deposit, similar to dust, which blotches the surface (Refer
   to Figure 1).
   (2) When the deposit is cleaned away, tiny pits can be seen in the surface. Pitting may also occur
   in other types of metal alloys.

D. Intergranular Corrosion.
   (1) Intergranular corrosion (Refer to Figure 1) takes place because of the nature of the structure of
   metal alloys. As metals cool from the molten state, a granular structure is formed. The size and
   composition of the grains and the material in the grain boundaries depend on several factors
   including the type of alloy and rate of cooling from the molten state or cooling after heat-treating.
   The grains differ chemically and may differ electrochemically from the boundary material. If an
   electrolyte comes in contact with this type of structure, the grains and boundary material will act
   as anode and cathode and undergo galvanic corrosion. The corrosion proceeds rapidly along
   the grain boundaries and destroys the solidity of the metal.

E. Exfoliation gives the appearance of sheets of very thin metal separated by corrosion products. It
   is a form of intergranular corrosion. Since the corroded products are thicker than the uncorroded
   aluminum, exfoliation shows itself by “lifting up” the surface grains of a metal by the force of expanding
   corrosion. This type of corrosion is most often seen on extruded sections, where the grain thicknesses
   are usually less than in rolled alloy form.

F. Dissimilar Metal Corrosion. (Refer to Figure 1)
   (1) Dissimilar metal corrosion occurs when dissimilar metals are in contact in the presence of an
   electrolyte. A common example of dissimilar metal contact involves the attachment of aluminum
   parts by steel fasteners.

G. Concentration Cell Corrosion. (Refer to Figure 1)
   (1) Concentration cell corrosion occurs when two or more areas of the same metal surface are
   in contact with different concentrations of the same solution, such as moist air, water and
   chemicals.
   (2) The general types of concentration cell corrosion are identified as metal ion cells and oxygen
   cells. Refer to Figure 1.

H. Filiform Corrosion.
   (1) Filiform corrosion is a “concentration cell” corrosion process. When a break in the protective
   coating over aluminum occurs, the oxygen concentration at the back or bottom of the corrosion
   cell is lower than that at its open surface. The oxygen concentration gradient thus established,
   causes an electric current flow and corrosion results. Filiform corrosion results when this
   happens along the interface between the metal and the protective coating and appears as small
   worm-like tracks. Filiform corrosion generally starts around fasteners, holes and countersinks
   and at the edge of sheet metal on the outer surface of the airplane. Filiform corrosion is more
   prevalent in areas with a warm, damp and salty environment.
   (2) To help prevent filiform corrosion development, the airplane should be:
      (a) Spray washed at least every two to three weeks (especially in a warm, damp environment).
      (b) Waxed with a good grade of water repellent wax to help keep water from accumulating in
          skin joints and around countersinks.

   NOTE: Wax only clean surfaces. Wax applied over salt deposits will almost guarantee a
   trapped salt deposit, which is capable of accumulating moisture and developing into filiform corrosion.
Corrosion

Figure 1 (Sheet 1)
(c) Keep the airplane hangared to protect it from the atmosphere.
(d) Fly the airplane to promote aeration of enclosed parts.
(e) Ensure all vent/drain holes are open to ventilate the interior of airplane.

(3) To remove filiform corrosion once it has been discovered:
(a) Remove paint from corroded area.
(b) Remove corrosion by sanding area to metal surface, using either a ScotchBrite pad or 320 grit sandpaper (aluminum oxide or silicone carbide grit).
(c) Clean and refinish surface.

I. Stress Corrosion Cracking.
(1) This corrosion is caused by the simultaneous effects of tensile stress and corrosion. The stress may be internal or applied. Internal stresses are produced by nonuniform shaping during cold working of the metal, press and shrink fitting general hardware and those induced when pieces, such as rivets and bolts, are formed. The amount of stress varies from point to point within the component. Stress corrosion is most likely to occur at points of highest stress, which are also subject to corrosion influence.

J. Fatigue Corrosion.
(1) Fatigue corrosion is a special case of stress corrosion caused by the combined effects of cyclic stress and corrosion.

4. Typical Corrosion Areas
A. Aluminum appears high in the electrochemical series of elements and its position indicates that it should corrode very easily. However, the formation of a tightly adhering oxide film offers increased resistance under mild corrosive conditions. Most metals in contact with aluminum form couples, which undergo galvanic corrosion attack. The alloys of aluminum are subject to pitting, intergranular corrosion and intergranular stress corrosion cracking.

B. Battery Electrolyte.
(1) Battery electrolyte used in lead acid batteries is composed of 35% sulfuric acid and 65% water. When electrolyte is spilled, it should be cleaned up immediately. A weak boric acid solution may be applied to the spillage area followed by a thorough flushing with clean, cold running water. If boric acid is not available, flush the area with clean, cold water.
(2) If corrosion appears, use an approved repair method to repair the structure.

C. Steel Control Cable.
(1) Checking for corrosion on a control cable is normally accomplished during the preventative maintenance check. During preventative maintenance, broken wire and wear of the control cable are also checked.
(2) If the surface of the cable is corroded, carefully force the cable open by reverse twisting and visually inspect the interior. Corrosion on the interior strands of the cable constitutes failure and the cable must be replaced. If no internal corrosion is detected, remove loose external rust and corrosion with a clean, dry, coarse weave rag or fiber brush.

CAUTION: Do not use metallic wools or solvents to clean installed cables. Metallic wools will embed dissimilar metal particles in the cables and create further corrosion. Solvents will remove internal cable lubricant, allowing cable strands to abrade and further corrode.

(3) After thorough cleaning of exterior cable surfaces, if the cable appears dry, the lubrication originally supplied on the cable has probably oxidized and needs to be replaced with a light oil (5w motor oil, "3 in 1" oil, LPS-2, WD-40 or Diesel Fuel). Apply the oil with a cloth and then rub the cable with the cloth to coat the cable with a thin layer of oil. Excessive oil will collect dust and be as damaging to the cable as no lubrication.

D. Piano Type Hinges.
(1) The construction of piano type hinges forms moisture traps as well as the dissimilar metal couple between the steel hinge pin and the aluminum hinge. Solid film lubricants are often applied to reduce corrosion problems.
2. Care and replacement of solid film lubricants require special techniques peculiar to the particular solid film being used. Good solid film lubricants are lubricants conforming to Specification MIL-PRF-81322.
   (a) Solid film lubricants prevent galvanic coupling on close tolerance fittings and reduce fretting corrosion. Surface preparation is extremely important to the service or wear life of solid film lubricants.
   (b) Solid film lubricants are usually applied over surfaces coated with other films, such as anodize and phosphate. They have been successfully applied over organic coatings such as epoxy primers.

   **CAUTION:** Solid film lubricants containing graphite, either alone or in mixture with any other lubricants, should not be used since graphite is cathodic to most metals and will cause galvanic corrosion in the presence of electrolytes.

E. Requirements peculiar to faying surfaces of airframes, airframe parts and attaching surfaces of equipment, accessories and components.

1. When repairs are made on equipment or when accessories and components are installed, the attaching surfaces of these items should be protected. The following requirements are peculiar to faying surfaces on airframes, airframe parts and attaching surfaces of equipment, accessories and components:

2. Surfaces of similar or dissimilar metals.
   (a) All faying surfaces, seams and lap joints protected by sealant must have the entire faying surface coated with sealant. Excess material squeezed out should be removed so that a fillet seal remains. Joint areas, which could hold water, should be filled or coated with sealant.

3. Attaching Parts.
   (a) Attaching parts, such as nuts, bushings, spacers, washers, screws, self-tapping screws, self-locking nuts and clamps, do not need to be painted in detail except when dissimilar metals or wood contact are involved in the materials being joined. Such parts should receive a wet or dry coat of primer.

   **NOTE:** Corrosion inhibiting solid film lubricants, Specification MIL-PRF-46010 and/or MIL-L-46147, may be used to protect attaching parts from corrosion.

   (b) All holes drilled or reworked in aluminum alloys to receive bolts, bushings, screws, rivets and studs should be treated before installation of fasteners or bushings.

   (c) All rivets used to assemble dissimilar metals should be installed wet, with sealant, conforming to Specification MIL-PRF-81733 Corrosion inhibiting sealer (Type X).

4. Close tolerance bolts passing through dissimilar metals should be coated before installation, with a corrosion inhibiting solid film lubricant conforming to Specification MIL-PRF-46010 and/or MIL-L-46147.

5. Washers made of aluminum alloy of suitable design should be used under machine screws, countersunk fasteners, bolt heads and nuts.

6. Adjustable parts threads such as tie rod ends, turnbuckles, etc., should be protected with solid film lubrication conforming to Specification MIL-PRF-46010 and/or MIL-L-46147.

