

Section

25-50-00

Cargo Hook

CARGO HOOK FAULT ISOLATION

1. Cargo Hook Description

The cargo hook provides a means of transporting external cargo. The cargo hook installation consists of a cargo hook assembly, electrical hook release equipment and backup emergency manual release equipment. The cargo hook assembly is externally attached to the center beam of the helicopter at Station 99.325. The cargo hook operational rating (external load limit) is 2000 pounds.

The cargo hook and swivel assembly are mounted on the helicopter center beam by four bolts at Station 99.325. The swivel assembly allows the cargo hook to swing in any direction through a 30-degree arc.

2. Cargo Hook Operation

The cargo hook is normally operated electrically by pressing the CARGO HOOK switch on the pilot's cyclic stick grip (Ref. Figure 403). Actuation of the CARGO HOOK switch energizes a solenoid in the cargo hook. The maximum electrical current required to operate the cargo hook solenoid is 14 amperes at 28 Vdc. however, the solenoid is designed to operate with voltage as low as 23 Vdc. Actuation of the cargo hook solenoid releases the hook (load beam).

In the event of an electrical malfunction, the hook can be released (opened) by pulling a manual release cable lever attached to the pilot's cyclic stick (Ref. Figure 401). The manual release cable releases (opens) the cargo hook in the same manner as the electrically operated solenoid. The hook can be released for testing or by cargo personnel by turning (clockwise) a cargo hook release knob

located on the left side of the hook body. Regardless of the method used to release the hook, the hook will return to the closed (retracted) position.

3. Cargo Hook Fault Isolation

(Ref. Table 101) Cargo hook system malfunctions might be caused by any one of several general conditions which are easily corrected. Before starting specific troubleshooting procedures, make the following checks and take indicated action for troubleshooting procedures.

- (1). Refer to applicable wiring diagram and check for loose or damaged wires and/or terminals and connectors; reconnect or replace as required.
- (2). Check for damaged interconnect wires and/or equipment (Ref. Chapter 96).
- (3). Check for loose or defective terminal board connections; repair or replace as required.
- (4). Check for loose ground wires.
- (5). Make certain circuit breaker is pushed to full in (closed) position.
- (6). Check system power source.

4. Wiring Diagrams

(Ref. Figure 101) Wiring diagrams of the various cargo hook electrical system circuits have been illustrated. Wire charts are provided in Table 102 and Table 103. For helicopter electrical system interface information refer to DC Electrical Load Distribution (Ref. Chapter 96).

Table 101. Troubleshooting – Cargo Hook Installation

Symptom	Probable Cause	Corrective Action
NOTE: Following procedures are to be done with electrical system power on and CARGO HOOK circuit breaker (CB603) closed.		
Hook release operates manually (by lever) but fails to operate electrically (by HOOK RELEASE switch).	Defective hook ground	Replace hook assembly.
	Defective ground	Secure ground wire.
	Defective HOOK RELEASE switch	Replace switch.
	Defective CARGO HOOK circuit breaker (CB603)	Replace circuit breaker (CB603).
Hook release operates electrically (by HOOK RELEASE switch) but fails to operate manually (by lever).	Manual release cable housing adjusted incorrectly at lever.	Reset adjustment nut at lever-end of cable housing.
	Defective hook assembly	Replace hook assembly.

Table 102. Wire Chart, 369D/E/FF Right or Left Hand Command.

Wire No.*	From		To	
	Terminal	Termination	Terminal	Termination
M532A20	TB1-18D	MPCM20M-H2**	K201-X1	Solder
	TB1-19B	MPCM20M-H2**	K201-X1	Solder
M531A16	TB3-1D	AYH11-H1**	K201-D2	Solder
M523A20N	J104-X2***	Solder	E24	MS25036-103
M522C16	K201-D1***	Solder	TB3-4A	AYH14-H1**
M520AA16	SP92-B	32447	TB3-1C	AYH14-H1**
	J616-q	Crimp	TB3-1C	AYH14-H1**
M520A16	CB603-2	MS25036-106	SP92-A	32447
	CB603-2	MS25036-106	P616-q	--
M520B20	TB1-18C	MPCM20M-H2**	TB3-1D	AYH14-H1**
	TB1-18A	MPCM20M-H2**	TB3-1D	AYH14-H1**
	TB1-19A	MPCM20M-H2**	TB3-1D	AYH14-H1**

*(Ref. Figure 101 sheets 1 & 2) for applicable wiring diagrams.

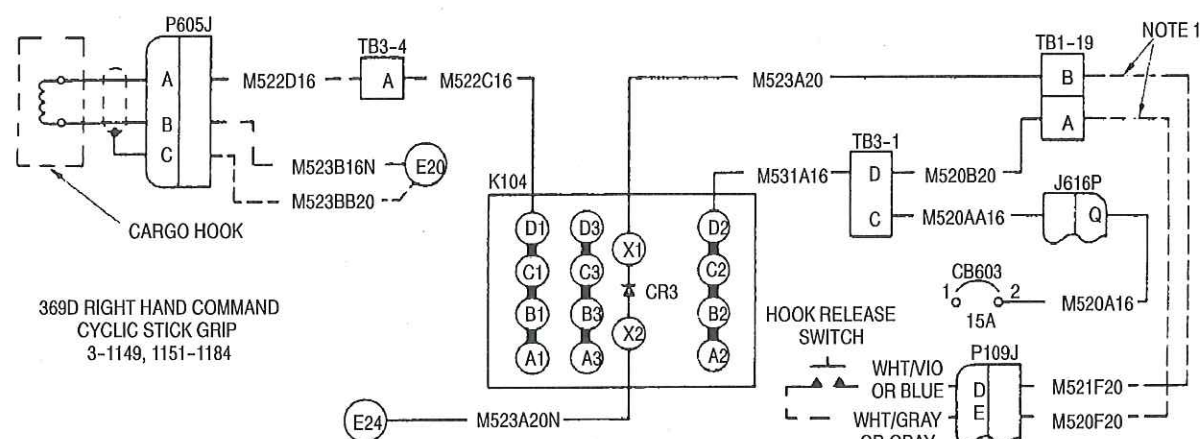
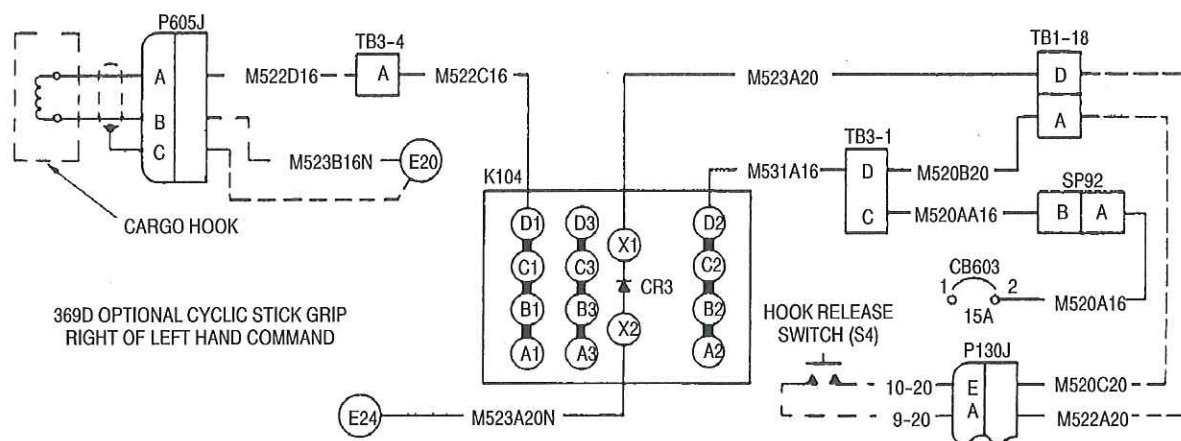
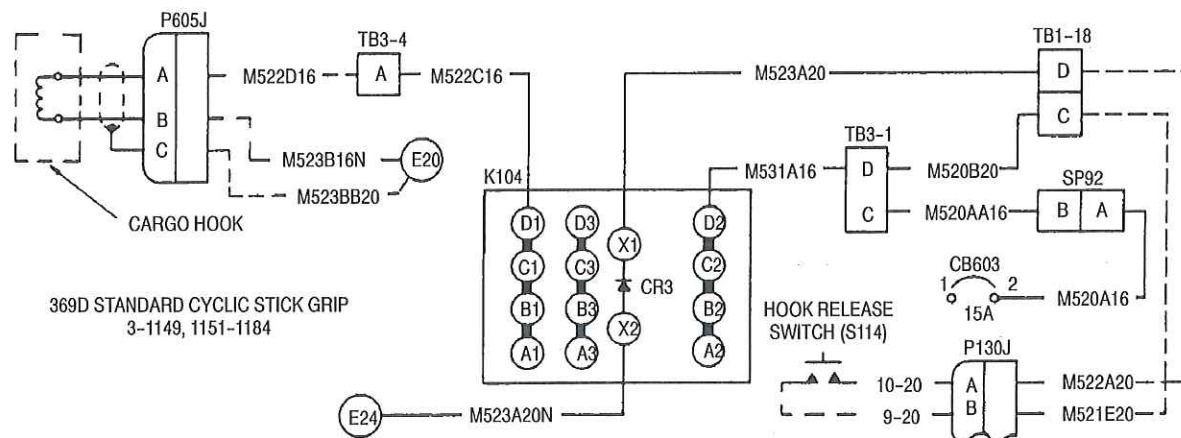
**Burndy Corp., Norwalk, Conn.

