P38 Jack Placement Study

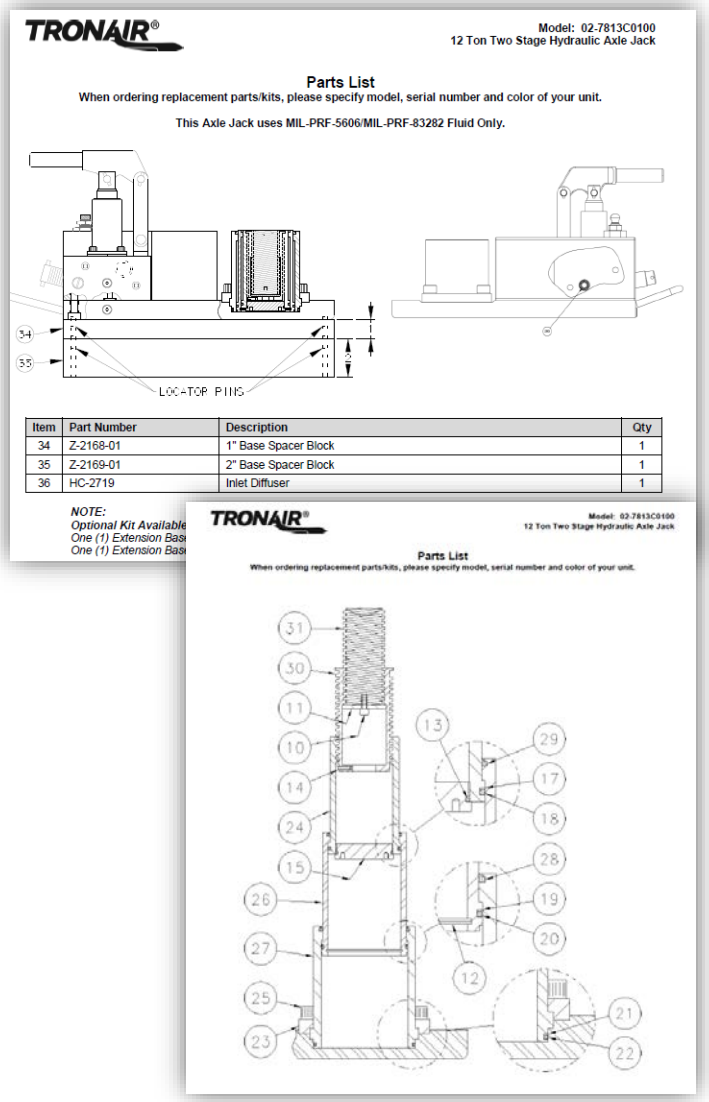
Review of Jack Dimensions for Tire Replacement

- On October 4th, 2021, Honda Engineering received a request to review any issues that may arise from the use of a TRONAIR 02-7813C0100 Jack to replace an Main Landing Gear Tire

Review of Jack Dimensions for Tire Replacement

- A CATIA model of the jack utilized was generated from data available on TRONAIR's website:

https://www.tronair.com/support/operation-service-manuals?model=02-7813C0100



TRONAIR®

Model: 02-7813C0100
12 Ton Two Stage Hydraulic Axle Jack

Parts List

When ordering replacement parts/kits, please specify model, serial number and color of your unit.

This Axle Jack uses MIL-PRF-5606/MIL-PRF-83282 Fluid Only.

LOCATOR PINS

Item	Part Number	Description	Qty
34	Z-2168-01	1" Base Spacer Block	1
35	Z-2169-01	2" Base Spacer Block	1
36	HC-2719	Inlet Diffuser	1

