SB-01-12-23-1 Rev B

DATE RELEASED
01-12-2023

DATE EFFECTIVE
01-12-2023

Rev A	-INITIAL RELEASE
REV B	-SERIAL NO. Effectivity Revised -METHOD OF COMPLIANCE updated to show corrective action with upgraded design

SUBJECT
Elevator Idler Fatigue Cracks

EFFECTIVITY

MODEL- Ranger R7
SERIAL NO: 10131-10227

REASON
Fatigue cracks have been reported in the field on the bracketry supporting the elevator pushrod idler assembly. This is due to high loads from the elevator pushrod fatiguing the bracket through cyclic loading. It is also believed that corrosion of the idler also contributes to this issue. If a crack continues to propagate without proper attention, this could lead to slop in the elevator control system and possibly failure of the supporting bracketry.

REQUIRED ACTION
Inspect bracket and fuselage ribs for cracks. Also note on condition of idler assembly.

TYPE OF MAINTENANCE
INSPECTION: Low (may require borescope); REPLACEMENT: Moderate

MINIMUM LEVEL OF CERTIFICATION
INSPECTION: Owner (may require borescope); REPLACEMENT: A&P

TIME OF COMPLIANCE
Inspect within the next 10hrs of flight time, then in 25 hr intervals until 100hrs has been reached. After this, inspection interval can default to annual inspections.

METHOD OF COMPLIANCE
Inspect the critical flanges as shown in Figure 2 and Figure 3. If any cracks are present, replace parts with upgraded design.

This service bulletin is null when the upgraded idler design is installed.

LABOR REQUIRED:
4hrs (if replacement required)

