TEMPORARY REVISION NUMBER 7

DATED 18 MAY 2015

MANUAL TITLE       Model 150 Series 1977 Service Manual
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TEMPORARY REVISION NUMBER  D2011-1TR7

MANUAL DATE  1 July 1976       REVISION NUMBER  1       DATE  1 August 1995

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 additional SID inspection requirements for the vertical stabilizer on the 150 model series airplanes.
2. To provide revised Corrosion Severity Maps.
3. To correct the beginning serial number for Model F150 airplanes on some of the SID inspection documents.

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

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## INSPECTION TIME LIMITS

### 1. Inspection Items

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<thead>
<tr>
<th>Revision Status</th>
<th>Task Description</th>
<th>Interval</th>
<th>Operation</th>
<th>Zone</th>
</tr>
</thead>
<tbody>
<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</td>
<td>1</td>
<td>-</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</td>
<td>1</td>
<td>-</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</td>
<td>1</td>
<td>-</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</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Inspect rudder pedal torque tube, shafts, support brackets 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; repeat: 3,000 hours or 5 years</td>
<td>7</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td>Elevator trim system. 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>14</td>
<td>330, 340</td>
</tr>
<tr>
<td></td>
<td>This inspection is for mild/moderate corrosion environment. Inspect main landing gear tubular spring for rust or damage to finish. Inspect entry step attachment. Refer to Section 2A-14-03, Supplemental Inspection Document 32-13-01, for inspection procedure.</td>
<td>Initial: 20 years; repeat: 10 years</td>
<td>11</td>
<td>730, 740</td>
</tr>
<tr>
<td></td>
<td>This interval is for severe corrosion environment. Inspect main landing gear tubular spring for rust or damage to finish. Inspect entry step attachment. Refer to Section 2A-14-03, Supplemental Inspection Document 32-13-01, for inspection procedure.</td>
<td>Initial: 10 years; repeat: 5 years</td>
<td>13</td>
<td>730, 740</td>
</tr>
<tr>
<td></td>
<td>Inspect main landing gear fittings and attachment of the fittings to the bulkheads. Refer to Section 2A-14-04, Supplemental Inspection Document 32-13-02, for inspection procedure.</td>
<td>Initial: 3,000 hours or 5 years; repeat: 1,000 hours or 5 years</td>
<td>15</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>Inspect nose landing gear torque links, bolts, bushings and fork. Refer to Section 2A-14-05, Supplemental Inspection Document 32-20-01, for inspection procedure.</td>
<td>Initial: 3,000 hours or 5 years; repeat: 3,000 hours or 5 years</td>
<td>8</td>
<td>720</td>
</tr>
<tr>
<td>REVISION STATUS</td>
<td>TASK</td>
<td>INTERVAL</td>
<td>OPERATION</td>
<td>ZONE</td>
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</tr>
<tr>
<td></td>
<td>This inspection is for mild/moderate corrosion environment. Inspect carry-thru spar area, wing attach fittings, spar channel and lugs. Refer to Section 2A-14-06, Supplemental Inspection Document 53-11-01, for inspection procedure.</td>
<td>Initial: 20 years; repeat: 10 years</td>
<td>11</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>This interval is for severe corrosion environment. Inspect carry-thru spar area, wing attach fittings, spar channel and lugs. Refer to Section 2A-14-06, 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>This interval is for mild/moderate corrosion environment. Inspect the cabin interior skin panels, frames and stringers. Refer to Section 2A-14-07, 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>This interval is for severe corrosion environment. Inspect the cabin interior skin panels, frames and stringers. Refer to Section 2A-14-07, 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>This interval is for mild/moderate corrosion environment. Inspect seat rails for corrosion. Refer to Section 2A-14-08, Supplemental Inspection Document 53-47-01, for inspection procedure.</td>
<td>Initial: 10 years; repeat: 10 years</td>
<td>16</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>This interval is for severe corrosion environment. Inspect seat rails for corrosion. Refer to Section 2A-14-08, Supplemental Inspection Document 53-47-01, for inspection procedure.</td>
<td>Initial: 5 years; repeat: 5 years</td>
<td>17</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>Inspect horizontal stabilizer and elevator, including torque tube, spars, ribs, hinge bolts, hinge bearings, brackets and attach fittings. Refer to Section 2A-14-09, Supplemental Inspection Document 55-10-01, for inspection procedures.</td>
<td>Initial: 10,000 hours or 20 years; repeat: 2,000 hours or 4 years</td>
<td>20</td>
<td>330, 340</td>
</tr>
<tr>
<td></td>
<td>Inspect vertical stabilizer attach bracket and horizontal stabilizer rear spar attachments. Refer to Section 2A-14-10, Supplemental Inspection Document 55-11-01, for inspection procedure.</td>
<td>Initial: 2,000 hours or 4 years; repeat: 2,000 hours or 4 years</td>
<td>23</td>
<td>310, 320</td>
</tr>
<tr>
<td></td>
<td>Inspect vertical stabilizer and rudder, including spars, ribs, hinge bolts, hinge bearings and attach fittings. Refer to Section 2A-14-11, Supplemental Inspection Document 55-30-01, for inspection procedure.</td>
<td>Initial: 10,000 hours or 20 years; repeat: 3,000 hours or 5 years</td>
<td>7</td>
<td>320</td>
</tr>
<tr>
<td></td>
<td>Inspect rudder spar. Refer to Section 2A-14-12, Supplemental Inspection Document 55-41-01, for inspection procedure.</td>
<td>Initial: 100 hours or 1 year; repeat: 100 hours or 1 year</td>
<td>22</td>
<td>320</td>
</tr>
<tr>
<td>Revision Status</td>
<td>Task</td>
<td>Interval</td>
<td>Operation</td>
<td>Zone</td>
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<tr>
<td></td>
<td>1. Inspect inboard wing structure and wing attachment to fuselage including working rivets. 2. Inspect flap actuator support structure. Refer to Section 2A-14-13, Supplemental Inspection Document 57-11-01, for inspection procedure.</td>
<td>Initial: 12,000 hours or 20 years; repeat: 2,000 hours or 10 years</td>
<td>18</td>
<td>510, 610</td>
</tr>
<tr>
<td></td>
<td>This interval is for typical usage environment.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Inspect inboard wing structure and wing attachment to fuselage including working rivets. 2. Inspect flap actuator support structure. Refer to Section 2A-14-13, Supplemental Inspection Document 57-11-01, for inspection procedure.</td>
<td>Initial: 6,000 hours or 10 years; repeat: 1,000 hours or 5 years</td>
<td>19</td>
<td>510, 610</td>
</tr>
<tr>
<td></td>
<td>This interval is for severe usage environment.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>Initial: 20 years; repeat: 10 years</td>
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<tr>
<td></td>
<td>This interval is for mild/moderate corrosion environment. Inspect wing root rib. Refer to Section 2A-14-16, Supplemental Inspection Document 57-12-01, for inspection procedure.</td>
<td>Initial: 5 years; repeat: 5 years</td>
<td>12</td>
<td>510, 610</td>
</tr>
<tr>
<td></td>
<td>This interval is for severe corrosion environment. Inspect wing root rib. Refer to Section 2A-14-16, Supplemental Inspection Document 57-12-01, for inspection procedure.</td>
<td>Initial: 3 years; repeat: 3 years</td>
<td>21</td>
<td>510, 610</td>
</tr>
<tr>
<td></td>
<td>This interval is for typical usage environment. Inspect wing strut and strut tube. Refer to Section 2A-14-17, Supplemental Inspection Document 57-40-01, for inspection procedure.</td>
<td>Initial: 12,000 hours or 20 years; repeat: 2,000 hours or 10 years</td>
<td>18</td>
<td>510, 610</td>
</tr>
<tr>
<td></td>
<td>This interval is for severe usage environment. Inspect wing strut and strut tube. Refer to Section 2A-14-17, Supplemental Inspection Document 57-40-01, for inspection procedure.</td>
<td>Initial: 6,000 hours or 10 years; repeat: 1,000 hours or 5 years</td>
<td>19</td>
<td>510, 610</td>
</tr>
<tr>
<td>Revision Status</td>
<td>Task Description</td>
<td>Interval</td>
<td>Operation</td>
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<td></td>
<td>Inspect aileron hinges, hinge bolts, hinge bearings, hinge and pushrod attach fittings. Refer to Section 2A-14-18, Supplemental Inspection Document 57-51-01, for inspection procedure.</td>
<td>Initial: 3,000 hours</td>
<td>9</td>
<td>520</td>
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<tr>
<td></td>
<td></td>
<td>or 10 years; repeat:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>500 hours or 5 years</td>
<td></td>
<td>620</td>
</tr>
<tr>
<td></td>
<td>This interval is for mild/moderate corrosion environment. Inspect flap tracks for corrosion. Refer to Section 2A-14-19, Supplemental Inspection Document 57-53-01, for inspection procedure.</td>
<td>Initial: 20 years; 11</td>
<td></td>
<td>510</td>
</tr>
<tr>
<td></td>
<td></td>
<td>repeat: 10 years</td>
<td></td>
<td>610</td>
</tr>
<tr>
<td></td>
<td>This interval is for severe corrosion environment. Inspect flap tracks for corrosion. Refer to Section 2A-14-19, Supplemental Inspection Document 57-53-01, for inspection procedure.</td>
<td>Initial: 10 years; 13</td>
<td></td>
<td>510</td>
</tr>
<tr>
<td></td>
<td></td>
<td>repeat: 5 years</td>
<td></td>
<td>610</td>
</tr>
<tr>
<td></td>
<td>Inspect tubular engine mount. Refer to Section 2A-14-20, Supplemental Inspection Document 71-20-01, for inspection procedure.</td>
<td>Initial: 5,000 hours</td>
<td>10</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or 20 years; repeat:</td>
<td>At Engine Overhaul</td>
<td></td>
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<tr>
<td></td>
<td>Fuselage lower internal structure beneath the floor panels. Make sure you inspect these areas: 1. Cabin structure under floorboards. 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>210</td>
</tr>
<tr>
<td></td>
<td>Fuselage internal structure in upper fuselage. Make sure you inspect these areas: 1. Cabin bulkhead corners. 2. Fuselage skin. 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>210</td>
</tr>
<tr>
<td></td>
<td>Areas of the cabin structure. Make sure you inspect these areas: 1. Firewall. 2. Firewall attachments. 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>210</td>
</tr>
<tr>
<td></td>
<td>Passenger/Crew door retention system. Make sure you inspect these areas: 1. Bell cranks. 2. Pushrods. 3. Handle. 4. Pin retention. 5. Pins. 6. Lockplates and guides. 7. Hinges. 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.</td>
<td>Every 48 months</td>
<td>5</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>Areas of the cabin structure for the passenger/crew door. 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).</td>
<td>Every 48 months</td>
<td>5</td>
<td>210</td>
</tr>
</tbody>
</table>
### Areas of the cabin structure
- Cabin door forward and aft frames.
- Window frames with emphasis at stringers and channel assemblies from aft of door frame to aft bulkhead.
- Seat attachment structure.
- Aft CabinBulkhead.