NOTE:
Optional Kit Available
One (1) Extension Base
One (1) Extension Base

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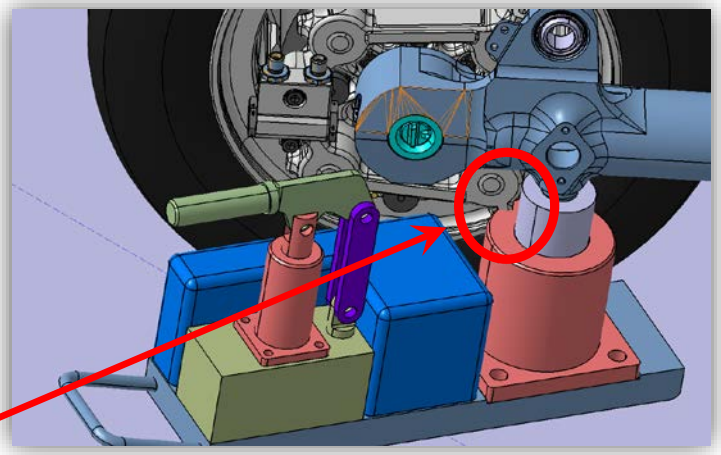
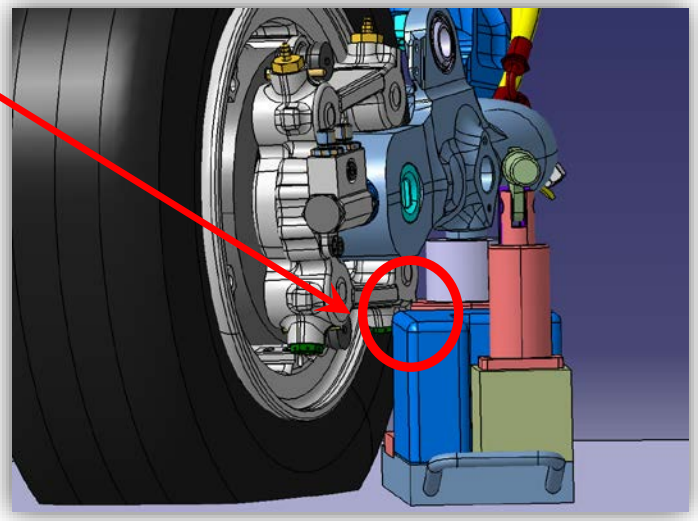
Installation of the Jack – Weight ON Wheels

- With the 02-7813C0100 jack, orientation is required to clear the tire.

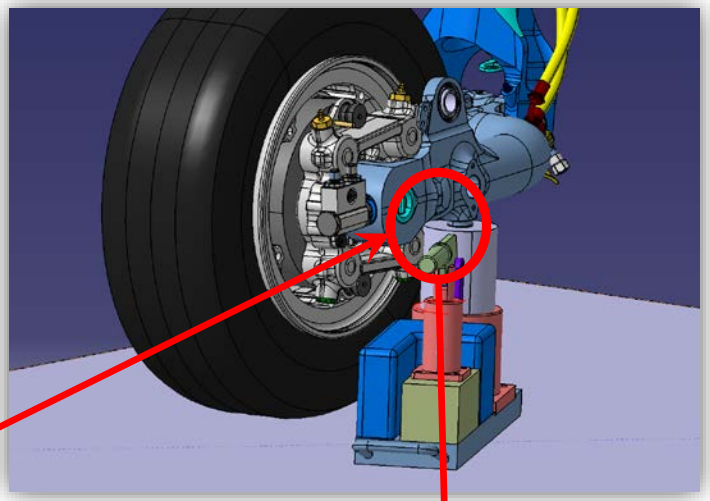
- Interference is noted between the jack and the brake depending on Aircraft Loading
  - Lighter weight aircraft may have less contact than that shown in these pictures.