***K312-X2, _D1 for helicopters equipped with 369D24153 "Tee" console.

Table 103. Wire Chart, 369E/FF T-Panel with Center Electrical Console, R/H Command.

Wire No.*	From		To	
	Terminal	Termination	Terminal	Termination
M520AA16	K201-X2	Solder	E24	MS25036-103
M532A20	K201-X1	Solder	TB1-8F	M39029/22-192
M531A16	K201-D2	Solder	TB3-1C	M39029/22-193
M531B16	K201-D1	Solder	TB3-8B	M39029/22-193
M520B20	TB3-1E	M39029/22-193	TB1-8E	M39029/22-192
M523C20N	J605-C	MS3193A16-16A	E20	M7928/1-24
M520A16	CB118-2	M7928/1-41	P616- <u>Q</u>	M39029/31-228
M520AA16	J616- <u>Q</u>	M39029/32-247	TB3-1	M39029/22-193

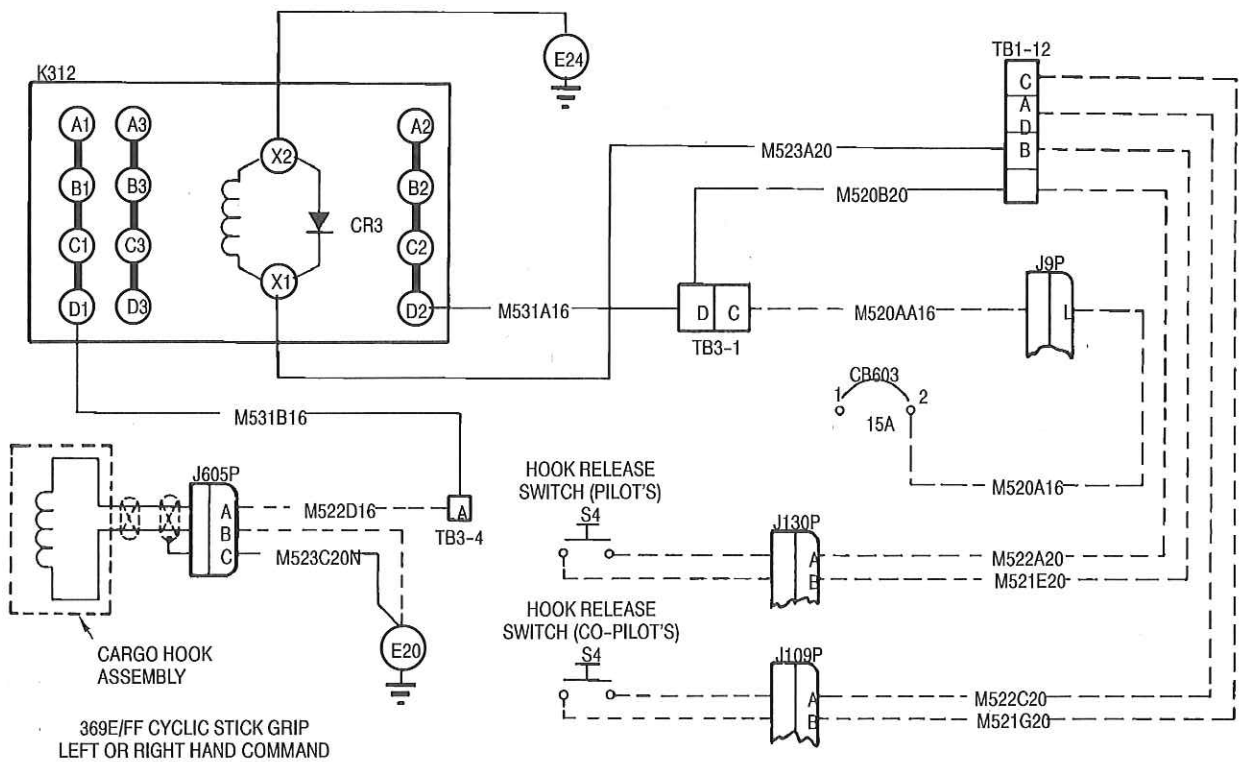
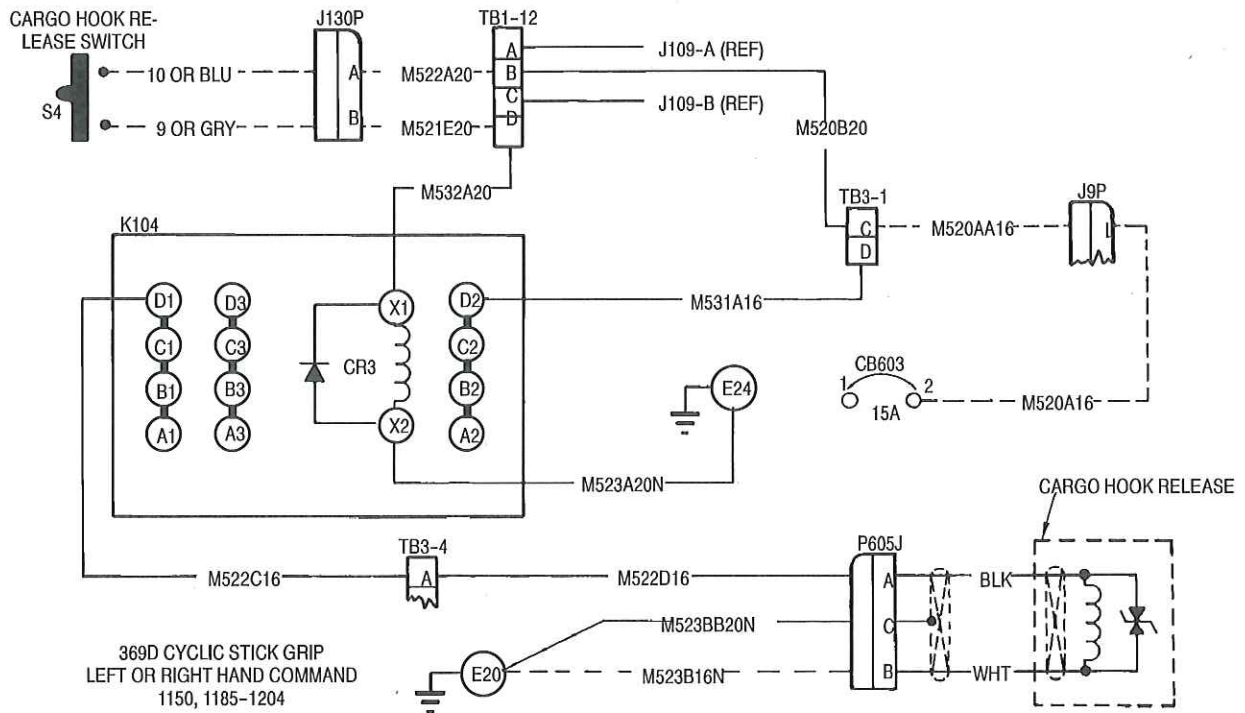
*(Ref. Figure 101 sheet 3) for applicable wiring diagram.

**NOTES:**

- 369D294402 CENTER ELECTRICAL CONSOLE:
-703 WITH ARMAMENT PANEL
-701 WITHOUT ARMAMENT PANEL
- 369D294500 CENTER ELECTRICAL CONSOLE
WITH VHF-FM RADIO SET AND ASW EQUIPPED
HELICOPTERS.

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Figure 101. Cargo Hook – Wiring Diagrams (Sheet 1 of 4)



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Figure 101. Cargo Hook - Wiring Diagrams (Sheet 2 of 4)

MD Helicopters, Inc.
MAINTENANCE MANUAL

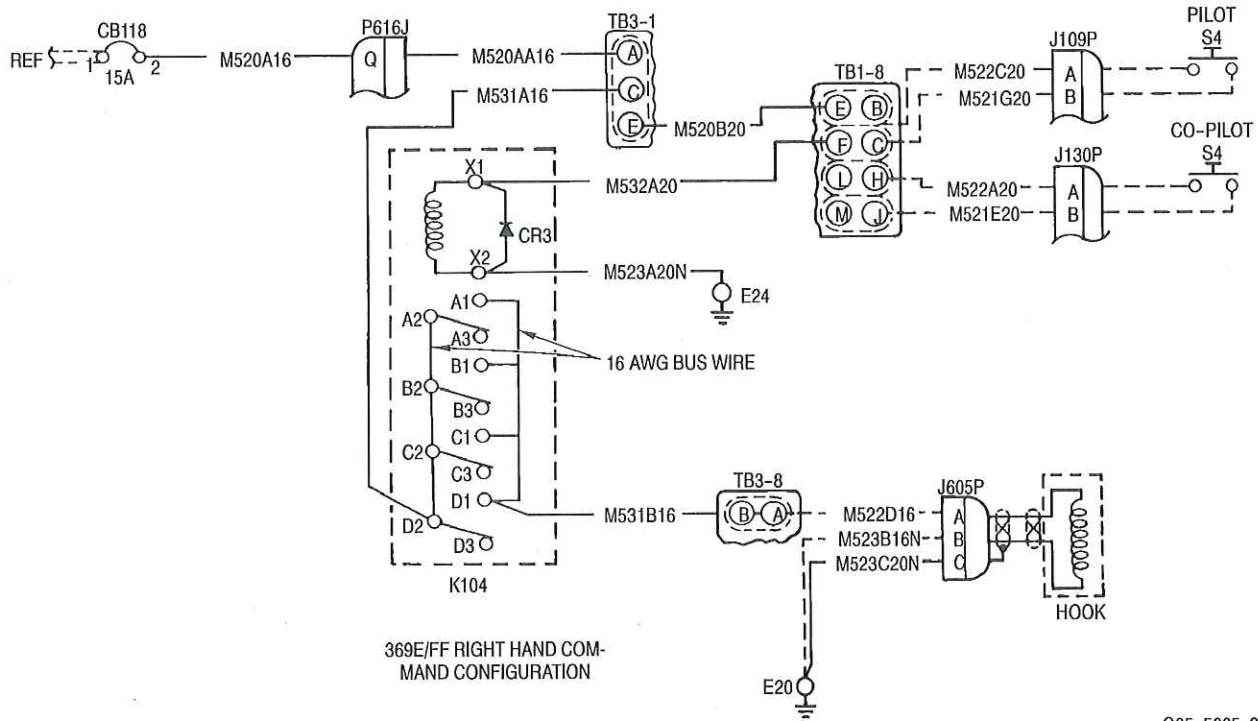


Figure 101. Cargo Hook - Wiring Diagrams (Sheet 3 of 4)

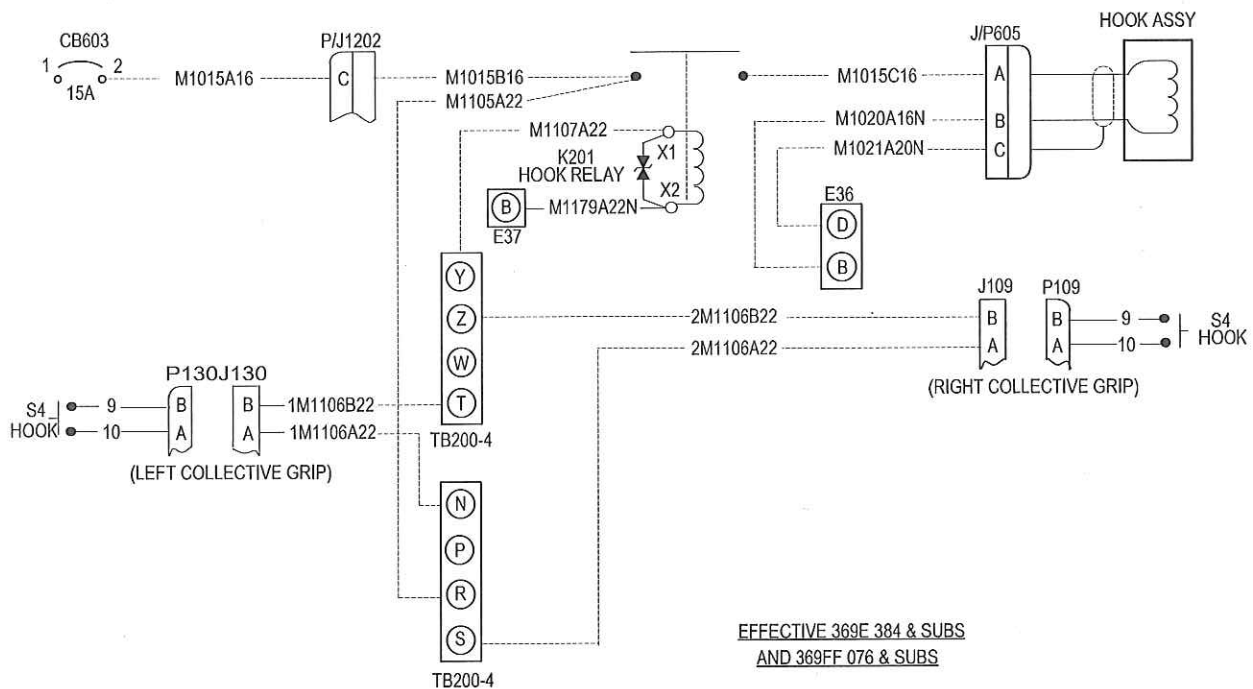


Figure 101. Cargo Hook - Wiring Diagrams (Sheet 4 of 4)

CARGO HOOK REMOVAL/INSTALLATION

1. Cargo Hook Replacement

A. Cargo Hook Removal

Remove the cargo hook assembly including the cargo hook manual release cable and electrical harness as follows:

- (1). Remove cotter pin (Ref. Figure 405), washer, and slotted bushing from manual release lever on pilot's cyclic stick.
- (2). Loosen locking nut securing adjustment nut shaft to release lever bracket.
- (3). Remove screws (Ref. Figure 401), nuts, washers, and clamps securing manual release cable to cyclic stick.
- (4). Remove adjustment nut shaft (Ref. Figure 405) from release lever bracket.
- (5). Loosen dust cover from pilot's cyclic stick control trim cover (Ref. Section 25-30-00).
- (6). Remove passenger/cargo compartment left foot fairing trim (Ref. Section 25-30-00).
- (7). Carefully push manual release cable (Ref. Figure 401) down through grommets in pilot's floor and fuselage skin. Do not pull on cable housing.
- (8). Remove cargo hook electrical harness plug from receptacle in fuselage; install protective caps on receptacle and plug.
- (9). Remove clamps (Ref. Figure 402) securing cable and harness to clips on fuselage underside.
- (10). Remove four bolts (Ref. Figure 404) securing cargo hook base to attach holes in fuselage keel.

B. Cargo Hook Installation

Installation of the cargo hook kit consists of attaching the hook, and electrical/manual release cables on the underside of the helicopter, routing and securing the manual release

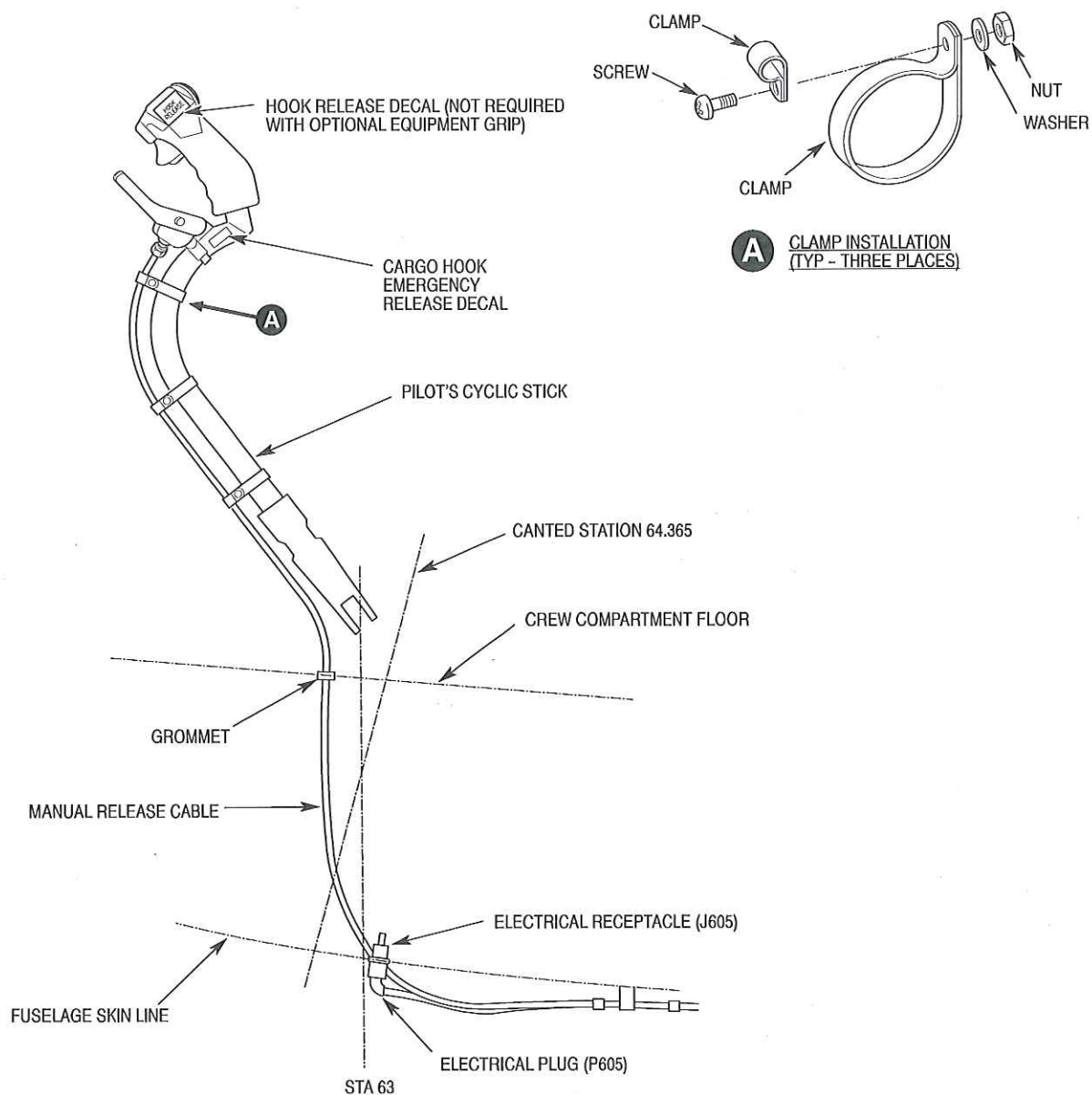
cable, installation and adjustment of the manual release lever as follows:

- (1). Secure base of cargo hook assembly (Ref. Figure 404) to fuselage underside with bolts and washers.
 - (2). Remove protective cap from cargo hook electrical receptacle (**J605**); check that BATTERY switch is in OFF position and connect plug (**P605**) to receptacle.
 - (3). Insert free end of hook manual release cable through elongated hole adjacent to electrical receptacle (Ref. Figure 402). Push manual release cable up into fuselage and insert cable through hole in pilot's floor.
 - (4). Loosely attach harness and manual release cable using clamps (Ref. Figure 402) screws, washers, and nuts. Adjust harness and cable to allow sufficient slack for hook to swing 30 degrees conically from centerline without creating strain on harness and cable. Arrange harness and cable to form smooth flow to cutouts in fuselage skin; tighten clamps. Install tie straps approximately as shown (Ref. Figure 402).
- NOTE:** The 600N helicopters equipped with emergency floats require the manual release handle to be mounted on the collective stick (Ref. Figure 406).
- (5). Loosely attach manual release cable to cyclic stick with clamps, screws, washers, and nuts (Ref. Figure 401).
 - (6). Engage approximately half of the threads on the manual release cable adjustment nut shaft into the bracket portion of the manual release lever assembly (Ref. Figure 405).
 - (7). Engage swaged ball on release cable in lever bushing (Ref. Figure 405). Secure bushing with washer and cotter pin.
 - (8). Attach manual release lever assembly to cyclic stick with clamp and screws. Adjust cable and/or release lever as shown (Ref. Figure 405).

- (9). Tighten three sets of clamps securing release cable to cyclic stick.
- (10). Do the adjustment/test of cargo hook installation.
- (11). Readjust cable lever (Ref. Figure 405) as required to obtain smooth consistent release of hook.

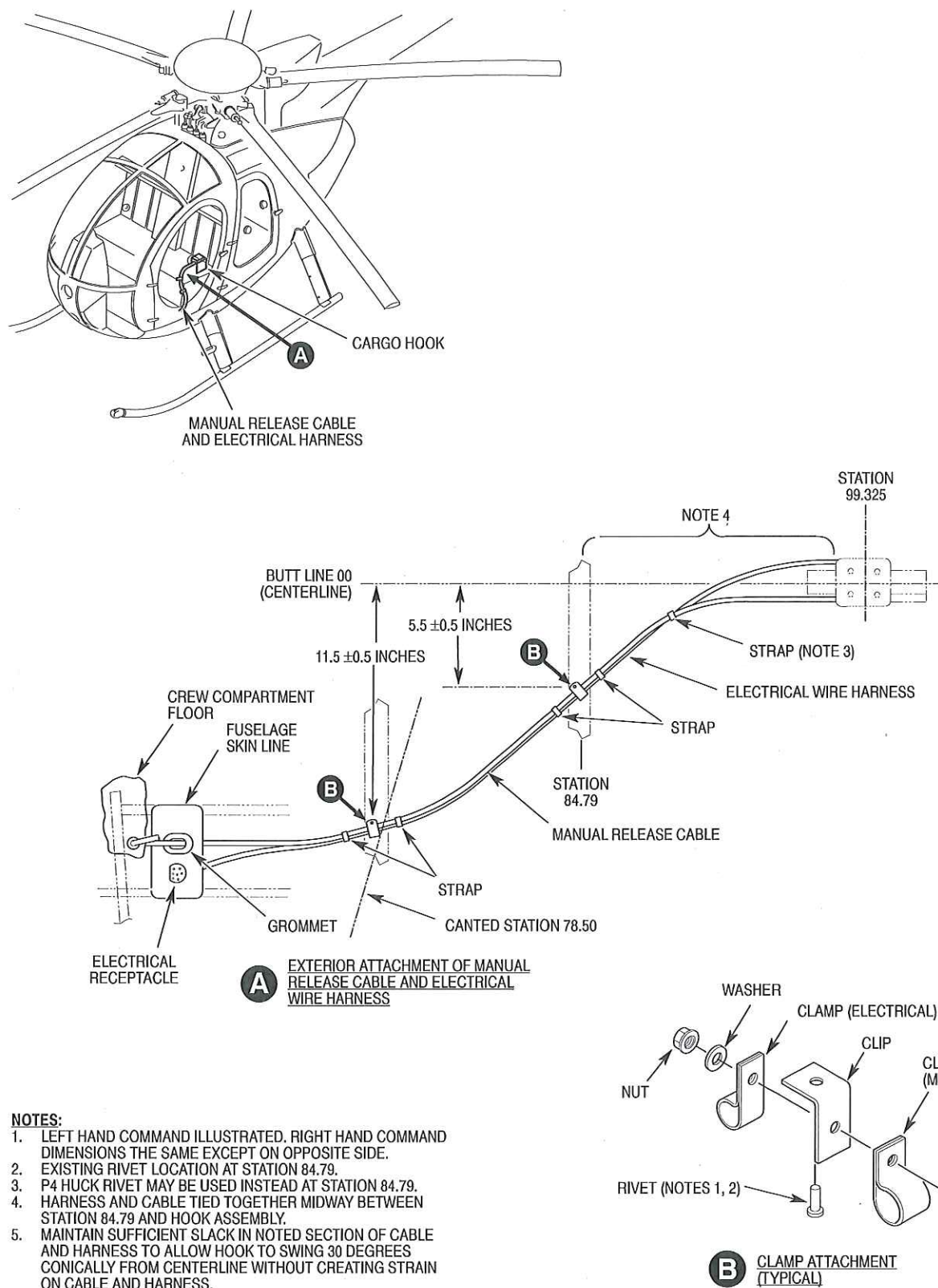
NOTE: The manual release lever clamp can be loosened and the lever assembly moved on cyclic stick to simplify adjustment, providing the **2.00—2.50 inch (5.08—6.35 cm)** dimension limit is maintained (Ref. Figure 405).

- (12). Install grommet (Ref. Figure 401) in crew compartment floor cutout.
- (13). Install grommet (Ref. Figure 402) in elongated hole in fuselage lower skin and doubler.
- (14). Safetywire manual release lever clamp screws with lockwire (Ref. Figure 405).



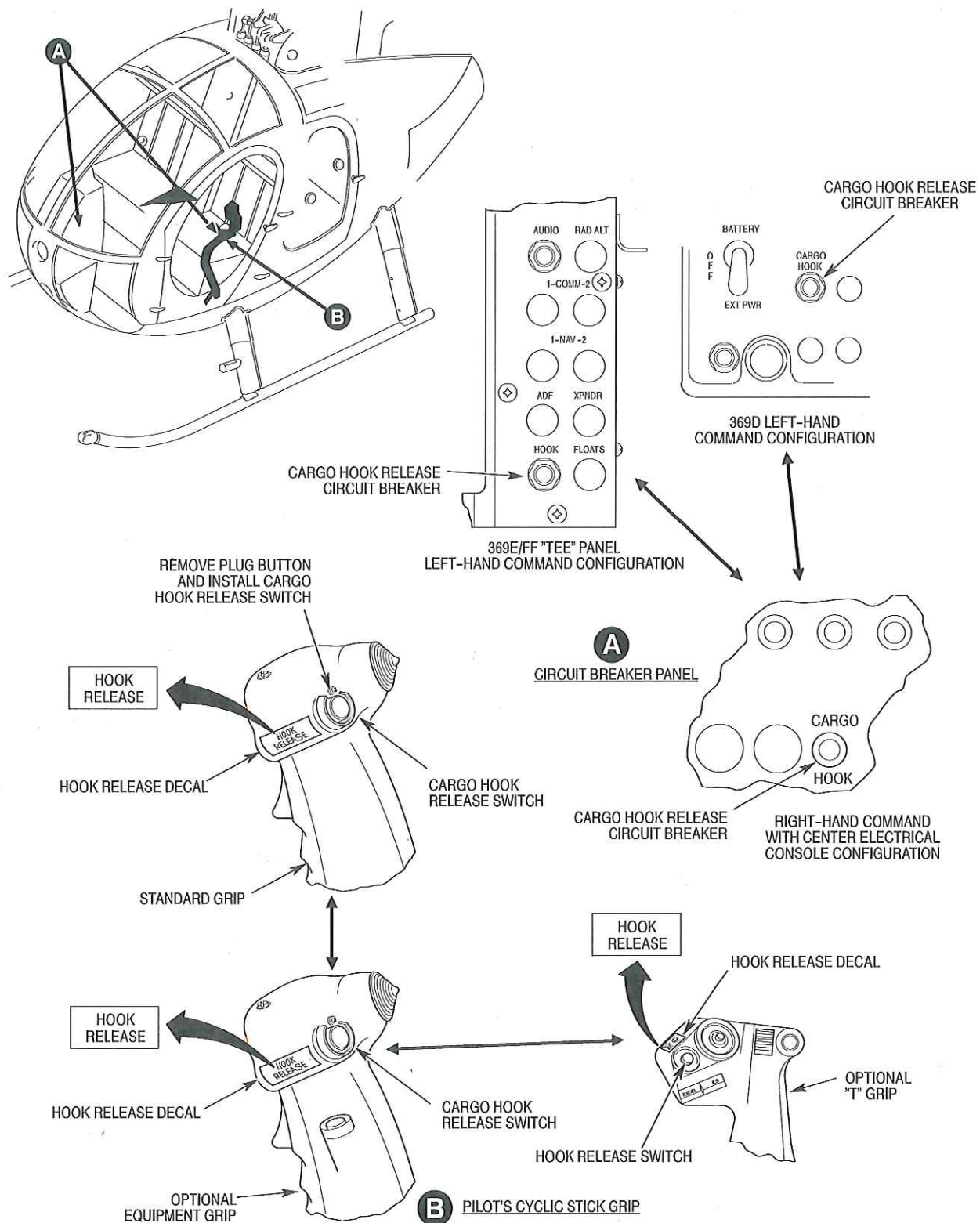
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Figure 401. Manual Release Cable Routing - Interior



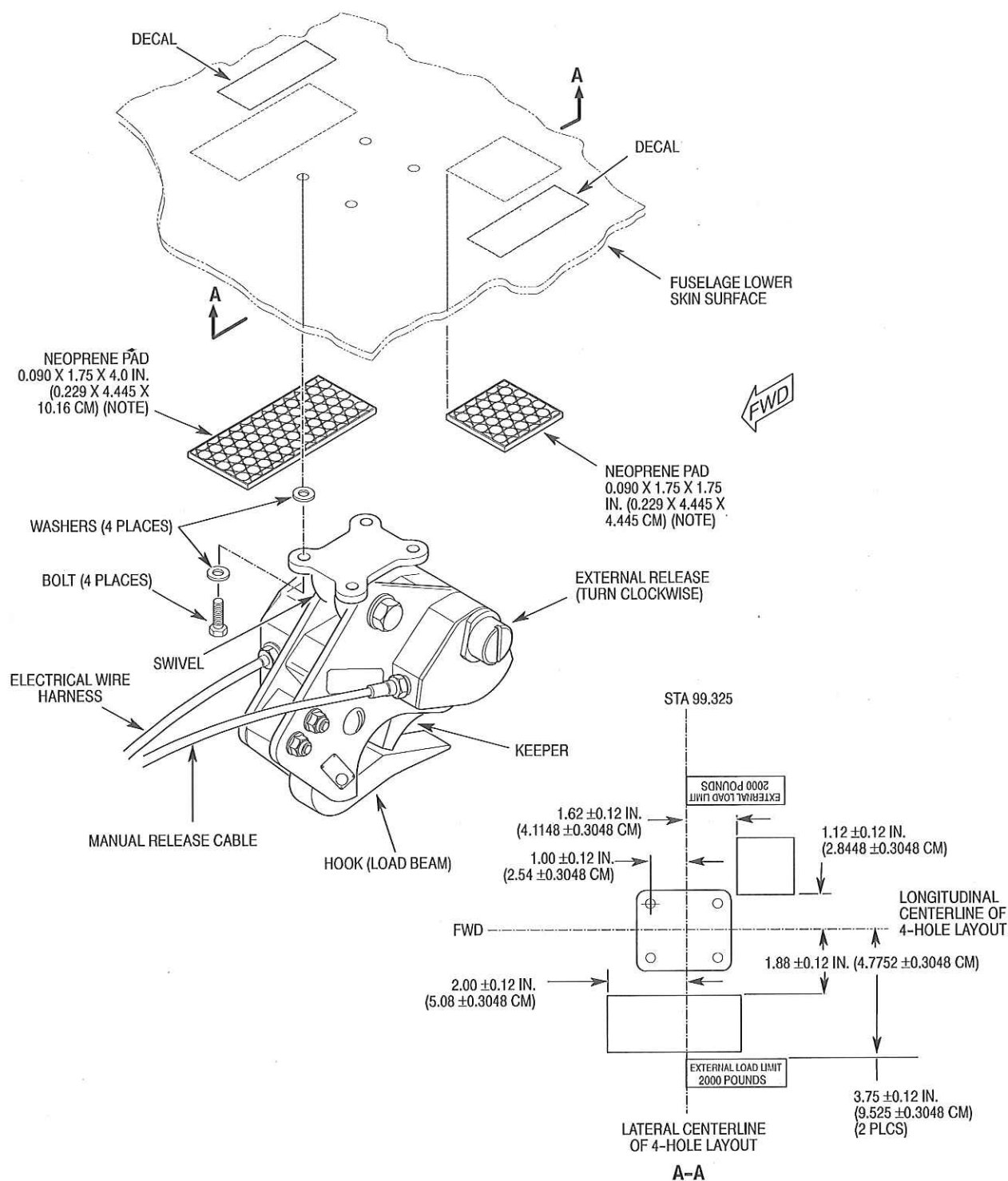
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Figure 402. Manual Release Cable and Electrical Wire Harness Routing - Exterior



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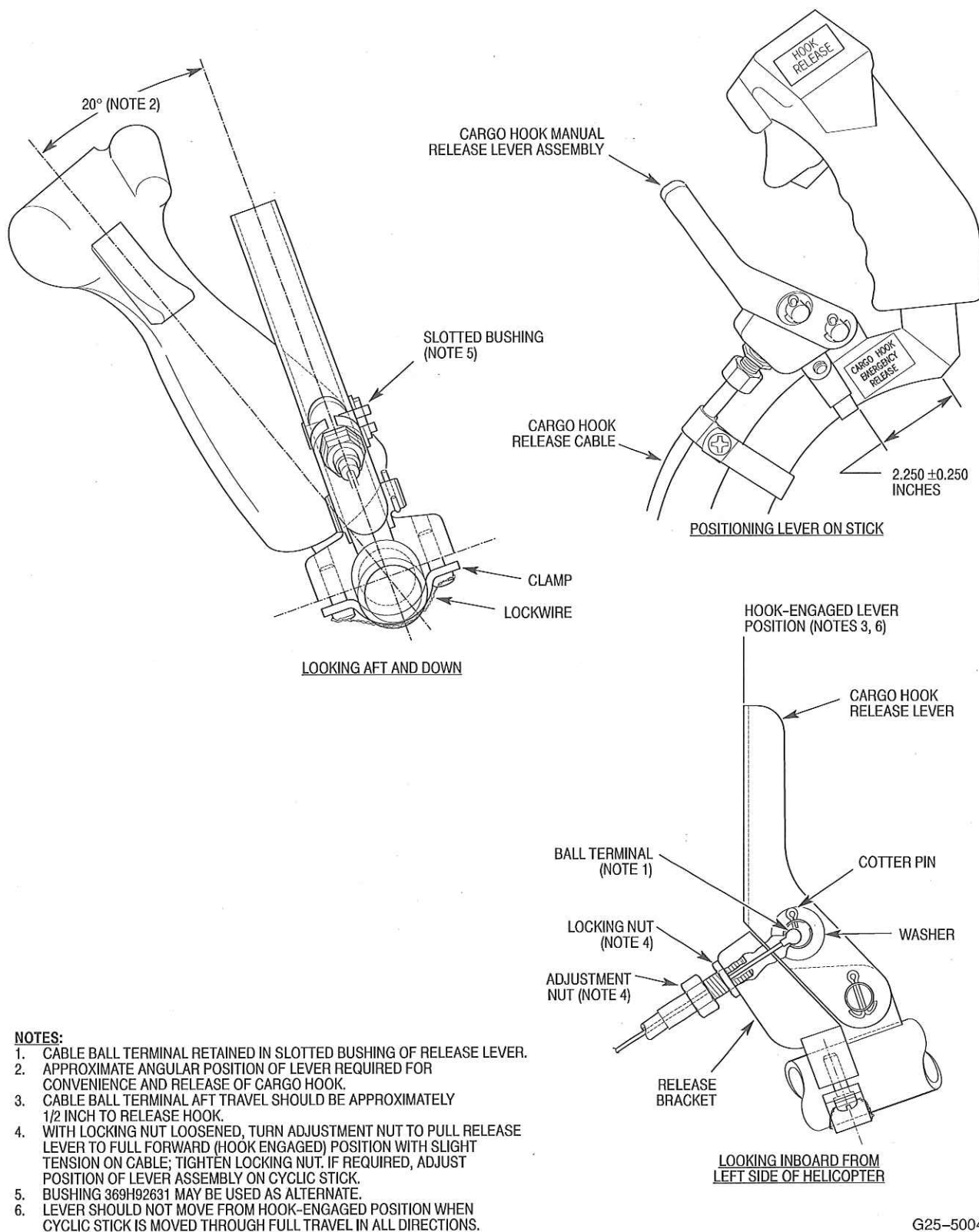
Figure 403. Cargo Hook Electrical Equipment Installation



NOTE:
PADS PREVENT FUSELAGE SKIN
DAMAGE AT HOOK CONTACT POINTS.

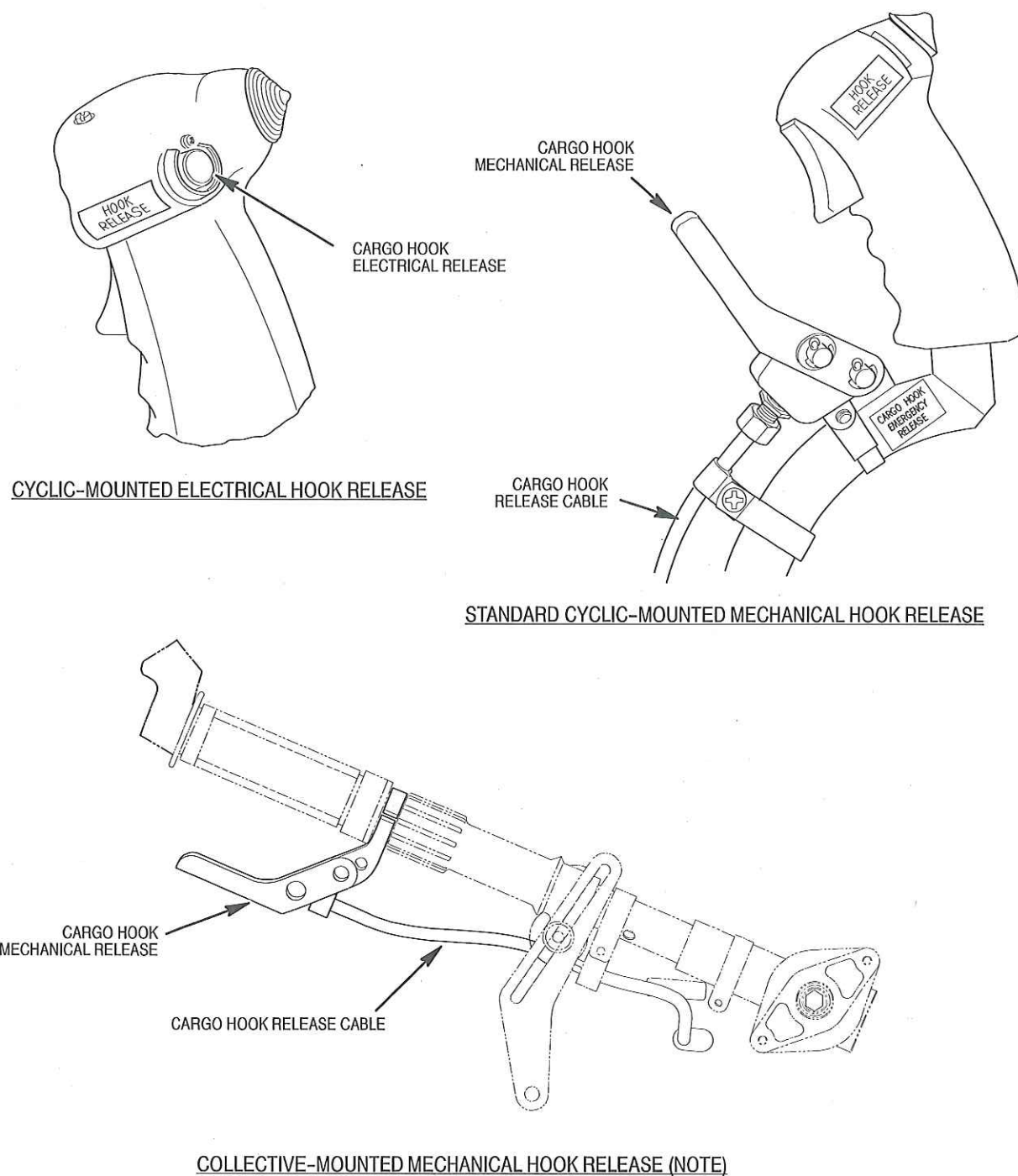
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Figure 404. Hook and Pad - Installation



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Figure 405. Cargo Hook Manual Release Lever - Installation



NOTE: FOR 600N MODEL HELICOPTERS EQUIPPED WITH THE
OPTIONAL EMERGENCY FLOAT INSTALLATION, STC# SR00471LA.

60-052-1

Figure 406. Cargo Hook Release for 600N Helicopters

CARGO HOOK INSPECTION/CHECK

1. Cargo Hook Operational Check

Do the following operational check procedure whenever it is necessary to verify that the cargo hook system is operating properly:

- (1). Place battery switch in BATTERY position.
- (2). Check that CARGO HOOK/HOOK circuit breaker is pressed to full in position (Ref. Figure 402).

NOTE: Cargo load rings (or equivalent check tool) with a maximum cross-section thickness of 3/4 inch can be used for testing or for cargo transport operations.

- (3). Push cargo load ring forward into hook throat (Ref. Figure 404); keeper should permit easy entrance to hook throat.
- (4). Pull aft and downward on load ring; hook must remain in locked position.
- (5). Rotate external release knob located on left side of cargo hook body, while pulling downward on load ring; hook (load beam) bar should drop and release load ring.
- (6). Reinsert load ring in hook throat. Pull CARGO HOOK EMERGENCY RELEASE (manual release) lever on pilot's cyclic stick while load ring is being pulled downward; hook (load beam) should release load ring. Reinsert load ring and move pilot's cyclic stick to all extreme positions; CARGO HOOK EMERGENCY RELEASE lever must not move from hook-engaged position and hook load beam must remain in locked position.
- (7). Press CARGO HOOK switch on pilot's cyclic stick grip (Ref. Figure 403) while load ring is being pulled downward; hook load beam should release load ring.

WARNING

Cargo hook must remain closed while moving through all positions of extreme travel fore and aft as well as side-to-side.

- (8). Grasp load ring and pull downward while moving cargo hook manually full travel side-to-side. Ensure hook (load beam) remains in locked position.

2. Adjustment

Adjust the manual release cable so that the **2.00—2.50 inch (5.085—6.35 cm)** dimension shown (Ref. Figure 405) is maintained.

3. Exterior Components Inspection

WARNING

On cargo hooks, manufactured by Breeze-Eastern, Model 2A20B, P/N 17149-1 thru -5, ensure Warning Plate P/N 13830-1 is attached to the manual release side of the cargo hook. If Warning Plate is not installed, contact Breeze-Eastern for Warning Plate and installation instructions.

- (1). Make certain that neoprene pads (Ref. Figure 404) are securely bonded to skin. Check pads for excessive wear.
- (2). Verify security of four bolts attaching hook assembly to fuselage (Ref. Figure 404); examine hook assembly for damage or excessive wear. Check that hook body swivels freely in all directions.
- (3). Verify security of clips and clamps attaching electrical wire harness and manual release cable housing to fuselage (Ref. Figure 402).
- (4). Verify presence and security of grommet (Ref. Figure 401) through which manual release cable passes at fuselage skin.
- (5). Check electrical wire harness for cuts, wear, and skinned insulation.
- (6). Examine manual release cable housing for nicks, cuts, kinks, dents, or general

damage that would restrict movement of cable within housing.

4. Interior Components Inspection

- (1). Verify security of electrical receptacle (J605) at fuselage connection (Ref. Figure 401).
- (2). Examine electrical wire harness for cuts, wear, or skinned insulation.
- (3). Check manual release cable housing for nicks, cuts, kinks, dents, or general damage that would restrict movement of cable within housing.
- (4). Verify presence and security of grommet where manual release cable passes through pilot's floor (Ref. Figure 401).
- (5). Check security of manual release cable housing adjustment nut; verify that release lever freely returns to hook-engaged position (Ref. Figure 405).

NOTE: The 600N helicopters equipped with emergency floats require the manual release handle to be mounted on the collective stick (Ref. Figure 406)

- (6). Verify security of clamps attaching manual release cable housing to pilot's cyclic stick (Ref. Figure 401); check for damage to manual release cable housing that might restrict movement of cable.
- (7). Check security of manual release lever attachment to pilot's cyclic stick (Ref. Figure 405).
- (8). Examine decals (Ref. Figure 403) for secure attachment and legibility.
- (9). Examine cargo hook circuit wiring for damage and/or loose connections.
- (10). Verify secure installation of CARGO HOOK circuit breaker and HOOK RELEASE push-button switch (Ref. Figure 403).

CARGO HOOK INITIAL INSTALLATION

1. Cargo Hook Initial Installation

Procedures in this section can be done at the operator's discretion and are applicable to 369D/E/FF - 500N helicopters. These instructions provide for the installation of the cargo hook assembly.

A. Preparation for Installation

Preparation for installation of the cargo hook assembly includes the following:

- (1). Identify all components, including attaching hardware, or components to be removed for access to work areas. Protect components from damage and contamination until installed.
- (2). Check that all electrical switches are in OFF position.
- (3). Make certain BATT-OFF-EXT switch is in OFF position.

