



MECHANICAL SPECIALTIES LLC
1000 85th Ave. SW, Olympia, WA 98501

TECHNICAL BULLETIN

Technical Bulletin No.: **TB-301-20-01**
Cargo Hook Model No. 301
Date: March 10, 2020
Page No.: 1 of 4
Rev.0

SUBJECT: Cargo Hook Keeper Modification.

MODELS AFFECTED: Model 301

COMPLIANCE: Customer option

DESCRIPTION:

Mechanical Specialties LLC has received customer requests for a keeperless cargo hook in order to comply with certain contract requirements. This bulletin provides modification instructions for cargo hook Model 301 to comply with those requirements. The two basic modifications accomplished by completion of this Technical Bulletin are, removal of the load beam return spring for ease of attaching a load with one hand operation, and to affix the rotation of the keeper to eliminate uncontrolled release of the external load.

APPROVAL:

The engineering design aspects of this bulletin are Mechanical Specialties Engineering approved.

MAN POWER:

Approximately 2 man-hours are required to complete this bulletin depending on cargo hook installation configuration. Man-hours are based on facilities and personnel available and may vary.

MATERIALS:

The following materials are required to accomplish this modification and may be obtained through Mechanical Specialties LLC or any general aircraft hardware supply company.

<u>Item number</u>	<u>Cargo Hook Model</u>	<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>
1	301	AN4-21A	Bolt	1
2	301	NAS1149F0332P	Washer	2
3	301	MS21044N4	Nut	1

SPECIAL TOOLS:

None required

WEIGHT AND BALANCE:

Not affected

ELECTRICAL LOAD DATA:

Not affected

REFERENCES:

MODEL 301 MAINTENANCE AND OVERHAUL MANUAL, REV. B, or later revision.

ACCOMPLISHMENT INSTRUCTIONS:

1. For ease of access, it is necessary to remove the cargo hook from the guard assembly when performing this bulletin.
2. Remove nut, washers and bolt retaining keeper on Model 301, reference page 13, item #143. Retain hardware for re-installation.
3. Remove keeper assembly and keeper spring, reference page 13, items #114 & #144.
4. Modify keeper, item #114 as follows:
 - a) Overlay the provided template (Page 4) on the side of keeper and mark location of hole to be drilled. One method to accomplish this task is to utilize an automatic center punch. Place point of punch at the center of the bolt location on the template and punch through the template thereby marking keeper for drilling.
 - b) Repeat step 'a)' on the opposite side of the keeper by utilizing the opposite side of template.
 - c) Place keeper in non-marring or soft-jaw vise, preferably in a drill press.
 - d) Utilizing a .250 bit, Drill one hole from each side of keeper at the position of the punch marks; do not drill from one side all the way through second side, as this could improperly position the bolt on assembly.
 - e) Debur holes drilled in step 'd)'.

5. Reinstall modified keeper, item #114 and keeper spring, item #144 on cargo hook assembly, reference reverse order of #5 and #4 above. Keeper mounting bolt installation and torque values as follows:

Reference page 13, item #143, install bolt with one washer under head and one under nut (AN960-416L), install nut (MS21044N4) and torque 50-70 inch/lbs. Next, (refer to materials list), in the newly drilled hole in keeper install bolt (item 1) with washer under head and nut (item 2), install nut (item 3) and torque 50-70 inch/lbs. Check to assure keeper can no longer be rotated.

6. The load beam return spring, item #129 may be removed at user's option.

Note: Removal of the load beam spring will allow the load beam (item #104) to remain open after release of load. However, repeated contact with the ground with load beam open could cause damage to hook components.

It is advisable to leave the load beam return spring installed unless specific operations require its removal.

7. Reinstall cargo hook assembly in the guard assembly, perform functional test of mechanical and electrical releases and check for any binding or interference from the keeper.

This modification may be carried out by any qualified aircraft mechanic. During the process, if desired, the keeper may be returned to Mechanical Specialties for modification at no charge to our customer.

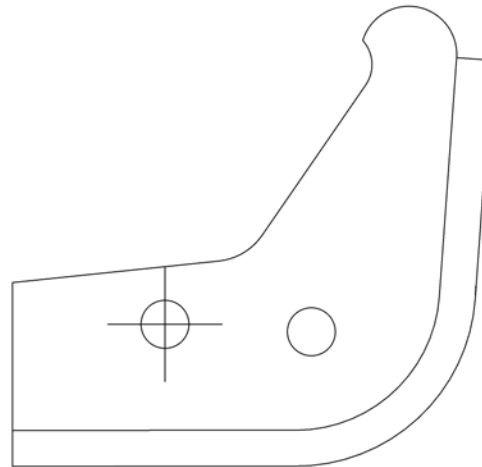
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TECHNICAL BULLETIN NO.:
CARGO HOOK MODEL NO.:
DATE:
PAGE NO.:

TB-301-20-01
301
MARCH 10,2020
4 of 4
REV. 0



MODEL 301
KEEPER DRILLING TEMPLATE