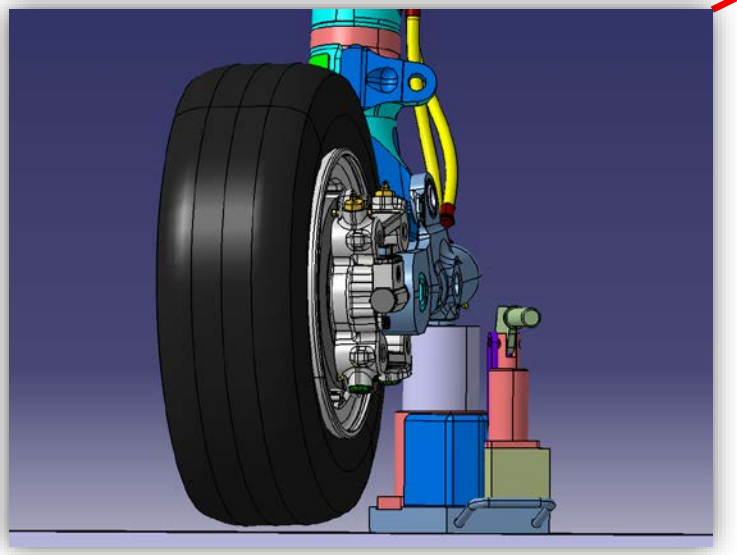


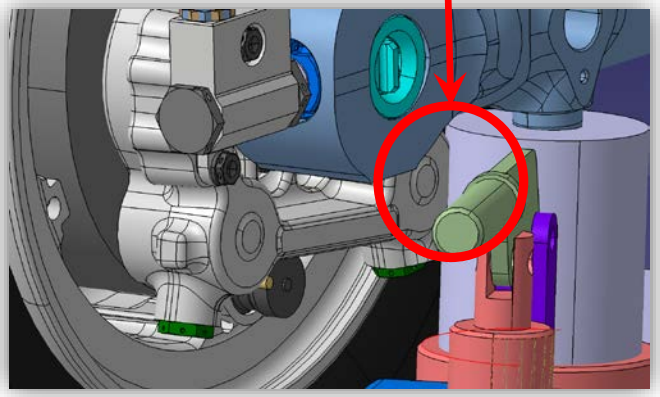


Installation of the Jack – Weight OFF Wheels

- Interference is noted between the outer jack piston and the brake.
  - Outer piston may have contacted the brake prior to full piston displacement, causing the next concentric piston to extend.
  - May be possible to inspect brake for indication of contact.







Potential Impact on Aircraft if Wrong Jack is Used

- Jacking feature on Landing Gear Trailing Arm will nest in recess of the Jack. Jack will tend to self-center on feature
  - If an interference did exist, jack may initially be offset with jacking feature but would tend to self center or relieve during jacking process.

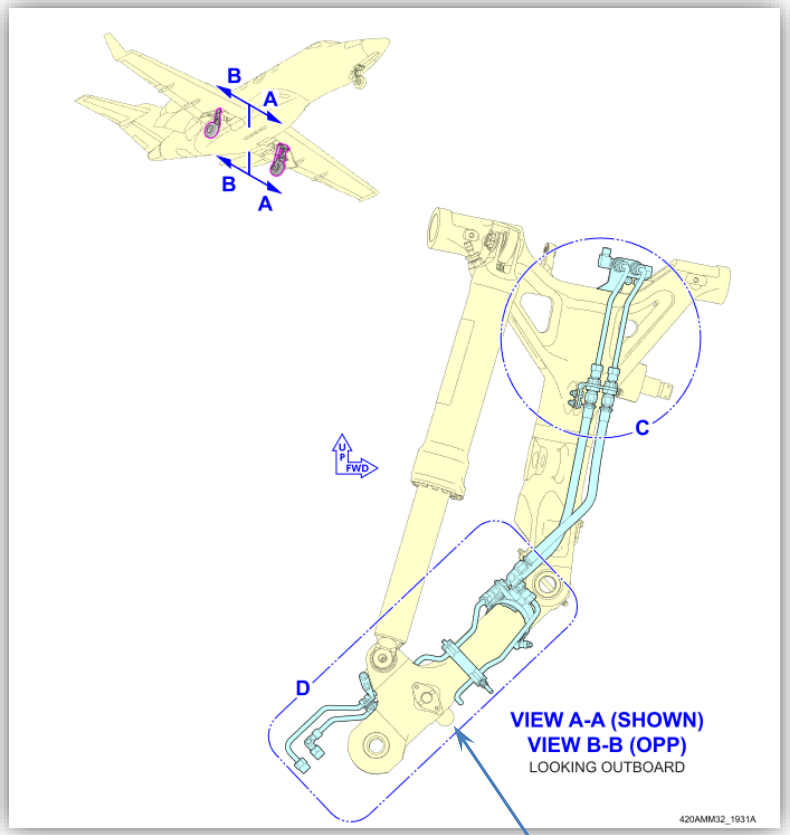
- With the Jack in orientation shown on previous slides, there is potential for it to interfere with the Brake.

  - When the torque is removed from the Axial Nut, contact between the Jack and the Brake would have an tendency to push the Brake OTBD.