INSPECTION PROCEDURE

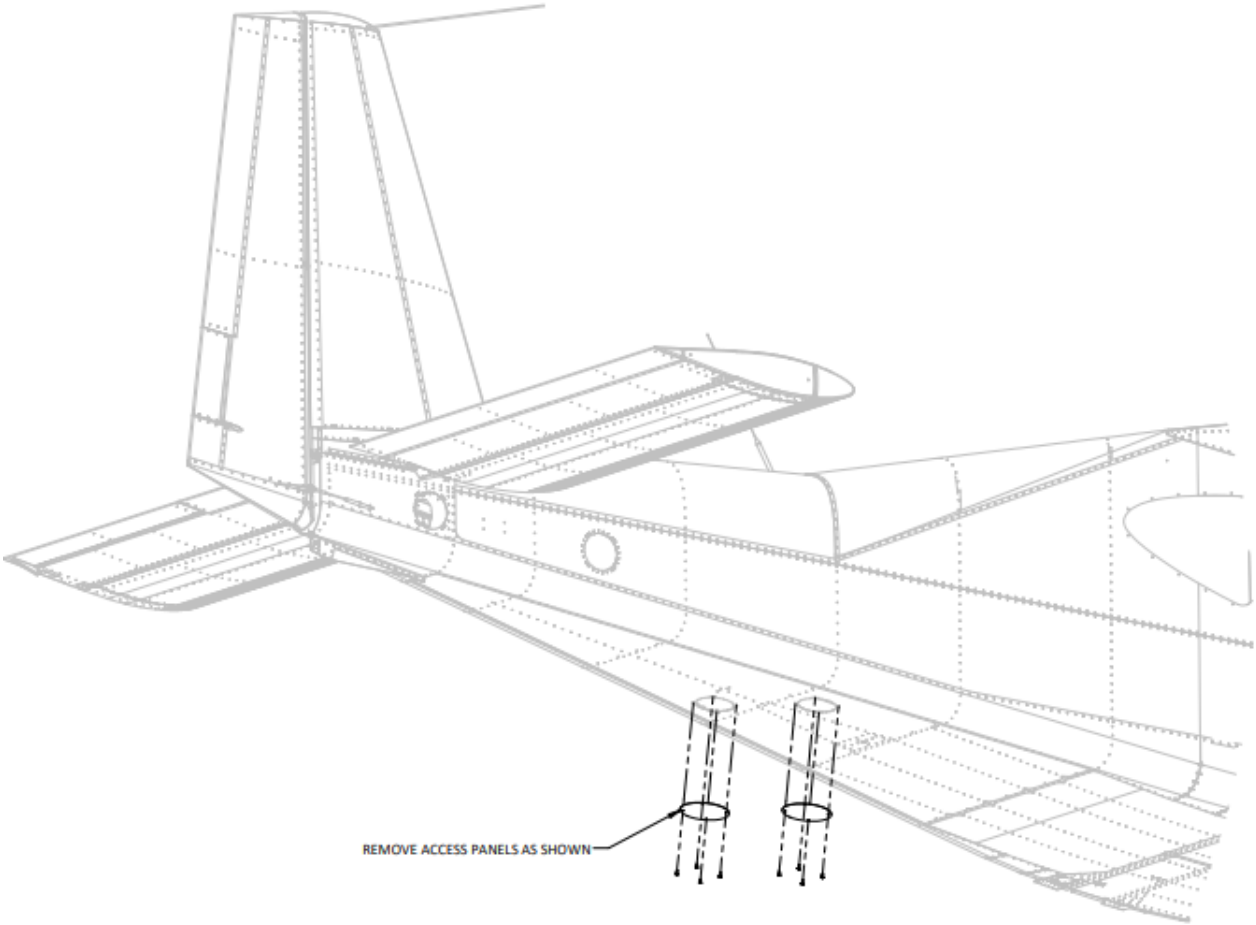

Figure 1

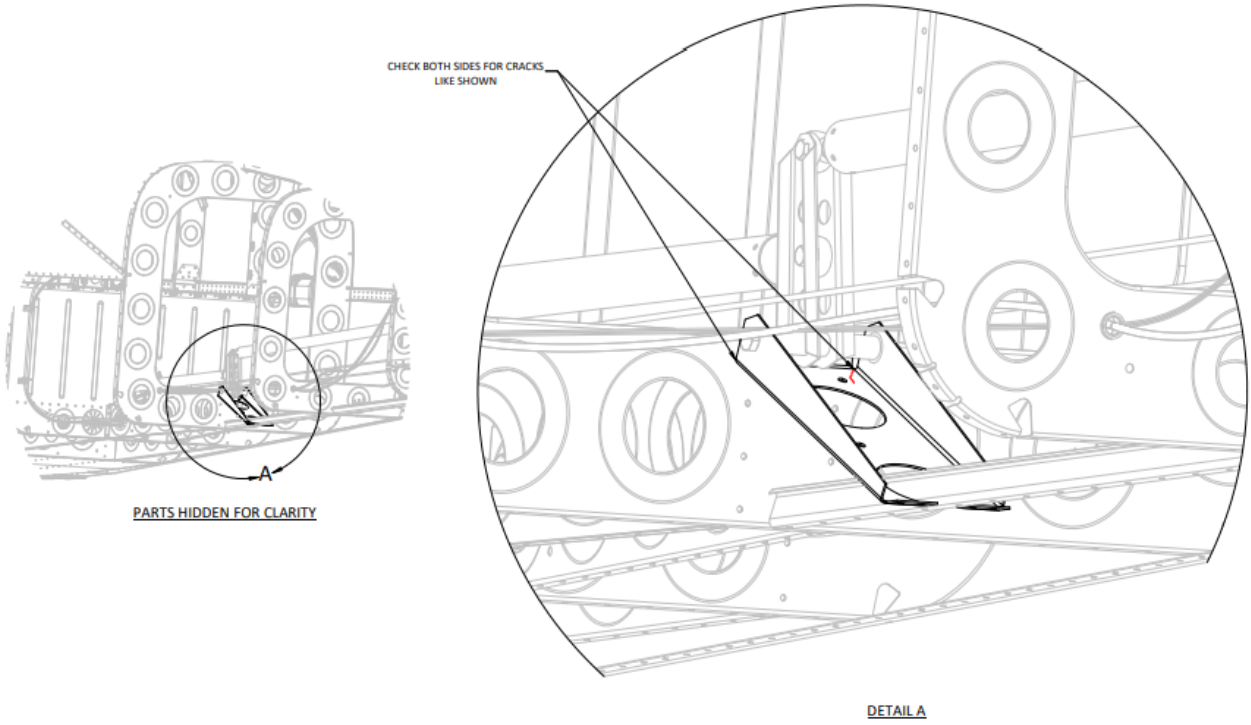

Figure 2

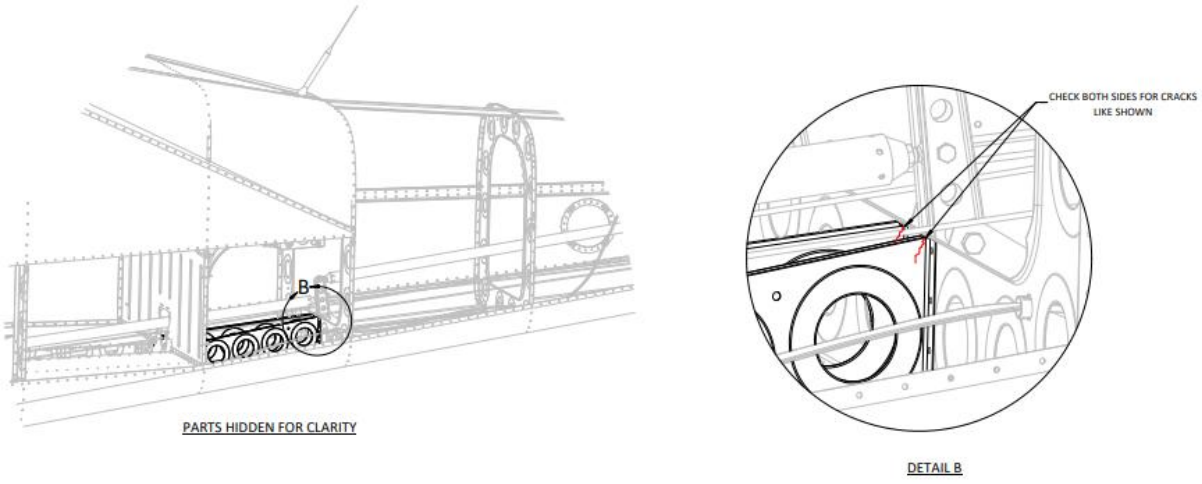

Figure 3

