HOISTING

1. DESCRIPTION

This chapter describes those instructions necessary to support the airplane during maintenance and repair. In some instances (i.e. off-runway landing, collapsed gear, etc.) it may be necessary to lift the airplane using hoisting straps.
2. MAINTENANCE PRACTICES
   A. Hoisting the Airplane (See Figure 07-201), (See Figure 07-202)

   **CAUTION:** The following procedures shall be accomplished to prepare equipment and airplane for hoisting operations.

   - Defuel airplane. (Refer to 12-10)
   - Remove cargo.
   - Remove all antennas that will interfere with hoisting.
   - Secure propeller.
   - Check hoisting straps for fraying or deterioration.
   - Cover windshield with padded blankets.

   1. Raise Airplane
      (a) Acquire necessary tools, equipment, and supplies.

      | Description                                      | P/N or Spec. | Supplier                        | Purpose    |
      |--------------------------------------------------|--------------|---------------------------------|------------|
      | Hoisting Option #1: Spreader Bar                 | U23000A-1PA  | TANDEMLOC, Inc. Havelock, NC 28532 800-258-7324 | Support    |
      | Hoisting Option #1: Hoisting Straps (2)          | 2000 lb minimum | Any Source | Support |
      | Hoisting Option #2: Type E Style Mobile Gantries (2) | Model F4000 | Spanco, Inc. Morgantown, PA 19543 800-869-2080 | Support |
      | Hoisting Option #2: Chain, AM Hook Type Hoists (2) | 2 ton capacity | Chester Hoist, Inc. Lisbon, OH 44432 330-424-7248 | Support |
      | Hoisting Option #2: Spreader Bar with Straps (for forward hoist attach) | T6854 | Cirrus Design Duluth, MN 55811 218-727-2737 | Support |
      | Hoisting Option #2: Hoisting Strap (for aft hoist attach) | 2000 lb minimum | Any Source | Support |
      | Aircraft Hydraulic Jacks                          | -            | Any Source | Support |
      | Barrier (carpeting, bubble wrap, etc.)            | -            | Any Source | Protection |

   (b) For hoisting method #1:
      1. Remove upper engine cowl. (Refer to 71-10)

      **CAUTION:** Verify weight capacity of overhead crane meets or exceeds 2 tons (2000 kg).

      **CAUTION:** Hoisting straps must not contact firewall flange or installed components during hoisting as damage to aircraft may result.
CAUTION: Wooden blocks may be placed against firewall as spacers to ensure hoisting straps clear firewall flange.

2 Attach a hoisting strap around upper LH engine mount where weldment attaches to firewall. Adjust strap so when weighted, strap just clears firewall flange, and there is no contact between strap and firewall components.

3 Attach a second hoisting strap around upper RH engine mount where weldment attaches to firewall. Adjust strap so when weighted, strap just clears firewall flange, and there is no contact between strap and firewall components.

CAUTION: Use a protective barrier between fuselage and straps during hoisting procedure.

4 Attach a third hoisting strap around fuselage at FS 289.

5 To assure stability and safety during hoisting operations, raise airplane slowly.

6 Raise airplane enough to place jacks under wings and tailstand under empennage. (Refer to 07-10)

7 Remove hoisting straps.

(c) For hoisting method #2:

1 Remove upper engine cowl. (Refer to 71-10)

2 Position mobile gantries equipped with hoist chains approximately at forward and aft fuselage locations.

3 Attach spreader bar to forward gantry chain. Raise with chain as required to provide engine clearance.

CAUTION: Hoisting straps must not contact firewall flange or installed components during hoisting as damage to aircraft may result.

CAUTION: Wooden blocks may be placed against firewall as spacers to ensure hoisting straps clear firewall flange.

4 Route spreader bar hoisting strap around upper LH engine mount where weldment attaches to firewall and secure strap end to spreader bar attach point. Adjust strap so when weighted, strap just clears firewall flange, and there is no contact between strap and firewall components.

5 Route opposing spreader bar hoisting strap around upper RH engine mount where weldment attaches to firewall and secure strap end to spreader bar attach point. Adjust strap so when weighted, strap just clears firewall flange, and there is no contact between strap and firewall components.

CAUTION: Use a protective barrier between fuselage and straps during hoisting procedure.

6 Attach a third hoisting strap around fuselage at FS 289 and secure to hoist chain at aft gantry.

7 Position mobile gantries as necessary directly over hoist attach points.

8 To assure stability and safety during hoisting operations, raise airplane slowly.

9 Raise airplane enough to place jacks under wings and tailstand under empennage. (Refer to 07-10)

10 Remove hoisting straps.

(2) Lower Airplane

(a) Release pressure on all jacks simultaneously to keep airplane as level as possible.
(b) Remove jacks, jack points, and tailstand. Stow points in baggage compartment.
(c) Install tiedown rings.
(d) Install upper engine cowl. (Refer to 71-10)
Figure 07-201
Hoisting Method #1: Hoisting with Overhead Crane

1. Spreader Bar
2. Straps

LEGEND

144.00 INCHES

6.00 INCH CHOICE OF HOLES PROVIDES 6 INCHES ADJUSTMENT

1.25 DIA. TYPICAL

45° MINIMUM TYPICAL AT 240 INCHES SPREAD

12.00 INCHES TYPICAL

6.00 INCH CHOICE OF HOLES PROVIDES 6 INCHES ADJUSTMENT

144.00 INCHES

Figure 07-201
Hoisting Method #1: Hoisting with Overhead Crane

EFFECTIVITY:
All

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Figure 07-202
Hoisting Method #2: Hoisting with Mobile Gantry

1. Gantry
2. Spreader Bar
3. Straps

LEGEND

EFFECTIVITY:
All