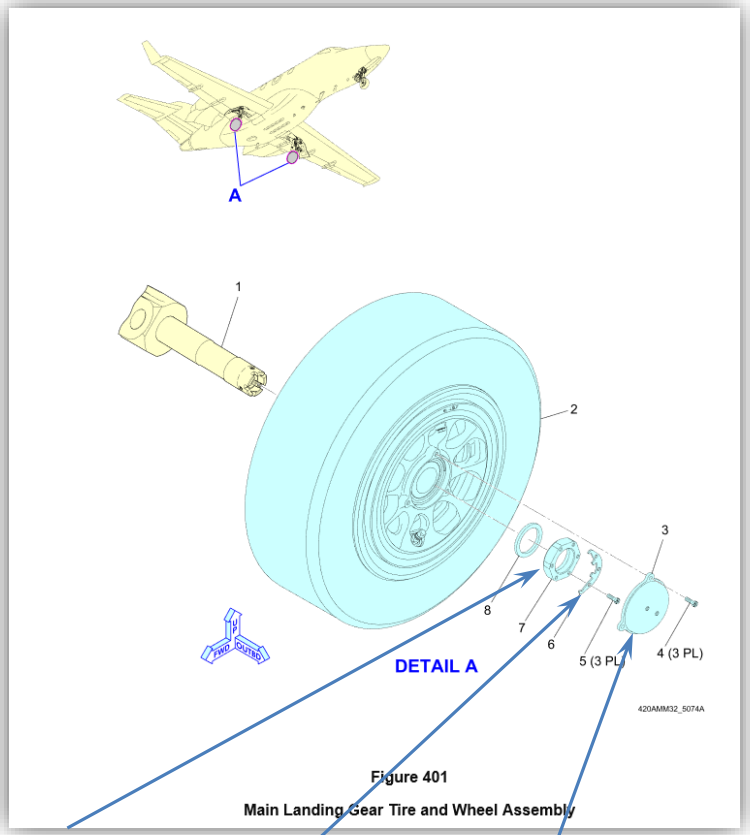
  - If the Brake has migrated OTBD, when re-installing the Wheel / Tire Assembly, the Wheel / Tire Assembly may be prevented from fully seating. In addition, the Axle Nut may not seat properly and may prevent the Retention Key from engaging the Key Slot on the Axle.

  - Torqueing of the Axle Nut would still be possible due to the Nut Torque being reacted by the interference between the Jack and the Brake

Cross Section of Wheel / Brake / Trailing Arm Stack



Jacking Feature

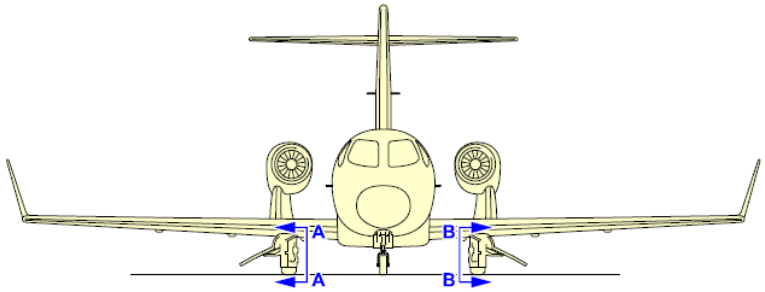


Axle Nut

Retention Key

Hub Cap

Proper Jack Usage



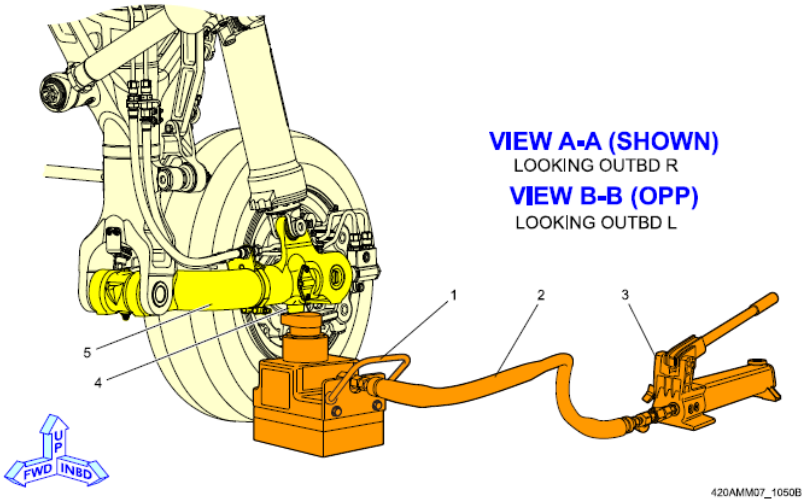


Figure 204
MLG Single Point Jacking