

MECHANICAL SPECIALTIES, LLC

MODEL 909 CARGO HOOK

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

MSI-MNL020, REVISION IR

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LOG OF REVISIONS

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* UPDATES TO THIS MANUAL ARE AVAILABLE AT – www.mechspecialties.com/support

* Updates are also available by calling Mechanical Specialties at 360-273-7604.

AIRWORTHINESS LIMITATIONS

The Airworthiness Limitations section is FAA approved and specifies inspections and other maintenance required under 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No airworthiness limitations are associated with this Supplemental Type design change

OPERATING AND MAINTENANCE INSTRUCTIONS

CARGO HOOK--MODEL 909

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OPERATING AND MAINTENANCE INSTRUCTIONS

CARGO HOOK--MODEL 909

1.0 GENERAL

- 1.1 THE MODEL 909 CARGO HOOK PROVIDES A MEANS TO ENGAGE, LIFT AND TRANSPORT EXTERNAL LOADS. THE HOOK ASSEMBLY HAS AN ELECTRICAL RELEASE AS WELL AS A MANUAL RELEASE SYSTEM. A MANUAL RELEASE KNOB LOCATED ON THE SIDE OF THE HOOK ASSEMBLY ALLOWS THE HOOK TO BE OPENED MANUALLY BY GROUND CREW PERSONNEL.

CAUTION

BECOME FAMILIAR WITH YOUR FLIGHT MANUAL REGARDING EXTERNAL LOAD OPERATIONS.

2.0 OPERATION

- 2.1 THE LOAD SLING MEMBER OR RING IS GUIDED INTO PLACE ON THE LOAD BEAM. THE LOAD BEAM IS THEN PUSHED UPWARD AND LATCHED AND CHECKED FOR SECURITY. (FIGURE # 1)
- 2.2 GROUND CREW RELEASE -
MANUAL RELEASE OF THE CARGO HOOK MAY BE ACCOMPLISHED BY TURNING THE MANUAL RELEASE KNOB IN THE COUNTER-CLOCKWISE DIRECTION. (FIGURE # 1)

NOTE

ALWAYS ENSURE LOAD BEAM IS SECURELY LATCHED PRIOR TO FLIGHT.

- 2.3 ELECTRICAL RELEASE -
BY USE OF A PUSH BUTTON SWITCH LOCATED ON THE CYCLICS, THE PILOT OR CO PILOT MAY RELEASE THE LOAD ELECTRICALLY.
- 2.4 MANUAL CABLE RELEASE -
EMERGENCY RELEASE IS ACCOMPLISHED BY MEANS OF A MANUAL RELEASE CABLE. THE MANUAL RELEASE HANDLE IS LOACTED ON THE AFT AREA OF THE CENTER CONSOLE ACCESSIBLE BY PILOT OR CO PILOT.

