

CHAPTER

07

**LIFTING AND
SHORING**



**737-7/8/8200/9/10
AIRCRAFT MAINTENANCE MANUAL**

**CHAPTER 07
LIFTING AND SHORING**

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JACK AIRPLANE - MAINTENANCE PRACTICES

1. General

- A. This procedure has these tasks:
- (1) Lift the Airplane on Jacks
 - (2) Lower the Airplane off Jacks.
- B. When lifting the airplane with the three primary jack points (raising the complete aircraft), you can jack the airplane in winds up to 35 knots (40 mph).

TASK 07-10-01-580-801

2. Lift the Airplane on Jacks

(Figure 201)

A. General

- (1) There are three primary jack points on the airplane used to lower and lift the airplane.
 - (a) The three primary jack points have jack fittings, which are part of the airplane body and identified as jack points A, B, and C (Figure 201).
- (2) The four auxiliary jacks are used to keep the airplane stable.
 - (a) The four auxiliary jack points are the forward body (jack point D), the nose gear axle (jack point E), and two main gear axles (jack point F).
 - (b) The jack fitting must be installed at the forward body jack point D before you can use this jack point.
- (3) You can lift the airplane on jacks at different gross weights:
 - (a) Make sure that the load on each jack point is in the limits permitted.
 - (b) The sum of each jack point load must not be more than the permitted maximum jack weight.
 - (c) The airplane gross weight and Center of Gravity (CG) must be in the permitted limits.
 - (d) When the airplane is fully lifted by the three primary and stabilizing jacks, the maximum jack weight must be in limits.
- (4) It is important that the parking brake be released and wheel chocks be removed from the main gear tires when jacking from primary jack points since the main gear wheels will tend to move forward or aft as the airplane is raised or lowered.

B. References

Reference	Title
08-20-03-580-801	Level the Airplane With a Attitude Gage (P/B 201)
10-11-05-500-801	Chock Installation Winds/Gusts Maximum 40 mph (35 Knots) (P/B 201)
12-15-31-610-802	Main Landing Gear Shock Strut Servicing, Airplane on the Ground (P/B 301)
12-15-41-610-802	Nose Landing Gear Shock Strut Servicing, Airplane on the Ground (P/B 301)
20-40-11-910-801	Static Grounding (P/B 201)
32-00-01-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-09-00-840-801	Prepare to Put the Airplane in the Air Mode (P/B 201)
32-09-00-860-801	Put the Airplane in the Air Mode (P/B 201)

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Reference	Title
32-32-00-710-802	Main Landing Gear - Operational Test (P/B 501)
32-33-00-710-802	Nose Landing Gear Operational Test (P/B 501)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1484	Jack - Axle, Nose Gear Part #: 0152.00 Supplier: 1777B Part #: 02-7813C0100 Supplier: 59603 Part #: 5004-55 Supplier: 00994 Part #: 5007-56 Supplier: 00994 Part #: 53D22004 Supplier: 00994 Part #: 642S Supplier: 94861 Part #: 8842 Supplier: 94861 Part #: J-AXLE12HPA Supplier: CD856 Part #: RC4509 Supplier: D2029 Part #: RH1606 Supplier: D2029 Opt Part #: 1008-50 Supplier: 00994 Opt Part #: 5923-010 Supplier: 00994 Opt Part #: RH1029 Supplier: D2029
COM-1505	Chocks - Wheel Part #: 19CAL455 - Type 1 Supplier: \$1329 Part #: 99-9028-6000 Supplier: 59603 Part #: AC6820-LR Supplier: 032T9 Part #: ALPHACHOCKS MID Supplier: 6X2T Part #: W86 Supplier: 3XZM7 Part #: W88 Supplier: 3XZM7 Opt Part #: W92 Supplier: 9L752
COM-5928	Jack - Axle, Main Gear Part #: 50P9AR Supplier: 94861 Part #: 65P10 Supplier: 94861 Part #: 65P10AR Supplier: 94861 Part #: 8842 Supplier: 94861 Part #: 8919 Supplier: 94861 Part #: RC4509 Supplier: D2029
COM-8950	Jack - Tripod, Main Body/Wing Part #: 02A7895C0100 Supplier: 59603 Part #: 0916.00 Supplier: 1777B Part #: 1286.00 Supplier: 1777B Part #: 1288.00 Supplier: 1777B Part #: 1484.00 Supplier: 1777B Part #: 1496.00 Supplier: 1777B Part #: 50-60-44 Supplier: 00994 Part #: 759A Supplier: 94861 Part #: 8826 Supplier: 94861 Part #: FEN352 Supplier: D2029 Part #: FENT354 Supplier: D2029 Part #: TJSL0E03503 Supplier: D2029 Part #: TJSL1E03501 Supplier: D2029

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Reference	Description
COM-11238	Jack - Tripod, Forward Body Part #: 02A7896C0100 Supplier: 59603 Part #: 0916.00 Supplier: 1777B Part #: 1284.00 Supplier: 1777B Part #: 1287.00 Supplier: 1777B Part #: 1289.00 Supplier: 1777B Part #: 1481.00 Supplier: 1777B Part #: 1481.90 Supplier: 1777B Part #: 1484.00 Supplier: 1777B Part #: 1488.00 Supplier: 1777B Part #: 1496.00 Supplier: 1777B Part #: 15-54-40 Supplier: 00994 Part #: 714A Supplier: 94861 Part #: 718B Supplier: 94861 Part #: 8901 Supplier: 94861 Part #: FEN122 Supplier: D2029 Part #: FENT101 Supplier: D2029 Part #: TJ2S03001 Supplier: D2029 Opt Part #: 718A Supplier: 94861 Opt Part #: D01051 Supplier: D2029
COM-11239	Jack - Tripod, Aft Body Part #: 0916.00 Supplier: 1777B Part #: 0917.00 Supplier: 1777B Part #: 1275-1100 Supplier: 00994 Part #: 1284.00 Supplier: 1777B Part #: 1286.00 Supplier: 1777B Part #: 1289.00 Supplier: 1777B Part #: 1481.00 Supplier: 1777B Part #: 1481.90 Supplier: 1777B Part #: 1484.00 Supplier: 1777B Part #: 1488.00 Supplier: 1777B Part #: 1496.00 Supplier: 1777B Part #: 15-100-40 Supplier: 00994 Part #: 714ALEGEXT Supplier: 94861 Part #: 8882 Supplier: 94861 Part #: FEN121 Supplier: D2029 Part #: FEN15 Supplier: D2029 Part #: TJSL0E01003 Supplier: D2029 Part #: TJSL1E01001 Supplier: D2029 Opt Part #: 795D1100 Supplier: 00994
SPL-1494	Adapter - Jack, Wing Part #: C07002-1 Supplier: 81205
SPL-1495	Adapters - Jack, Aft Body Part #: C07004-1 Supplier: 81205
SPL-1496	Adapter - Jack, Forward Body Part #: C07007-19 Supplier: 81205
SPL-1497	Gauge - Attitude, Airplane Part #: 21465A82 Supplier: 3A054 Part #: KS5549 Supplier: 75245 Part #: KS6005 Supplier: 75245 Opt Part #: F70043 Supplier: 81205

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Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1871	Strap - Retention, NLG/MLG Inner Cylinder Part #: C32030 -31 Supplier: 81205 Opt Part #: C32030-10 Supplier: 81205
STD-567	Level - Bubble

D. Location Zones

Zone	Area
100	Lower Half of Fuselage
110	Subzone - Body Station 130 to Station 396
115	Nose Landing Gear Wheel Well - Left
146	Aft Cargo Compartment Equipment Bay - Right
192	Lower Wing-To-Body Fairing - Under Wing Box

E. Precautions for the Tail Stand

SUBTASK 07-10-01-840-004

- (1) Obey the tail stand precautions that follow:



CAUTION

DO NOT TOW THE AIRPLANE WHILE THE TAIL STAND IS INSTALLED. WHEN YOU TOW THE AIRPLANE WHILE THE TAIL STAND IS INSTALLED, IT CAN CAUSE DAMAGE TO EQUIPMENT.

- (a) Do not tow the airplane while the tail stand is installed.



CAUTION

DO NOT DEFLATE OR SERVICE THE SHOCK STRUTS WHILE THE TAIL STAND IS INSTALLED. IF YOU DEFLATE OR SERVICE THE SHOCK STRUTS, THE LOAD ON THE TAIL STAND CAN BE TOO LARGE. THIS CAN CAUSE DAMAGE TO EQUIPMENT.

- (b) Do not deflate or service the shock struts while the tail stand is installed.



CAUTION

DO NOT JACK THE AIRPLANE AT THE MAIN JACK POINTS OR AXLES WHILE THE TAIL STAND IS INSTALLED. IF YOU JACK THE AIRPLANE, THE LOAD ON THE TAIL STAND CAN BE TOO HIGH WHICH CAN CAUSE DAMAGE TO EQUIPMENT.

- (c) Do not jack the airplane at the main jack points or axles while the tail stand is installed.

F. Prepare to Lift the Airplane on Jacks

SUBTASK 07-10-01-840-001



CAUTION

DO NOT LIFT THE AIRPLANE ON JACKS IN WINDS MORE THAN 30 KNOTS. IF YOU DO NOT OBEY THESE INSTRUCTIONS, DAMAGE TO THE AIRPLANE CAN OCCUR.

- (1) Park the airplane on level ground.
- (a) Make sure that the tail fin does not hit the hangar ceiling when the airplane in hangar.
- (b) Make sure that the airplane nose is pointed in the wind direction when not in a hangar.

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SUBTASK 07-10-01-840-002

- (2) Put the nose landing gear tires near the center position.

SUBTASK 07-10-01-480-001



WARNING

MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

- (3) Install the landing gear downlock pins and NLG towing lever pin, SPL-1499.
(a) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-01-480-801.

SUBTASK 07-10-01-860-001

- (4) If electrical power is supplied to the airplane when lifted on jacks, do these steps:



WARNING

IN THE AIR MODE MANY OF THE AIRPLANE SYSTEMS CAN OPERATE AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (a) Put the airplane in the air mode when lifted on jacks.
1) Do this task: Prepare to Put the Airplane in the Air Mode, TASK 32-09-00-840-801.
2) Do this task: Put the Airplane in the Air Mode, TASK 32-09-00-860-801.

SUBTASK 07-10-01-580-002



CAUTION

DO NOT CHANGE THE CENTER OF GRAVITY WHEN THE AIRPLANE IS ON THE JACKS. DO NOT PUT FUEL INTO THE FUEL TANKS, OR MOVE FUEL BETWEEN FUEL TANKS. DO NOT MOVE PERSONNEL AND EQUIPMENT IN OR NEAR THE AFT END OF THE FUSELAGE. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE AIRPLANE CAN OCCUR.

- (5) Make sure that the airplane gross weight and CG are in limits (Figure 202).

NOTE: While working on the aircraft (when it is on jacks), the number and movement of personnel must be closely monitored to make sure that the CG of the aircraft is maintained within limits.

SUBTASK 07-10-01-580-003

- (6) Obey the maximum jack loads for all of the jack points.

NOTE: See Table 201 and applicable tire data shown in Table 202.

Table 201/07-10-01-993-801 Jack Points Data

JACK POINTS AND LOCATION		BALANCE ARM ^{*[1]}	BUTTOCK LINE	HEIGHT ABOVE GROUND - INCHES (mm)		MAXIMUM LOAD - POUNDS (KG)	JACK ADAPTER
				MIN ^{*[2]}	MAX ^{*[3]}		
A ^{*[6]}	RIGHT WING	562.34	±94.73R	65.4 in. (1661.2 mm)	100.4 in. (2550.2 mm)	65,839 lb (29,864 kg)	C07002
B	LEFT WING	562.34	±94.73R	65.4 in. (1661.2 mm)	100.4 in. (2550.2 mm)	65,839 lb (29,864 kg)	C07002
C	AFT BODY	1366.91	10.95R	105.5 in. (2679.7 mm)	105.5 in. (2679.7 mm)	21,677 lb (9833 kg)	C07004

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Table 201/07-10-01-993-801 Jack Points Data (Continued)

JACK POINTS AND LOCATION		BALANCE ARM ^{*[1]}	BUTTOCK LINE	HEIGHT ABOVE GROUND - INCHES (mm)		MAXIMUM LOAD - POUNDS (KG)	JACK ADAPTER
				MIN ^{*[2]}	MAX ^{*[3]}		
D	FORWARD BODY	-5.44	-47.20L	57.6 in. (1463.0 mm)	96.0 in. (2438.4 mm)	16,464 lb (7468 kg)	C07007
E	NOSE GEAR AXLE ^{*[4]}	-9.00	0	SEE Table 202		17,353 lb (7871 kg)	NONE
F	MAIN GEAR AXLE ^{*[5]}	705.48	111.62			85,207 lb (38,649 kg)	NONE

*[1] Balance arms are for gears in the fully-compressed position. Nose gear oleo extension is vertical and does not affect the balance arm of the nose gear jack point or wheels. Balance arms for the main gear jack point and wheels will vary with different oleo extensions.

*[2] The shock struts are deflated, wheels on rim.

*[3] The airplane is on jacks with a 4 in. (102 mm) clearance below the main gear.

*[4] Nose gear jack pad is 2.2 in. (55.9 mm) below axle center line.

*[5] Main gear jack pad is 5.4 in. (137.2 mm) below axle center line.

*[6] The sum of the jack loads at points A through D must be less than 150,840 lb (68,420 kg), or the maximum allowable jack weight (whichever is less). Refer to Figure 202 for the maximum allowable jack weight.

Table 202/07-10-01-993-802 Landing Gear Tire Data

LANDING GEAR	TIRE SIZE	CONDITION	DISTANCE FROM GROUND TO BOTTOM OF JACK PAD - INCHES (mm)	CLEARANCE BETWEEN TIRES - INCHES (mm)
MAIN GEAR	H44.5 X 16.5 - 21 (28 PLY)	NORMAL	12.91 in. (327.91 mm)	15.82 in. (401.83 mm)
		FLAT	8.5 in. (215.9 mm)	14.6 in. (370.8 mm)
		ON RIM	6.8 in. (172.7 mm)	18.3 in. (464.8 mm)
		TIRE CHANGE	18.95 in. (481.33 mm) ^{*[1]}	--
NOSE GEAR	27 X 7.75 - 15 (12 PLY)	NORMAL	8.97 in. (227.84 mm)	7.2 in. (182.9 mm)
		FLAT	6.75 in. (171.45 mm)	6.5 in. (165.1 mm)
		ON RIM	6.25 in. (158.75 mm)	8.2 in. (208.3 mm)
		TIRE CHANGE	13.25 in. (336.55 mm) ^{*[1]}	--

*[1] If there is a 2 in. (51 mm) tire clearance.

SUBTASK 07-10-01-580-037

(7) Set the stabilizer trim control to neutral (4 units).

SUBTASK 07-10-01-580-004

(8) Set the aileron and rudder trim controls to 0 degrees.

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SUBTASK 07-10-01-580-005

- (9) Stow the trailing edge flaps and leading edge devices with flaps up.

NOTE: If winds are 40 mph (35 knots), the trailing and leading edge devices must be stowed with flaps up.

SUBTASK 07-10-01-580-006



DO NOT DEFLATE THE SHOCK STRUT IF YOU DO A RETRACTION TEST OF THE LANDING GEAR. THE SHOCK STRUT MUST BE FILLED CORRECTLY AND NOT INFLATED ABOVE THE CORRECT PRESSURE. DAMAGE TO THE WHEEL WELL AND SHOCK STRUT WILL OCCUR.



IF YOU WILL RETRACT THE NOSE LANDING GEAR, DO NOT INSTALL THE RETENTION STRAPS. DURING A RETRACTION, THE RETENTION STRAPS WILL CAUSE DAMAGE TO EQUIPMENT.

- (10) If you lift the airplane for a gear retraction test, do these steps:
- (a) Ground the airplane in two locations to the jack fittings during the retraction tests of the landing gear.
 - 1) Do this task: Static Grounding, TASK 20-40-11-910-801.
 - 2) If the jack pad does not have a grounding pin, attach the grounding strap to any bare metallic part of the jack.

NOTE: This lets electrical current go through the jack to the ground.
 - (b) Make sure that the shock struts of the main landing gear pressure is correct during the retraction tests.
 - 1) Refer to task: Main Landing Gear Shock Strut Servicing, Airplane on the Ground, TASK 12-15-31-610-802.
 - (c) Make sure that the shock strut of the nose landing gear pressure is correct during the retraction tests.
 - 1) Refer to task: Nose Landing Gear Shock Strut Servicing, Airplane on the Ground, TASK 12-15-41-610-802.
 - (d) Do the main landing gear retraction test.
 - 1) Do this task: Main Landing Gear - Operational Test, TASK 32-32-00-710-802.
 - (e) Do the nose landing gear retraction test.
 - 1) Do this task: Nose Landing Gear Operational Test, TASK 32-33-00-710-802.

SUBTASK 07-10-01-580-007

- (11) Set the ATC mode switch to STBY on the ATC control panel.

SUBTASK 07-10-01-580-008

- (12) If the main or nose gear struts require to be gagged in the deflated condition for maintenance or removal, do the steps that follow:

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CAUTION

DO NOT DEFLATE THE SHOCK STRUT IF YOU DO A RETRACTION TEST OF THE LANDING GEAR. THE SHOCK STRUT MUST BE FILLED CORRECTLY AND NOT INFLATED ABOVE THE CORRECT PRESSURE. DAMAGE TO THE WHEEL WELL AND SHOCK STRUT WILL OCCUR.

- (a) Deflate the shock struts and install retention straps to weigh, level, or for general maintenance of the airplane.

NOTE: Do not do a gear retraction test.

- 1) Deflate the main and nose gear shock strut as follows:
- a) Remove the air valve cap.



WARNING

DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.



WARNING

MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA BELOW THE WING BEFORE YOU DEFLATE THE SHOCK STRUT. WHEN YOU DEFLATE ONE SHOCK STRUT, THE WINGTIP CAN MOVE DOWN. THIS CAN CAUSE INJURIES TO PERSONNEL OR DAMAGE TO EQUIPMENT.

- b) Loosen the swivel nut a maximum of two turns.
- c) Put a flexible hose in the air valve.

NOTE: Fluid in the shock strut will have bubbles when you release pressure.

<1> Put the other end of the hose in a container to catch the hydraulic fluid that comes out.

- d) Let the shock strut deflate fully.

NOTE: For the main gear shock strut, the dimension from the lower surface of the outer cylinder to the upper surface of the axle clevis on the inner cylinder is 0.9 in. (2.3 cm).

For the nose gear shock strut, the dimension from the lower surface of the lower steering plate to the upper surface of tow fitting lug is 13.8 in. (35.1 cm).

This shows that the shock strut is fully deflated.

<1> Deflate the shock strut slowly.

NOTE: This prevents leakage of the fluid through the air valve.

- e) Loosen the swivel nut fully when all the pressure in the shock strut is released.



WARNING

DO AN INSPECTION OF THE STRAP FOR CORRECT INSTALLATION AND DAMAGE BEFORE YOU USE IT. INCORRECT INSTALLATION OR DAMAGE CAN CAUSE THE STRAP TO BREAK. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.



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(WARNING PRECEDES)



CAUTION

MAKE SURE THAT THE STRAP DOES NOT TOUCH OR HIT THE HYDRAULIC LINES AND ELECTRICAL CONDUITS. IF THERE IS INTERFERENCE, DAMAGE TO THE CONDUITS CAN OCCUR.

- f) Install the retention strap, SPL-1871, with the marker in the up position, to safety the shock strut in the correct position (Figure 206).

NOTE: Two retention straps are necessary to safety the Main Landing Gear (MLG) inner cylinder. One retention strap is necessary to safety the Nose Landing Gear (NLG) inner cylinder.

SUBTASK 07-10-01-860-002

- (13) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	7	C00629	GND PROX WARN

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C00523	HEATERS CAPT PITOT
E	4	C00700	HEATERS DRAIN MAST AIR

SUBTASK 07-10-01-480-002

- (14) Install the wheel chock, COM-1505, on the main and nose landing gear wheels.

NOTE: This prevents forward and aft movement of the airplane before the jacks are installed.

- (a) Do this task: Chock Installation Winds/Gusts Maximum 40 mph (35 Knots), TASK 10-11-05-500-801.

NOTE: When you lift the airplane, the usual oleo extension on 88.15 degree angle causes aft wheel movement on the ground a maximum of 0.55 in. (13.97 mm). With chocks installed and parking brake set, wheel movement causes the chocks to move and tires will rub on the ground.

SUBTASK 07-10-01-580-009

- (15) Remove the jack pad adapter recess fillers and fasteners at jack points A and B.

SUBTASK 07-10-01-580-010

- (16) Install the three primary jack pad adapters at positions A and B, and aft body pad jack C with the tools below (Figure 203, Figure 204):

NOTE: The aft body jack adapter is a threaded rod with a machined semiball on one end. Put the adapter in the jack pad fitting that is a part of the airplane structure.

- (a) Wings adapter, SPL-1494.
(b) Aft body adapter, SPL-1495.

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SUBTASK 07-10-01-580-011



CAUTION

USE THE BOLTS SUPPLIED WITH THE JACK ADAPTER. IF YOU USE OTHER BOLTS, YOU CAN CAUSE DAMAGE TO THE AIRPLANE.

- (17) Use the forward auxiliary jack adapter when the airplane is not in a hangar and winds are 35 mph (30 knots) (Figure 205).

NOTE: It is the airline's decision if the auxiliary jacks are necessary when the airplane is in the hangar (no wind).

NOTE: When the airplane is not in a hangar, the stabilizing jack must be installed when winds are at 35 mph (30 knots).

- (a) Install the forward body (jack point D) jack adapter, SPL-1496, as follows (Figure 205):
- 1) Remove the eight bolts that are supplied with the jack adapter, SPL-1496.



CAUTION

USE THE BOLTS SUPPLIED WITH THE JACK ADAPTER. IF YOU USE OTHER BOLTS, YOU CAN CAUSE DAMAGE TO THE AIRPLANE.

- 2) Install the jack adapter, SPL-1496, with the eight bolts.
 - a) Torque the eight bolts to 160 in-lb (18 N·m) - 240 in-lb (27 N·m).
- (b) Preload the stabilizing jack to a maximum of 5000 lb (2268 kg) when winds are 35 mph (30 knots).

SUBTASK 07-10-01-580-012

- (18) Prepare the primary and auxiliary jacks.

NOTE: See Table 203 for jack specifications, Table 204 for wing and body jack pad heights and clearances.

- (a) Put the primary wing tripod jack, COM-8950, (jack pads A and B) and aft body tripod jack, COM-11239, directly below the jack pads as shown in Figure 201.

NOTE: The jacks must have pressure gages and a conversion table to give the pounds of load at each jack point.

- (b) If the forward auxiliary jack is used, put the auxiliary jack near the airplane jack point.
- 1) Do not put the jack below the airplane until the airplane is lifted on the primary jacks.

- (c) Extend the jack inner extension screw to the range shown in Table 203.

- (d) Turn the jack to align each wheel caster on the jack to get the jack center aligned.

NOTE: With each wheel caster aligned, while the jack turns clockwise (or counterclockwise), the wheel casters align and keep the jack level.

- (e) Make sure that the wing and aft body jack rams are perpendicular to the ground.

- 1) Use a bubble level, STD-567, to make sure that the rams are perpendicular to the ground.
- 2) Level the jacks with jack pads or shims.

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- (f) Make sure that the jacks are level and are installed on the ground.

NOTE: The location of the jacks and position to each jack is very important. If the jacks are made level, the jacks will be parallel to each jack. All movements can cause lateral loads in the jacks while the geometry changes while you lift the airplane.

Table 203/07-10-01-993-803 737 MAX Primary and Auxiliary Jack Specifications

MAX. JACK LOAD	MIN. HT	MAX. HT.	DIS. BTW. TIRES	CAP.	MIN. HT.	HYD. LIFT	SCREW EXT.	MAX. HT.
MAIN WING: GEAR SWING, JACK POINTS A AND B (MODEL tripod jack, COM-8950)								
34.9 t (31.7 mt) ^[1]	72.0 in. (1828.8 mm)	100.4 in. (2550.2 mm)		35 t (32 mt)	60 in. (1524 mm)	44 in. (1118 mm)	16 in. (406 mm)	120 in. (3048 mm)
MAIN WING: OLEO REMOVAL, JACK POINTS A AND B (MODEL tripod jack, COM-8950)								
34.9 t 34.9 t (31.7 mt) ^[1]	72.0 in. (1828.8 mm)	109.2 in. (2773.7 mm)		35 t (32 mt)	60 in. (1524 mm)	44 in. (1118 mm)	16 in. (406 mm)	120 in. (3048 mm)
AFT BODY: GEAR SWING, JACK POINT C (MODEL tripod jack, COM-11239)^[2]								
10.9 t (9.9 mt) ^[1]	110.5 in. (2806.7 mm)	134.0 in. (3403.6 mm)		12 t (11 mt)	96 in. (2438 mm)	44 in. (1118 mm)	10 in. (254 mm)	150 in. (3810 mm)
AFT BODY: OLEO REMOVAL, JACK POINT C (MODEL tripod jack, COM-11239)^[2]								
10.9 t (9.9 mt) ^[1]	110.5 in. (2806.7 mm)	142.8 in. (3627.1 mm) ^[3]		12 t (11 mt)	96 in. (2438 mm)	44 in. (1118 mm)	10 in. (254 mm)	150 in. (3810 mm)
FORWARD BODY: GEAR SWING, JACK POINT D (MODEL tripod jack, COM-11238)								
8.7 t (7.9 mt) ^[1]	64.7 in. (1643.4 mm)	96.0 in. (2438.4 mm)		12 t (11 mt)	60 in. (1524 mm)	44 in. (1118 mm)	10 in. (254 mm)	150 in. (3810 mm)
FORWARD BODY: OLEO REMOVAL, JACK POINT D (MODEL tripod jack, COM-11238)								
8.7 t (7.9 mt) ^[1]	64.7 in. (1643.4 mm)	104.0 in. (2641.6 mm) ^[3]		12 t (11 mt)	60 in. (1524 mm)	44 in. (1118 mm)	10 in. (254 mm)	150 in. (3810 mm)
MAIN LANDING GEAR: ROUTINE, JACK POINT E (MODEL tripod jack, COM-11238)								
42.7 t (38.7 mt) ^[1]	12.6 in. (320.0 mm)	19.0 in. (482.6 mm) ^[4]	15.8 in. (401.3 mm) ^[5]	45 t (41 mt)	7 in. (178 mm)	12 in. (305 mm)	2.8 in. (71.1 mm)	21.9 in. (556.3 mm)
MAIN LANDING GEAR: FLATS, JACK POINT E (MODEL axle jack, COM-5928)								
42.7 t (38.7 mt) ^[1]	8.5 in. (215.9 mm)	19.0 in. (482.6 mm) ^[4]	14.6 in. (370.8 mm)	45 t (41 mt)	7 in. (178 mm)	12 in. (305 mm)	2.8 in. (71.1 mm)	21.9 in. (556.3 mm)
NOSE LANDING GEAR: ROUTINE, JACK POINT F (MODEL axle jack, COM-1484)								

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Table 203/07-10-01-993-803 737 MAX Primary and Auxiliary Jack Specifications (Continued)

MAX. JACK LOAD	MIN. HT	MAX. HT.	DIS. BTW. TIRES	CAP.	MIN. HT.	HYD. LIFT	SCREW EXT.	MAX. HT.
9.6 t (8.7 mt)	8.9 in. (226.1 mm)	13.3 in. (337.8 mm)* ^[4]	7.2 in. (182.9 mm)	45 t (41 mt)	7 in. (178 mm)	12 in. (305 mm)	2.8 in. (71.1 mm)	21.9 in. (556.3 mm)
NOSE LANDING GEAR: FLATS, JACK POINT F (MODEL axle jack, COM-1484)								
9.6 t (8.7 mt)	6.8 in. (172.7 mm)	13.3 in. (337.8 mm)* ^[4]	6.5 in. (165.1 mm)	10 t (9 mt)	6 in. (152 mm)	8.25 in. (209.55 mm)	3 in. (76 mm)	17.25 in. (438.15 mm)

NOTES:

The aircraft manufacturer's specification and instructions must be followed. In the event of contradiction between the aircraft manufacturer's specifications, the aircraft manufacturer's specifications prevail.

Capacities shown in tons (t) and metric tons (mt). Dimensions shown in inches (in.) and millimeters (mm).

Tripod jack point heights are based on:

- Main and nose landing gear strut oleos fully deflated.
- Main gear tires H44.5 x 16.5-21.
- Nose gear tires 27 x 7.75-15.
- All tires at normal inflation pressure.

*[1] Maximum combined must not exceed 72.3 t (65.6 metric tons).

*[2] Specify with leg extensions.

*[3] Oleo piston removal is accomplished by positioning gear at an angle. Maximum height dimension applies to this procedure.

*[4] Allows a 2 in. (51 mm) ground clearance.

*[5] Clearance between brake assemblies is 11.4 in. (289.6 mm).

Table 204/07-10-01-993-804 Wing and Body Jack Pad Heights and Clearances, 737-8

FUSELAGE JACKING POINTS AND LOCATIONS		WING (RIGHT)	WING (LEFT)	AFT BODY	FORWARD BODY
		A	B	C	D
HEIGHT ABOVE GROUND INCHES (MM)	CONDITION 1* ^[1]	66.3 in. (1684.0 mm)	66.3 in. (1684.0 mm)	95.8 in. (2433.3 mm)	64.3 in. (1633.2 mm)
	CONDITION 2* ^[2]	73.2 in. (1859.3 mm)	73.2 in. (1859.3 mm)	107.0 in. (2717.8 mm)	68.6 in. (1742.4 mm)
	CONDITION 3* ^[3]	75.8 in. (1925.3 mm)	75.8 in. (1925.3 mm)	109.5 in. (2781.3 mm)	71.3 in. (1811.0 mm)
	CONDITION 4* ^[4]	96.2 in. (2443.5 mm)	96.2 in. (2443.5 mm)	133.2 in. (3383.3 mm)	89.8 in. (2280.9 mm)
	CONDITION 5* ^[5]	106.8 in. (2712.7 mm)	106.8 in. (2712.7 mm)	143.8 in. (3652.5 mm)	100.4 in. (2550.2 mm)

NOTE: Conditions 1, 2, and 3 are at weight/CG yielding minimum height above ground. Conditions 4 and 5 are at weight/CG yielding maximum height above ground.

*[1] Condition 1 - Shock struts deflated, wheels on rim.

*[2] Condition 2 - Shock struts deflated, normal tire inflation.

*[3] Condition 3 - Shock struts inflated, normal tire inflation.

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*[4] Condition 4 - MLG swing, 4 in. (102 mm) ground clearance (MLG fully extended).

*[5] Condition 5 - MLG seal change, wheel/tire/brake off, 2 in. (51 mm) inner/outer cylinder clearance, 4.5 in. (114.3 mm) ground clearance.

SUBTASK 07-10-01-580-013



OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (19) Operate the jack with a hand pump or air pressure.
- (a) Add air to push the jack post up to the jack pad to install the jack in the jack pads.

SUBTASK 07-10-01-080-001



MAKE SURE THAT YOU REMOVE THE WHEEL CHOCKS BEFORE YOU LIFT OR LOWER THE AIRPLANE WITH JACKS. IF YOU DO NOT REMOVE BLOCKAGES AROUND THE MAIN LANDING GEAR, DAMAGE TO THE AIRPLANE AND EQUIPMENT CAN OCCUR.

- (20) Remove the wheel chocks.
- (a) Make sure that there are no objects within 2 ft (1 m) in front or behind the main gear tires.

SUBTASK 07-10-01-580-014



MAKE SURE THAT YOU RELEASE THE PARKING BRAKE BEFORE YOU LIFT OR LOWER THE AIRPLANE WITH JACKS. IF YOU DO NOT OBEY, DAMAGE TO THE AIRPLANE AND EQUIPMENT CAN OCCUR.

- (21) Release the parking brake.

G. Lift the Airplane on Jacks

SUBTASK 07-10-01-580-038

- (1) Use the gauge, SPL-1497, not the inclinometer in the left wheel well (TASK 08-20-03-580-801).

SUBTASK 07-10-01-580-015



MAKE CERTAIN THAT AREA IS CLEARED OF ALL WORK-STANDS AND EQUIPMENT PRIOR TO JACKING AIRCRAFT.

- (2) Put one person at each primary jack location (jack pads A and B) and one person at the aft body jack (jack pad C).

NOTE: It is possible that more than one person is necessary at each jack location.

SUBTASK 07-10-01-580-016

- (3) Put one person at the gauge, SPL-1497, and leveling scale.
- (a) The gauge observer must continuously monitor the airplane to make sure that it is lifted on the jacks in a level (± 0.5 degree) attitude.

SUBTASK 07-10-01-580-017

- (4) Make sure that the three primary jacks and gauge observers, and jack procedures captain can speak between each person.

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SUBTASK 07-10-01-580-018



WARNING

OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (5) Lift the airplane with the jacks.

NOTE: Refer to the jack manufacturer's instructions.

NOTE: Always lower all the jack ram locknuts at the same time when you lift the jacks. Keep a clearance of 1.0 in. (25.4 mm) or less from the nut to the collar until the airplane is fully lifted. Then tighten the nut and tighten the lockcrew. Too much clearance can cause damage to the airplane structure if the jack closes.

- (a) The gauge observer continuously monitors the gauge to make sure that the airplane stays level.

NOTE: When you jack the airplane for a gear retraction test, jack the airplane 4 in. (102 mm) or more for tire arc sweep clearance.

- 1) Use the gauge, SPL-1497, to make sure that the airplane roll is not more than ± 3 degrees.
- 2) Use the gauge, SPL-1497, to make sure that the airplane pitch is not more than ± 0.5 degree.

- (b) The three primary jack observers will continuously monitor the jacks.

NOTE: Do not read the pressure for the jack indication, use the ton indication.

- 1) Make sure that the maximum jack loads are not more than the jack limits.
- 2) Keep a clearance of 1.0 in. (25.4 mm) or less from the nut to the collar until the airplane is lifted fully.

- (c) Lift the airplane to the necessary height.

SUBTASK 07-10-01-580-019

- (6) Make sure that the airplane is stable, if necessary.

- (a) Move the forward body jack to the correct position below jack pad D.

- 1) Make sure that the jack has a preload maximum of 5000 lb (2268 kg) in winds of 35 mph (30 knots).



WARNING

OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (b) Lift the forward body jack pad D until the jack holds sufficient weight to keep the airplane safe.

NOTE: Refer to the jack manufacturer's instructions.

————— END OF TASK —————

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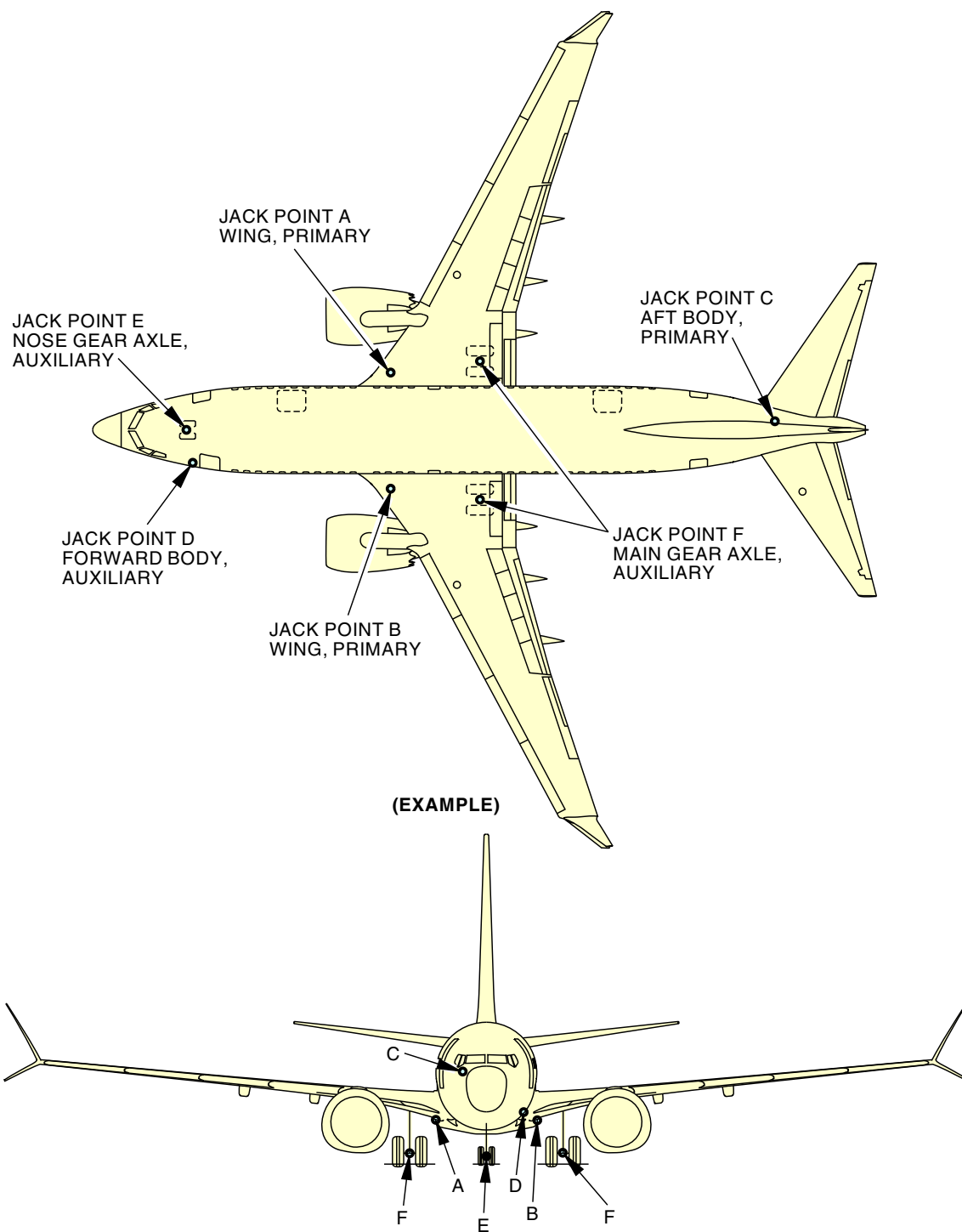
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2410652 S00061526058_V3

Jack Point Locations
Figure 201/07-10-01-990-803

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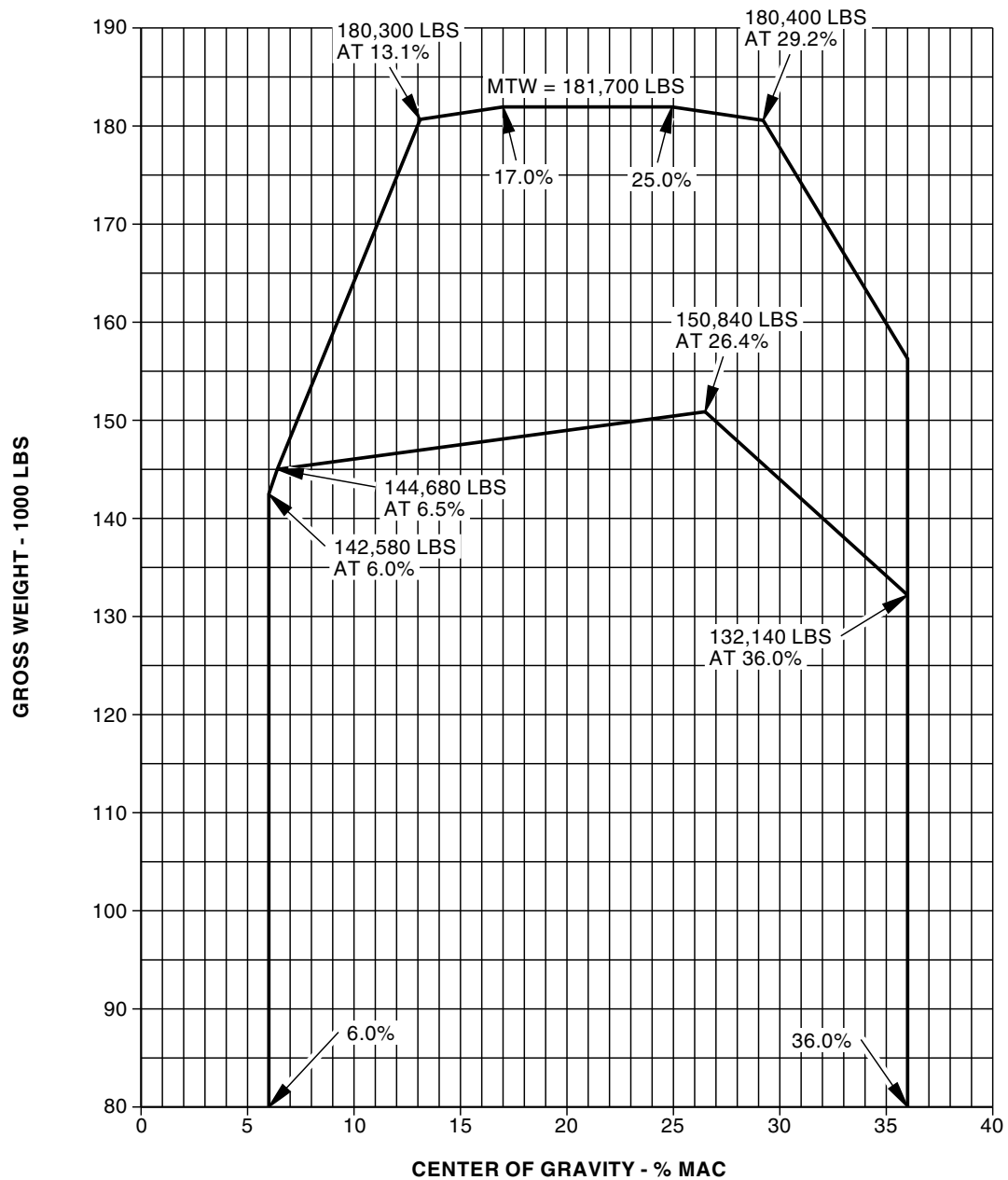
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2979537 S0000757620_V1

Maximum Gross Weight Versus Center of Gravity
Figure 202/07-10-01-990-804

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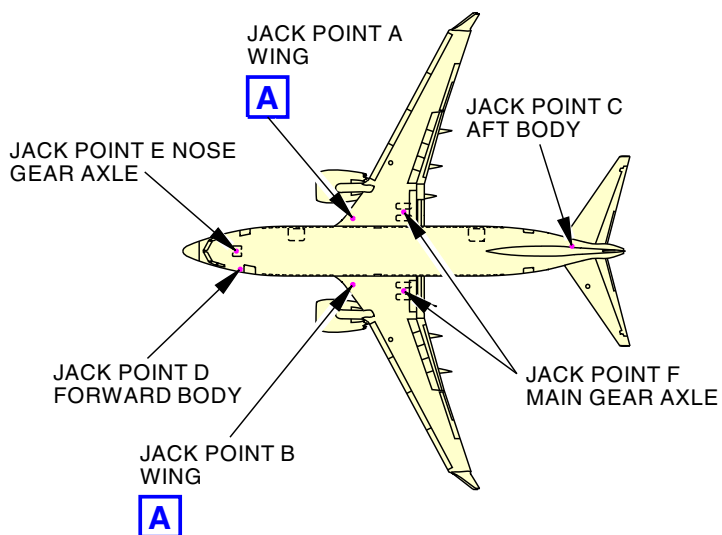
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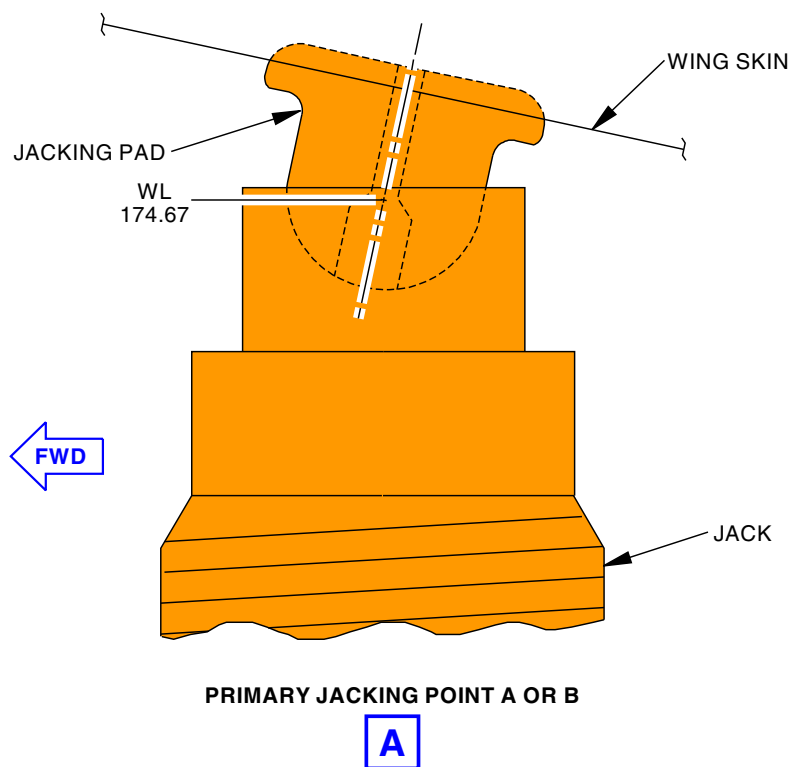
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(EXAMPLE)



2454078 S0000569016_V3

Primary Jack Locations, Jack Points A and B Pad Fittings
Figure 203/07-10-01-990-805

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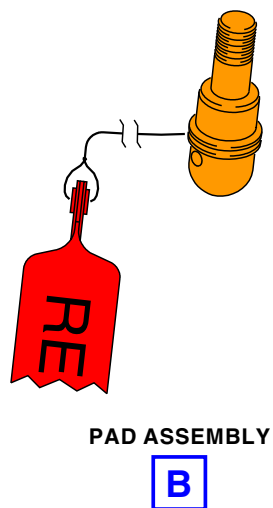
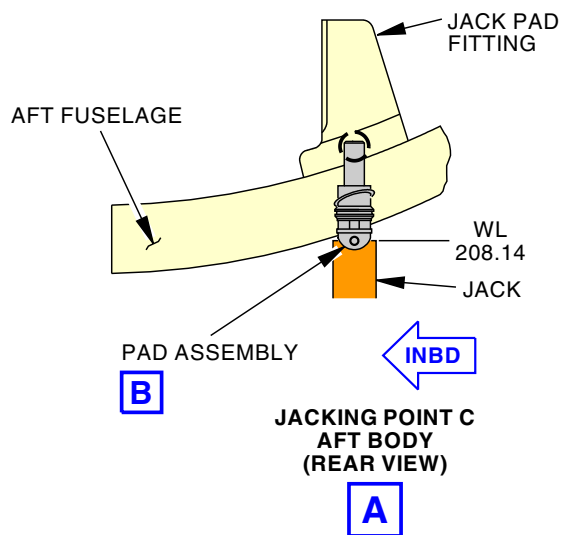
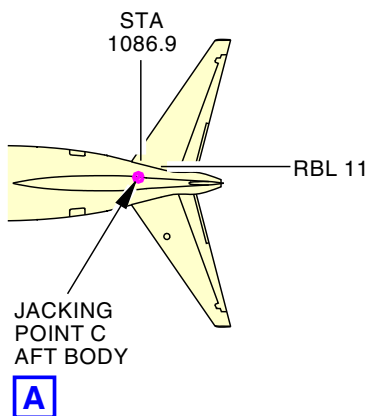
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2454084 S0000569019_V2

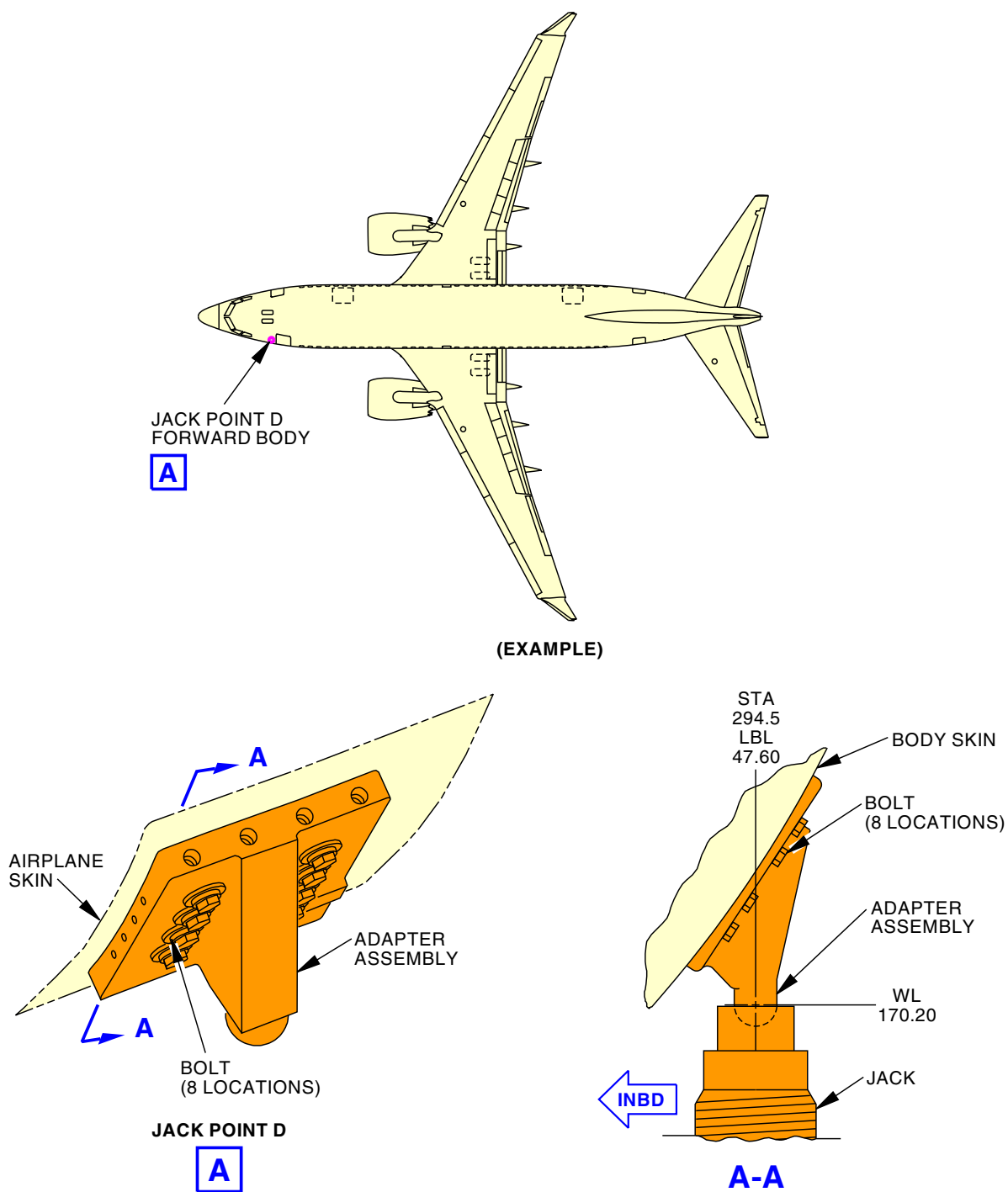
Primary Aft Body Location, Jack Point C Pad Fitting
Figure 204/07-10-01-990-806

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2454129 S0000569022_V3

Forward Body Location, Jack D Adapter Fitting
Figure 205/07-10-01-990-807

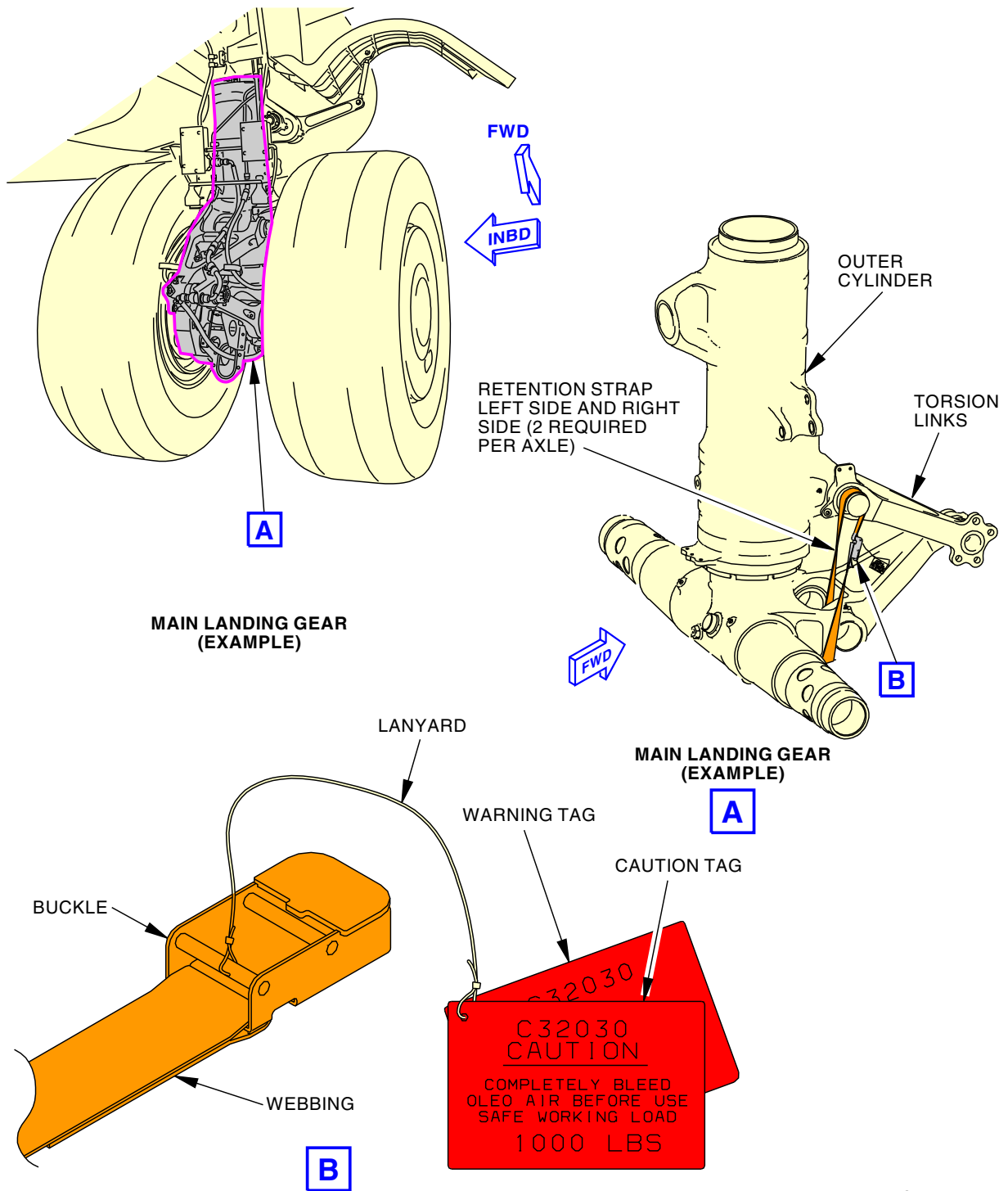
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Main Landing Gear Inner Cylinder Retention Strap Installation
Figure 206/07-10-01-990-808

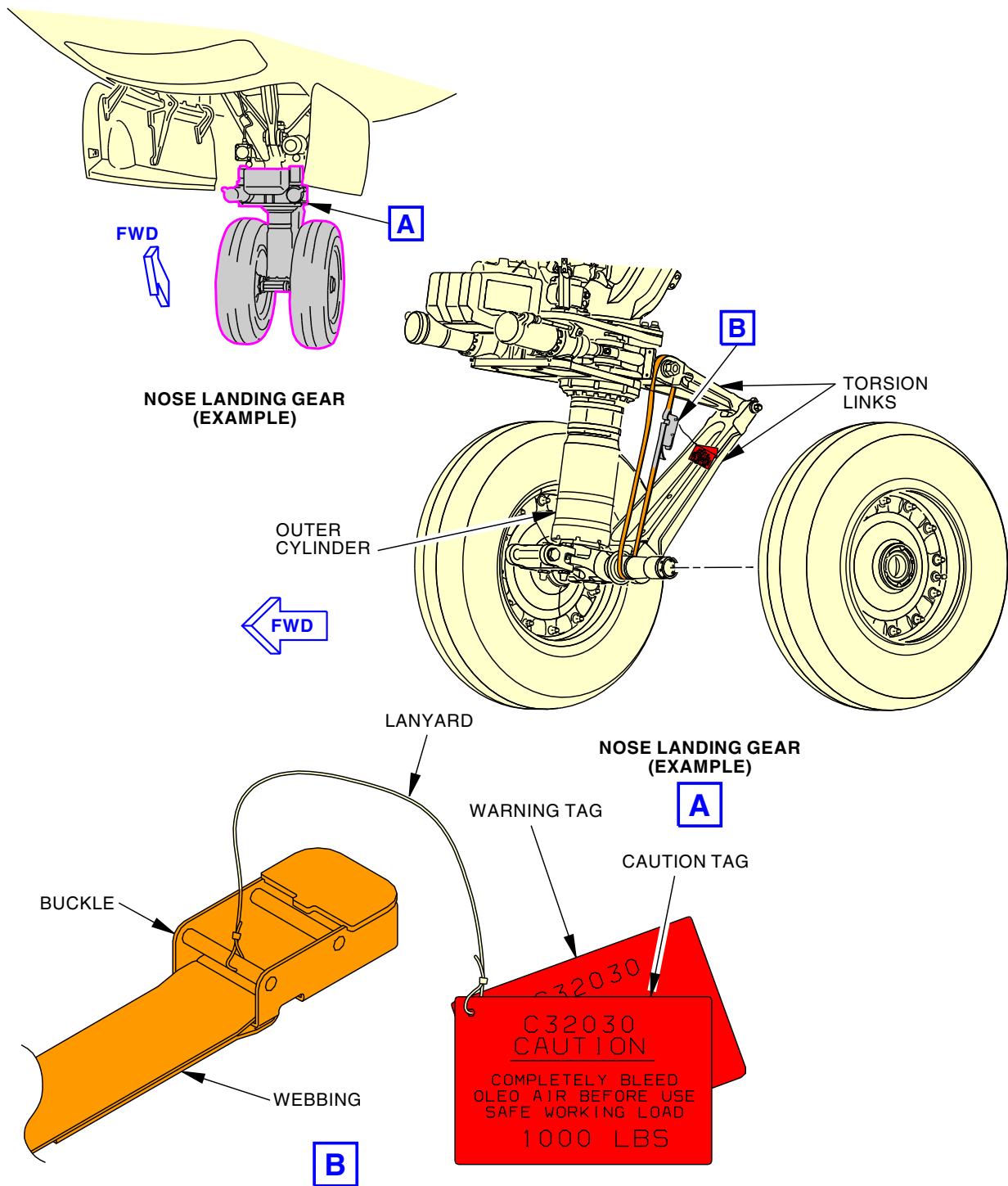
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2951902 S0000729036_V1

Nose Landing Gear Inner Cylinder Retention Strap Installation
Figure 207/07-10-01-990-809

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TASK 07-10-01-580-802

3. Lower the Airplane off Jacks

A. References

Reference	Title
10-11-05-500-801	Chock Installation Winds/Gusts Maximum 40 mph (35 Knots) (P/B 201)
12-15-31-610-802	Main Landing Gear Shock Strut Servicing, Airplane on the Ground (P/B 301)
12-15-41-610-802	Nose Landing Gear Shock Strut Servicing, Airplane on the Ground (P/B 301)
32-00-01-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-01-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-09-00-840-802	Return the Airplane Systems Back to Their Normal on Ground Condition (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1505	Chocks - Wheel Part #: 19CAL455 - Type 1 Supplier: \$1329 Part #: 99-9028-6000 Supplier: 59603 Part #: AC6820-LR Supplier: 032T9 Part #: ALPHACHOCKS MID Supplier: 6X2T Part #: W86 Supplier: 3XZM7 Part #: W88 Supplier: 3XZM7 Opt Part #: W92 Supplier: 9L752
SPL-1496	Adapter - Jack, Forward Body Part #: C07007-19 Supplier: 81205
SPL-1497	Gauge - Attitude, Airplane Part #: 21465A82 Supplier: 3A054 Part #: KS5549 Supplier: 75245 Part #: KS6005 Supplier: 75245 Opt Part #: F70043 Supplier: 81205
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1871	Strap - Retention, NLG/MLG Inner Cylinder Part #: C32030 -31 Supplier: 81205 Opt Part #: C32030-10 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
A00159	Compound - Sealing, Thread-Locking, Anaerobic, Single-Component (100-200 In-lbs)	ASTM D5363 Grp 3 Cl 2 Grd 1 (SUPERSEDES MIL-S-46163)

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Reference	Description	Specification
C00064	Coating - Aluminum Chemical Conversion	BAC5719 Type II Class A (MIL-DTL-5541 Class 1A)
C00175	Primer - Urethane Compatible, Corrosion Resistant	BMS10-79 Type III
G00009	Compound - Organic Corrosion Inhibiting	BMS3-23
G01659	Swab - Cotton Or Rayon, (Disposable)	
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38
G50262	Wiper - Cleaning	BMS15-5

D. Location Zones

Zone	Area
100	Lower Half of Fuselage
110	Subzone - Body Station 130 to Station 396
115	Nose Landing Gear Wheel Well - Left
146	Aft Cargo Compartment Equipment Bay - Right
192	Lower Wing-To-Body Fairing - Under Wing Box

E. Prepare to Lower the Airplane

SUBTASK 07-10-01-580-020



WARNING

MAKE CERTAIN THAT AREA IS CLEARED OF ALL WORK-STANDS AND EQUIPMENT PRIOR TO JACKING AIRCRAFT.

- (1) Make sure that the area below the airplane is clear.

SUBTASK 07-10-01-080-003



CAUTION

MAKE SURE THAT YOU REMOVE THE WHEEL CHOCKS BEFORE YOU LIFT OR LOWER THE AIRPLANE WITH JACKS. IF YOU DO NOT REMOVE BLOCKAGES AROUND THE MAIN LANDING GEAR, DAMAGE TO THE AIRPLANE AND EQUIPMENT CAN OCCUR.

- (2) Make sure that the wheel chocks are removed.
- (a) Make sure that there are no objects within 2 ft (1 m) in front or behind the main gear tires.

SUBTASK 07-10-01-580-033



CAUTION

MAKE SURE THAT YOU RELEASE THE PARKING BRAKE BEFORE YOU LIFT OR LOWER THE AIRPLANE WITH JACKS. IF YOU DO NOT OBEY, DAMAGE TO THE AIRPLANE AND EQUIPMENT CAN OCCUR.

- (3) Make sure that the parking brake is released.

SUBTASK 07-10-01-580-021

- (4) Make sure that the landing gear control is in the down position.

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SUBTASK 07-10-01-580-022

- (5) Make sure that the nose and main landing gear ground lockpins are installed.
- (a) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-01-480-801.

SUBTASK 07-10-01-860-003

- (6) Make sure that these circuit breakers are open and have safety tags:

CAPT Electrical System Panel, P18-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	7	C00629	GND PROX WARN

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C00523	HEATERS CAPT PITOT
E	4	C00700	HEATERS DRAIN MAST AIR

SUBTASK 07-10-01-580-023

- (7) If the auxiliary jack was used at jack point D, lower the auxiliary jack.

NOTE: Refer to the jack manufacturer's instructions.

- (a) Loosen the lockscrew in the ram locknut at the jack and adjust the locknut until it is no more than 1.0 in. (25.4 mm) from the jack collar.

NOTE: Raise the jack ram slightly to relieve the load on the locknut and let the lock nut move up the ram, if necessary.

- (b) Lower the stabilizing jack.

- 1) Keep 1.0 in. (25.4 mm) clearance between the locknut and collar.

SUBTASK 07-10-01-580-024

- (8) Remove the auxiliary jack from below the airplane.

NOTE: Do this immediately after the jack clears the jack fitting and the adjacent airplane structure.

F. Lower the Airplane off the Jacks

SUBTASK 07-10-01-580-026

- (1) Put one person at each primary jack and one person at the gauge, SPL-1497.
- (a) Make sure that there is communication between each person and the jack procedures coordinator.

SUBTASK 07-10-01-580-027

- (2) Lower the airplane.

NOTE: Keep 1.0 in. (25.4 mm) clearance between the locknut and collar.

SUBTASK 07-10-01-580-028

- (3) Continuously monitor the jacks and make sure that the maximum loads are not more than the design load limits.

SUBTASK 07-10-01-580-029

- (4) Monitor the gauge, SPL-1497, to make sure that the airplane stays level while it is lowered off the jacks.

SUBTASK 07-10-01-580-030

- (5) Make sure that the jacks are at the bottom or the airplane's full weight is on the landing gear.

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SUBTASK 07-10-01-480-005

- (6) Install the wheel chocks, COM-1505.
 - (a) Do this task: Chock Installation Winds/Gusts Maximum 40 mph (35 Knots), TASK 10-11-05-500-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 07-10-01-580-035

- (1) Remove the primary jack adapters from jack points A, B, and C.
 - (a) Remove the jacks from below the airplane immediately after the jacks are away from the jack pads and the adjacent airplane structure.

SUBTASK 07-10-01-620-001

- (2) Apply corrosion inhibiting compound to the jack pad covers as follows:



WARNING

USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

- (a) Remove all extruded Cor-Ban 27L Compound, G50237, with a dry wiper, G50262, or swab, G01659.
- (b) Make sure that the primer is in good condition in the recess for the jack fitting cover plate.
 - 1) If primer repair is necessary, clean and manually apply coating, C00064, to bare metal.
 - a) Apply one layer of primer, C00175, to the repair area.



WARNING

USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

- (c) Apply Cor-Ban 27L Compound, G50237, to the faying surface.



WARNING

USE NITRILE GLOVES FOR SKIN PROTECTION AGAINST CORROSION INHIBITOR MATERIAL, G50136. IF CORROSION INHIBITOR MATERIAL, G50136 GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER AND GET MEDICAL AID. THIS MATERIAL CONTAINS VERY POISONOUS AND FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

- (d) Apply corrosion inhibiting compound, G00009, or corrosion inhibiting material, G50136, on all areas of the fastener hole including the countersink, and apply compound, A00159, on the threads of the fastener.

SUBTASK 07-10-01-420-002

- (3) Immediately install the jack fitting cover plate with the fasteners at jack points A and B.
 - (a) Make sure that you use the correct fasteners.

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SUBTASK 07-10-01-580-036

(4) Remove the forward body (jack point D) jack adapter, SPL-1496, as follows (Figure 205):

(a) Remove the jack adapter, SPL-1496, and the eight bolts from the forward body jack point D.

1) Keep the eight bolts and the jack adapter, SPL-1496, together.

SUBTASK 07-10-01-080-004

(5) Remove the gauge, SPL-1497, from the right wheel well.

SUBTASK 07-10-01-080-005

(6) If installed, remove the retention strap, SPL-1871, from the nose landing gear.

SUBTASK 07-10-01-080-006

(7) If installed, remove the retention strap, SPL-1871, from the main landing gear.

SUBTASK 07-10-01-610-001

(8) Service the shock struts for the main landing gear.

(a) Do this task: Main Landing Gear Shock Strut Servicing, Airplane on the Ground, TASK 12-15-31-610-802.

SUBTASK 07-10-01-610-002

(9) Service the shock strut for the nose landing gear.

(a) Do this task: Nose Landing Gear Shock Strut Servicing, