



EMB145 – EMB135

AIRCRAFT
MAINTENANCE MANUAL

NOSE-LANDING-GEAR SLIDING TUBE - REMOVAL/INSTALLATION

EFFECTIVITY: ALL

1. General

- A. This section gives the procedures to remove and install the nose-landing-gear sliding tube with the nose-landing-gear installed on the aircraft.
- B. You must do these procedures if you find hydraulic fluid leakage on the NLG Sliding Tube.

NOTE: • It is not necessary remove the piston (3) if there is hydraulic fluid leakage. Refer to Figure 402 or Figure 403, as applicable.

- If the jacks are at full travel or the distance between center of the NLG axle and the ground is more than 600 mm, it is not necessary disconnect the Main Brace Strut. If the distance is lower than 600 mm, it is necessary disconnect the Main Brace Strut.

- C. The procedures in this section are given in the sequence below. The tasks identified with (♦) are part of the Scheduled Maintenance Requirements Document (SMRD).

TASK NUMBER	DESCRIPTION	EFFECTIVITY
32-20-08-000-801-A	SLIDING TUBE OF THE NOSE LANDING GEAR - REMOVAL	ALL
32-20-08-400-801-A	SLIDING TUBE OF THE NOSE LANDING GEAR - INSTALLATION	ALL



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TASK 32-20-08-000-801-A

EFFECTIVITY: ALL

2. SLIDING TUBE OF THE NOSE LANDING GEAR - REMOVAL

A. General

- (1) This procedure gives the instructions to remove the sliding tube from the nose landing gear.

NOTE: In case of hydraulic fluid leakage, it is not necessary remove the piston (3), refer to step 15 or step 17, as applicable.

NOTE: If the jacks are at full travel or the distance between center of the NLG axle and the ground is more than 600 mm, it is not necessary disconnect the Main Brace Strut. If the distance is lower than 600 mm, it is necessary disconnect the Main Brace Strut. Refer to steps 7, 8, 10, and 13, as applicable.

B. References

REFERENCE	DESIGNATION
AMM TASK 07-10-00-500-801-A/200	-
AMM TASK 29-10-00-860-802-A/200	HYDRAULIC SYSTEM - PRESSURIZATION WITH EMDP
AMM TASK 32-00-01-910-801-A/200	LG SAFETY PIN - INSTALLATION AND REMOVAL
AMM TASK 32-00-02-910-801-A/200	SAFETY PIN OF THE NLG DOORS SOLENOID VALVE - INSTALLATION AND REMOVAL
AMM TASK 32-20-02-000-801-A/400	MAIN BRACE STRUT OF THE NOSE LANDING GEAR - REMOVAL
AMM TASK 32-49-05-000-801-A/400	WHEEL ASSEMBLY OF THE NOSE LANDING GEAR - REMOVAL
SB 145-32-0036	-
SB 145-32-0101	-

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
GSE 003	HYDRAULIC JACK - WHEEL CHANG- ING	To support the sliding tube of the landing gear	
57561A0000-01	Tool No. 7, Piston extractor (CMM 32-21-10)	To remove the piston	

E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Drip pan	To collect the hydraulic fluid discarded	1

F. Consumable Materials

Not Applicable

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	NLG
1	Helps the other technician	NLG

I. Preparation
SUBTASK 841-002-A

- (1) On the Circuit Breaker Panel, open the ELEC PUMP 1, CMD, IND 1, and IND 2 circuit breakers and attach a DO-NOT-CLOSE tag to them.
- (2) For aircraft PRE-MOD [SB 145-32-0036](#), make sure that the pressure in hydraulic system No. 1 is fully released ([AMM TASK 29-10-00-860-802-A/200](#)).
- (3) For aircraft POST-MOD [SB 145-32-0036](#), install safety pin of the NLG doors solenoid valve ([AMM TASK 32-00-02-910-801-A/200](#)).
- (4) Make sure that the safety pins of the landing gears are installed ([AMM TASK 32-00-01-910-801-A/200](#)).
- (5) Lift the aircraft on jacks at their full travel ([AMM TASK 07-10-00-500-801-A/200](#)).
- (6) Put GSE 003 under the sliding tube to support it.
- (7) Remove the nose wheel assemblies ([AMM TASK 32-49-05-000-801-A/400](#)).
- (8) Depressurize the NLG shock absorber. To do this, do as follows:
 - (a) Connect a hose to the filling valve (upper side of the shock absorber) and slowly open the valve to remove the hydraulic fluid from the shock absorber.
 - (b) Manually retract the shock absorber to continue removing the hydraulic fluid.

NOTE: It is to avoid an excessive spill of hydraulic fluid during the removal of the sliding tube from the NLG leg.

 - (c) Slowly open the charging valve (lower side of the shock absorber) to release the Nitrogen pressure.

J. Removal ([Figure 401](#)) ([Figure 402](#)) ([Figure 403](#))
SUBTASK 020-002-A

CAUTION: THE NLG STRUT HAS PARTS WHICH ARE LIFE-LIMITED ITEMS. YOU MUST RECORD ALL CHANGES IN THE ASSOCIATED NLG STRUT COMPONENT ASSEMBLY LOG CARD.

NOTE: Make sure that the steering is at the zero position. The sliding tube must be extended.

WARNING: BE CAREFUL WHEN YOU REMOVE THE SLIDING TUBE.

CAUTION: MAKE SURE THAT THE SLIDING TUBE WILL NOT FALL DURING THE REMOVAL.

- (1) Disconnect the lower torque link (15), as follows:

- (a) Remove the cotter pins (1), nuts (2), washers (3) and bolts (18). Refer to [Figure 401](#).

CAUTION: AFTER DISCONNECTION OF THE LOWER TORQUE LINK, BE CAREFUL WITH THE TARGET LEVER ASSEMBLY TO NOT DAMAGE ITS PARTS.

- (b) Remove the pin (16), the lower torque link (15) and the washer (17) from the sliding tube assembly. Refer to [Figure 401](#).

NOTE: During the removal of the lower torque link (15), identify their related washer (17) for position to prevent their inverted installation. This could cause a steering misalignment. Refer to [Figure 401](#).

- (2) Remove the charging valve (4) from the sliding tube assemble (6). Refer to [Figure 401](#).

- (3) Remove the preformed packing (5) from the charging valve (4). Refer to [Figure 401](#).

- (4) Remove the sealant (9) from the interfaces of the main fitting with the support (10) and lower cam (7). Refer to [Figure 401](#).