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

<table>
<thead>
<tr>
<th>TASK</th>
<th>INTERVAL</th>
<th>OPERATION</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Areas of the cabin structure. 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 CabinBulkhead. <strong>NOTE:</strong> 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>210</td>
</tr>
</tbody>
</table>

### Flaps
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; **repeat:** every 600 hours or 12 months

<table>
<thead>
<tr>
<th>INTERVAL</th>
<th>OPERATION</th>
<th>ZONE</th>
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</thead>
<tbody>
<tr>
<td>Every 60 months</td>
<td>510, 610</td>
<td></td>
</tr>
</tbody>
</table>

### Aileron
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; **repeat:** every 600 hours or 12 months

<table>
<thead>
<tr>
<th>INTERVAL</th>
<th>OPERATION</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every 60 months</td>
<td>510, 520, 610, 620</td>
<td></td>
</tr>
</tbody>
</table>

### Elevator
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; **repeat:** every 600 hours or 12 months

<table>
<thead>
<tr>
<th>INTERVAL</th>
<th>OPERATION</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every 60 months</td>
<td>310, 340, 330</td>
<td></td>
</tr>
</tbody>
</table>

### Elevator Trim
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; **repeat:** every 600 hours or 12 months

<table>
<thead>
<tr>
<th>INTERVAL</th>
<th>OPERATION</th>
<th>ZONE</th>
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</thead>
<tbody>
<tr>
<td>Every 60 months</td>
<td>310, 340, 330</td>
<td></td>
</tr>
</tbody>
</table>

### Rudder
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; **repeat:** every 600 hours or 12 months

<table>
<thead>
<tr>
<th>INTERVAL</th>
<th>OPERATION</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every 60 months</td>
<td>310, 320</td>
<td></td>
</tr>
</tbody>
</table>

### Wing structure internal
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.

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

<table>
<thead>
<tr>
<th>INTERVAL</th>
<th>OPERATION</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every 12 months</td>
<td>510, 520, 610, 620</td>
<td></td>
</tr>
</tbody>
</table>

### Wing structure internal
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.

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

<table>
<thead>
<tr>
<th>INTERVAL</th>
<th>OPERATION</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every 60 months</td>
<td>510, 520, 610, 620</td>
<td></td>
</tr>
<tr>
<td>TASK</td>
<td>INTERVAL</td>
<td>OPERATION</td>
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<tr>
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<tr>
<td>Wing structure external. 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. 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>
</tr>
<tr>
<td>Aileron attachments. Make sure you inspect these areas: 1. Aileron hinges. 2. Hinge bolts. 3. Hinge bearings. 4. Hinge and pushrod support 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>
</tr>
<tr>
<td>Vertical stabilizer structure. Make sure you inspect these areas: 1. Forward spar attachment to tailcone bulkhead. 2. Aft spar attachment to lower stabilizer spar. 3. Front and rear spars. 4. Rear spar rudder hinges. 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>
</tr>
<tr>
<td>Inspect main landing gear axle assembly. Make sure you inspect these areas: 1. Main gear axle and attach bolts. 2. Wheel halves. NOTE: Corrosion Prevention and Control Program 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 bearing. NOTE: Coordinate with tire change.</td>
<td>Every 36 months</td>
<td>4</td>
</tr>
<tr>
<td>Nose gear trunnion, steering assembly, torque link assembly, nose gear fork and axle. 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>
</tr>
<tr>
<td>Nose gear trunnion, torque link assembly, and nose gear fork. 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>
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</table>
### Tasks and Inspection Intervals

<table>
<thead>
<tr>
<th>Task</th>
<th>Interval</th>
<th>Operation</th>
<th>Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nose landing gear outer barrel assembly. 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. 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. 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. 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>Rudder attachments. 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). NOTE: Do not apply LPS-3 Heavy Duty Rust Inhibitor on hinge bearing.</td>
<td>Every 24 months</td>
<td>3</td>
<td>320</td>
</tr>
<tr>
<td>REVISION STATUS</td>
<td>TASK</td>
<td>INTERVAL</td>
<td>OPERATION</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td>Rudder structure. Make sure you inspect these areas: 1. Skin. 2.</td>
<td>Every 24 months</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Forward and aft spars at hinge locations.</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>NOTE: Corrosion Prevention and Control Inspection Item (baseline</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>interval, refer to Section 2A-30-00 for additional inspection</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>information).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engine support structure. Make sure you inspect these areas: 1.</td>
<td>Every 12 months</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Engine truss. Pay particular attention to vicinity of welds.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NOTE: Corrosion Prevention and Control Program Inspection item</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(refer to Section 2A-30-00 for additional inspection information).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vertical Fin. Inspect the vertical fin attachment. Refer to Section</td>
<td>Every 100 hours</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>2A-14-21, Supplemental Inspection Document, 55-11-03 for</td>
<td>year</td>
<td></td>
</tr>
<tr>
<td></td>
<td>inspection procedure.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
INSPECTION OPERATION 22

Date: ____________
Registration Number: ____________
Serial Number: ____________
Total Time: ____________

1. Description
A. Operation 22 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 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>
<th>ZONE</th>
<th>MECH</th>
<th>INS</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspect rudder spar. Refer to Section 2A-14-12, Supplemental Inspection Document 55-41-01, for inspection procedure.</td>
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<td></td>
</tr>
<tr>
<td>Inspect the vertical fin attachment. Refer to Section 2A-14-21, Supplemental Inspection Document, 55-11-03 for inspection procedure.</td>
<td>320</td>
<td></td>
<td></td>
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</tbody>
</table>

*** End of Operation 22 Inspection Items ***
LISTING OF SUPPLEMENTAL INSPECTIONS

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 Section 2A-13-00, Supplemental Inspection Document, Usage for definitions of the terms Mild/Moderate, Severe, and Typical.
   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 maintenance 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>
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<tbody>
<tr>
<td>SE79-49</td>
<td>Nut Plate Inspection - Vertical Fin Attach Bracket</td>
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<tr>
<td>SEB01-01</td>
<td>Rudder Stop Modification</td>
<td>SK152-24A, SK152-25A</td>
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<tr>
<td>SEB03-6</td>
<td>Vertical Tail Attach Bracket and Aft Horizontal Stabilizer Spar Inspection</td>
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<tr>
<td>SEB07-4</td>
<td>Floorboard/Seat Pan Crack Inspection</td>
<td></td>
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<tr>
<td>SEB87-04</td>
<td>Aileron Hinge Inspection</td>
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<tr>
<td>SEB94-03</td>
<td>Rudder Spar Inspection/Replacement</td>
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<tr>
<td>SEB95-03</td>
<td>Flap Support Inspection and Roller Washer Installation</td>
<td>SK180-44</td>
</tr>
<tr>
<td>SEB96-07</td>
<td>AN3-5A Bolt Inspection/Replacement</td>
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## Supplemental Inspections

