

LANDING GEAR - SERVICING

EFFECTIVITY: ALL

1. General

- A. This section gives the general instructions to lubricate the main landing gear (MLG), nose landing gear (NLG), and steering motor.
- B. 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 |
|----------------------|---------------------------|-------------|
| 32-34-00-600-801-A ◆ | MLG AND NLG - LUBRICATION | ALL |

TASK 32-34-00-600-801-A

EFFECTIVITY: ALL

2. MLG AND NLG - LUBRICATION

A. General

- (1) For a good lubrication, the items must be in a clean condition. Before you apply the grease, clean all joints, connections, and bearing surfaces until there is no dust or used grease.
- (2) Dust and sand mixed with grease cause a grinding mixture which can cause damage to the moving parts.
- (3) Before the lubrication, it is necessary to remove all grease or dust deposits with a cloth moist with an approved cleaning solvent.
- (4) If you need to change the grease specification to be used in the MLG and NLG joints, connections and bearing, you must remove all old grease before you use the new one or you must decrease in 50% the time interval given in the Scheduled Maintenance Requirements Document (SRMD), this is not applicable for Steering Motor.
- (5) If you need to change the grease specification to lubricate the Steering Motor, you must remove the Nose Landing Gear (AMM 32-20-01-4) and refer to the LIEBHERR Component Maintenance Manual (CMM) 32-21-12, Page Block 401 - CLEANING, to remove all old grease from the steering motor mechanism before you use the new one.

B. References

| REFERENCE | DESIGNATION |
|---------------------------------|---|
| AMM MPP 06-44-00/100 | - COMPONENT LOCATION |
| AMM SDS 23-40-00/1 | |
| AMM TASK 07-10-00-500-801-A/200 | - |
| AMM TASK 07-10-00-500-802-A/200 | - |
| AMM TASK 20-40-01-860-801-A/200 | ENERGIZATION OF THE AIRCRAFT WITH AN EXTERNAL POWER SOURCE |
| AMM TASK 29-10-00-860-801-A/200 | HYDRAULIC SYSTEM - PRESSURIZATION WITH HTS |
| 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 32-49-05-000-801-A/400 | WHEEL ASSEMBLY OF THE NOSE LANDING GEAR - REMOVAL |
| AMM TASK 32-49-05-400-801-A/400 | WHEEL ASSEMBLY OF THE NOSE LANDING GEAR - INSTALLATION |
| SB145-32-0036 | - |

C. Zones and Accesses

| ZONE | PANEL/DOOR | LOCATION |
|------|------------|----------|
| 711 | - | NLG |

(Continued)

| ZONE | PANEL/DOOR | LOCATION |
|------|------------|------------|
| 721 | - | MLG - RH |
| 731 | - | MLG - LH |
| 500 | 532CB | Left Wing |
| 600 | 632CB | Right Wing |

D. Tools and Equipment

| ITEM | DESCRIPTION | PURPOSE | QTY |
|-------------------------|--|---|-----|
| Commercially Available | Hand-Pump Grease Gun | To lubricate the landing gears | |
| Commercially Available | PN 314150 — Coupling, grease gun, shafer type nozzle - Thread 1/8" NPTF(f) or similar (which comply with standard MS24203-1) | To apply grease with the hand-pump grease gun | |
| GSE 008 | Tow bar | To turn the steering cuff | |

E. Auxiliary Items

Not Applicable

F. Consumable Materials

| SPECIFICATION (BRAND) | DESCRIPTION | QTY |
|--------------------------|---|-----|
| MIL-PRF-81322 | Aeroshell Grease 22 | AR |
| MIL-PRF-23827 | Aeroshell Grease 7 | AR |
| MIL-PRF-23827 | Aeroshell Grease 33 (alternative to Aeroshell 22 and Aeroshell 7) | AR |
| MIL-PRF-23827 | Thermoplex TTF 122 (alternative to Aeroshell 7) | AR |

G. Expandable Parts

Not Applicable

H. Persons Recommended

| QTY | FUNCTION | PLACE |
|-----|---------------|---|
| 1 | Does the task | NLG, LH MLG, RH MLG, and Steering Motor |

I. Preparation

SUBTASK 841-002-A

- (1) For aircraft PRE-MOD [SB145-32-0036](#), make sure that the pressure in hydraulic system No. 1 is fully released ([AMM TASK 29-10-00-860-802-A/200](#)).
- (2) For aircraft POST-MOD [SB145-32-0036](#), install the safety pin of the NLG-door solenoid valve ([AMM TASK 32-00-02-910-801-A/200](#)).