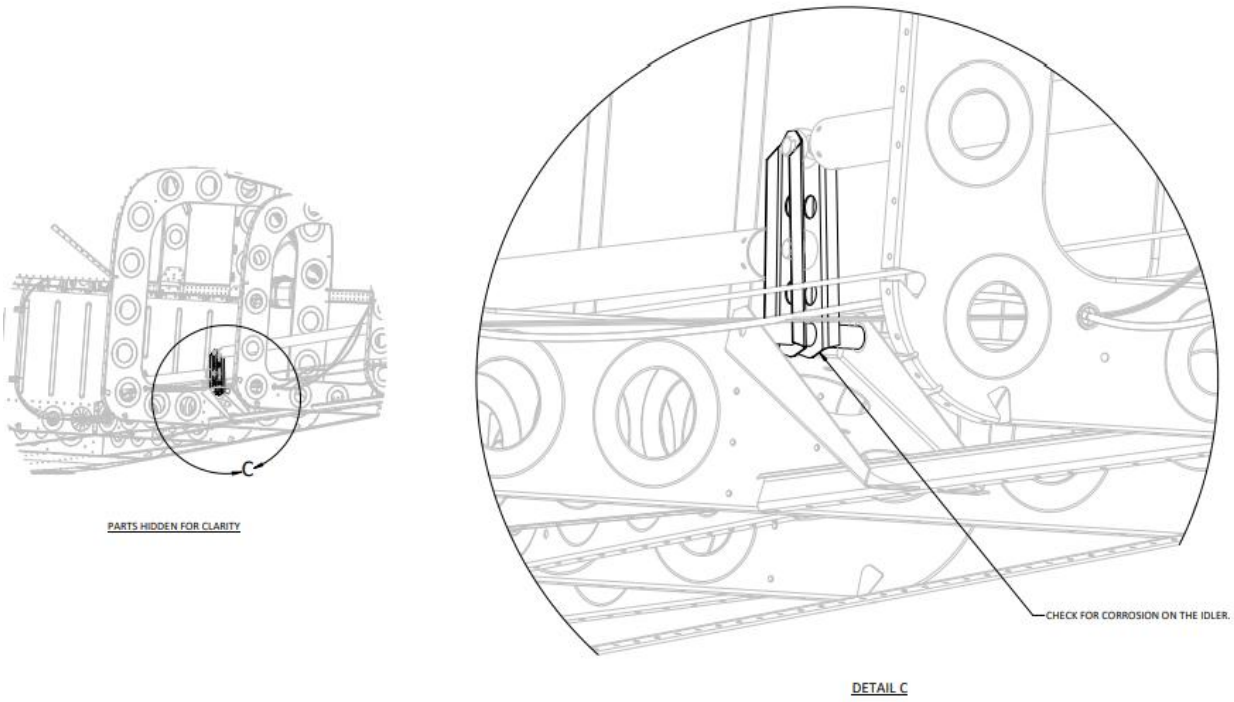
PARTS HIDDEN FOR CLARITY
CHECK FOR CORROSION ON THE IDLER.
DETAIL C

Figure 4

REPLACEMENT PROCEDURE

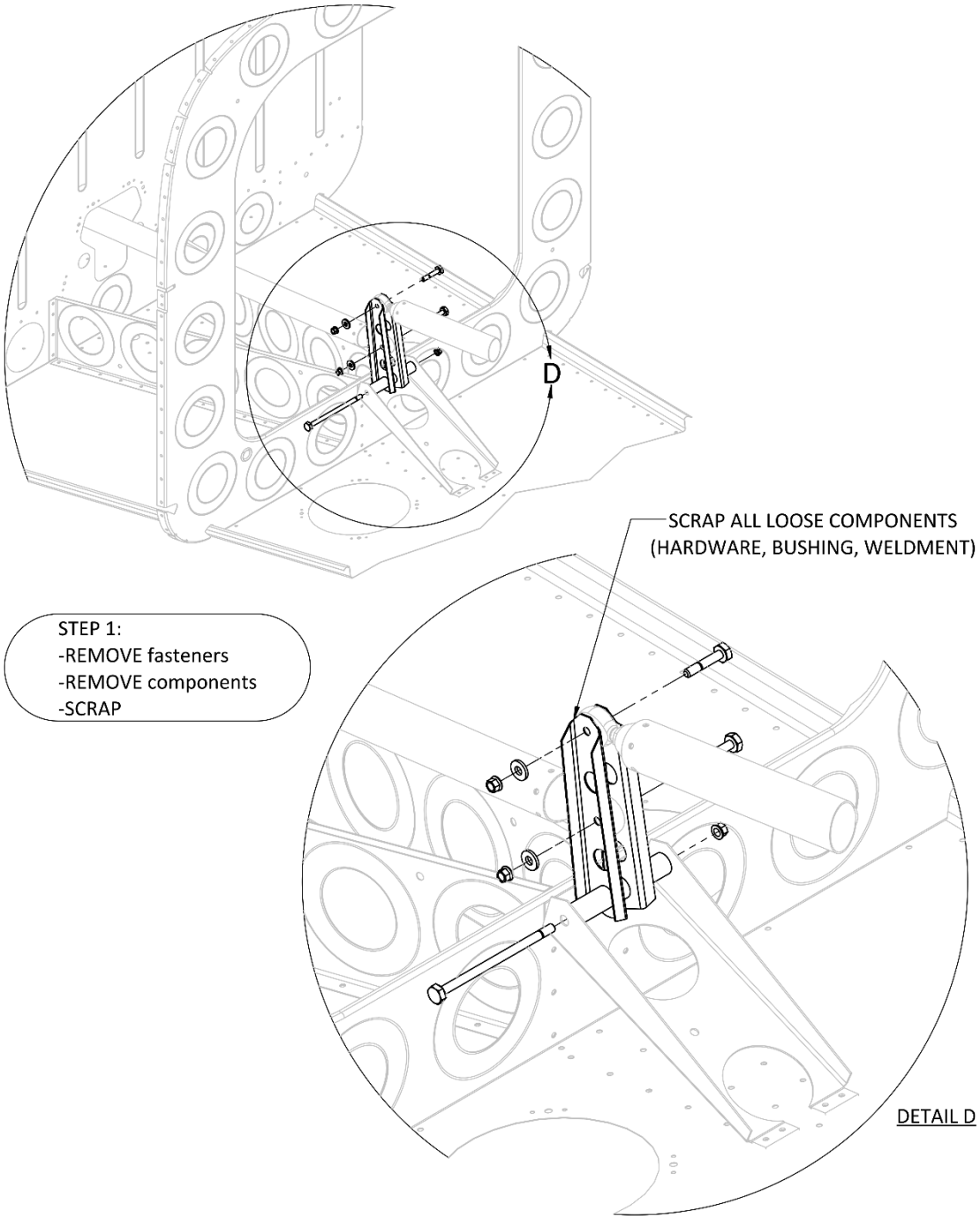

Figure 5