<table>
<thead>
<tr>
<th>DETAILS FOUND IN SECTION 2-14-XX</th>
<th>SUPPLEMENTAL INSPECTION NUMBER</th>
<th>TITLE</th>
<th>INITIAL COMPLIANCE (Refer to Note 1)</th>
<th>REPEAT COMPLIANCE</th>
<th>INSPECTION OPERATION</th>
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<tbody>
<tr>
<td></td>
<td>2A-14-01</td>
<td>Rudder Pedal Torque Tube Inspection</td>
<td>10,000 Hours or 20 Years</td>
<td>3,000 Hours or 5 Years</td>
<td>7</td>
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<tr>
<td></td>
<td>2A-14-02</td>
<td>Elevator Trim Pulley Bracket and Actuator Bracket Structure Inspection</td>
<td>1,000 Hours</td>
<td>1,000 Hours</td>
<td>14</td>
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<tr>
<td></td>
<td>2A-14-03</td>
<td>Landing Gear Spring Corrosion Inspection</td>
<td>MILD/MODERATE 20 Years</td>
<td>MILD/MODERATE 10 Years</td>
<td>11</td>
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<tr>
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<td>13</td>
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<tr>
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<td>2A-14-04</td>
<td>Main Landing Gear Fittings Inspection</td>
<td>3,000 Hours or 5 Years</td>
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<td>2A-14-05</td>
<td>Nose Gear Torque Link and Fork Inspection</td>
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<td>3,000 Hours or 5 Years</td>
<td>8</td>
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<td>2A-14-06</td>
<td>Carry-Thru Structure Corrosion Inspection</td>
<td>MILD/MODERATE 20 Years</td>
<td>MILD/MODERATE 10 Years</td>
<td>11</td>
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<td>SEVERE 5 Years</td>
<td>13</td>
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<tr>
<td></td>
<td>2A-14-07</td>
<td>Fuselage Interior Skin Panels Corrosion Inspection</td>
<td>MILD/MODERATE 20 Years</td>
<td>MILD/MODERATE 10 Years</td>
<td>11</td>
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<tr>
<td></td>
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<td>SEVERE 5 Years</td>
<td>13</td>
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<td>2A-14-08</td>
<td>Seat Rails and Seat Rail Structure Corrosion Inspection</td>
<td>MILD/MODERATE 20 Years</td>
<td>MILD/MODERATE 10 Years</td>
<td>16</td>
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<td>SEVERE 5 Years</td>
<td>SEVERE 5 Years</td>
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<td></td>
<td>2A-14-09</td>
<td>Horizontal Stabilizer, Elevators and Attachments Inspection</td>
<td>10,000 Hours or 20 Years</td>
<td>2,000 Hours or 4 Years</td>
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<td>TITLE</td>
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<td>REPEAT</td>
<td>OPERATION</td>
</tr>
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<td>2A-14-10</td>
<td>55-11-01</td>
<td>Vertical Stabilizer Attach Bracket and Horizontal Stabilizer Rear Spar Attachment Inspection</td>
<td>2,000 Hours or 4 Years</td>
<td>2,000 Hours or 4 Years</td>
<td>23</td>
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<tr>
<td>2A-14-11</td>
<td>55-30-01</td>
<td>Vertical Stabilizer, Rudder and Attachments Inspection</td>
<td>10,000 Hours or 20 Years</td>
<td>3,000 Hours or 5 Years</td>
<td>7</td>
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<tr>
<td>2A-14-12</td>
<td>55-41-01</td>
<td>Rudder Spar Inspection</td>
<td>100 Hours or 1 Year</td>
<td>100 Hours or 1 Year</td>
<td>22</td>
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<tr>
<td>2A-14-13</td>
<td>57-11-01</td>
<td>Wing Structure Inspection</td>
<td>TYPICAL 12,000 Hours or 20 Years</td>
<td>TYPICAL 2,000 Hours or 10 Years</td>
<td>18</td>
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<td></td>
<td></td>
<td></td>
<td>SEVERE 6,000 Hours or 10 Years</td>
<td>SEVERE 1,000 Hours or 5 Years</td>
<td>19</td>
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<td>2A-14-14</td>
<td>57-11-02</td>
<td>Wing Structure Corrosion Inspection</td>
<td>MILD/MODERATE 20 Years</td>
<td>MILD/MODERATE 10 Years</td>
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<td>SEVERE 5 Years</td>
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<tr>
<td>2A-14-15</td>
<td>57-11-03</td>
<td>Wing Splice Joint at Strut Attach Inspection</td>
<td>MILD/MODERATE 20 Years</td>
<td>MILD/MODERATE 10 Years</td>
<td>11</td>
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<tr>
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<td>SEVERE 10 Years</td>
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<tr>
<td>2A-14-16</td>
<td>57-12-01</td>
<td>Wing Root Rib Corrosion Inspection</td>
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<td>MILD/MODERATE 5 Years</td>
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<tr>
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<td>57-40-01</td>
<td>Strut and Strut Wing Attachment Inspection</td>
<td>TYPICAL 12,000 Hours or 20 Years</td>
<td>TYPICAL 2,000 Hours or 10 Years</td>
<td>18</td>
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<td>SEVERE 6,000 Hours or 10 Years</td>
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<td>19</td>
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<tr>
<td>2A-14-18</td>
<td>57-51-01</td>
<td>Aileron Support Structure Inspection</td>
<td>3,000 Hours or 10 Years</td>
<td>500 Hours or 5 Years</td>
<td>9</td>
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</table>
## Inspection Compliance

### (Refer to Note 1)

<table>
<thead>
<tr>
<th>DETAILS FOUND IN SECTION 2-14-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-14-19</td>
<td>57-53-01</td>
<td>Flap Tracks Corrosion Inspection</td>
<td>MILD/MODERATE 20 Years</td>
<td>MILD/MODERATE 10 Years</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SEVERE 10 Years</td>
<td>SEVERE 5 Years</td>
<td>13</td>
</tr>
<tr>
<td>2A-14-20</td>
<td>71-20-01</td>
<td>Engine Mount Inspection 5,000 Hours or 20 Years</td>
<td>5,000 Hours or 20 Years</td>
<td>At Engine Overhaul</td>
<td>10</td>
</tr>
<tr>
<td>2A-14-21</td>
<td>55-11-03</td>
<td>Vertical Fin Attach Bracket 100 Hours or 1 Year</td>
<td>100 Hours or 1 Year</td>
<td>22</td>
<td></td>
</tr>
</tbody>
</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-14-20, Supplemental Inspection 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: Rudder Pedal Torque Tube Inspection

2. EFFECTIVITY
   15078506 thru 15079405,
   F15001339 thru F15001428,
   A15000685 thru A1500734,
   FRA15000312 thru FRA1500336

3. PURPOSE
   To verify integrity of the rudder pedal torque tube assembly.

4. INSPECTION INSTRUCTIONS
   A. Inspect rudder pedal torque tubes for corrosion or cracking and cable and pedal attachment arms for wear, cracks or weld failures. Refer to Figure 1.
      (1) Clean area before inspecting if grime or debris is present.
   B. Inspect the rudder bar support brackets for cracks at the bend radii in the mounting flange.
   C. Inspect the rudder pedal shafts for wear, particularly where the retaining pins pass through the shafts.
      (1) Clean area before inspecting if grime or debris is present.

5. ACCESS AND DETECTABLE CRACK SIZE
   ACCESS/LOCATION    DETECTABLE CRACK SIZE
   Fuselage, Near Forward Firewall    Not Allowed

6. INSPECTION PROCEDURE
   Visual

7. REPAIR/MODIFICATION
   Typical failures occur at or close to welds in the rudder bar. Since the rudder bar is not heat treated after welding, it can be rewelded and used without subsequent heat treatment. Examine the rewelded area after welding for any new or additional cracking. Make other repairs by replacing damaged or missing parts with spare parts. Make repairs in accordance with Section 18 (Structural Repair) of the applicable Model 150 Service Manual. Coordinate any repair not available in Section 18 with Cessna Customer Service prior to beginning the repair.

8. COMMENTS
1. **TITLE:**
   Elevator Trim Pulley Bracket and Actuator Bracket Structure Inspection

2. **EFFECTIVITY**
   15078506 thru 15079405,
   F15001339 thru F15001428,
   A15000685 thru A1500734,
   FRA15000312 thru FRA1500336

**INSPECTION COMPLIANCE**

<table>
<thead>
<tr>
<th>ALL USAGE:</th>
<th>INITIAL 1,000 Hours (NOTE)</th>
</tr>
</thead>
</table>

**NOTE:** Coordinate this inspection with the trim tab actuator overhaul.

3. **PURPOSE**
   To verify the integrity of the elevator trim pulley brackets and the actuator support brackets.

4. **INSPECTION INSTRUCTIONS**
   A. Remove the trim tab door to get access to the actuator support hardware. Refer to the applicable Model 150 Service Manual.
   B. Remove seats, floor covering and floor inspection panels as necessary to inspect elevator trim pulley brackets and actuator support brackets for cracks, corrosion and bent flanges. Straighten bent flanges and check for any cracking, using at least a 4X power magnifying glass and a bright light. Refer to Figure 1.
      (1) Clean area before inspecting if grime or debris is present.
   C. Inspect all pulleys for wear, flat spots and freedom of rotation. Refer to Figure 1.
   D. Inspect all fasteners and attaching structure for integrity.

5. **ACCESS AND DETECTABLE CRACK SIZE**

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

6. **INSPECTION METHOD**
   Visual

7. **REPAIR/MODIFICATION**
   Replace any cracked or excessively corroded (10% or more of the material thickness is missing in the corroded section) brackets. Replace excessively worn, flat spotted or stiff pulleys. Straighten bent pulley brackets and actuator brackets with finger pressure and recheck for cracking. Replace any loose or sheared fasteners. Make repairs in accordance with Section 18 (Structural Repair) of the applicable Model 150 Service Manual. Coordinate any repair not available in Section 18 with Cessna Customer Service prior to beginning the repair.

8. **COMMENTS**
ELEVATOR TRIM PULLEY BRACKET AND ACTUATOR BRACKET STRUCTURE INSPECTION

Figure 1 (Sheet 1)
1. **TITLE:**
   Landing Gear Spring Corrosion Inspection

2. **EFFECTIVITY**
   15078506 thru 15079405,
   F15001339 thru F15001428,
   A15000685 thru A1500734,
   FRA15000312 thru FRA1500336

### CORROSION SEVERITY            INSPECTION COMPLIANCE

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<th>CORROSION SEVERITY</th>
<th>INITIAL</th>
<th>REPEAT</th>
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<tbody>
<tr>
<td>MILD/MODERATE:</td>
<td>20 Years (NOTE)</td>
<td>10 Years (NOTE)</td>
</tr>
<tr>
<td>SEVERE:</td>
<td>10 Years (NOTE)</td>
<td>5 Years (NOTE)</td>
</tr>
</tbody>
</table>

**NOTE:** Refer to Section 2A-30-01 and associated maps to determine corrosion severity.

3. **PURPOSE**
   To ensure corrosion protection of main landing gear tubular spring.

4. **INSPECTION INSTRUCTIONS**
   - A. Remove landing gear fairing. Refer to the applicable Model 150 Service Manual.
   - B. Inspect the main landing gear tubular spring for worn or chipped paint. Refer to Figure 1. If rust has developed, rework the gear in accordance with the repair/modification section below.
     **NOTE:** The main landing gear springs are made from high strength steel that is shot peened the full circumference and full length along the outer diameter to increase the fatigue life of the part. If the protective layer of paint is chipped or worn away, corrosion (rust) is likely to occur.
     - (1) Clean area before inspecting if grime or debris is present.
   - C. If the finish is worn or chipped, refinish the landing gear springs.
   - D. Inspect the area under and around the entry step attachment for corrosion.
   - E. Inspect the axle attachment holes for evidence of corrosion.
     - (1) Clean area before inspecting if grime or debris is present.

5. **ACCESS AND DETECTABLE CRACK SIZE**

<table>
<thead>
<tr>
<th>ACCESS/LOCATION/ZONE</th>
<th>DETECTABLE CRACK SIZE</th>
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</thead>
<tbody>
<tr>
<td>Main Gear Section</td>
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</tbody>
</table>

6. **INSPECTION METHOD**
   - Visual and Ultrasonic Thickness Test
7. **REPAIR/MODIFICATION**

A. If corrosion has developed on the tubular spring landing gear, it must be removed before refinishing. The recommended procedure to remove corrosion is by hand sanding, using a fine grained sandpaper.

B. Use 180 or finer abrasive cloth to produce a diameter-to-depth ratio of about 10:1.
   1. Landing Gear Spring: Use a straightedge and feeler gauges to determine thickness after removing corrosion. If the corrosion pit or wear is deeper than 0.008 inches, contact Cessna Customer Service for repair/replacement instructions.

C. Refinish sanded areas.
   1. Solvent Wipe.
      a. Wipe off excess oil, grease or dirt from the surface to be cleaned.
      b. Apply solvent to a clean cloth, preferably by pouring solvent onto cloth from a safety can or other approved, labeled container. The cloth must be well saturated, but not dripping.
      c. Wipe surface with the moistened cloth as necessary to dissolve or loosen soil. Work a small enough area so the surface being cleaned remains wet.
      d. Immediately wipe the surface with a clean, dry cloth, while the solvent is still wet. Do not allow the surface to evaporate dry.
      e. Do steps (b) through (d) again until there is no discoloration on the drying cloth.
   2. Apply corrosion primer in accordance with Corrosion-Resistant Primer MIL-PRF-23377G or later.
      a. Mix and apply in accordance with manufacturer’s instructions.
      b. Apply mixture with a wet cross coat to yield a dry film thickness of 0.6 to 0.8 mils.
      c. Allow to air dry for two to four hours.
      d. Apply topcoat within 24 hours.
   3. Apply Polyurethane Enamel Topcoat to landing gear tubular spring.
      a. Mix and apply in accordance with manufacturer’s instructions.
      b. Apply mixture with a wet cross coat to produce a dry film thickness of 1.5-2.0 mils.
      c. Allow to air dry per the manufacturer’s instruction.

8. **COMMENTS**
LANDING GEAR SPRING CORROSION INSPECTION

Figure 1 (Sheet 1)
SUPPLEMENTAL INSPECTION NUMBER: 32-13-02

1. **TITLE:**
   Main Landing Gear Fittings Inspection

2. **EFFECTIVITY**
   - 15078506 thru 15079405,
   - F15001339 thru F15001428,
   - A15000685 thru A1500734,
   - FRA15000312 thru FRA1500336

**INSPECTION COMPLIANCE**

| ALL USAGE: | INITIAL 3,000 Hours | 5 Years (NOTE) |
| REPEAT     | 1,000 Hours        | 5 Years (NOTE) |

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

3. **PURPOSE**
   To ensure structural integrity of the main landing gear fittings.

4. **INSPECTION INSTRUCTIONS**
   A. Inspect the outboard main landing gear fittings for cracking. Refer to Figure 1. Pay particular attention to the area directly above the forward and aft edges of the landing gear spring and the attachment of the fittings to the bulkheads.
      (1) Clean area before inspecting if grime or debris is present.
   B. Inspect the inboard main landing gear fittings for cracking. Pay particular attention to the area directly below the landing gear spring attachment and the attachment of the fittings to the bulkheads.
      (1) Clean area before inspecting if grime or debris is present.

5. **ACCESS AND DETECTABLE CRACK SIZE**

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<thead>
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<th>DETECTABLE CRACK SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Gear Support</td>
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</tr>
</tbody>
</table>

6. **INSPECTION METHOD**
   Visual

7. **REPAIR/MODIFICATION**
   A. Main landing gear fittings are contained between two wrap-around bulkheads, which physically contain the bulkheads even after the attach fasteners are removed. A recommended method to replace main landing gear fittings is to support the airplane to maintain alignment during rework, remove the floorboard just forward of the forward main gear bulkhead, remove the four longerons forward of the forward main landing gear bulkhead and then slide the forward main landing gear bulkhead forward to disengage it from the fittings. Since the attach holes will be reused to reinstall the parts, remove rivets carefully to avoid excessively enlarging rivet holes. After the fittings are installed, reinstall the removed parts in reverse order. Make repairs in accordance with Section 18 (Structural Repair) of the applicable Model 150 Service Manual. Coordinate any repair not available in Section 18 with Cessna Customer Service prior to beginning the repair.

8. **COMMENTS**
MAIN LANDING GEAR FITTINGS INSPECTION
Figure 1 (Sheet 1)
1. **TITLE:**
   Nose Gear Torque Link and Fork Inspection

2. **EFFECTIVITY**
   15078506 thru 15079405,
   F15001339 thru F15001428,
   A15000685 thru A1500734,
   FRA15000312 thru FRA1500336

---

3. **INSPECTION COMPLIANCE**

   **ALL USAGE:**
   
<table>
<thead>
<tr>
<th>INITIAL</th>
<th>REPEAT</th>
</tr>
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<td>3,000 Hours</td>
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<tr>
<td>or 5 Years (NOTE)</td>
<td>or 5 Years (NOTE)</td>
</tr>
</tbody>
</table>

---

4. **PURPOSE**

To ensure structural integrity of the nose gear torque link and nose gear fork.

---

5. **INSPECTION INSTRUCTIONS**

   A. Deflate the strut. Refer to the applicable Model 150 Service Manual.
   
   B. Inspect the nose gear torque links for cracks. Refer to Figure 1.
   
   C. Remove torque link bolts one at a time using the applicable Model 150 Service Manual as a guide.
   
   D. Inspect for bent bolts or worn bolts. Install serviceable bolts after inspection.
   (1) Clean area before inspecting if grime or debris is present.
   
   E. Inspect upper and lower torque link bushings for excessive wear or deformation. As the bolt clamps up on the spacer, the wear is to be measured between the NAS bushing and the spacer. Maximum new clearance between the NAS bushings in the torque link (ID = 0.3750 in. to 0.3765 in.) and the spacer (OD = 0.3744 in. to 0.3750 in.) is 0.0021 in. A clearance of 0.006 in. is the maximum wear limit.
   (1) Clean area before inspecting if grime or debris is present.
   
   F. Inspect center torque link bushings for excessive wear or deformation. Maximum new clearance between the center torque link NAS bushings in the mid joint upper torque link lug (ID = 0.1900 in. to 0.1915 in.) and the bolt (OD = 0.1885 in. to 0.1894 in.) is 0.0030 in. A clearance of 0.006 in. is the maximum wear limit.
   (1) Clean area before inspecting if grime or debris is present.
   
   G. Inspect the fork for cracking along the forging parting line.
   (1) Clean area before inspecting if grime or debris is present.
   
   H. Install the removed bolts.
   
   I. Charge the nose strut. Refer to the applicable Model 150 Service Manual.

---

5. **ACCESS AND DETECTABLE CRACK SIZE**

   **ACCESS/LOCATION**
   Nose Gear Section

   **DETECTABLE CRACK SIZE**
   Not Allowed
6. **INSPECTION METHOD**
   Visual

7. **REPAIR/MODIFICATION**
   Replace bent bolts or worn bolts or bushings with new parts if wear limits are exceeded. A cracked fork or actuator attach fitting or torque link is not repairable and must be replaced. Make other repairs in accordance with Section 18 (Structural Repair) of the applicable Model 150 Service Manual. Coordinate any repair not available in Section 18 with Cessna Customer Service prior to beginning the repair.

8. **COMMENTS**
1. **TITLE:**
   Carry-Thru Structure Corrosion Inspection

2. **EFFECTIVITY**
   15078506 thru 15079405,
   F15001339 thru F15001428,
   A15000685 thru A1500734,
   FRA15000312 thru FRA1500336

3. **NOTE:** Refer to Section 2A-30-01 and associated maps to determine corrosion severity.

4. **PURPOSE**
   To ensure corrosion protection of the carry-thru spar structure.

5. **INSPECTION INSTRUCTIONS**
   A. Remove headliner and interior items necessary to gain access to the front and rear carry-thru structure.
   B. Visually inspect front spar carry-thru area for loose or missing rivets or corrosion, especially between the spar channel and reinforcement, between the spar channel and upholstery retainer and between the door post bulkhead attachment fittings and the spar channel. Refer to Figure 1.
      (1) Clean area before inspecting if grime or debris is present.
   C. Visually inspect rear spar carry-thru area for loose or missing rivets or corrosion, especially between the door post bulkhead attachment fittings and the spar channel.
      (1) Clean area before inspecting if grime or debris is present.
   D. Inspect for corrosion at the wing attachment fittings, lugs, and spar blocks.
      (1) Clean area before inspecting if grime or debris is present.

6. **ACCESS AND DETECTABLE CRACK SIZE**

<table>
<thead>
<tr>
<th>ACCESS/LOCATION</th>
<th>DETECTABLE CRACK SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabin Interior Section</td>
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</tr>
</tbody>
</table>

7. **INSPECTION METHOD**
   Visual

8. **REPAIR/MODIFICATION**
   A. Clean any corrosion products. The recommended procedure to remove corrosion is by hand sanding, using a fine grained sandpaper.
   B. Use 180 or finer grit abrasive cloth to produce a diameter-to-depth ratio of about 10:1. Use ultrasonic methods to determine thickness after removing corrosion. Repairs are required if thickness is less than 90% of uncorroded material.
C. Apply corrosion protection.

8. COMMENTS
CARRY-THRU STRUCTURE CORROSION INSPECTION
Figure 1 (Sheet 1)
1. **TITLE**
   Fuselage Interior Skin Panels Corrosion Inspection

2. **EFFECTIVITY**
   15078506 thru 15079405,  
   F15001339 thru F15001428,  
   A15000685 thru A1500734,  
   FRA15000312 thru FRA1500336

**CORROSION SEVERITY** | **INSPECTION COMPLIANCE**
--- | ---
MILD/MODERATE: | INITIAL 20 Years (NOTE)  
 | REPEAT 10 Years (NOTE)
SEVERE: | INITIAL 10 Years (NOTE)  
 | REPEAT 5 Years (NOTE)

**NOTE:** Refer to Section 2A-30-01 and associated maps to determine corrosion severity.

3. **PURPOSE**
   To verify the integrity of the cabin skins, stringers and frames under and around sound deadening material.