- (5) Bend up tabs of the two lock washers (11) and (13) to unlock the set-screws (12) and (14). Refer to [Figure 401](#).

- (6) Loose the set-screws (12) and (14), but not remove them yet. Refer to [Figure 401](#).

- (7) Disconnect the lower-end of the main-brace-strut. Refer to [AMM TASK 32-20-02-000-801-A/400](#), paragraph J. (2).

- (8) Operate the free-fall lever to release the hydraulic fluid from NLG actuator and to permit the free movement of NLG forward.

- (9) Hold the sliding tube axle and remove the jack GSE 003.

- (10) Manually move the NLG leg to forward position, until you can remove the sliding tube assemble (6). Refer to [Figure 401](#).

- (11) Remove the set-screws (12) and (14) and remove and discard the lock washers (11) and (13). Refer to [Figure 401](#).

CAUTION: TAKE CARE DURING REMOVAL OF THE SLIDING TUBE ASSEMBLY TO NOT DAMAGE THEIR PARTS.

- (12) Remove the sliding tube assembly (6) from the NLG leg and collect the remaining oil. Refer to [Figure 401](#).

- (13) Return the NLG leg to the vertical position.

- (14) (For aircraft PRE-MOD. [SB 145-32-0101](#)) Disassemble the sliding tube assembly (6), as follows (refer to [Figure 402](#)):

CAUTION: BE CAREFUL DURING DISASSEMBLE OF THE SLIDING TUBE ASSEMBLY. THE CHROME PLATING EDGE CAN BE DAMAGED.

- (a) Remove self-locking nuts (6), washers (7) and pins (8). Refer to [Figure 402](#), sheet 1.
- (b) Remove the upper cam assy (9) from the sliding tube (1). Refer to [Figure 402](#), sheet 1.
- (c) Remove the piston assy (5) from the top of the sliding tube (1). Refer to [Figure 402](#), sheet 1.
- (d) Remove the lower cam (12) from the sliding tube (1). Refer to [Figure 402](#), sheet 1.
- (e) Remove and discard the scraper (14) from the inner side of the lower cam (12). Refer to [Figure 402](#), DET. C, sheet 1 and sheet 2.
- (f) Remove and discard the hat seal (13) from the inner side of the lower cam (12). Refer to [Figure 402](#), DET. C, sheet 1 and sheet 2.
- (g) Remove and discard the preformed packing (11) and two back-up rings (10) from the lower cam (12). Refer to [Figure 402](#), sheet 1.

- (15) (For aircraft PRE-MOD. [SB 145-32-0101](#)) To remove the piston (3), do as follows:

- (a) Use the Extractor Tool (tool No. 7) to remove the piston (3) from the sliding tube (1). Refer to [Figure 402](#), sheet 1.
- (b) Remove and discard the seal assy (2) from the piston (3). Refer to [Figure 402](#), sheet 1.
- (c) Remove and discard the glydring (4) from the piston (3). Refer to [Figure 402](#), sheet 1.

- (16) (For aircraft POST-MOD. [SB 145-32-0101](#)) Disassemble the sliding tube assembly (1), as follows (refer to [Figure 403](#)):

CAUTION: BE CAREFUL DURING DISASSEMBLE OF THE SLIDING TUBE ASSEMBLY. THE CHROME PLATING EDGE CAN BE DAMAGED.

- (a) Remove the locking ring (9) and disconnect the sleeve (8) from the lower cam (15). Refer to [Figure 403](#), sheet 1.
- (b) Remove the pins (14) from the lower cam (15). Refer to [Figure 403](#), sheet 1.
- (c) Remove self-locking nuts (6), washers (7) and pins (10). Refer to [Figure 403](#), sheet 1.
- (d) Remove the upper cam assy (11) from the sliding tube (1). Refer to [Figure 403](#), sheet 1.



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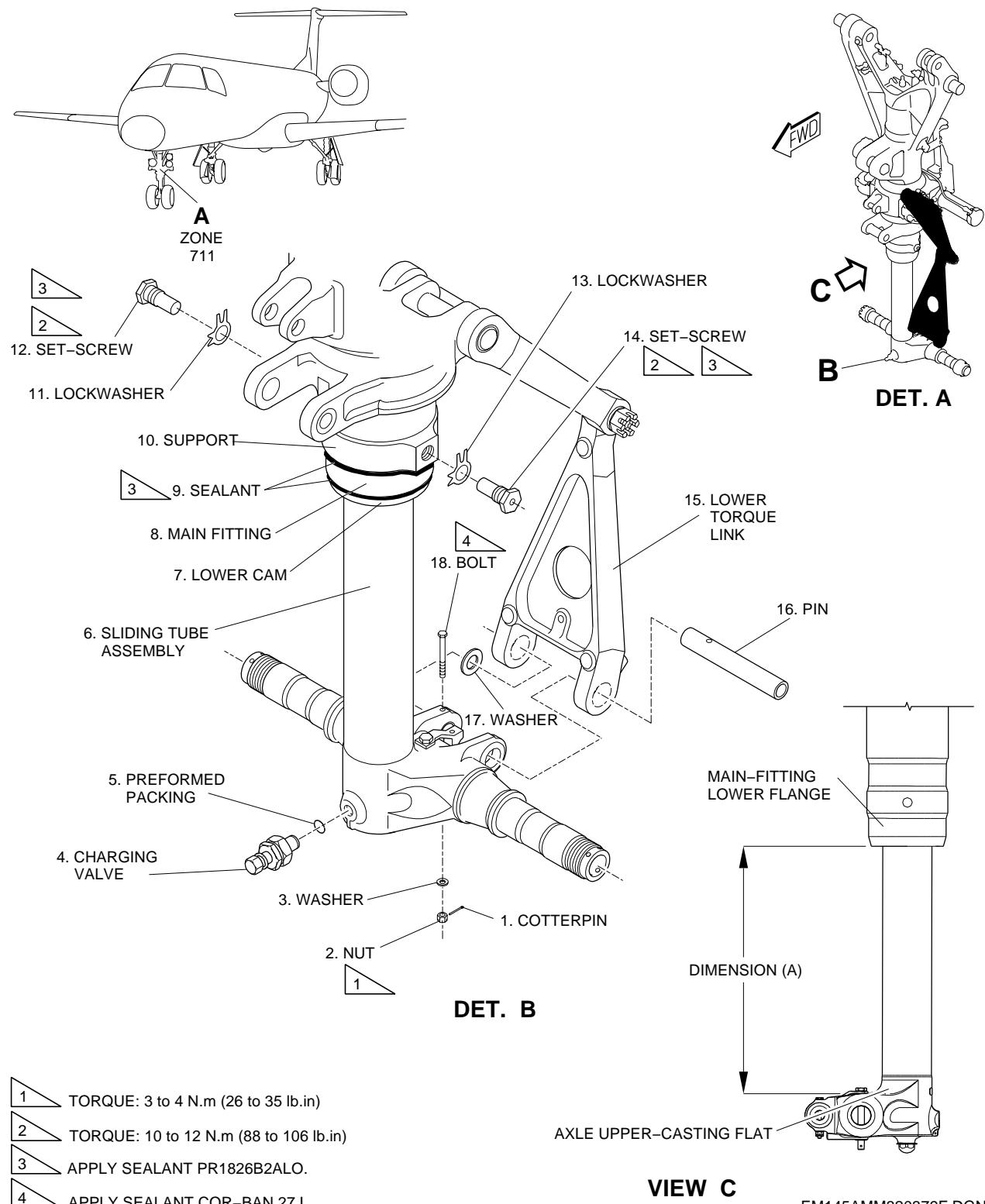
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- (e) Remove the piston assy (5) from the top of the sliding tube (1). Refer to [Figure 403](#), sheet 1.
 - (f) Remove the lower cam (15) from the sliding tube (1). Refer to [Figure 403](#), sheet 1.
 - (g) Remove and discard the scraper (17) from the inner side of the lower cam (15). Refer to [Figure 403](#), DET. C, sheet 1 and sheet 2.
 - (h) Remove and discard the hat seal (16) from the inner side of the lower cam (15). Refer to [Figure 403](#), DET. C, sheet 1 and sheet 2.
 - (i) Remove and discard the preformed packing (13) and two back-up rings (12) from the lower cam (15). Refer to [Figure 403](#), sheet 1.
- (17) (For aircraft POST-MOD. [SB 145-32-0101](#)) To remove the piston (3), do as follows:
- (a) Use the Extractor Tool (tool No. 7) to remove the piston (3) from the sliding tube (1). Refer to [Figure 403](#), sheet 1.
 - (b) Remove and discard the seal assy (2) from the piston (3). Refer to [Figure 403](#), sheet 1.
 - (c) Remove and discard the glydring (4) from the piston (3). Refer to [Figure 403](#), sheet 1.