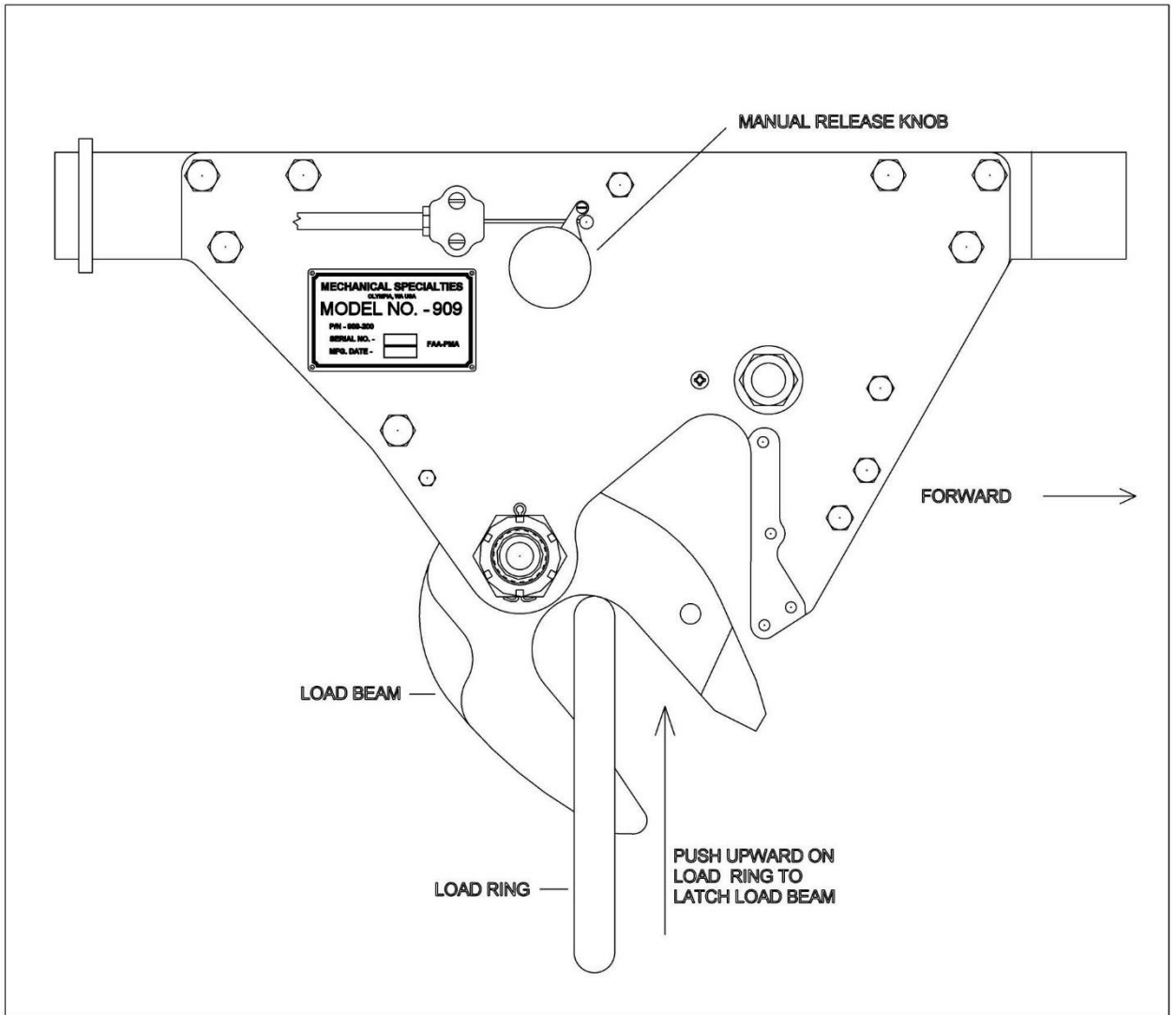


FIGURE # 1

3.0 CARGO HOOK INSTALLATION / REMOVAL

INSTALLATION -

1. TURN OFF ALL ELECTRICAL POWER.
2. OPEN CARGO HOOK ACCESS DOOR.
3. REMOVE EXISTING CARGO HOOK PER MANUFACTURERS INSTRUCTIONS.
CLEAN BEARING SURFACE OF 909 CARGO HOOK TRUNNIONS, AIRFRAME FITTINGS AND TRUNNION RETAINERS WITH SOFT CLOTH.
4. INSTALL CARGO HOOK IN AIRFRAME FITTINGS.
5. INSTALL FRONT TRUNNION RETAINER TO FITTING WITH EXISTING HARDWARE.
TORQUE TO 43-47 INCH POUNDS.
6. INSTALL REAR TRUNNION RETAINER TO FITTING WITH EXISTING HARDWARE,
INSTALL ELECTRICAL BONDING STRAP UNDER BOLT HEAD ON LH SIDE. TORQUE TO 43-47 INCH POUNDS.
7. CONNECT ELECTRICAL RELEASE CONNECTOR AS SHOWN IN FIGURE # 2.
8. CONNECT LOAD CELL CABLE TO BULKHEAD CONNECTOR LOCATED ON LEFT SIDE OF HOOKWELL. (FIGURE # 2)
9. INSTALL ELECTRICAL BONDING STRAP TO HOOK USING #10 SCREW AS SHOWN IN FIGURE # 2.