4. **INSPECTION INSTRUCTIONS**
   A. Remove interior of airplane to gain access to inside skins, stringers and frames. Remove sound dampening material. Refer to the applicable Model 150 Service Manual.
   B. Visually inspect skin panels for corrosion. Particular attention should be given to inspection of panels below windows, belly and other areas where moisture could enter or accumulate.
      (1) Clean area before inspecting if grime or debris is present.
   C. Inspect interior of door skins and structure for corrosion.
   D. Inspect frames and stringers for corrosion.
   E. Inspect cabin windows for integrity of seal to preclude entry of water into cabin.

5. **ACCESS AND DETECTABLE CRACK SIZE**
   | **ACCESS/LOCATION** | **DETECTABLE CRACK SIZE** |
   --- | --- | ---
   Fuselage Interior | Not Applicable

6. **INSPECTION METHOD**
   Visual, Ultrasonic Thickness Test

7. **REPAIR/MODIFICATION**
   A. If corrosion is found, remove corrosion by lightly sanding corroded area, taking care to remove as little material as necessary to completely remove corrosion and remaining pits in skin.
   B. Buff out sanding marks.
C. Assess remaining skin, stringer or frame thickness to determine maximum material removed. An ultrasonic thickness test can be used for this.
   (1) If more than 0.004 inch of skin material has been removed from the local area, the area must be repaired or replaced.
   (2) If more than 10% of stringer or frame material has been removed from the local area, the area must be repaired or replaced.

D. Clean and prime sanded areas.

E. Sound deadening material is for acoustic attenuation and may be replaced or omitted at owner's option.

8. COMMENTS
1. TITLE
   Seat Rails and Seat Rail Structure Corrosion Inspection

2. EFFECTIVITY
   15078506 thru 15079405,
   F15001339 thru F15001428,
   A15000685 thru A1500734,
   FRA15000312 thru FRA1500336

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<tr>
<th>CORROSION SEVERITY</th>
<th>INSPECTION COMPLIANCE</th>
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<td></td>
<td>REPEAT 10 Years (NOTE)</td>
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<tr>
<td>SEVERE:</td>
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<td>REPEAT 5 Years (NOTE)</td>
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</table>

NOTE: Refer to Section 2A-30-01 and associated maps to determine corrosion severity.

3. PURPOSE
   To verify the integrity of the seat rails.

4. INSPECTION INSTRUCTIONS
   A. Verify accomplishment of AD 2011-10-09 for inspection of seat rails for cracks.
   B. Remove seats, and carpet or mat, as necessary to gain access to inspect seat rails and seat rail base.
   C. Visually inspect seat rails for corrosion.
      (1) If adhesive, grime or debris is present, clean area to inspect around base.

5. ACCESS AND DETECTABLE CRACK SIZE
   ACCESS/LOCATION       DETECTABLE CRACK SIZE
   Cabin Interior        N/A

6. INSPECTION METHOD
   Visual

7. REPAIR/MODIFICATION
   A. If corrosion is found, repair in accordance with the following:
      (1) Clean and lightly sand corroded area to remove surface damage and pits.
      (2) Buff out scratch marks.
      (3) Reinspect area and assess amount of material removed.
         (a) If thickness of flange has been reduced by 10% or more, rail must be replaced.
         (b) A local flange reduction of 20% of thickness is acceptable where confined to one side of extrusion, provided that the reduced area does not coincide with both seat pin hole and fastener hole.
         (c) If thickness of web is reduced by 10% or more, rail must be replaced.
         (d) If local web reduction of 20% exceeds 1" in length, rail must be replaced.
         (e) If bulb is reduced in thickness at seat pin hole by 5% or more, rail must be replaced.
(f) If bulb is reduced by more than 10% at areas between holes, rail must be replaced.
(4) Brush coat sanded areas with alodine.

B. Reinstall seat and check for proper operation. If removed material on bulb interferes with proper operation of seat, replace rail.

C. For extensive damage or conditions not addressed, contact Cessna Customer Service prior to beginning the repair.

8. COMMENTS
1. **TITLE:**
Horizontal Stabilizer, Elevators and Attachments Inspection

2. **EFFECTIVITY**
15078506 thru 15079405,
F15001339 thru F15001428,
A15000685 thru A1500734,
FRA15000312 thru FRA1500336

**INSPECTION COMPLIANCE**

**ALL USAGE:**
INITIAL 10,000 Hours or 20 Years (NOTE)

REPEAT 2,000 Hours or 4 Years (NOTE)

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

3. **PURPOSE**
To inspect horizontal stabilizer, elevator and attachments for signs of damage, fatigue or deterioration.

4. **INSPECTION INSTRUCTIONS**

A. Open all stabilizer and elevator access panels, including the stinger and vertical stabilizer to horizontal tail fairings. Refer to the applicable Model 150 Service Manual.

B. Visually inspect stabilizer and elevator for condition, cracks and security; hinge bolts, hinge bearings for condition and security; bearings for freedom of rotation; attach fittings for evidence of damage, wear, failed fasteners and security. Refer to Figure 1.
   (1) Clean area before inspecting if grime or debris is present.
   (2) If cracks or frozen bearings are found, conduct a surface eddy current inspection. Refer to Section 2A-13-01 Nondestructive Inspection Methods and Requirements, Eddy current Inspection - (Surface Inspection), for additional instructions. The inspection is for the aluminum structure outside of the bearing, so set the instrument for aluminum.

C. Visually inspect the elevator torque tube for corrosion and rivet security. Pay particular attention to the flange riveted onto the torque tube near the airplane centerline for corrosion.
   (1) Clean area before inspecting if grime or debris is present.

D. Using a borescope, inspect forward and aft stabilizer and elevator spars, ribs and attach fittings for cracks, corrosion, loose fasteners, elongated fastener attach holes and signs of fatigue and deterioration.
   (1) Clean area before inspecting if grime or debris is present.
   (2) Pay particular attention to the skins at the location where stringers pass through ribs and at the leading edge skin close to the fuselage. Apply finger pressure at the stringer intersection or the rib to spar juncture to check for free play indicating a broken rib.
   (3) With the inspection plate on top of the horizontal stabilizer removed, pay particular attention to the forward side of the aft spar where the 0432001–15 reinforcement and 0432004 bracket are installed. Refer to Figure 1, Detail B.
   (4) Visually inspect the forward stabilizer attachment bulkhead for loose rivets and cracks.
   (5) Visually inspect the forward side of the front spar.

E. Gain access to the 0432004 bracket. Remove both the 0432004 bracket and 0432001–15 reinforcement from the horizontal aft spar and visually inspect for cracks.
   (1) Clean area before inspecting if grime or debris is present.

F. Visually inspect the trailing edge portion of the elevator for indications of cracks, corrosion and deterioration. Visually inspect the attachment of the trim tab horn to the trim tab.
G. Install all previously removed access panels according to the applicable Model 150 Service Manual.

5. ACCESS AND DETECTABLE CRACK SIZE

<table>
<thead>
<tr>
<th>ACCESS/LOCATION</th>
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</tr>
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<tbody>
<tr>
<td>Horizontal Tail</td>
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</tr>
</tbody>
</table>

6. INSPECTION METHOD
Visual and Eddy Current

7. REPAIR/MODIFICATION
Replace damaged bolts and nuts. Replace damaged fittings and small parts. Replace damaged or loose rivets. Hinge bearings are prepacked with grease, which will eventually oxidize and harden after years of service. Several applications of penetrating oil will help free up a stiff bearing. It is the owner/operator option to replace stiff bearings. Repairs may be made in accordance with Section 18 (Structural Repair) of the applicable Model 150 Service Manual. Any repair not available in Section 18 should be coordinated with Cessna Customer Service prior to beginning the repair.

8. COMMENTS
Coordinate this inspection with SID 55-30-01, Vertical Stabilizer, Rudder and Attachments Inspection.
DETAIL D
ELEVATORS

DETAIL E

TRIM TAB HORN
BEARING

BELLCRANK

BEARING

TORQUE TUBE

DETAIL F
HORIZONTAL STABILIZER, ELEVATORS AND ATTACHMENTS INSPECTION
Figure 1 (Sheet 2)
SUPPLEMENTAL INSPECTION NUMBER: 55-11-01

1. TITLE: Vertical Stabilizer Attach Bracket and Horizontal Stabilizer Rear Spar Attachment Inspection

2. EFFECTIVITY
   15078506 thru 15079405,
   F15001339 thru F15001428,
   A15000685 thru A1500734,
   FRA15000312 thru FRA1500336

INSPECTION COMPLIANCE

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<tr>
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<td>or</td>
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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) 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 vertical stabilizer to horizontal aft spar fitting for cracks or corrosion. Refer to Figure 1.
      (1) Clean 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.
   C. 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.
   D. 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.
      (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.
   E. 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. below.
(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. below.

(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.

F. Install all removed parts. Refer to the applicable Model 150 Service Manual.

5. ACCESS AND DETECTABLE CRACK SIZE

<table>
<thead>
<tr>
<th>ACCESS/LOCATION</th>
<th>DETECTABLE CRACK SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rudder</td>
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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 18 (Structural Repair) of the applicable Model 150 Service Manual. Any repair not available in Section 18 should be coordinated with Cessna Customer Service prior to beginning the repair.

8. COMMENTS
This page contains an illustration of a Cessna aircraft focusing on the vertical stabilizer attach bracket and horizontal stabilizer rear spar attachment inspection. The parts and components are labeled with part numbers and descriptions as follows:

- **0432001-56 STABILIZER SPAR**
- **0432005-2 FITTING**
- **0432005-1 FITTING**
- **0432004 BRACKET**
- **0431009 BRACKET**
- **0432001-15 REINFORCEMENT**

**Detail A** shows the vertical stabilizer with a bracket attached to it.

**Detail B** illustrates the connection between the stabilizer and the primary structure, highlighting the bracket and fitting components.