EFFECTIVITY: ALL

Sliding Tube of the Nose Landing Gear - Removal/Installation

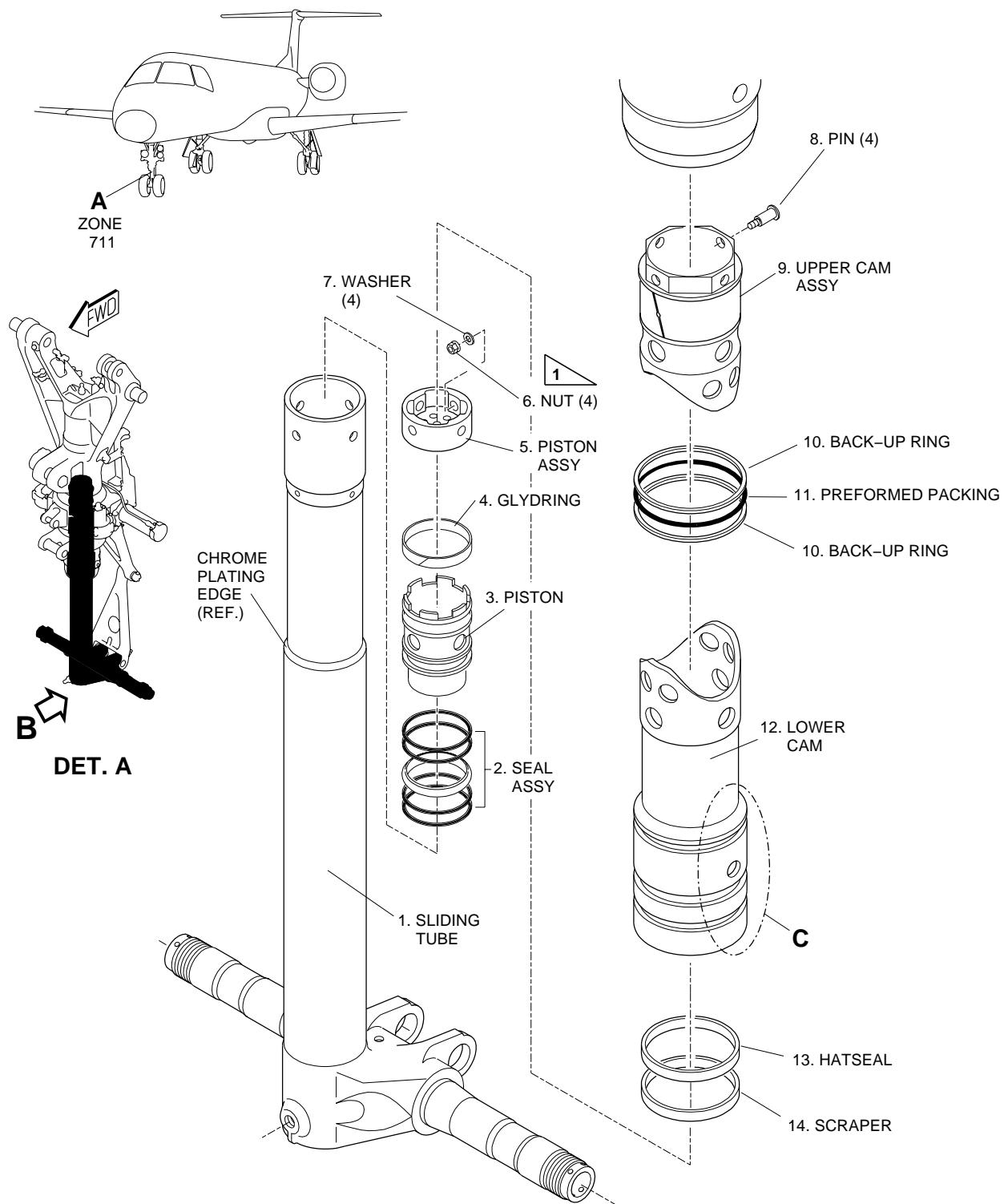
Figure 401



EFFECTIVITY: FOR AIRCRAFT PRE-MOD. S.B. 145-32-0101

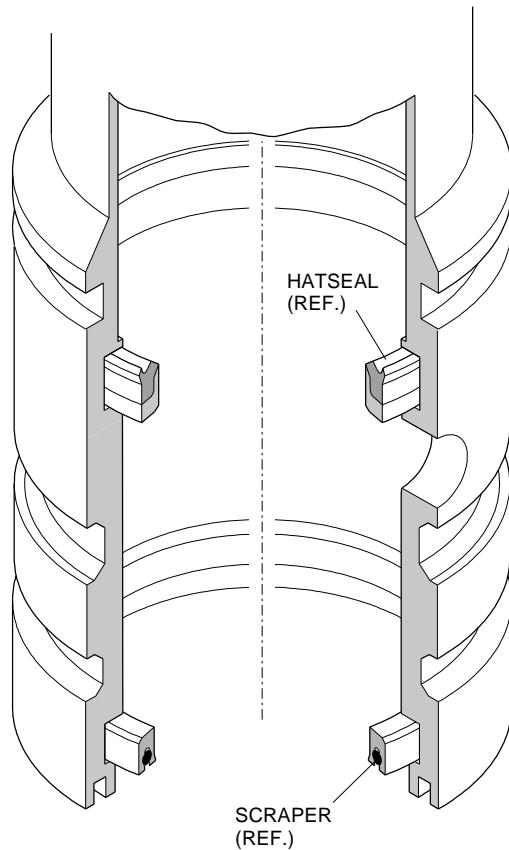
Sliding Tube of the Nose Landing Gear - Removal/Installation

Figure 402 - Sheet 1



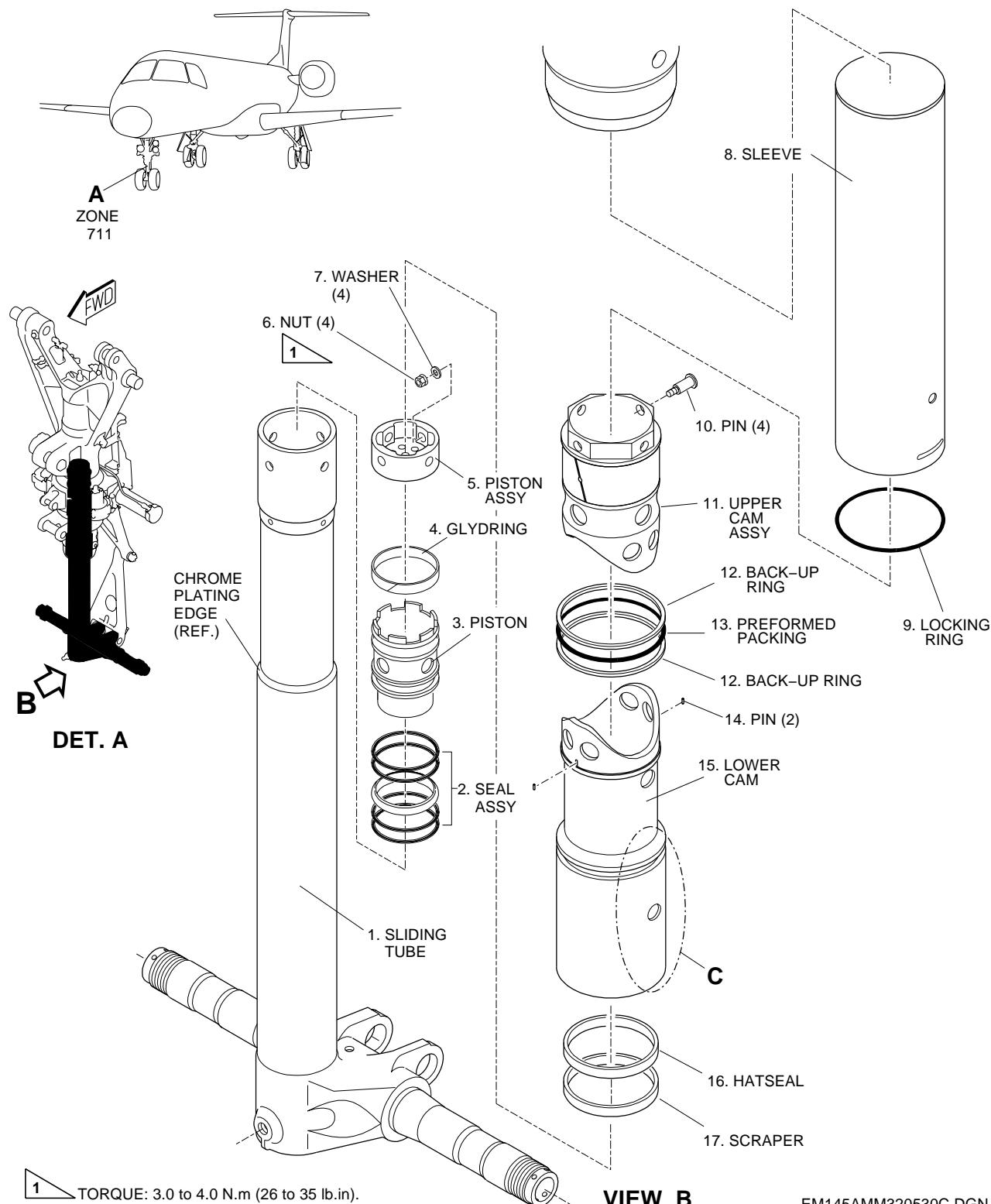