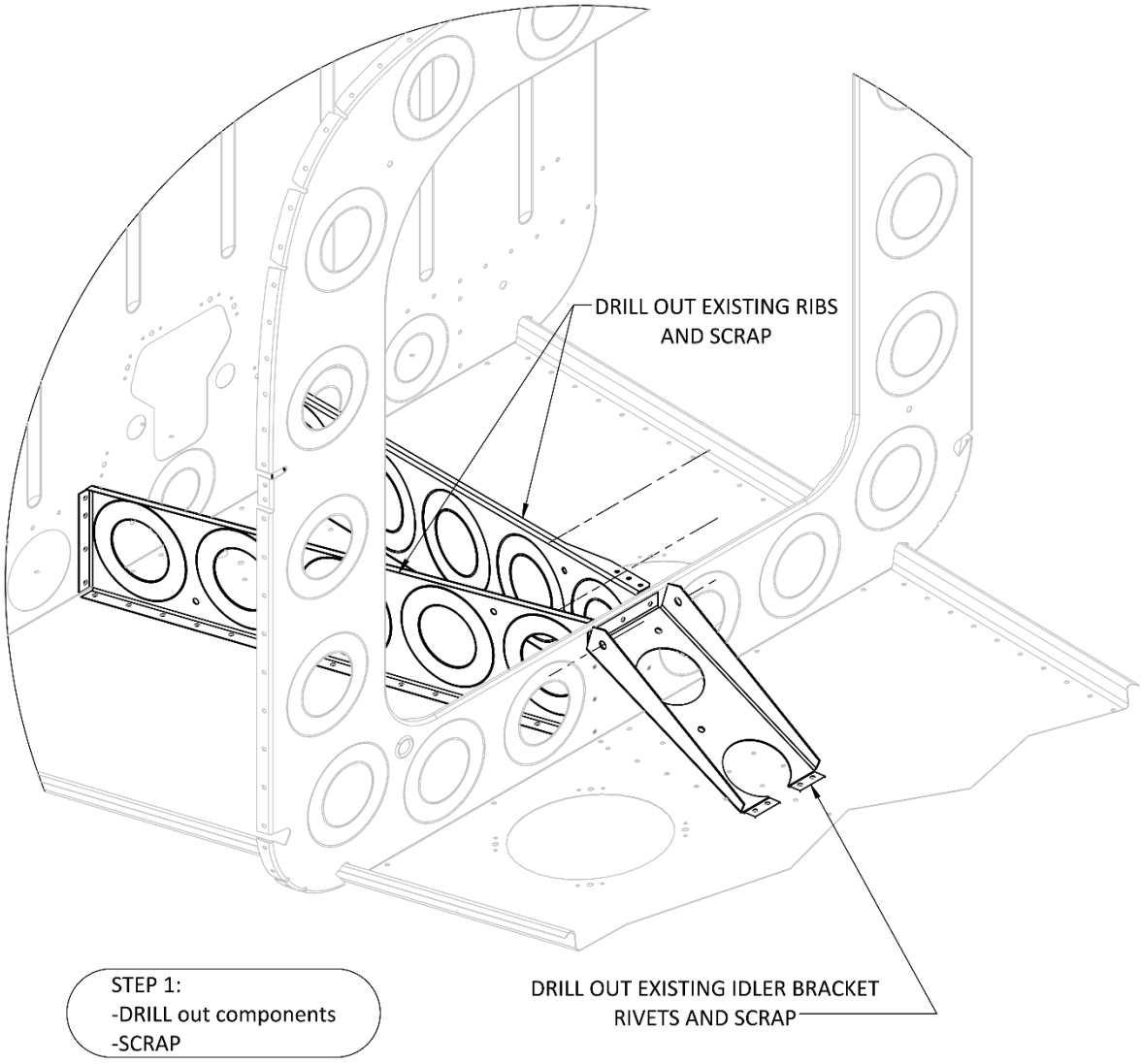
DRILL OUT EXISTING RIBS
AND SCRAP
STEP 1:
-DRILL out components
-SCRAP
DRILL OUT EXISTING IDLER BRACKET
RIVETS AND SCRAP

Figure 6

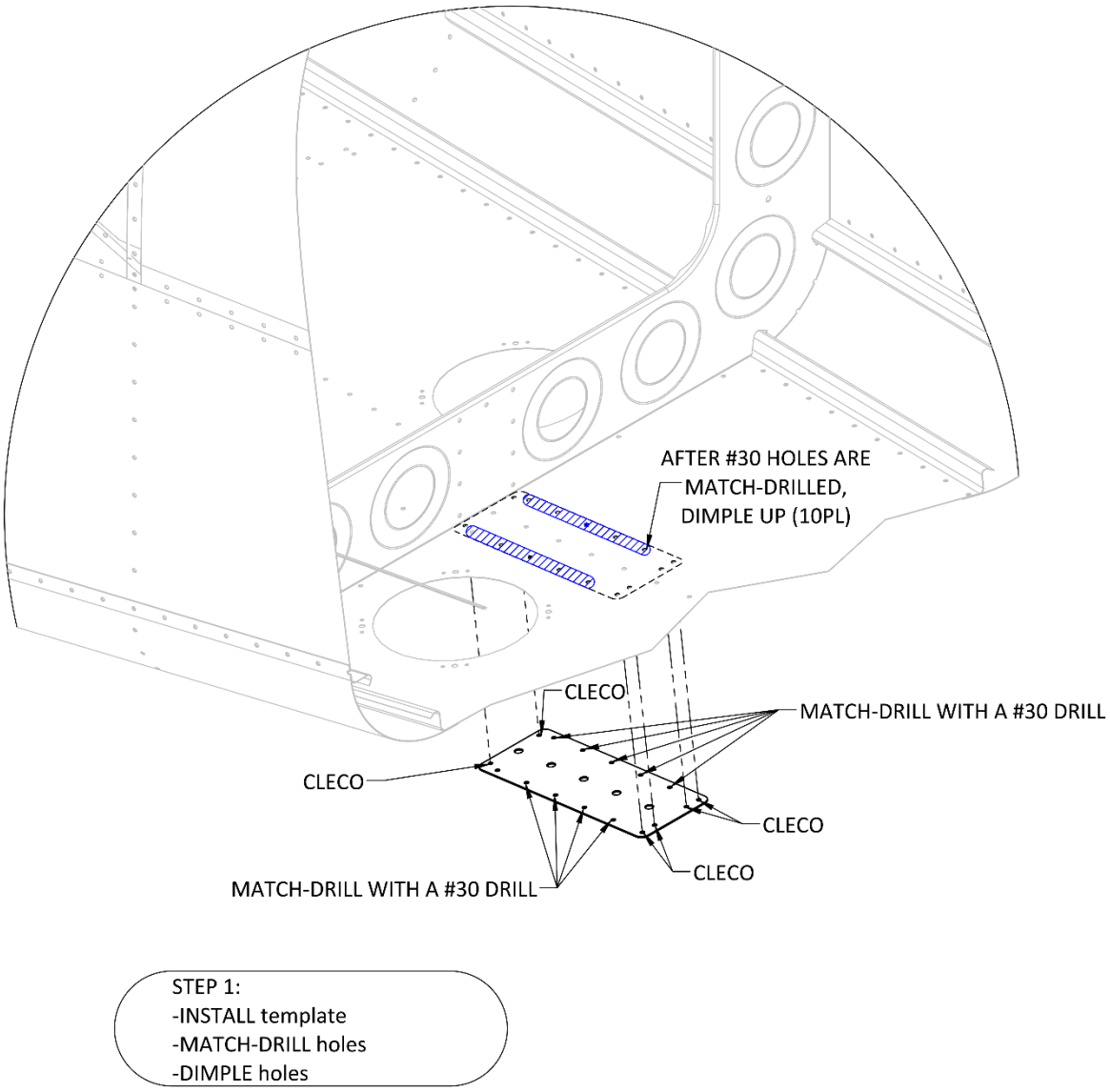
AFTER #30 HOLES ARE
MATCH-DRILLED,
DIMPLE UP (10PL)
CLECO
MATCH-DRILL WITH A #30 DRILL
CLECO
CLECO
CLECO
MATCH-DRILL WITH A #30 DRILL
STEP 1:
-INSTALL template
-MATCH-DRILL holes
-DIMPLE holes