- (3) Make sure that the landing-gear safety pins are installed ([AMM TASK 32-00-01-910-801-A/200](#)).
- (4) Open access panels 532CB (on the left wing) and 632CB (on the right wing). Refer to [AMM MPP 06-44-00/100](#).

J. Lubrication of Landing Gear (MLG & NLG) and Steering Motor ([Figure 301](#)) ([Figure 302](#)) ([Figure 303](#))

SUBTASK 640-002-A

CAUTION: • FOR MLG AND NLG JOINTS, CONNECTIONS AND BEARING, WHEN YOU NEED TO CHANGE THE GREASE FROM AEROSHELL 22 TO AEROSHELL 33 OR VICE VERSA, YOU MUST REMOVE ALL OLD GREASE BEFORE YOU USE THE NEW ONE. IF YOU DO NOT REMOVE ALL OLD GREASE YOU MUST DECREASE IN 50% THE TIME INTERVAL GIVEN IN THE SCHEDULED MAINTENANCE REQUIREMENTS DOCUMENT (SMRD). THAT ALWAYS APPLIES TO THE FIRST LUBRICATION AFTER THE CHANGE OF GREASE.

- AEROSHELL GREASE 22 MUST NOT BE MIXED WITH AEROSHELL GREASE 33. IF YOU DO NOT OBEY THIS PRECAUTION, THE QUALITY OF THE LUBRICATION WILL DECREASE AND DAMAGE TO THE COMPONENTS CAN OCCUR.
- BE CAREFUL WHEN YOU CONNECT THE HAND-PUMP GREASE GUN TO THE LUBRICATION FITTINGS. ALSO BE CAREFUL WHEN YOU DISCONNECT THE HAND-PUMP GREASE GUN FROM THE LUBRICATION FITTINGS. IF YOU ARE NOT CAREFUL, THE HAND-PUMP GREASE GUN CAN CAUSE DAMAGE TO THE LUBRICATION FITTINGS.

- (1) Lubricate, with Aeroshell Grease 22, the MLG with a hand-pump grease gun at points 1 to 12 shown in [Figure 301](#). Also lubricate the NLG, with a hand-pump grease gun, at points 1 to 14 shown in [Figure 302](#). For this, do the steps that follow.

NOTE: You can use alternative grease Aeroshell 33.

- (2) If you use the same grease on the aircraft, operate the hand-pump grease gun until clean grease flows from the other side of the bearing.
- (3) If you change the grease from Aeroshell 22 to Aeroshell 33 or vice versa, you must do step 4 for lubrication points 6, 7, 8, and 12 of the MLG and for lubrication points 9, 12, 13 and 14 of the NLG. For the remaining points, operate the hand-pump grease gun until clean grease flows from the other side of the bearing.
- (4) To change the grease from Aeroshell 22 to Aeroshell 33 or vice versa for lubrication points 6, 7, 8, and 12 of the MLG and for points 9, 12, 13, and 14 of the NLG, do as follows:
 1. Lift the aircraft on jacks. Refer to [AMM TASK 07-10-00-500-801-A/200](#).
 2. Operate the hand-pump grease gun at the points above until all the old grease comes out of the other side of the bearing and you can see the new grease. This can be seen by the different color of the new grease.