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EFFECTIVITY: FOR AIRCRAFT PRE-MOD. S.B. 145-32-0101
Sliding Tube of the Nose Landing Gear - Removal/Installation
Figure 402 - Sheet 2

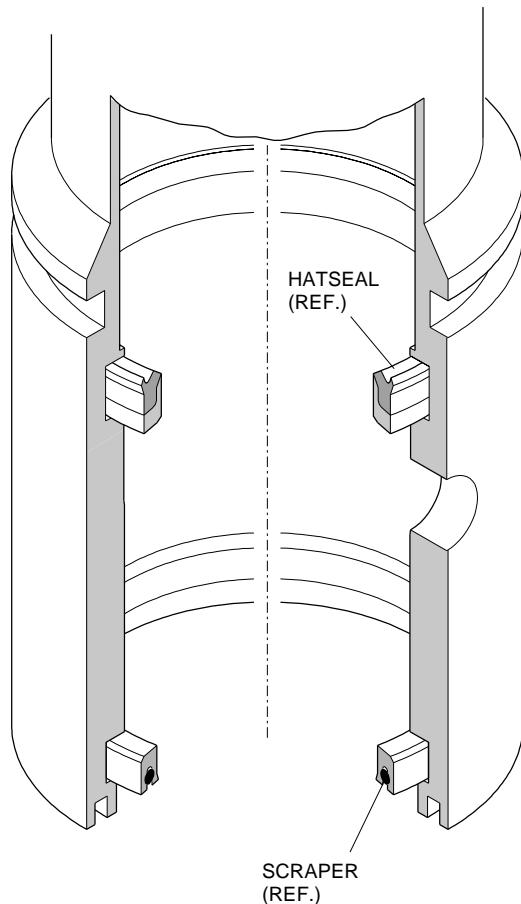


DET. C

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EFFECTIVITY: FOR AIRCRAFT POST-MOD. S.B. 145-32-0101
Sliding Tube of the Nose Landing Gear - Removal/Installation
Figure 403 - Sheet 1

VIEW B
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EFFECTIVITY: FOR AIRCRAFT POST-MOD. S.B. 145-32-0101
Sliding Tube of the Nose Landing Gear - Removal/Installation
Figure 403 - Sheet 2



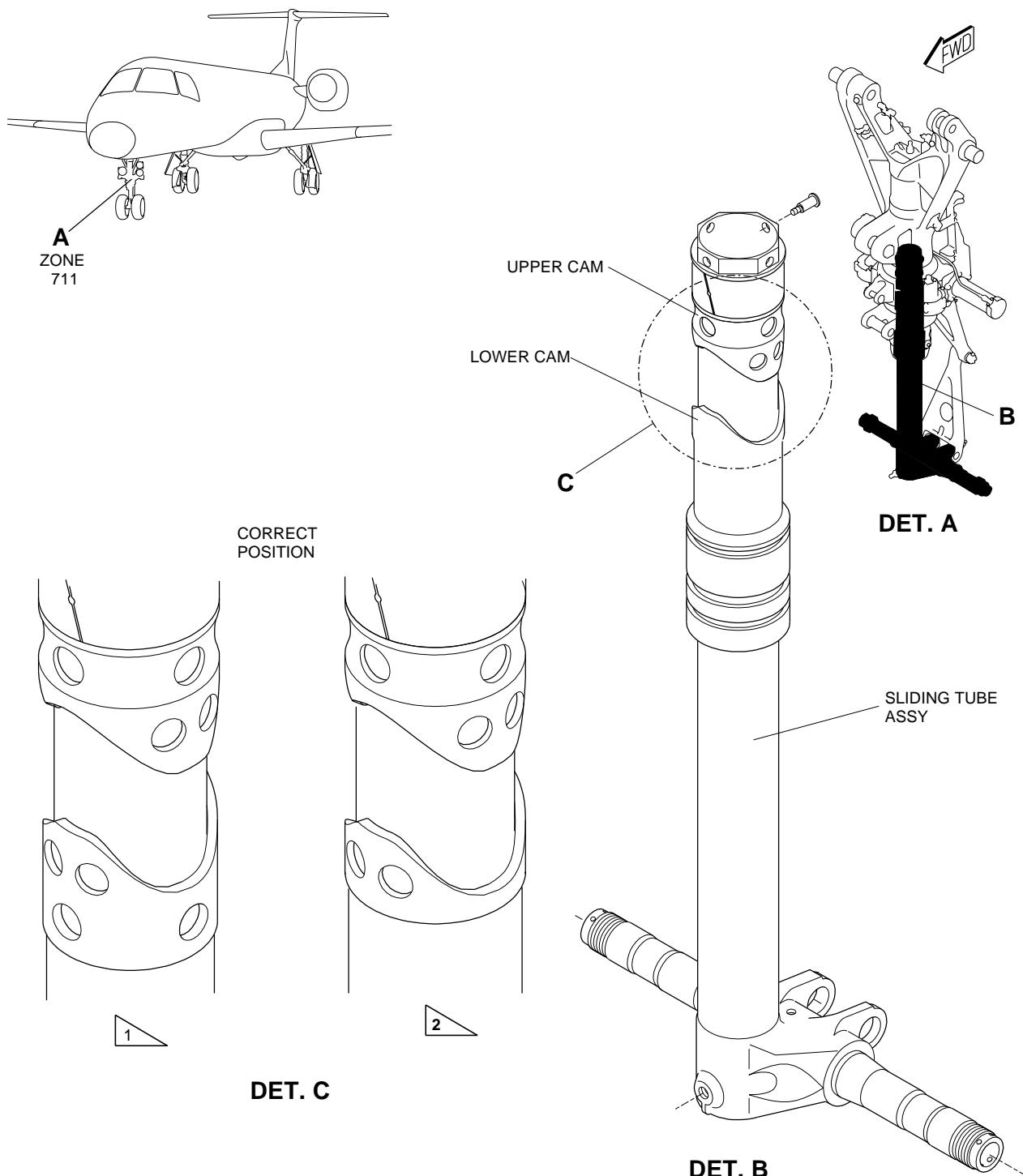
DET. C

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EFFECTIVITY: ALL

Sliding Tube of the Nose Landing Gear - Removal/Installation

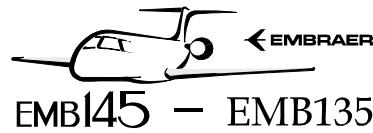
Figure 404



1 PRE-MOD S.B. 145-32-0101

2 POST-MOD S.B. 145-32-0101

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TASK 32-20-08-400-801-A

EFFECTIVITY: ALL

3. SLIDING TUBE OF THE NOSE LANDING GEAR - INSTALLATION

A. General

(1) This task gives the instructions to install the sliding tube of the nose landing gear.

B. References

REFERENCE	DESIGNATION
AMM MPP 20-10-01/200	- MAINTENANCE PRACTICES
AMM TASK 07-10-00-500-802-A/200	-
AMM TASK 32-00-01-910-801-A/200	LG SAFETY PIN - INSTALLATION AND REMOVAL
AMM TASK 32-00-02-910-801-A/200	SAFETY PIN OF THE NLG DOORS SOLENOID VALVE - INSTALLATION AND REMOVAL
AMM TASK 32-20-01-600-801-A/300	NLG SHOCK ABSORBER - SERVICING
AMM TASK 32-20-02-400-801-A/400	MAIN BRACE STRUT OF THE NOSE LANDING GEAR - INSTALLATION
AMM TASK 32-34-00-600-801-A/300	MLG AND NLG - LUBRICATION
AMM TASK 32-49-05-400-801-A/400	WHEEL ASSEMBLY OF THE NOSE LANDING GEAR - INSTALLATION
AMM TASK 32-50-00-700-803-A/500	NOSE WHEEL STEERING SYSTEM ACTUATION - OPERATIONAL CHECK
For the applicable P/N refer to CMM/IPL 32-21-10	-
SB 145-32-0036	-
SB 145-32-0101	-

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Torque wrench (range: 0 to 1000 lb.in)	To torque the bolts of the NLG leg	
57565A0000-01	Tool No. 9, Seal Installation Tool (CMM 32-21-10)	To install the preformed packing and seals	
57562A0000-01	Tool No. 11, Pin Wrench (CMM 32-21-10)	To turn lower cam	
57593A0000-01	Tool No. 14, Holding Fixture (CMM 32-21-10)	To position the piston correctly in the sliding tube	
GSE 003	HYDRAULIC JACK - WHEEL CHANG- ING	To support the sliding tube of the landing gear	



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E. Auxiliary Items

ITEM	DESCRIPTION	PURPOSE	QTY
Commercially available	Rubber Gloves, Phosphate Ester-Base, Fluid-Resistant	For protection of the hands	2
Commercially available	Rubber Goggles, Phosphate Ester-Base, Fluid-Resistant	For protection of the eyes	2
Commercially available	Drip pan	To collect the hydraulic fluid discarded	1
Commercially available	Lint-Free Cloth 1410-1	Clean the sliding tube, upper cam and lower cam surfaces	AR
Commercially available	Light	To examine inner side of the sliding tube	1
Commercially available	Soft bristle	To clean the external surfaces of the sliding tube	AR

F. Consumable Materials

SPECIFICATION (BRAND)	DESCRIPTION	QTY
MEP09-075	Sealant COR-BAN 27L	AR
SAE AMS 3277, Type I, Class B2	Sealant PR1826B2ALO	AR
MIL-PRF-87937 type I	Cleaning Compound	AR
MIL-PRF-5606	Hydraulic Fluid	AR
MS20995C20	Lockwire	AR

G. Expendable Parts

ITEM	IPC REFERENCE (VENDOR REFERENCE)	QTY
Self locking nuts	For the applicable P/N refer to CMM/IPL 32-21-10	4
Scraper	For the applicable P/N refer to CMM/IPL 32-21-10	1
Hat seal	For the applicable P/N refer to CMM/IPL 32-21-10	1
Preformed packing	For the applicable P/N refer to CMM/IPL 32-21-10	1
Preformed packing	For the applicable P/N refer to CMM/IPL 32-21-10	1
Seal Assy	For the applicable P/N refer to CMM/IPL 32-21-10	1
Glydring	For the applicable P/N refer to CMM/IPL 32-21-10	1
Back-up rings	For the applicable P/N refer to CMM/IPL 32-21-10	2
Locking Washer	For the applicable P/N refer to CMM/IPL 32-21-10	2

H. Persons Recommended

QTY	FUNCTION	PLACE
1	Does the task	NLG
1	Helps the other technician	NLG

I. Preparation
SUBTASK 841-003-A

CAUTION: THE NLG STRUT HAS PARTS WHICH ARE LIFE LIMITED ITEMS. ALL CHANGES MUST BE RECORDED IN THE ASSOCIATED NLG STRUT COMPONENT ASSEMBLY LOG CARD.

- (1) If you must install new parts, fully clean and remove all the preservation material from them (as applicable). Use cleaner MIL-PRF-87937 type I and a soft bristle to clean the external surfaces. Use the dry compressed air to dry the surface.

J. Installation (Figure 401) (Figure 402) (Figure 403) (Figure 404)
SUBTASK 420-002-A

WARNING: DO NOT GET CORROSION INHIBIT COMPOUND IN YOUR MOUTH OR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM CORROSION INHIBIT COMPOUND. PUT ON A PROTECTIVE SPLASH GOGGLE AND GLOVES WHEN YOU USE CORROSION INHIBIT COMPOUND. CORROSION INHIBIT COMPOUND IS A TOXIC MATERIAL.

CAUTION: THE NLG STRUT HAS PARTS WHICH ARE LIFE LIMITED ITEMS. YOU MUST RECORD ALL CHANGES IN THE ASSOCIATED NLG STRUT COMPONENT ASSEMBLY LOG CARD.

- (1) (For Aircraft PRE-MOD. [SB 145-32-0101](#)) Assemble the sliding tube assembly (6), as follows (refer to (Figure 402):

CAUTION: BE CAREFUL DURING ASSEMBLE OF THE SLIDING TUBE ASSEMBLY. THE CHROME PLATING EDGE CAN BE DAMAGED.

- (a) Use the Seal Installation Tool (tool No. 9) to install the new preformed packing (11) and two new back-up rings (10) on the lower cam (12). Refer to (Figure 402), sheet 1.

NOTE: Apply a thin layer of hydraulic fluid MIL-PRF-5606 to the preformed packing.

- (b) Install the new hat seal (13) and the new scraper (14) in the lower cam (12). Refer to (Figure 402), sheet 1.

NOTE: • Make sure that the correct installation position of the hat seal and scraper. Refer to (Figure 402), DET. C, sheet 1 and sheet 2.
• Apply a thin layer of hydraulic fluid MIL-PRF-5606 to the hat seal and the scraper.

- (c) Assemble the new glydring (4) on the piston (3), if it was removed. Refer to (Figure 402), sheet 1.

- (d) Use the Seal Installation Tool (tool No. 9) to install the new seal assembly (2) on the piston (3), if it was removed. Refer to (Figure 402), sheet 1.

NOTE: Apply a thin layer of hydraulic fluid MIL-PRF-5606 to the seal assembly.

- (e) Make sure that the inner side of the sliding tube (1) is clean and use a light to examine it. Refer to (Figure 402), sheet 1.

- (f) Apply MIL-PRF-5606 hydraulic fluid to the outer side of the piston (3) and the inner side of the sliding tube (1). Refer to (Figure 402), sheet 1.

- (g) Use the Holding Fixture Tool (tool No. 14) to install the piston (3) in the sliding tube (1), if it was removed. Refer to (Figure 402), sheet 1.

- (h) Apply MIL-PRF-5606 hydraulic fluid to the outer side of the sliding tube, to the inner side of the lower cam (12) and to the outer side of the upper cam (9). Refer to (Figure 402), sheet 1.

- (i) Install the lower cam (12) on the sliding tube (1). If necessary, use the Pin Wrench Tool (tool No. 11) to turn the lower cam (12) as necessary. Refer to (Figure 402), sheet 1.

- (j) Align the four pin holes of the upper cam (9) with the four holes of the piston (5). Install the piston in the top of the sliding tube (1). Refer to (Figure 402), sheet 1.

NOTE: The longest flanges of the upper cam must stay in the same direction as the wheel axle.

CAUTION: BE CAREFUL DURING THE INSTALLATION OF THE UPPER CAM ON THE SLIDING TUBE, BECAUSE IT IS POSSIBLE TO INSTALL THE UPPER CAM ASSY 90 DEGREES OUT, CAUSING DAMAGE AND THE SLIDING TUBE ASSY TO CENTER IN THE WRONG POSITION.

- (k) Install the upper cam assy on the sliding tube.

NOTE: Make sure that the correction position of the upper cam. Refer to (Figure 404), DET. C.

- (l) Align the four pin holes of the upper cam assy (9) and install the pins (8), washers (7) and the new self-locking nuts (6). Refer to (Figure 402), sheet 1.

- (m) Tighten nuts (6) with a torque of 3.0 to 4.0 N.m (26 to 35 lb.in) ([AMM MPP 20-10-01/200](#)). Refer to (Figure 402), sheet 1.

- (2) (For Aircraft POST-MOD. [SB 145-32-0101](#)) Assemble the sliding tube assembly (1), as follows (refer to (Figure 403):

CAUTION: BE CAREFUL DURING ASSEMBLE OF THE SLIDING TUBE ASSEMBLY. THE CHROME PLATING EDGE CAN BE DAMAGED.

- (a) Use the Seal Installation Tool (Tool No. 9) to install the new preformed packing (13) and two new back-up rings (12) on the lower cam (15). Refer to (Figure 403), sheet 1.

NOTE: Apply a thin layer of hydraulic fluid MIL-PRF-5606 to the preformed packing.

- (b) Install the new hat seal (16) and the new scraper (17) in the lower cam (15). Refer to (Figure 403), sheet 1.

NOTE: • Make sure that the correct installation position of the hat seal and scraper. Refer to (Figure 403), DET. C, sheet 1 and sheet 2.
 • Apply a thin layer of hydraulic fluid MIL-PRF-5606 to the hat seal and the scraper.

- (c) Assemble the new glydring (4) on the piston (3), if it was removed. Refer to (Figure 403), sheet 1.
- (d) Use the Seal Installation Tool (Tool No. 9) to install the new seal assembly (2) on the piston (3), if it was removed. Refer to (Figure 403), sheet 1.

NOTE: Apply a thin layer of hydraulic fluid MIL-PRF-5606 to the seal assembly.

- (e) Make sure that the inner side of the sliding tube (1) is clean and use a light to examine it. Refer to (Figure 403), sheet 1.
- (f) Apply MIL-PRF-5606 hydraulic fluid to the outer side of the piston (3) and the inner side of the sliding tube (1). Refer to (Figure 403), sheet 1.
- (g) Use the Holding Fixture Tool (Tool No. 14) to install the piston (3) in the sliding tube (1), if it was removed. Refer to (Figure 403), sheet 1.
- (h) Apply MIL-PRF-5606 hydraulic fluid to the outer side of the sliding tube, to the inner side of the lower cam (15) and to the outer side of the upper cam (11). Refer to (Figure 403), sheet 1.

- (i) Install the lower cam (15) on the sliding tube (1). If necessary, use the Pin Wrench Tool (tool No.11) to turn the lower cam as necessary. Refer to (Figure 403), sheet 1.

NOTE: Make sure that the correction position of the lower cam. Refer to (Figure 404), DET. C.

- (j) Align the four pin holes of the upper cam (11) with the four holes of the piston (5). Install the piston in the top of the sliding tube (1). Refer to (Figure 403), sheet 1.

NOTE: The longest flanges of the upper cam must stay in the same direction as the wheel axle.

CAUTION: BE CAREFUL DURING THE INSTALLATION OF THE UPPER CAM ON THE SLIDING TUBE, BECAUSE IT IS POSSIBLE TO INSTALL THE UPPER CAM ASSY 90 DEGREES OUT, CAUSING DAMAGE AND THE SLIDING TUBE ASSY TO CENTER IN THE WRONG POSITION.

- (k) Install the upper cam assy on the sliding tube.

NOTE: Make sure that the correction position of the upper cam. Refer to (Figure 404), DET. C.

- (l) Align the four pin holes of the upper cam assy (11) and install the pins (10), washers (7) and the new self-locking nuts (6). Refer to (Figure 403), sheet 1.

- (m) Tighten nuts (6) with a torque of 3.0 to 4.0 N.m (26 to 35 lb.in) ([AMM MPP 20-10-01/200](#)). Refer to (Figure 403), sheet 1.

- (n) Attach the pins (14) to the lower cam (15). Refer to (Figure 403), sheet 1.

CAUTION: MAKE SURE THAT THE NOSE OF THE LOCKING TING IS NOT ABOVE THE OUTSIDE DIAMETER OF THE SLEEVE.

- (o) Install the locking ring (9) into the steel sleeve (8). Refer to (Figure 403), sheet 1.

- (p) Install the steel sleeve on the lower cam (15). Refer to (Figure 403), sheet 1.

- (3) Manually move the NLG leg to the forward position, until you can install the sliding tube assembly (6). Refer to (Figure 401).

CAUTION: BE CAREFUL DURING INSTALLATION OF SLIDING TUBE ASSEMBLY IN THE NOSE-LANDING-GEAR LEG TO NOT DAMAGE ITS PARTS.

- (4) Install the sliding tube assembly (6) in the NLG leg, align the set-screw holes with its thread (on NLG leg) and install the set-screws (12) and (14) with new lock washers (11) and (13). Refer to (Figure 401).

- (5) Apply a thin layer of sealant COR-BAN 27 L to the thread of the set-screws (12) and (14). Refer to (Figure 401).

- (6) Return the NLG leg to the vertical position.

- (7) Tighten the set-screws (12) and (14) with a torque of 10 to 12 N.m (88 to 106 lb.in). Refer to (Figure 401).

- (8) Bend down tabs on flat of the set-screws (12) and (14) bosses, bend up tabs of lock washers (11) and (13) to lock set-screws. Refer to (Figure 401).

- (9) Apply a continuous bead of sealant PR1826B2ALO along the interface of the set-screws (12) and (14) with the support (10). Refer to (Figure 401).

NOTE: You can use Sealant P/S 870B-2 or sealant AC-665 B-2 as alternatives to sealant PR1826B2ALO. But, 24 hours after the application of these alternative sealants, you must apply a layer of varnish 683-3-2/X-310A to them.

- (10) Apply a continuous bead of sealant PR1826B2ALO (9) along the interface of the support (10) with the main fitting (8) and along the interface of the main fitting (8) with the lower cam (7). Refer to (Figure 401).

NOTE: You can use Sealant P/S 870B-2 or sealant AC-665 B-2 as alternatives to sealant PR1826B2ALO. But, 24 hours after the application of these alternative sealants, you must apply a layer of varnish 683-3-2/X-310A to them.

CAUTION: DO NOT TORQUE THE ADAPTER OF THE CHARGING VALVE. THIS WILL HELP TO PREVENT DAMAGE OF THE CHARGING VALVE.

- (11) Install the preformed packing (5) to the charging valve (4). Refer to (Figure 401).

- (12) Install the charging valve (4) in the sliding tube (6). Torque body of the charging valve to between 10.0 and 12.5 N.m (88 and 110 lbf in.).

- (13) Apply PR1826B2ALO to the joint of the charging valve (4) and sliding tube (6). Refer to (Figure 401).

NOTE: You can use Sealant P/S 870B-2 or sealant AC-665 B-2 as alternatives to sealant PR1826B2ALO. But, 24 hours after the application of these alternative sealants, you must apply a layer of varnish 683-3-2/X-310A to them.

- (14) Apply Ardrox 3302 to the charging valve.

- (15) Install the lockwire in the charging valve (4) and in the lug on the sliding tube (6). Refer to (Figure 401).

K. Follow-on

SUBTASK 842-002-A

WARNING: DO NOT GET CORROSION INHIBIT COMPOUND IN YOUR MOUTH OR EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM CORROSION INHIBIT COMPOUND. PUT ON A PROTECTIVE SPLASH GOGGLE AND GLOVES WHEN YOU USE CORROSION INHIBIT COMPOUND. CORROSION INHIBIT COMPOUND IS A TOXIC MATERIAL.

- (1) Return the free-fall lever to the non-actuated position.

- (2) Connect the lower-end of the main-brace-strut. Refer to [AMM TASK 32-20-02-400-801-A/400](#), paragraph J.

- (3) Position the lower torque link (15) between the lugs of the sliding tube (6). Refer to (Figure 401).

NOTE: During the installation of the lower torque link (15), use the same washer (17) identified on the removal for position and side. This could avoid a steering misalignment.

- (4) Align the bolt hole of the pin (16) and install the pin and the washer (17) identified on the removal. Refer to (Figure 401).

- (5) Measure the axial play between the outboard side (right side lug) of one sliding tube (6) and the lower torque link (15). Refer to (Figure 401).

NOTE: The maximum axial play is equal to or less than 0.05 mm (0.002 in). If the axial play is found out of the range after assembly, replace the washer (17) with a new machined washer to get axial play as specified.

- (6) Apply a thin layer of sealant COR-BAN 27 L to the bolt thread (18). Refer to (Figure 401).

- (7) Install the bolt (18), washer (3) and nut (2). Tighten nut with a torque of 3.0 to 4.0 N.m (26 to 35 lb.in), and install the cotter pin (1). Refer to (Figure 401).

- (8) Apply sealant PR1826B2ALO to the bolt head (18) and nut (2). Refer to (Figure 401)

NOTE: Sealant P/S 870B-2 or sealant AC-665 B-2 can be used as alternatives to sealant PR1826B2ALO. But, 24 hours after the application of these alternative sealants, a layer of varnish 683-3-2/X-310A must be applied to them.

- (9) Do the check as follows:

- (a) Manually retract and extend the sliding tube and make sure that the sliding tube slides freely along the whole travel.

NOTE: The charge/fill valves must be open.

- (b) Connect a hose to the filling valve (upper side of the shock absorber) and with the sliding tube totally retracted, fill the nose landing gear shock absorber with oil MIL-PRF-5606 until the sliding tube is fully extended and the separator piston is at its end stop.

NOTE: The hydraulic pressure must not be more than 1.5 MPa (225 psi).

- (c) Fully retract the sliding tube and collect the oil.

- (d) Do step (b) and (c) again two times to bleed all the air from the shock absorber.

- (e) Keep in retract position and close the filling valve (upper side of the shock absorber).

- (f) Pressurize the sliding tube with Nitrogen through the sliding tube charging valve (lower side of the shock absorber) to fully extend the shock absorber.

- (g) Close the sliding tube charging valve when the pressure is between 855 and 915 kPa (124.5 and 132.5 psi).

- (h) After ten minutes, check the pressure and correct it, if necessary.

- (i) Look for leakage or mechanical damage. None is permitted.

CAUTION: DO NOT EXTEND OR RETRACT THE NLG SHOCK ABSORBER TOTALLY. THIS ACTION CAN DAMAGE TO THE INTERNAL PARTS OF THE NLG SHOCK ABSORBER.

- (j) Use GSE 003 and do the retraction and extension of the sliding tube for 292 - 307 mm (11.5 - 12.1 in). Then look for leakage or mechanical damage again. None is permitted.

- (k) Open the charging valve at the sliding tube to release the Nitrogen pressure.

- (10) Lubricate the NLG ([AMM TASK 32-34-00-600-801-A/300](#)).

- (11) Install the nose wheel assembly ([AMM TASK 32-49-05-400-801-A/400](#)).

- (12) Measure the dimension (A) between the main-fitting lower flange and the axle upper-casting flat. The dimension (A) should be 360 ± 3.0 mm. Refer to (Figure 401), VIEW C.

NOTE: If the cam is incorrectly installed, the dimension (A) will be 24,0 mm shorter.

- (13) Remove jack GSE 003.

- (14) Lower the aircraft and remove the jacks (AMM TASK 07-10-00-500-802-A/200).

- (15) Do the servicing of the NLG Shock Absorber ([AMM TASK 32-20-01-600-801-A/300](#)).



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- (16) Do the operational check of the nose wheel steering system (AMM TASK 32-50-00-700-803-A/500).
- (17) Remove the safety pins of the main landing gear (AMM TASK 32-00-01-910-801-A/200).
- (18) For aircraft POST-MOD. SB 145-32-0036, remove the safety pin of the NLG doors solenoid valve (AMM TASK 32-00-02-910-801-A/200).
- (19) On the circuit breaker panel, close the ELEC PUMP 1, CMD, IND 1, and IND 2 circuit breaker and remove the DO-NOT-CLOSE tag from them.