Figure 7

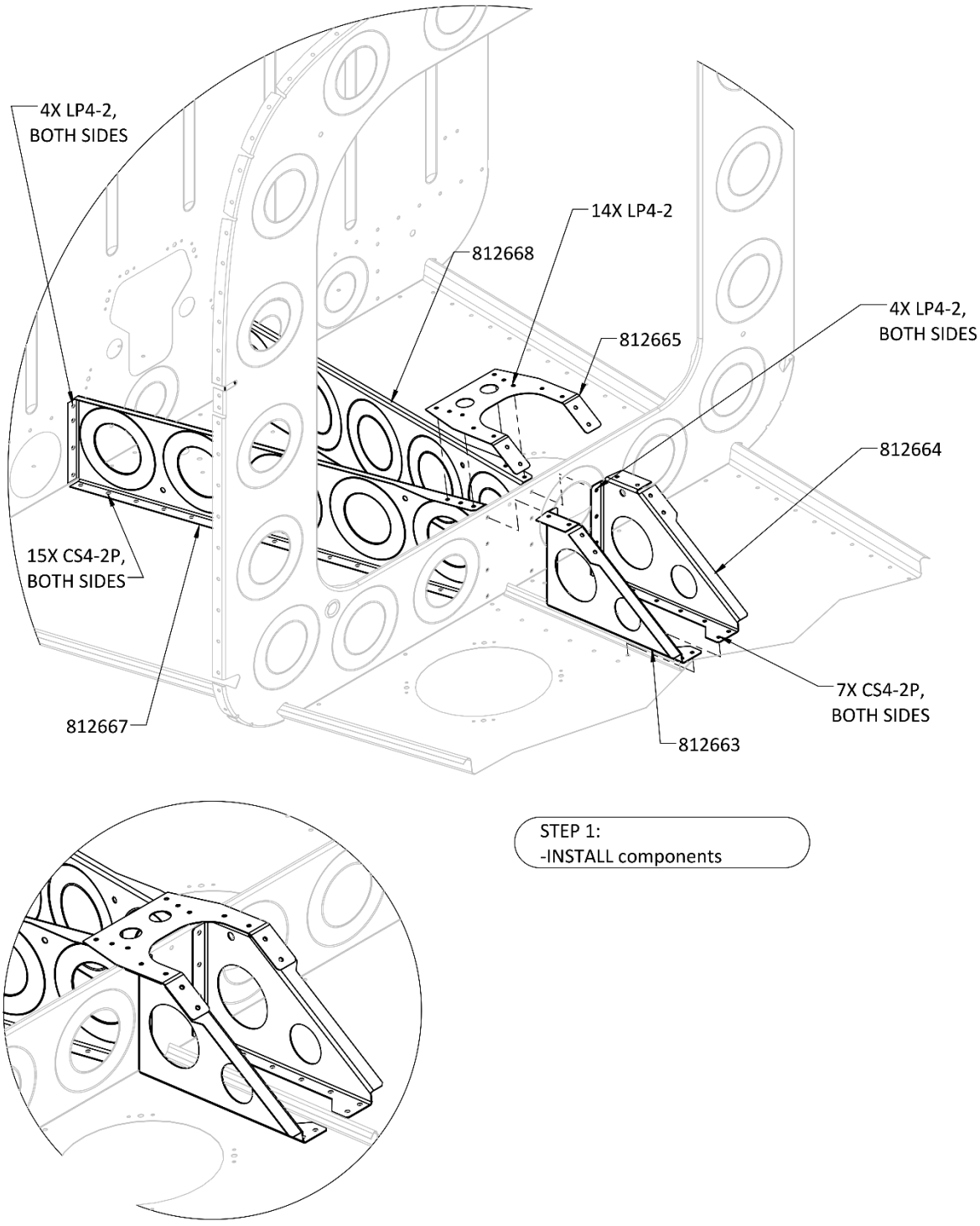
4X LP4-2,
BOTH SIDES
14X LP4-2
812668
812665
4X LP4-2,
BOTH SIDES
812664
15X CS4-2P,
BOTH SIDES
812667
7X CS4-2P,
BOTH SIDES
812663
STEP 1:
-INSTALL components