3. Remove the landing-gear safety pins ([AMM TASK 32-00-01-910-801-A/200](#)).
 4. Energize the aircraft with an external DC-power supply ([AMM TASK 20-40-01-860-801-A/200](#)).
 5. Connect the ramp interphone ([AMM SDS 23-40-00/1](#)).
 6. Pressurize hydraulic system 1 only ([AMM TASK 29-10-00-860-801-A/200](#)) until the hydraulic accumulator is charged. Charge for 2.5 minutes (minimum).
 7. On the Circuit Breaker panel, make sure that the IND 1, IND 2, CMD, DOOR CMD, DOWN OVRD, and AIR/GND A, B, C, and D circuit breakers are closed.
 8. Make sure that there are no persons and equipment in the landing gear area and extend and retract the landing gear three times.
 9. Make sure that the landing gears are down and release the pressure from hydraulic system 1 ([AMM TASK 29-10-00-860-801-A/200](#)).
 10. De-energize the aircraft ([AMM TASK 20-40-01-860-801-A/200](#)).
 11. Install the landing-gear safety pins ([AMM TASK 32-00-01-910-801-A/200](#)).
 12. Do steps 4.2 to 4.11 two more times.
 13. Lower the aircraft and remove the jacks ([AMM TASK 07-10-00-500-802-A/200](#)).
- (5) Record in the applicable document which the grease that you used was.

CAUTION: • FOR STEERING MOTOR, WHEN YOU NEED TO CHANGE THE GREASE FROM AEROSHELL 7 TO AEROSHELL 33 OR VICE VERSA, YOU MUST REMOVE THE NOSE LANDING GEAR ([AMM 32-20-01-4](#)) AND REFER TO THE LIEBHERR COMPONENT MAINTENANCE MANUAL (CMM) 32-21-12, PAGE BLOCK 401 - CLEANING, TO REMOVE ALL OLD GREASE FROM THE STEERING MOTOR MECHANISM BEFORE YOU USE THE NEW ONE.

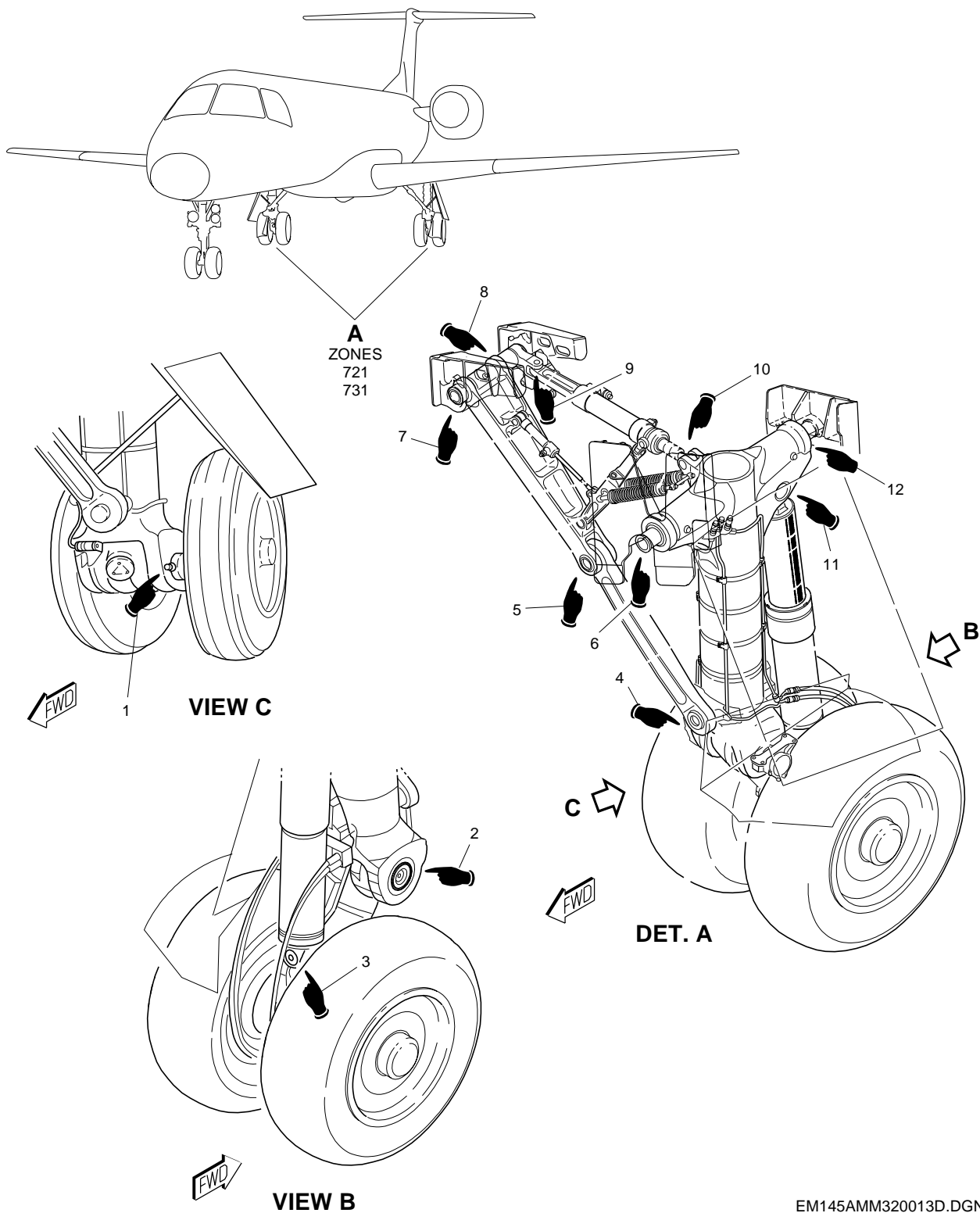
- AEROSHELL 7 MUST NOT BE MIXED WITH AEROSHELL GREASE 33. IF YOU DO NOT OBEY THIS PRECAUTION, THE QUALITY OF THE LUBRICATION WILL DECREASE AND DAMAGE TO THE COMPONENTS CAN OCCUR.
 - DO NOT PUT MORE THAN THE SPECIFIED QUANTITY OF GREASE IN THE STEERING MOTOR. TOO MUCH GREASE CAN CAUSE DAMAGE TO THE FEEDBACK POTENTIOMETER UNIT.
- (6) If you use the same grease on the aircraft, lubricate the steering motor with a hand-pump grease gun at the points shown in Figure 303. Do the steps that follow.
- (a) Set the steering to the zero-degree position.
 - (b) Lubricate the steering rack (1) and the fitting (2) with grease Aeroshell 7 or alternative as necessary. Apply approximately 4.5g (three strokes) in each point until you feel a resistance.
 - (c) Remove the left wheel assembly of the NLG ([AMM TASK 32-49-05-000-801-A/400](#)).

- (d) Lubricate the fitting (3) with grease Aeroshell 7 or alternative as necessary. Apply approximately 15g (10 strokes) in this point until you feel a resistance.
 - (e) Lubricate the steering cuff (4) with grease Aeroshell 7 or alternative as necessary. Apply approximately 15g (10 strokes) in this point until the grease comes out on the opposite side of the bolt.
 - 1 If the grease does not come out on the opposite side of the bolt, check if the bleed hole on the opposite side of the bolt is blocked or damaged.
 - (f) Install the left wheel assembly of the NLG ([AMM TASK 32-49-05-400-801-A/400](#))
 - (g) Manually or with GSE 008, turn the NLG wheels to the 90-degree (left and right) position and do steps (a) through (e) again, but now apply only two strokes in each point.
- (7) If you need to change the grease from Aeroshell 7 to Aeroshell 33 or vice versa to lubricate the steering motor, you must remove the Nose Landing Gear (AMM 32-20-01-4) and refer to the LIEBHERR Component Maintenance Manual (CMM) 32-21-12, Page Block 401 - CLEANING, to remove all old grease from the steering motor mechanism before you use the new one.
- (8) Use a clean lint-free cloth to remove all the unwanted grease.
- (9) Record in the applicable document which the grease that you used was.
- K. Follow-on
- SUBTASK 842-002-A**
- (1) Move the NLG wheels back to the neutral position.
 - (2) Close access panels 532CB (on the left wing) and 632CB (on the right wing). Refer to [AMM MPP 06-44-00/100](#).
 - (3) On aircraft POST-MOD [SB145-32-0036](#), remove the safety pin of the NLG-door solenoid valve ([AMM TASK 32-00-02-910-801-A/200](#)).