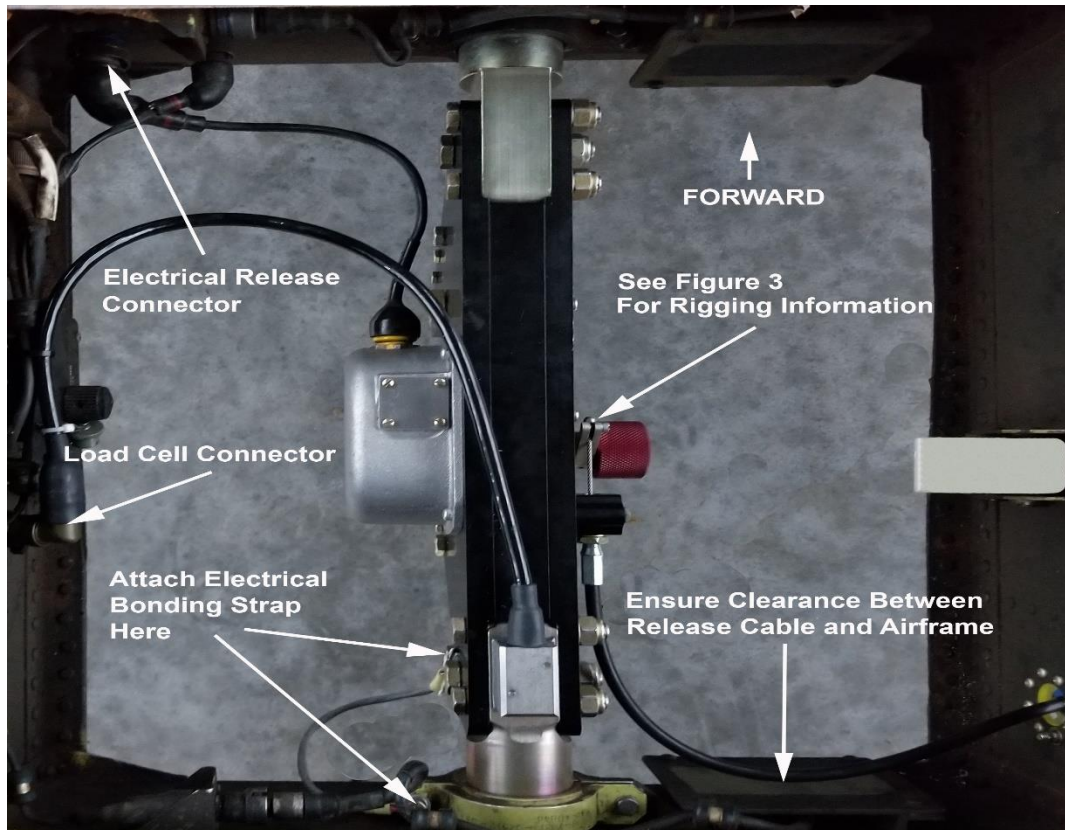


FIGURE # 2

INSTALLATION (continued)

10. ENSURE AREA IS FREE OF FOREIGN OBJECTS.
11. ROTATE HOOK FULLY (SIDE TO SIDE) TO ENSURE MANUAL RELEASE CABLE DOES NOT CONTACT AIRFRAME
12. CLOSE AND SECURE CARGO HOOK DOOR.
13. PERFORM OPERATIONAL CHECK PER MS-909-101-RFMS

REMOVAL –

1. TURN OFF ALL ELECTRICAL POWER.
2. OPEN CARGO HOOK ACCESS DOOR
3. DISCONNECT HOOK POWER CABLE. (FIGURE # 2)
4. DISCONNECT LOAD CELL CABLE. (FIGURE # 2)
5. DISCONNECT MANUAL RELEASE CABLE BY REMOVING SCREWS SHOWN IN FIGURE # 3.