Figure 8

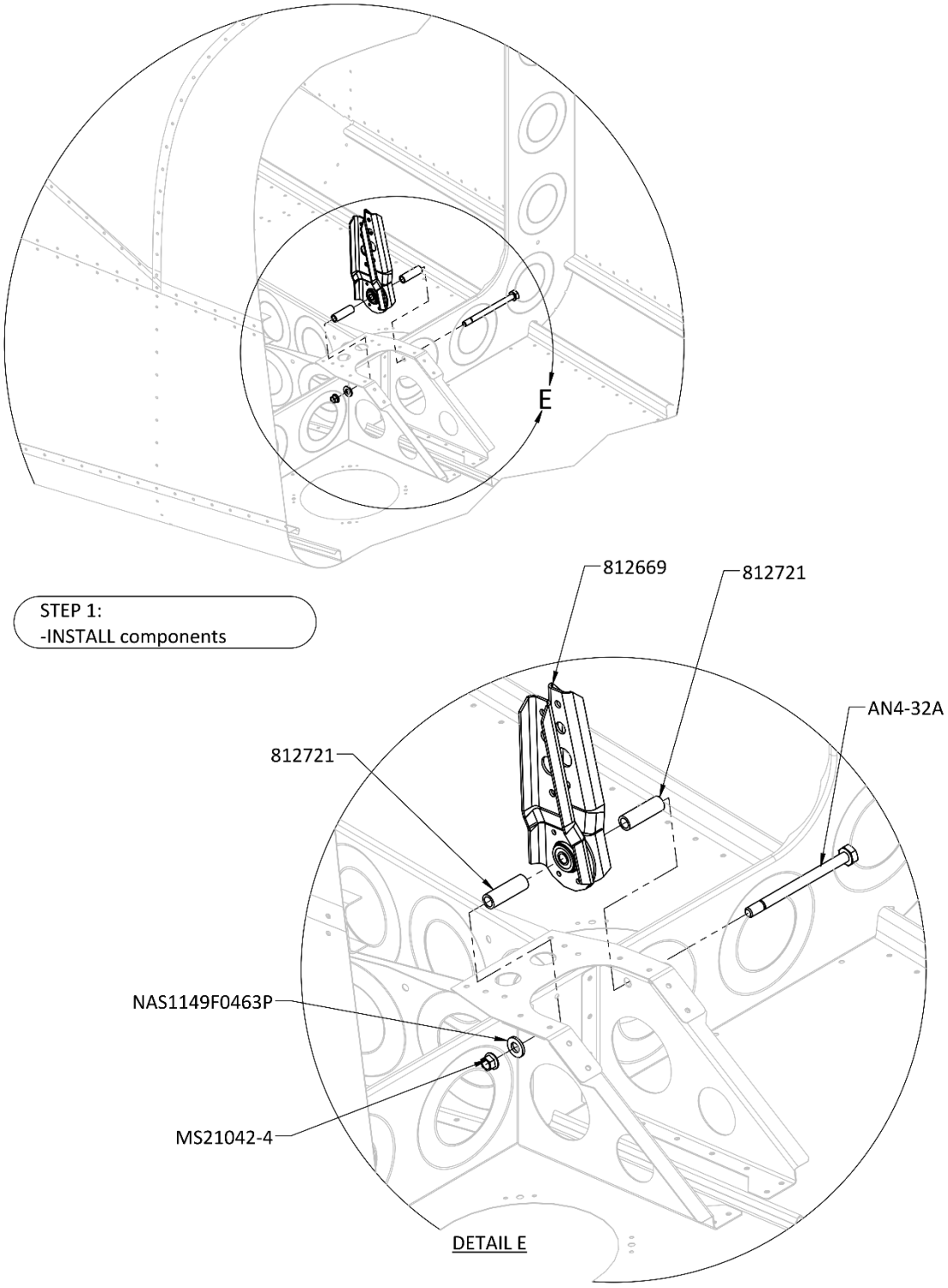
E
STEP 1:
-INSTALL components
812669
812721
AN4-32A
812721
NAS1149F0463P
MS21042-4
DETAIL E