7. Slip fits should be assembled using wet primer conforming to Specification MIL-PRF-23377G or later, non-drying zinc chromate paste or solid film lubricant conforming to Specification MIL-PRF-46010 and/or MIL-L-46147.

8. Press fits should be accomplished with oil containing material conforming to Specification MIL-C-11796, Class 3 and/or MIL-C-16173, Class 1 or with other suitable material that will not induce corrosion.

F. Electrical.

1. Bonding and ground connections should be as described by the installation procedure.

2. Potting compounds are used to safeguard against moisture. Corrosion in electrical systems and resultant failure can often be attributed to moisture and climatic condition.
(3) Corrosion of metal can be accelerated because of the moisture absorbed by fungi. Fungi can create serious problems since it can act as an electrolyte, destroying the resistance of electrical insulating surfaces. Specification ASTM D3955 or ASTM D295-58 outlines moisture and fungus resistant varnish to be used.

5. General Corrosion Repair

A. This section provides general guidance on the repair of corroded area. The procedure presented is:
   (1) Gain access to the entire corroded area.
   (2) Mechanically remove the corrosion products
   (3) Determine the extent of the corrosion damage
   (4) Repair or replace the damaged components
   (5) Finish the new or repaired parts.
   (6) Replace removed components

B. Gain access to the entire corroded area.
   (1) Corrosion products typically retain moisture. If those products are not removed, corrosion will continue. Corrosion can take place within layered construction or under (behind) equipment fastened in place.

C. Mechanically remove the corrosion.
   (1) Chemicals will not remove corrosion. The best chemicals can do is interrupt the corrosion cell by either displacing water or shielding corrosion products from oxygen. In either case, the effect is temporary and will need to be renewed.
   (2) Sand mild corrosion.
   (3) Use rotary files or sanding disks for heavier corrosion. Finish up with fine sand paper.

   NOTE: Do not use metallic wool. Metal particles will be embedded in the surface, which will initiate additional corrosion.

D. Determine the extent of corrosion damage.
   (1) Direct measurement is simplest.
   (2) Indirect measurement may be necessary
      (a) Eddy Current or ultrasound tools can be used for thickness measurement away from part edges.

E. Repair or replace corrosion damaged components
   (1) Replace damaged or corroded steel or aluminum fasteners.
   (2) If the material is sheet or plate, the thickness is allowed to be as little as 90% of the nominal thickness.
   (3) This general allowance is not allowed if:
      (a) The area of the part contains fasteners.
      (b) The reduced thickness compromises the fit or function of a part.

F. Finish the new or repaired parts
   (1) Apply Alodine or similar anticorrosion compounds to new or repaired parts or
   (2) Apply zinc chromate or
   (3) Apply epoxy fuel tank primer.
   (4) Paint the exterior or visible interior parts according to Section 20 of the Model 100 Series Service Manual.

G. Replace Removed Components.

6. General

A. This section contains maps which define the severity of potential corrosion on the airplane structure.

B. The Corrosion Severity Zones identified in Figure 2, Figure 3, Figure 4, Figure 5, Figure 6 and Figure 7 are provided for guidance to determine types and frequency of required inspections and other maintenance.
C. Corrosion Severity Zones are affected by atmospheric and other climatic factors. It is the responsibility of the owner and operator to determine the specific corrosion severity level with respect to the operating environment of the aircraft based on geographic location and known environmental conditions. Corrosion Severity Zones are defined as follows.

1. **Mild Corrosion Severity Zone**
   - Airplanes operated in arid, temperate or cold regions.

2. **Moderate Corrosion Severity Zone**
   - Airplanes operated in tropical or subtropical high humidity regions.

3. **Severe Corrosion Severity Zone**
   - Airplanes operated in the following conditions should follow the procedures for severe corrosion zones.
     1. Salt water or coastal regions.
     2. Based in or near industrial and/or metropolitan areas with heavy atmospheric pollution.
     3. From airports where the use of chemical de-icers is common.
     4. Agricultural operations.
     5. On floats.
North America Corrosion Severity Map
Figure 2 (Sheet 1)
South America Corrosion Severity Map
Figure 3 (Sheet 1)
Africa Corrosion Severity Map
Figure 4 (Sheet 1)
Asia Corrosion Severity Map
Figure 5 (Sheet 1)
South Pacific Corrosion Severity Map
Figure 7 (Sheet 1)