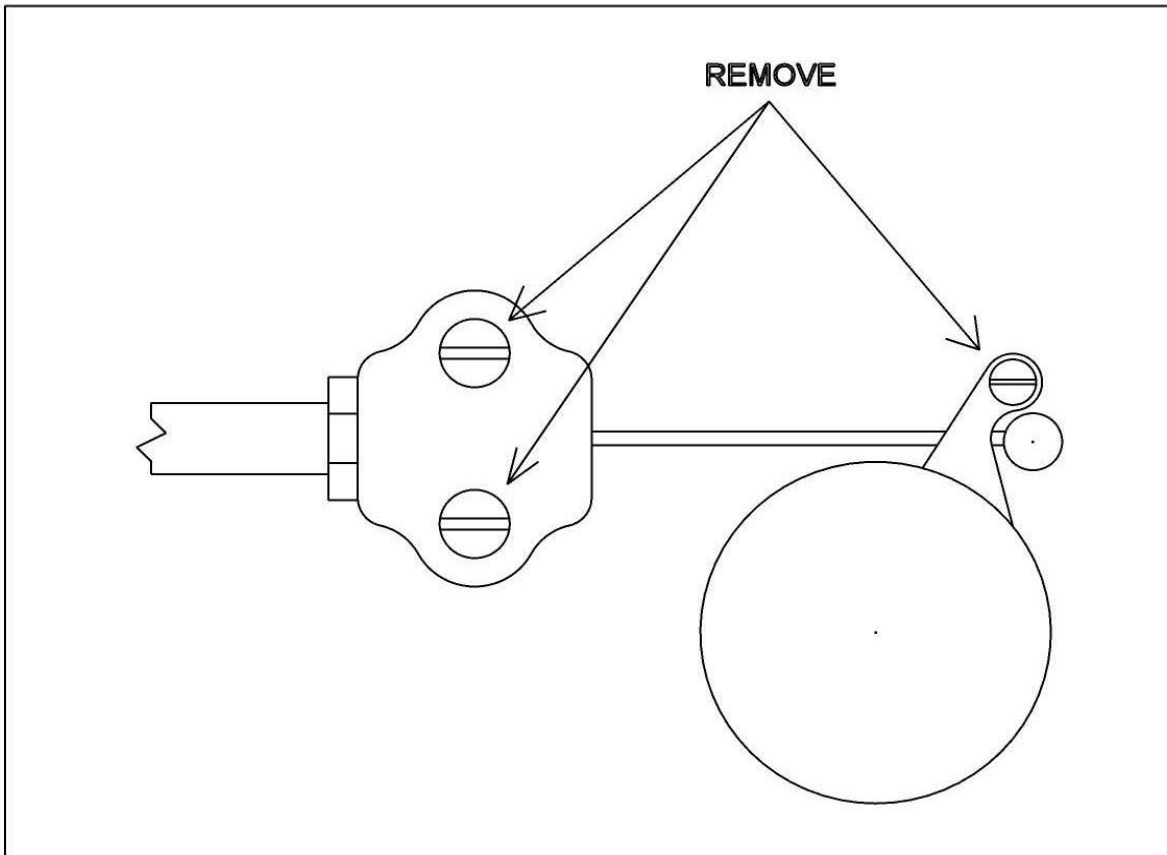


FIGURE # 3

REMOVAL (continued)

6. REMOVE BOLTS AND NUTS FROM TRUNNION RETAINERS.
7. REMOVE CARGO HOOK.

4.0 MANUAL RELEASE CABLE RIGGING

1. MINIMUM GAP FOR MANUAL RELEASE CABLE RIGGING IS SHOWN BELOW (FIGURE # 4)
2. ADJUSTMENT IS MADE BY REMOVING SCREWS AND ROTATING CABLE BLOCK ON CABLE THREADS UNTIL MINIMUM GAP IS ACHIEVED. REINSTALL SCREWS, AND SECURE ADJUSTMENT BY TIGHTENING JAM NUT AGAINST THE CABLE BLOCK (FIGURE # 3).

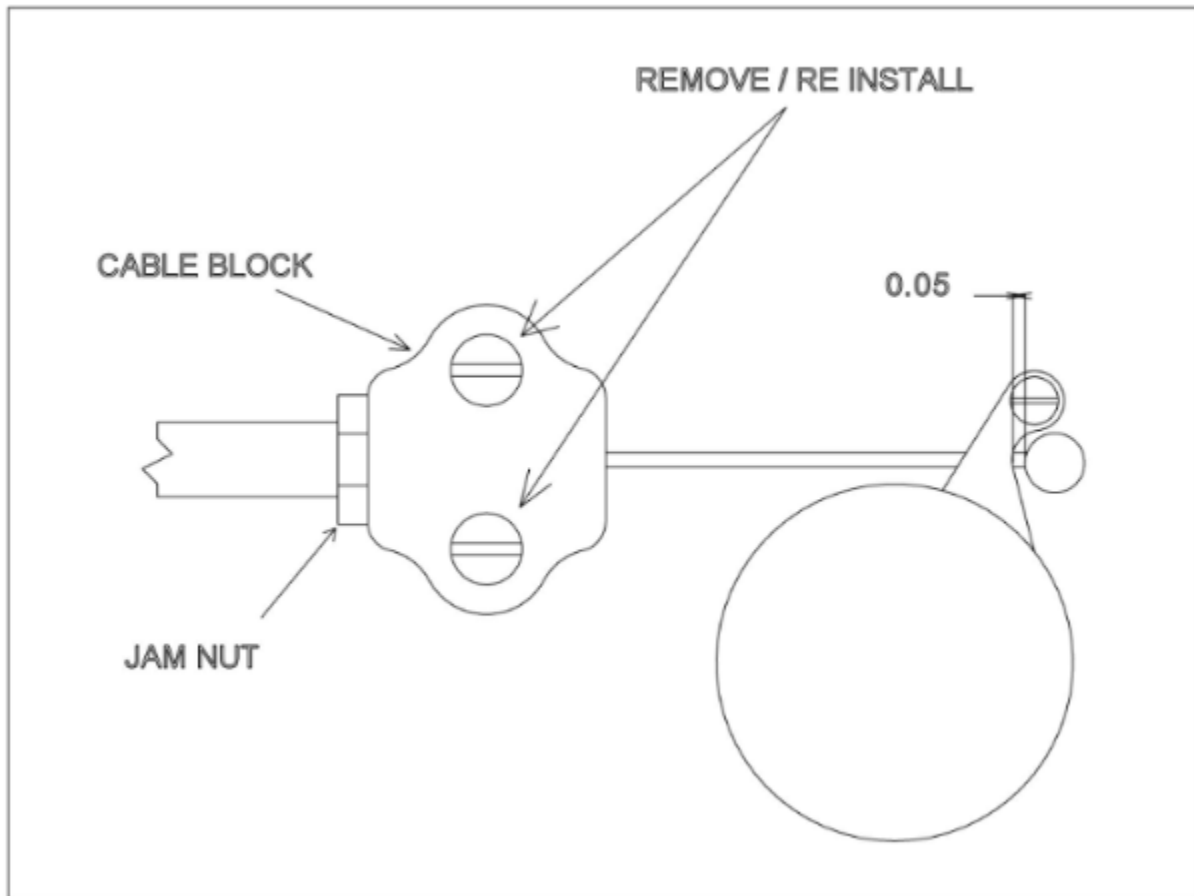


FIGURE # 4

5.0 RECOMMENDED DAILY INSPECTIONS

REFER TO MS-909-101-RFMS, SECTION IV, PREFLIGHT PROCEDURES.

6.0 OVERHAUL

*** OVERHAUL OF CARGO HOOK IS RECOMMENDED EVERY 5 YEARS.**

THERE IS NO OVERHAUL / REPAIR CRITERIA INCLUDED IN THIS MANUAL REVISION; YOU MUST RETURN THE HOOK TO THE MANUFACTURER FOR REPAIR OR OVERHAUL.

7.0 TROUBLE SHOOTING

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Cargo hook will release with manual release cable but won't release electrically.	Open circuit - faulty wiring, circuit breaker, cargo hook solenoid.	Disconnect electrical connector from cargo hook. Place leads of multimeter on pins A & B of cargo hook connector. Check for reading of 2-3 ohms. If open circuit indication is detected, remove from service and return to manufacturer for solenoid replacement.
Cargo hook will release electrically but not manually.	Check manual release rigging and for damage to cable	Readjust rigging, replace damaged cable.
Cargo hook won't open electrically or manually.	Cargo hook internal mechanism.	Remove cargo hook from service. Return to manufacturer for repair.
Load beam won't stay latched.	Cargo hook internal mechanism	Remove cargo hook from service. Return to manufacturer for repair.
Visible cracks	Visible cracks	Remove cargo hook from service. Return to manufacturer for repair or replacement of parts.
Visible corrosion or gouges deeper than .05" deep.	Visible gouges or corrosion.	Remove cargo hook from service. Return to manufacturer for repair or replacement of parts.

8.0 MAINTENANCE

NO MAINTENANCE OR LUBRICATION OF CARGO HOOK REQUIRED.