Figure 9

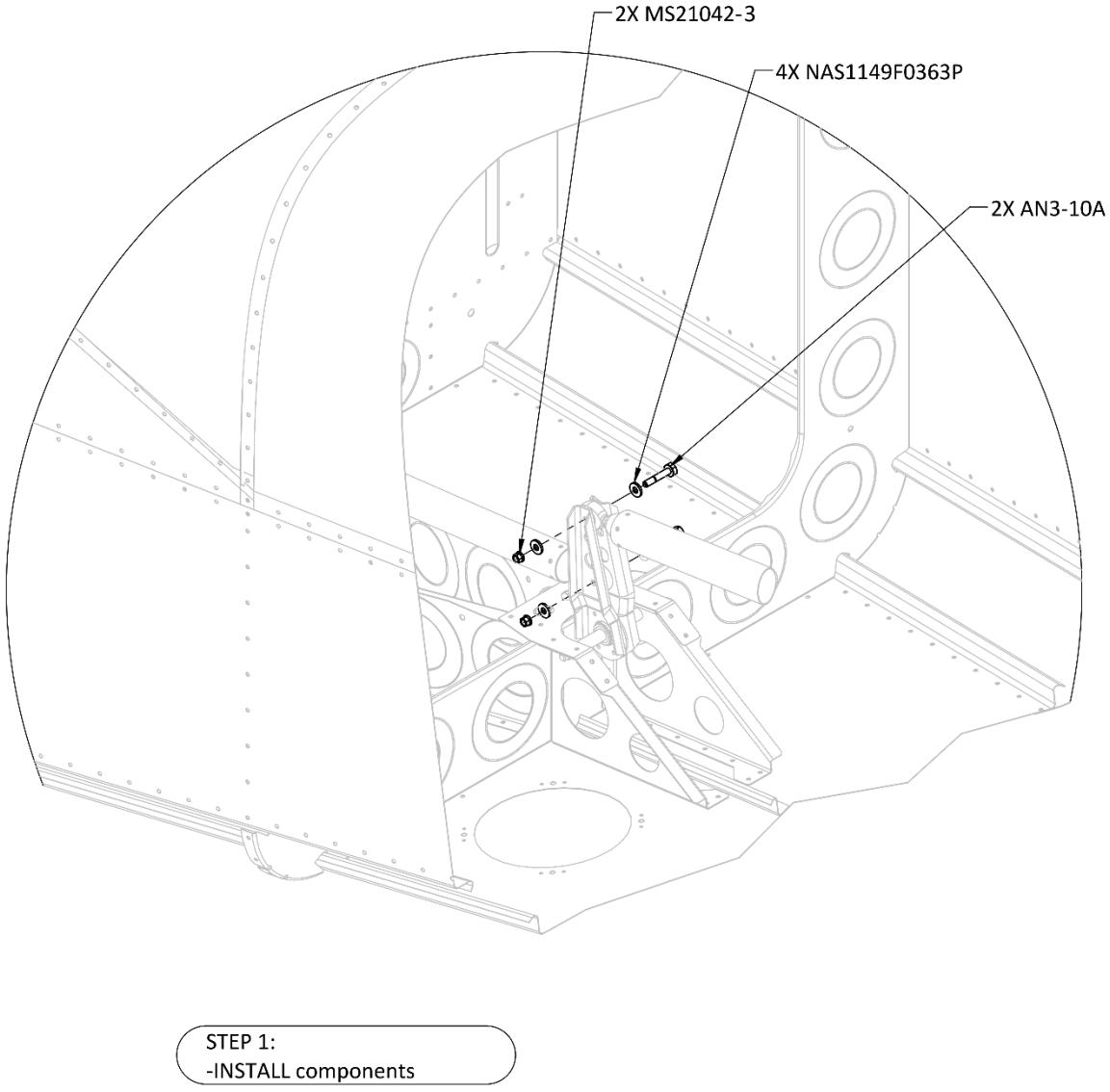
2X MS21042-3
4X NAS1149F0363P
2X AN3-10A
STEP 1:
-INSTALL components

Figure 10