EFFECTIVITY: ALL

MLG - Lubrication

Figure 301

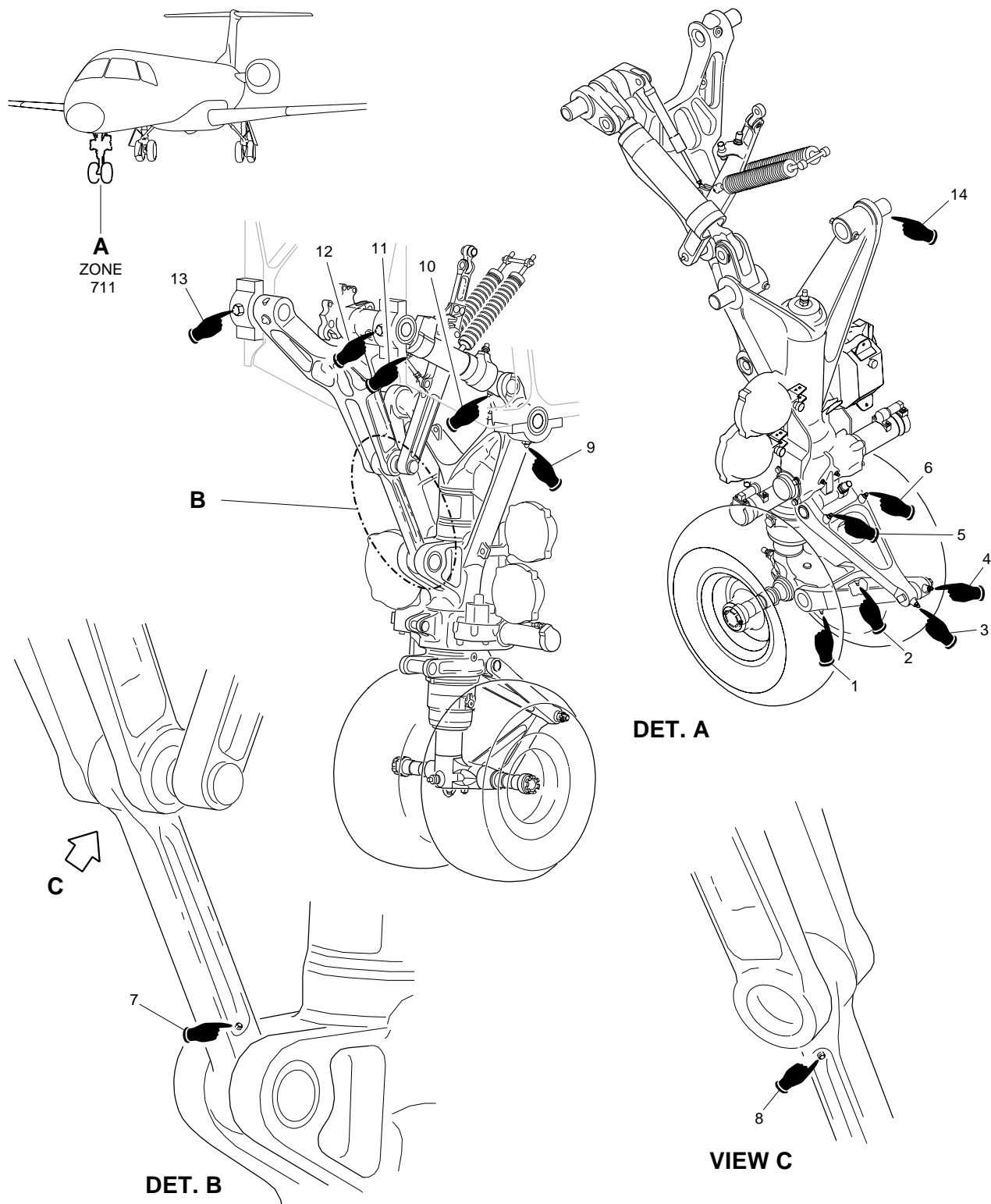


EM145AMM320013D.DGN

EFFECTIVITY: ALL

NLG - Lubrication

Figure 302

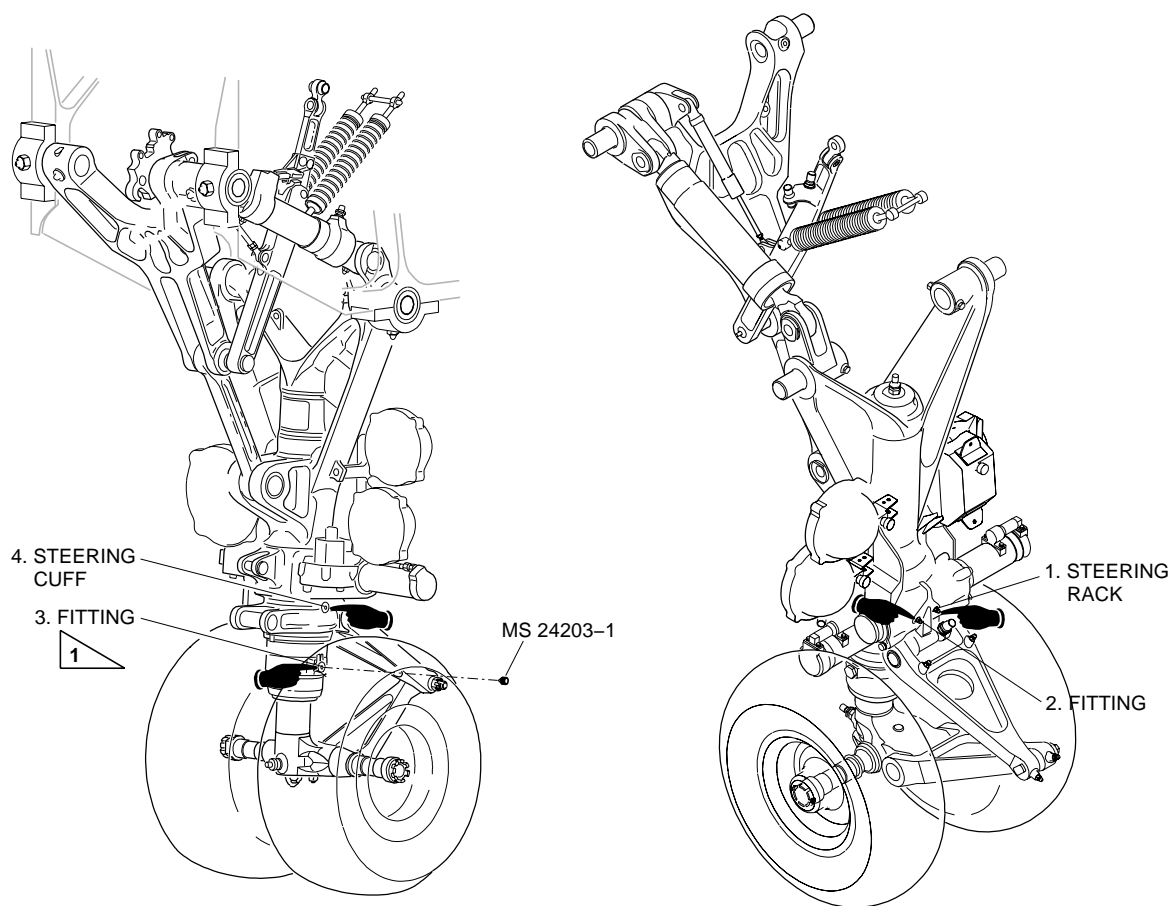
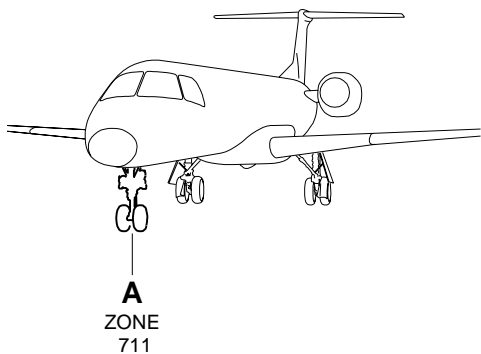


EM145AMM320074H.DGN

EFFECTIVITY: ALL

Steering Motor - Lubrication

Figure 303



DET. A



LUBRICATE THIS POINT WITH GREASE GUN AND NOZZLE MS24203-1.

EM145AMM320454B.DGN