**Detail C** provides a close-up view of the attach bracket and reinforcement details.

1. **TITLE:**
Vertical Stabilizer, Rudder and Attachments Inspection

2. **EFFECTIVITY**
15078506 thru 15079405,
F15001339 thru F15001428,
A15000685 thru A1500734,
FRA15000312 thru FRA1500336

**INSPECTION COMPLIANCE**

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<tbody>
<tr>
<td>REPEAT</td>
<td>3,000 Hours or 5 Years (NOTE)</td>
<td></td>
</tr>
</tbody>
</table>

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

3. **PURPOSE**
To inspect vertical stabilizer, rudder and attachments for signs of damage, cracks or deterioration.

4. **INSPECTION INSTRUCTIONS**

A. Remove rudder from airplane and open all vertical stabilizer access panels. Refer to the applicable Model 150 Service Manual.

B. Visually inspect vertical stabilizer and rudder for condition, cracks and security; rudder hinges for condition, cracks and security; hinge bolts, hinge bearings for condition and security; bearings for freedom of rotation; attach fittings for evidence of damage, wear, failed fasteners and security. Refer to Figure 1.
   (1) Clean area before inspecting if grime or debris is present.

C. Using a borescope, inspect forward and aft vertical stabilizer spars, ribs and attach fittings for cracks, corrosion, loose fasteners, elongated fastener attach holes and signs of damage or deterioration. Visually inspect the forward and aft stabilizer attach fittings for loose fittings and cracks.
   (1) Clean area before inspecting if grime or debris is present.
   (2) Pay particular attention to 0431009 brackets, at the radius between the vertical and horizontal flanges. Refer to Figure 1, Detail E.

D. Inspect rudder for deterioration resulting from fatigue, wear, overload, wind damage and corrosion.
   (1) Clean area before inspecting if grime or debris is present.

E. Inspect skins, spars and ribs for cracks, corrosion and working fasteners. Pay particular attention to the skins at the location where stringers pass through ribs. Apply finger pressure at the intersection to check for free play indicating a broken rib.

F. If corrosion or a frozen bearing is found in 4.B. above, replace the rudder hinge or conduct a surface eddy current inspection for cracks of each rudder hinge attach fitting. Refer to Section 2A-13-01 (Nondestructive Inspection Methods and Requirements), Eddy Current Inspection – Surface Inspection, for additional instructions. The inspection is for the aluminum structure outside of the bearing, so set the instrument for aluminum.

G. Install rudder and install all previously removed access panels according to the applicable Model 150 Service Manual.
5. ACCESS AND DETECTABLE CRACK SIZE

<table>
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<tr>
<th>ACCESS/LOCATION</th>
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<tbody>
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<td>Vertical Stabilizer, Rudder and Stabilizer Attachment</td>
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</tbody>
</table>

6. INSPECTION METHOD
   Visual, Borescope and Eddy Current if needed.

7. REPAIR/MODIFICATION
   Replace damaged bolts and nuts. Replace damaged fittings and small parts. Replace damaged or loose rivets. Hinge bearings are prepacked with grease, which will eventually oxidize and harden after years of service. Repairs may be made in accordance with Section 18 (Structural Repair) of the applicable Model 150 Service Manual. Any repair not available in Section 18 should be coordinated with Cessna Customer Service prior to beginning the repair.

8. COMMENTS
   Coordinate this inspection with SID 55–10–01, Horizontal Stabilizer, Elevators and Attachments Inspection.
VERTICAL STABILIZER, RUDDER AND ATTACHMENTS INSPECTION

Figure 1 (Sheet 1)
VERTICAL STABILIZER, RUDDER AND ATTACHMENTS INSPECTION
Figure 1 (Sheet 2)
SUPPLEMENTAL INSPECTION NUMBER: 55-41-01

1. TITLE:
   Rudder Spar Inspection

2. EFFECTIVITY
   15078506 thru 15079405,
   F15001339 thru F15001428,
   A15000685 thru A1500734,
   FRA15000312 thru FRA1500336

   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 rudder spar for cracks or wrinkles around the upper one-inch diameter hole.

4. INSPECTION INSTRUCTIONS
   A. Check the aircraft records to determine if Service Bulletin SEB94-03 has been accomplished and the rudder spar has been replaced with an 0433010-6 spar. If it has, this inspection is complete.
   
   NOTE: If records are incomplete or there is any doubt, examine the upper rudder spar below the upper rudder hinges. If there is a hole in the web of the spar, the spar has NOT been replaced.

   B. Position the rudder in the neutral (centerline) position. Visually inspect the outer surface of the rudder skins around the area of the upper attach hinges for cracks or wrinkles in the skins. Refer to Figure 1.
      (1) Clean area before inspecting if grime or debris is present.

   C. Position the rudder full left to expose the right side of the rudder spar. Carefully examine the spar in the vicinity of the one-inch hole just below the upper rudder attach hinge. Look specifically for cracks radiating from the one-inch hole.

   D. Position the rudder full right to expose the left side of the rudder spar. Carefully examine the spar in the vicinity of the one-inch hole just below the upper rudder attach hinge. Look specifically for cracks radiating from the one-inch hole.

5. ACCESS AND DETECTABLE CRACK SIZE
   ACCESS/LOCATION DETECTABLE CRACK SIZE
   Rudder Not Allowed

6. INSPECTION METHOD
   Visual
7. REPAIR/MODIFICATION
Replace damaged skins or spars with cracks. Replacement of the spar is a terminating action for this inspection. Repairs may be made in accordance with Section 18 (Structural Repair) of the applicable Model 150 Service Manual. Any repair not available in Section 18 should be coordinated with Cessna Customer Service prior to beginning the repair.

NOTE: The replacement spar does not have the one-inch hole in the spar below the upper hinge brackets. This reduces access to this area to buck rivets, therefore sufficient rivets will need to be removed to allow one side of the skin to be raised to gain access to buck the rivets common to the hinge brackets and ribs. Pull type rivets are NOT to be used common to the hinge brackets. Install rivets beginning with those common to the hinge bracket and spar web, then working down from the upper hinge area, bucking those common to the ribs, spar and skin. Install rivets above the upper hinge working forward and up, finishing at the balance weight attach area.

8. COMMENTS
RUDDER SPAR INSPECTION

NOTE: THE REPLACEMENT SPAR DOES NOT HAVE THIS ONE INCH HOLE.

RUDDER SPAR INSPECTION
Figure 1 (Sheet 1)
1. **TITLE:**
   Wing Structure Inspection

2. **EFFECTIVITY**
   15078506 thru 15079405,
   F15001339 thru F15001428,
   A15000685 thru A1500734,
   FRA15000312 thru FRA1500336

**INSPECTION COMPLIANCE**

<table>
<thead>
<tr>
<th></th>
<th>TYPICAL: INITIAL 12,000 Hours or 20 Years (NOTE)</th>
<th>REPEAT 2,000 Hours or 10 Years (NOTE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEVERE:</td>
<td>INITIAL 6,000 Hours or 10 Years (NOTE)</td>
<td>REPEAT 1,000 Hours or 5 Years (NOTE)</td>
</tr>
</tbody>
</table>

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

**3. PURPOSE**
To ensure structural integrity of the wing structure.

**4. INSPECTION INSTRUCTIONS**

A. Open all access panels and remove all fairings and the wing tips from the wings. Refer to the applicable Model 150 Service Manual.

B. Visual Inspection
   (1) Clean area before inspecting if grime or debris is present.
   (2) Visually inspect the wing structure for damage, corroded or cracked parts. Use a borescope or magnifying glass where required.
     (a) Pay particular attention to the wing attach area. Visually inspect both the fuselage and wing where the wing attaches to the carry-thru spar in the fuselage.
     (b) Visually inspect for working rivets at the inboard portion of the main wing spar.

   **NOTE:** Working rivets will have a trail of black dust downwind from the fastener. The dust is oxidized aluminum produced by the fastener moving in the hole.

   (c) Visually inspect for working Hi-Shear rivets at the inboard spar fittings on the main wing spar.
   (d) Pay particular attention to the trailing edge ribs and the span wise segments supporting the flap actuator or flap bell cranks.

   (3) If the flight hours meet or exceed the inspection compliance hours (above), proceed to Detailed Inspection below.
   (4) If crack(s) or corrosion is found at the wing attach fittings, proceed to the Detailed Inspection below.
   (5) If no crack(s) or corrosion is found and the aircraft flight hours are below the inspection compliance hours (above), install access panels, fairings and wing tips. Inspection is complete.

C. Detailed Inspection
   (1) Support the wing outboard of the strut while removing attach bolts.
   (2) Remove the wing front spar attach bolts. Visually inspect the holes on the wing and fuselage sides of the fittings and surrounding area for corrosion.
     (a) Pay particular attention to potential corrosion in the fitting inside the fuselage front carry-thru spar.
(b) Conduct a bolt hole eddy current inspection of the front spar attach fittings. Refer to Section 2A-13-01, Non-destructive Inspection Methods and Requirements, Eddy Current Inspection – (Bolt Hole Inspection), for additional instructions. The hole size is 0.50 inches in diameter.

NOTE: With the front spar in position, there are three segments through the hole. There is a fabrication joint in the center segment (wing side), so expect a crack-like indication at about 2:00 and 10:00 o'clock positions. Indications caused by the fabrication joint are not a cause for rejection.

(c) Install the front spar attach bolt.

(3) Remove the wing rear spar attach bolts. Mark the location of the indexing slot in the heads of both eccentric bushings. Remove the bushings. Visually inspect the holes on the wing and fuselage sides of the fittings and surrounding area for corrosion.

(a) Pay particular attention to potential corrosion in the fitting inside the rear carry-thru spar.

(b) Conduct a bolt hole eddy current inspection of the rear spar attach fittings. Refer to Section 2A-13-01, Non-destructive Inspection Methods and Requirements, Eddy Current Inspection – (Bolt Hole Inspection), for additional instructions. The hole size is 0.4375 inches in diameter.

(c) Install the bushings in the spar in the same orientation as they were when removed.

(d) Install the rear spar attach bolt.

(4) Install previously removed access panels, fairings and wing tips. Refer to the applicable Model 150 Service Manual.

5. ACCESS AND DETECTABLE CRACK SIZE

<table>
<thead>
<tr>
<th>ACCESS/LOCATION</th>
<th>DETECTABLE CRACK SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Attach Points</td>
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</tr>
</tbody>
</table>

6. INSPECTION METHOD

Visual, Eddy Current, Borescope, Magnifying Glass

7. REPAIR/MODIFICATION

Replace cracked or excessively corroded parts. If corrosion is present, it must be removed before refinishing. Contact Cessna Customer Service for assistance prior to beginning the repair if the disassembly exceeds the repair facilities experience or capability.

8. COMMENTS

Coordinate this inspection with SID 57–40–01, Strut and Strut Wing Attachment Inspection.
1. **TITLE:**
   Wing Structure Corrosion Inspection

2. **EFFECTIVITY**
   15078506 thru 15079405,
   F15001339 thru F15001428,
   A15000685 thru A1500734,
   FRA15000312 thru FRA1500336

3. **CORROSION SEVERITY INSPECTION COMPLIANCE**

<table>
<thead>
<tr>
<th>CORROSION SEVERITY</th>
<th>INSPECTION COMPLIANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MILD/MODERATE:</td>
<td>INITIAL 20 Years (NOTE)</td>
</tr>
<tr>
<td></td>
<td>REPEAT 10 Years (NOTE)</td>
</tr>
<tr>
<td>SEVERE:</td>
<td>INITIAL 10 Years (NOTE)</td>
</tr>
<tr>
<td></td>
<td>REPEAT 5 Years (NOTE)</td>
</tr>
</tbody>
</table>

4. **NOTE:**
   Refer to Section 2A-30-01 and associated maps to determine corrosion severity.

5. **PURPOSE**
   To ensure corrosion protection of the wing structure.

6. **INSPECTION INSTRUCTIONS**
   A. Open all access panels and remove all fairings and the wing tips from the wings. Refer to the applicable Model 150 Service Manual.
      (1) Clean area before inspecting if grime or debris is present.
   B. Visually inspect throughout the wing sections for corrosion or traces of corrosion products through the access panels and wing tips.
   C. Visually inspect for open fastener holes or loose rivets in the structure. Open fastener holes are an indication that a rivet has corroded and departed the airplane.
   D. Use a borescope to inspect inaccessible areas.
      (1) Some additional areas can be reached by threading the borescope probe through lightening holes in the trailing edge ahead of the flap and aileron.
      (2) During the borescope inspection, pay particular attention to rivet butts and flanges containing rivets.
   E. Install previously removed access panels, fairings and wing tips. Refer to the applicable Model 150 Service Manual.

7. **ACCESS AND DETECTABLE CRACK SIZE**

<table>
<thead>
<tr>
<th>ACCESS/LOCATION/ZONE</th>
<th>DETECTABLE CRACK SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing</td>
<td>Not Allowed</td>
</tr>
</tbody>
</table>

8. **INSPECTION METHOD**
   Visual, Borescope
7. REPAIR/MODIFICATION

A. If corrosion is present, it must be removed before refinishing. The recommended procedure to remove corrosion is by hand sanding, using a fine grained sandpaper.

NOTE: Particularly if corrosion is detected using a borescope, significant disassembly may be required to remove corrosion and to refinish and repair surfaces. Contact Cessna Customer Service for assistance prior to beginning the repair if the disassembly exceeds the repair facilities experience or capability.

B. Use 180 or finer grit abrasive cloth to produce a diameter-to-depth ratio of about 10:1. Use ultrasonic methods to determine thickness after removing corrosion. Repairs are required if thickness is less than 90% of uncorroded material.

C. Refinish sanded areas.
   (1) Solvent Wipe.
      (a) Wipe off excess oil, grease or dirt from the surface to be cleaned.
      (b) Apply solvent to a clean cloth, preferably by pouring solvent onto cloth from a safety can or other approved, labeled container. The cloth must be well saturated, but not dripping.
      (c) Wipe surface with the moistened cloth as necessary to dissolve or loosen soil. Work a small enough area so the surface being cleaned remains wet.
      (d) Immediately wipe the surface with a clean, dry cloth, while the solvent is still wet. Do not allow the surface to evaporate dry.
      (e) Do steps (b) through (d) again until there is no discoloration on the drying cloth.
   (2) Apply corrosion primer in accordance with Corrosion-Resistant Primer MIL-PRF-23377G or later.
      (a) Mix and apply in accordance with manufacturer's instructions.
      (b) Apply mixture with a wet cross coat to yield a dry film thickness of 0.6 to 0.8 mils.
      (c) Allow to air dry for two to four hours.

8. COMMENTS
SUPPLEMENTAL INSPECTION NUMBER: 57-11-03

1. TITLE:
   Wing Splice Joint at Strut Attach Inspection

2. EFFECTIVITY
   15078506 thru 15079405,  
   F15001339 thru F15001428,  
   A15000685 thru A1500734,  
   FRA1500312 thru FRA1500336  

INSPECTION COMPLIANCE

| MILD/MODERATE: | INITIAL | 20 Years (NOTE) |
|               | REPEAT  | 10 Years (NOTE) |

| SEVERE:       | INITIAL | 10 Years (NOTE) |
|               | REPEAT  | 5 Years (NOTE)  |

NOTE: Refer to Section 2A-30-01 and associated maps to determine corrosion severity.

3. PURPOSE
   To verify the integrity of the forward spar wing splice.

4. INSPECTION INSTRUCTIONS
   A. Remove the four access panels inboard and outboard of the wing strut attach fitting to gain access to the forward and aft side of the wing strut attachment. Refer to the applicable Model 150 Service Manual.

   B. Visually inspect for corrosion at the edge of the upper and lower spar caps and the edge of the splice doublers. Refer to Figure 1. In addition, confirm the spar splice does not have bulging, resulting from corrosion, and does not have missing or loose fasteners.

   C. If any of these conditions are confirmed conduct an Ultrasonic Thickness Test on the area to determine if the doubler and/or spar thickness has been reduced in thickness from corrosion. Refer to Section 2A-13-01 Nondestructive Inspection Methods and Requirements, Ultrasonic Thickness Testing. If testing indicates the thickness varies by more than 0.004 inch in any area, contact Cessna Customer Support for additional instructions.

   D. If corrosion is not found, install the removed access panels. Refer to the applicable Model 150 Service Manual.

5. ACCESS AND DETECTABLE CRACK SIZE

   ACCESS/LOCATION | DETECTABLE CRACK SIZE
   Wing Forward Spar | Not Allowed

6. INSPECTION METHOD
   Visual/Ultrasonic Thickness

7. REPAIR/MODIFICATION
   Replace any cracked parts. If corroded, sand area lightly to remove corrosion. If more than 10% of the thickness has been removed in any one area, replace the part.

8. COMMENTS
WING SPLICE JOINT AT STRUT ATTACH INSPECTION
Figure 1 (Sheet 1)
1. **TITLE:**
   Wing Root Rib Corrosion Inspection

2. **EFFECTIVITY**
   15078506 thru 15079405,
   F15001339 thru F15001428,
   A15000685 thru A1500734,
   FRA15000312 thru FRA1500336

3. **NOTE:**
   Refer to Section 2A-30-01 and associated maps to determine corrosion severity.

4. **PURPOSE**
   To ensure structural integrity of the root rib structure.

5. **INSPECTION INSTRUCTIONS**
   A. Remove the wing to fuselage fairing. Refer to the applicable Model 150 Service Manual.
   B. Visually inspect inboard side of root ribs at WS 22.12 for corrosion.
      (1) Clean area before inspecting if grime or debris is present.
   C. Remove the inspection cover if fitted, outboard of WS 22.12.
   D. Visually inspect outboard side of root ribs at WS 22.12 for corrosion.
      (1) Clean area before inspecting if grime or debris is present.
   E. Repair any corroded areas in accordance with Repair/Modification Section below.
   F. Install the wing to fuselage fairing and inspection cover. Refer to the applicable Model 150 Service Manual.

6. **ACCESS AND DETECTABLE CRACK SIZE**
   ACCESS/LOCATION                  DETECTABLE CRACK SIZE
   Root Rib                          Not Allowed

7. **REPAIR/MODIFICATION**
   A. If corroded, sand corroded area lightly to remove corrosion. If corrosion is found on the outboard side of the rib, it may be necessary to provide additional access in the leading edge skin. Contact Cessna Customer Service for instructions for cut and repair.
   B. Clean area thoroughly to assess remaining thickness.
C. If more than 20% of the thickness has been removed in any area, replace the rib. Up to 20% is acceptable if confined to an area of 2 inches or less in length and less than one square inch in area.

D. Brush coat sanded areas with alodine.

8. COMMENTS
1. **TITLE:**
   Strut and Strut Wing Attachment Inspection

2. **EFFECTIVITY**
   15078506 thru 15079405,
   F15001339 thru F15001428,
   A15000685 thru A1500734,
   FRA15000312 thru FRA1500336

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### INSPECTION COMPLIANCE

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<th>Type</th>
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<th>Repeat</th>
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</thead>
<tbody>
<tr>
<td><strong>TYPICAL</strong></td>
<td>12,000 Hours</td>
<td>2,000 Hours</td>
</tr>
<tr>
<td><strong>SEVERE</strong></td>
<td>6,000 Hours</td>
<td>1,000 Hours</td>
</tr>
</tbody>
</table>

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

3. **PURPOSE**
   To verify the integrity of the strut and strut attachment fitting to the wing.

4. **INSPECTION INSTRUCTIONS**
   A. Remove the wing strut upper and lower fairings. Refer to the applicable Model 150 Service Manual.
   B. If the flight hours meet or exceed the inspection compliance hours (above), proceed to Detailed Attach Fitting Inspection below.
      1. Visually inspect the strut attachment fittings for cracks or corrosion. Refer to Figure 1.
         a. Clean area before inspecting if grime or debris is present.
         b. If crack(s) or corrosion is found, proceed to Detailed Attach Fitting Inspection below.
      2. Visually inspect the strut tube for cracks or corrosion.
         a. Clean area before inspecting if grime or debris is present.
         b. If crack(s) or corrosion is found, proceed to Detailed Attach Fitting Inspection below.
      3. If no crack(s) or corrosion is found, install fairings. The inspection is complete.
   C. Detailed Attach Fitting Inspection.
      1. Support the wing to minimize the load on the strut to wing attach bolt.
      2. Remove the upper attach bolt and lower the strut to a support.
      3. Remove the lower attach bolt and remove the strut.
      4. Visually examine the strut tube for cracks or corrosion.
      5. Visually inspect the strut attachment fittings for corrosion.
      6. Inspect using Eddy Current for cracks radiating from the wing and fuselage attach holes in the wing strut end fitting.
      7. Replace the strut by installing the lower attachment, then the upper attachment. Refer to the applicable Model 150 Service Manual.

5. **ACCESS AND DETECTABLE CRACK SIZE**

<table>
<thead>
<tr>
<th>ACCESS/LOCATION</th>
<th>DETECTABLE CRACK SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Strut</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
6. **INSPECTION METHOD**  
   Visual and Eddy Current

7. **REPAIR/MODIFICATION**
   A. If corrosion is found, remove corrosion by lightly sanding corroded area, taking care to remove as little material as necessary to completely remove corrosion. If the material thickness is less than 90% of the uncorroded section, then replace the part.
   B. Buff out sanding marks.
   C. Corrosion or damage to attachment holes will require specialized rework. Contact Cessna Field Service for rework of corroded or damaged attachment holes.
   D. Clean and prime sanded areas.

8. **COMMENTS**  
   This inspection replaces Continued Airworthiness Program 57-10-02, Wing Strut.
STRUT AND STRUT WING ATTACHMENT INSPECTION
Figure 1 (Sheet 1)
1. TITLE:  
Aileron Support Structure Inspection

2. EFFECTIVITY  
15078506 thru 15079405,  
F15001339 thru F15001428,  
A15000685 thru A1500734,  
FRA15000312 thru FRA1500336

SUPPLEMENTAL INSPECTION NUMBER: 57-51-01

3. PURPOSE  
To ensure structural integrity of the Aileron Support Structure.

4. INSPECTION INSTRUCTIONS  
A. Check airplane records to verify that SEB87–04 has been complied with. If not, complete SEB87–04 with this inspection.
B. Remove the ailerons. Refer to the applicable Model 150 Service Manual.
   (1) Clean area before inspecting if grime or debris is present.
C. Visually inspect the aileron hinges for condition, cracks and security. Pay particular attention to the hinge pin segment “knuckle” area as shown in Figure 1, View A-A.
D. Visually inspect the pushrod attach fittings for evidence of damage, wear, failed fasteners and security.
E. Install the ailerons. Refer to the applicable Model 150 Service Manual.

5. ACCESS AND DETECTABLE CRACK SIZE  

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

6. INSPECTION METHOD  
Visual

7. REPAIR/MODIFICATION  
Refer to SE84–22, “Aileron Hinge Assembly Improvement”, to install new style hinge if old style is still on airplane. Replace any damaged or cracked hinges. Replace damaged or worn hinge pins.

NOTE: The old style aileron hinge pin uses a cotter pin to secure the hinge pin in position, whereas the new style uses a screw.

8. COMMENTS
AILERON SUPPORT STRUCTURE INSPECTION

Figure 1 (Sheet 1)

AILERON HINGE

PUSHROD ATTACH BRACKET

PUSHROD
SUPPLEMENTAL INSPECTION NUMBER: 57-53-01

1. TITLE
   Flap Tracks Corrosion Inspection

2. EFFECTIVITY
   15078506 thru 15079405,
   F15001339 thru F15001428,
   A15000685 thru A1500734,
   FRA15000312 thru FRA1500336

   CORROSION SEVERITY          INSPECTION COMPLIANCE
   MILD/MODERATE:               INITIAL  20 Years (NOTE)
                                 REPEAT   10 Years (NOTE)
   SEVERE:                      INITIAL  10 Years (NOTE)
                                 REPEAT   5 Years (NOTE)

   NOTE: Refer to Section 2A-30-01 and associated maps to determine corrosion severity.

3. PURPOSE
   To ensure the integrity of the flap tracks.

4. INSPECTION INSTRUCTIONS
   A. Check airplane records to verify that SEB95–03 has been incorporated. If not, complete SEB95–03
      with this inspection.
   B. Visually inspect the inboard and outboard flap tracks for exfoliation corrosion, particularly along
      exterior edges and edges of roller tracks. Refer to Figure 1.
         (1) Clean area before inspection if grime or debris is present.
   C. Visually inspect the flap track rib assembly, attachment brackets and angles for condition, cracks,
      loose rivets and security.

5. ACCESS AND DETECTABLE CRACK SIZE

   ACCESS/LOCATION               DETECTABLE CRACK SIZE
   Flap Tracks                   Not Allowed

6. INSPECTION METHOD
   Visual

7. REPAIR/MODIFICATION
   Replace damaged flap tracks or attachments. Replace damaged or loose rivets.

8. COMMENTS
1. **TITLE:**
   Engine Mount Inspection

2. **EFFECTIVITY**
   15078506 thru 15079405,
   F15001339 thru F15001428,
   A15000685 thru A1500734,
   FRA15000312 thru FRA1500336

**INSPECTION COMPLIANCE**

ALL USAGE: **INITIAL** 5,000 Hours or 20 Years **(NOTE)**

REPEAT At Engine Overhaul **(NOTE)**

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

3. **PURPOSE**
   To ensure structural integrity of the engine mount.

4. **INSPECTION INSTRUCTIONS**

   A. Remove engine cowling, engine and sufficient accessories to allow removal of the tubular engine mount. Refer to the applicable Model 150 Service Manual.

   B. Conduct a visual inspection for cracks in the welds of the tubular engine mount and within three inches on either side of the welds. Refer to Figure 1. Use a bright light and magnifier of 7X or greater to aid in inspection.

   (1) Clean area before inspecting if grime or debris is present.

   C. If rust is found, cracks are suspected or if airplane has exceeded the compliance time listed above, remove the tubular engine mount. Conduct a magnetic particle inspection for these areas. Refer to Section 2A-13-01, Nondestructive Inspection Methods and Requirements, Magnetic Particle Inspection, for additional instructions.

   D. Replace the tubular engine mount, engine, previously removed accessories and the cowling. Refer to the applicable Model 150 Service Manual.

5. **ACCESS AND DETECTABLE CRACK SIZE**

<table>
<thead>
<tr>
<th>ACCESS/LOCATION</th>
<th>DETECTABLE CRACK SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under Cowl</td>
<td>Not Allowed</td>
</tr>
</tbody>
</table>

6. **INSPECTION METHOD**
   Visual, Magnetic Particle

7. **REPAIR/MODIFICATION**
   Repair any cracks by rewelding. Prior to welding, locate either a drive pin or a hole welded shut in the tube to be welded. Open the hole prior to welding. After welding, while the welded area is still hot, introduce 3cc of unboiled Linseed oil or 6cc of corrosion preventative compound conforming to MIL-PRF-81309, through the hole and reseal it using the same method as was used in the original fabrication. The engine mount is not heat treated after fabrication, so no processing after welding is required. Repairs may be made in accordance with Section 18 (Structural Repair) of the applicable
Model 150 Service Manual. Section 18 also describes tubes which MUST be replaced in their entirety rather than being repaired. Any repair not available in Section 18 listed above should be coordinated with Cessna Customer Service prior to beginning the repair.

8. COMMENTS
This is a complex and involved inspection. It is recommended that the inspection be coordinated with an engine overhaul, even if the time does not exactly agree with inspection hours. Recurring inspections will be satisfied by inspections at engine overhaul. The initial inspection must be completed by June 30, 2015.
ENGINE MOUNT INSPECTION

Figure 1 (Sheet 1)
SUPPLEMENTAL INSPECTION NUMBER: 55-11-03

1. TITLE:
Vertical Fin Attach Bracket Inspection

2. EFFECTIVITY
15078506 thru 15079405,
F15001339 thru F15001428,
A15000685 thru A1500734,
FRA15000312 thru FRA1500336

3. PURPOSE
To inspect the vertical stabilizer rear spar attachment 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 Model 150 Service Manual.

5. ACCESS AND DETECTABLE CRACK SIZE

<table>
<thead>
<tr>
<th>ACCESS/LOCATION</th>
<th>DETECTABLE CRACK SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertical Stabilizer</td>
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</tr>
</tbody>
</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.

8. COMMENTS
VERTICAL STABILIZER ATTACH BRACKET INSPECTION

Figure 1 (Sheet 1)
CORROSION

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 corroducible 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 electro-potential voltage relative to the remainder of the alloyed sheet. This process is conducted at the fabricating mill and the product is called Alclad. Model 150 airplanes had sheet metal parts constructed of Al-clad 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 150 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) Wax 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.
Figure 1 (Sheet 1)

Concentration Cell Corrosion

- High Metal Ion Concentration
- Low Metal Ion Concentration
- High Oxygen Concentration
- Low Oxygen Concentration

Electrolyte

Pit or Pit
Passive Film

Pit Corrosion

Intergranular Corrosion
Metallic Grain Structure

Filing Corrosion (Highly Magnified)

Cathode (−)
Anode (+)
Steel Fastener
Aluminum Alloy

Corrosion Products

Intergranular Corrosion (Highly Magnified)

Painted Surface

Filing Corrosion (Highly Magnified)
(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 19 of the Model 150 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)
Asia Corrosion Severity Map
Figure 5 (Sheet 1)

CORROSION SEVERITY LEGEND

- MILD
- MODERATE
- SEVERE

Asia Corrosion Severity Map
Figure 5 (Sheet 1)
Europe and Asia Minor Corrosion Severity Map
Figure 6 (Sheet 1)