B. Helicopter Equipment Removal

(Ref. Figure 404) Prior to installing the cargo hook, a limited number of items must be removed from the helicopter to accommodate cargo hook installation.

- (1). Remove plug button from cargo switch hole in stick grip; discard plug button.
- (2). Remove passenger/cargo compartment left support fairing.
- (3). Remove passenger/cargo compartment seat.
- (4). Remove cyclic stick control cover.
- (5). Remove pilot's floor left covering.
- (6). Remove pilot's floor left access door.

C. Modification of Helicopter

Modification of the helicopter consists of cutouts in the pilot's floor and fuselage lower skin to accommodate routing of the cargo hook manual control cable and electrical harness.

NOTE: Fuselage cutouts for left and right hand command are as illustrated (Ref. Figure 901). Use applicable dimensions according to the model helicopter being modified.

- (1). Make cutouts in three places as illustrated (Ref. Figure 901).

Consumable Materials (Ref. Section 91-00-00)

Item	Nomenclature
CM318	Primer

- (2). Deburr cutouts and apply thin coat of primer (CM318) to exposed bare metal.

D. Cargo Hook Provisions Installation

(Ref. Figure 404) The following procedure involves installation of the cargo hook provisions exclusive of the cargo hook assembly kit. To complete installation of the cargo hook system, both cargo hook provisions, and the cargo hook assembly kit installations must be accomplished. Hook provision equipment omitted in the following procedure is included in the cargo hook installation procedure. Install cargo hook provisions as follows:

Consumable Materials (Ref. Section 91-00-00)

Item	Nomenclature
CM206	Chemical coating
CM228	Surface cleaner
CM230	Paint remover
CM318	Primer
CM418	Cement, epoxy

NOTE: The cargo hook and provision kits are supplied with as many parts assembled as practical, however, some parts might require assembly at installation. The operator should omit those steps which can have already been accomplished.

- (1). Install cargo hook neoprene pads as follows:

- (a). Remove paint from fuselage skin in pad installation areas as shown; use paint remover (CM230).
 - (b). Clean metal in areas where paint as removed; use surface cleaner (CM228).
 - (c). Bond neoprene pads to skin at locations shown; use adhesive (CM418).
- (2). Prime and touch-up border areas around pads as follows:
 - (a). Wash affected area with solution of mild soap and fresh water. Rinse area with clean water and wipe dry with clean lint-free cloth.
 - (b). Using swab, liberally apply chemical film (CM206).
 - (c). Allow solution to remain on surface for 1 to 3 minutes, or until surface becomes amber to brown in color.

NOTE: Avoid letting chemical mixture dry on surface. If it has dried, re-wet surface with solution.

- (d). Rinse treated surface with clean water. After rinsing, wipe off excess moisture with clean lint-free cloth. Allow area to dry completely at room temperature for 1 hour.
- (e). Wipe surface clean with thinner and dry off immediately.
- (f). Apply primer (CM318) and allow to dry for 30 minutes.
- (g). Apply lacquer to match original factory finish color.

NOTE: Installation of the cargo hook manual release lever assembly and clamp assemblies is accomplished during installation of the cargo hook kit.

E. Electrical Components and Wiring Installation (Left and Right Hand Command)

Consumable Materials (Ref. Section 91-00-00)

Item	Nomenclature
CM404	Adhesive, epoxy
CM614	Sleeving, heat-shrink
CM704	Tie strap, nylon

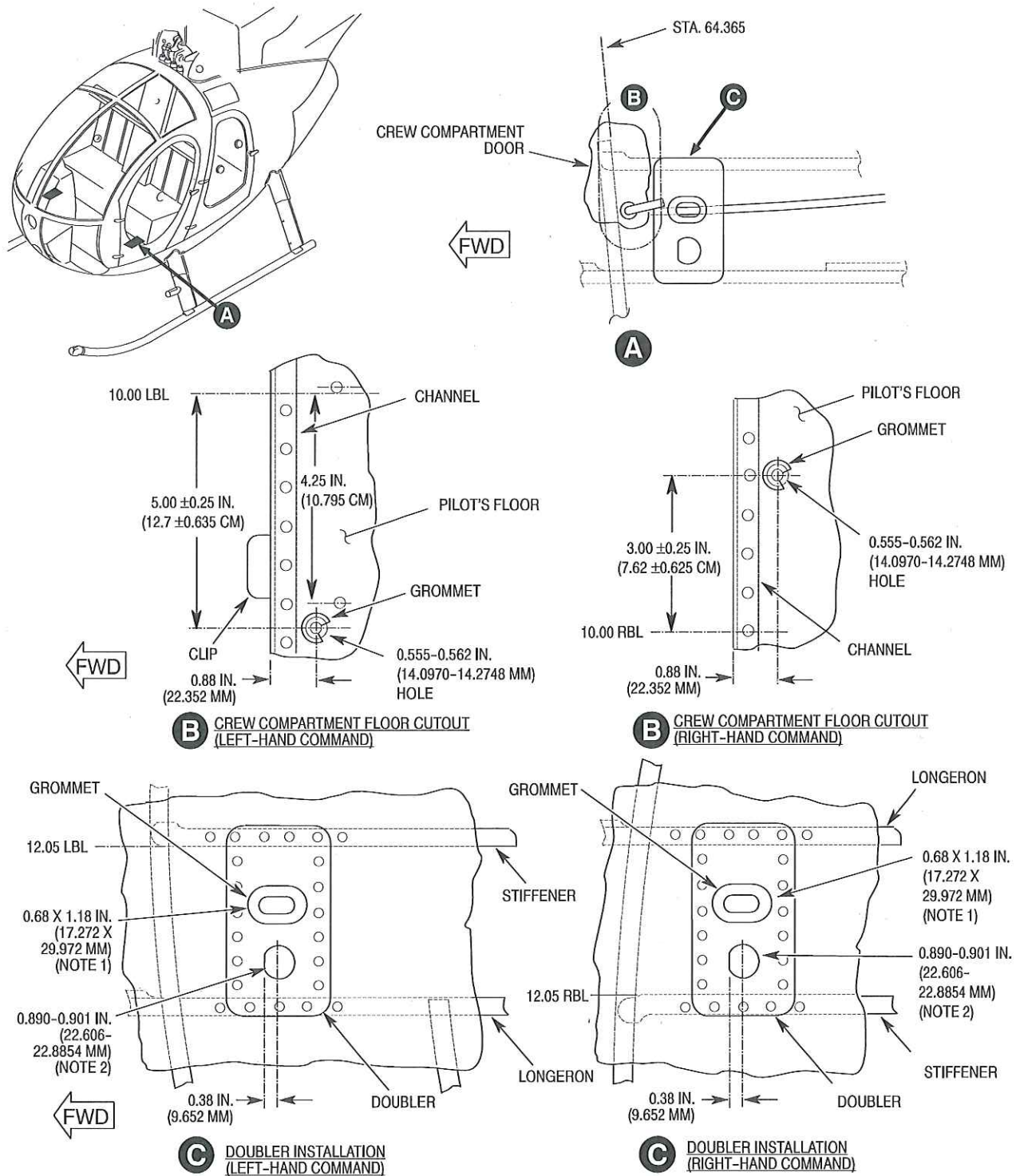
NOTE: The order and manner of installation for left or right hand command is the same. Refer to dimensions given in applicable figures, for model of helicopter being modified.

- (1). Make certain BATTERY switch is in OFF position.
- (2). Disconnect battery connector.
- (3). Connect cargo hook switch to existing wires according to stick grip and model helicopter being modified. Insulate wires and contacts on switch with sleeving (CM614). Ref. Table 901 and applicable wiring diagrams (Ref. Figure 101).
- (4). Install switch guard on switch. Apply small amount of adhesive (CM404) to O.D. of switch.
- (5). Install switch in grip. Allow minimum cure time of 24 hours $\pm$ 30 minutes.
- (6). Install relay on bracket with screws, washers, and nuts (Ref. Figure 902).

Table 901. Cargo Hook Relay Installation

Relay	Model	Location	Remarks
K201	D	369A2519 Bulkhead	Slim console
K201	E/FF	369H2500 Bulkhead	T-Panel

- (7). Locate existing mounting holes according to model of helicopter being modified. (Ref. Table 901 and Figure 902). Using relay bracket as a template, mark and drill attachment hole(s) **0.165—0.177 inch (4.191—4.4958 mm)** in bulkhead as required.



NOTES:

1. SLOT IN SKIN TO MATCH SLOT IN DOUBLER.
2. HOLE IN SKIN TO MATCH HOLE IN DOUBLER.

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Figure 901. Fuselage Skin Cutouts

- (8). Attach relay bracket to bulkhead with screws, washers and nuts. Identify relay as indicated (Ref. Table 902), using a suitable contrasting permanent ink.
- (9). On left hand command helicopters, remove edgelighted panel from lower switch and circuit breaker panel: loosen lower circuit breaker panel. Remove hole cover button; install circuit breaker (CB603) (Ref. Figure 402).
- (10). On right hand command helicopters with center electrical console, remove edgelighted panel from circuit breaker panel located on the pilot's collective pitch stick cover; loosen circuit breaker panel remove hole cover button; install circuit breaker (Ref. Figure 402).
- (11). On right or left hand command helicopters with standard cyclic stick grip, install module and cover on **TB3**.
- (12). Install cargo hook circuit wiring; see applicable wiring diagram (Ref. Figure 101). For wire termination and terminal hardware, refer to Table 102.
- (13). Install cargo hook electrical connector with washer and connector nut. Install protective cap on receptacle if cargo hook kit is not being installed concurrent with provisions.
- (14). Secure cargo hook circuit wiring with tie-straps (CM704) as required. Check that wires and terminals are not stressed.
- (15). Check all wiring for correct installation and security of attachment.
- (16). Connect battery connector.

F. Cargo Hook Installation

Consumable Materials (Ref. Section 91-00-00)	
Item	Nomenclature
CM429	Sealing compound, silicone
CM702	Lockwire CRES
CM704	Tie strap, nylon

The cargo hook installation consists of attaching the hook and emergency electrical/

manual release cables on the underside of the helicopter, routing and securing the manual release cable, and installation and adjustment of the manual release lever.

- (1). Secure base of cargo hook assembly to fuselage underside with bolts and washers (Ref. Figure 404).
- (2). If installed, remove protective cap from cargo hook electrical receptacle (**J605**); check that BATTERY switch is in OFF position and connect plug (**P605**) to receptacle.
- (3). Insert free end of hook manual release cable through elongated hole adjacent to electrical receptacle; push manual release cable up into fuselage and insert cable through hole in pilot's floor (Ref. Figure 401).
- (4). Install electrical harness and manual release cable clamp (provision) clips with rivets (Ref. Figure 402).
- (5). Loosely attach harness and cable clamps with screws, washers and nuts; adjust harness and cable to allow sufficient slack for hook to swing 30 degrees conically from centerline without creating strain on harness and cable. Arrange harness and cable to form smooth flow to cutouts in fuselage skin; tighten clamps. Install tie straps (CM704) approximately as shown (Ref. Figure 402).
- (6). Loosely attach manual release cable to cyclic stick with clamps, screws, washers, and nuts (Ref. Figure 401).
- (7). Engage swaged ball on release cable in lever bushing; secure bushing with washer and cotter pin (Ref. Figure 405).
- (8). Attach manual release lever assembly to cyclic stick with clamp and screws; adjust cable and/or release lever as shown (Ref. Figure 401).
- (9). Tighten three sets of clamps securing release cable to cyclic stick.
- (10). Check that hook does not release when cyclic stick is moved to extremes in all directions.

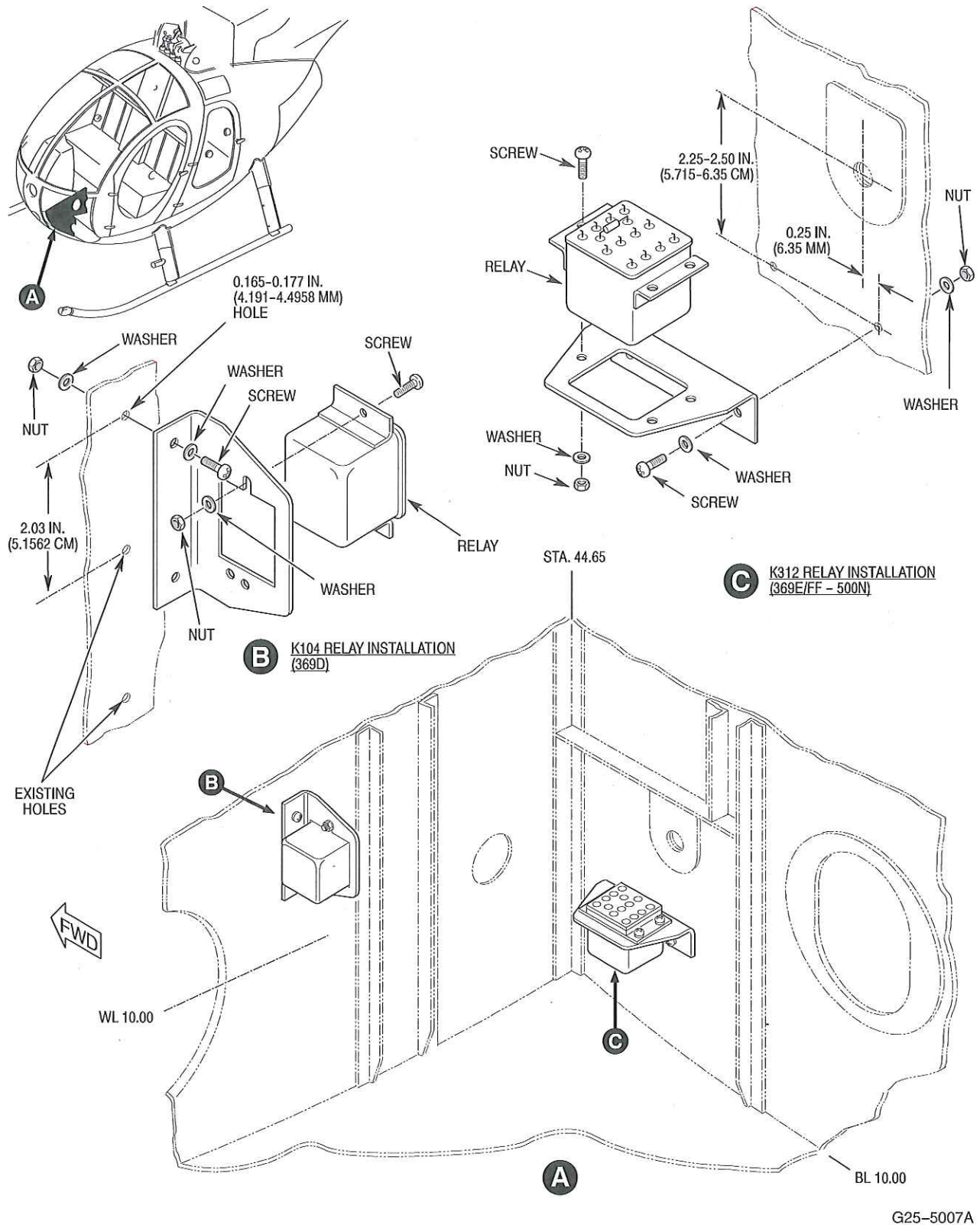


Figure 902. Relay and Bracket Installation Pilots Floor (369D/E/FF)

- (11). Pull manual release lever; check that hook load beam opens. Repeat operation several times to ensure proper release of hook.
- (12). Re-adjust cable/lever as required to obtain smooth consistent release of hook.

NOTE: The manual release lever clamp can be loosened and the lever assembly moved on cyclic stick to simplify adjustment, providing the **2.00—2.50 inch (5.085—6.350 cm)** dimension limit is maintained (Ref. Figure 405).

- (13). Install grommet in crew compartment floor cutout (Ref. Figure 401). Fill any voids between grommet and cable. Use sealant (CM429).
- (14). Install grommet in elongated hole in fuselage lower skin and doubler (Ref. Figure 402). Fill any voids between grommet and manual release cable. Use sealant (CM429).
- (15). Safety manual release lever clamp screws with lockwire (CM702), (Ref. Figure 405).

- (16). Install HOOK RELEASE decal on left or right hand cyclic stick grip (Ref. Figure 403).
- (17). Install CARGO HOOK EMERGENCY RELEASE decal on cyclic stick (Ref. Figure 405).
- (18). Install EXTERNAL LOAD LIMIT 2000 POUNDS decal (Ref. Figure 404).

Table 902. VNE Card Installation

Part Number	Model	Effectivity
369D29571 -17, -19	D	003 - 523
-21, -23	D/E	D 524 & Subs E 001 & Subs
369D292588	FF	001 & Subs

- (19). Replace V_{NE} card on instrument panel as applicable (Ref. to Table 903).

G. Helicopter Equipment Installation

Reinstall equipment initially removed in reverse order of removal.

NOTE: At completion of installation, do the an operational check of cargo hook installation.

Table 903. Cargo Hook Switch Installations – Stick Grip

Part Number	Model	Remarks
369H90153-BSC	D/E/FF	For models equipped with emergency floats, left or right hand command (Ref. Figure 403).
-3	D/E/FF	For models equipped with hoist, left or right hand command (Ref. Figure 403).
369D27133	D/E/FF	Standard grip, left hand command (Ref. Figure 403).
369D297846-BSC	D	Center electrical console, "T" grip right hand command (Ref. Figure 403).
-3	D	Center electrical console, "T" grip right hand command (Ref. Figure 403).
369H92805	D	Center electrical console, "T" grip right hand command (Ref. Figure 403).

H. Weight and Balance Data

Weight and balance changes resulting from installation of the cargo hook are listed in

Table 904. After installation of the cargo hook incorporate changes in helicopter weight and balance record as instructed.

Table 904. Weight and Balance Data

	Weight Pounds (kg)		Arm Inches (cm)		Moment in-lb (kg cm)	
Added	+6.3	(+2.858)	+87.0	(+220.98)	+548.1	(+631.48)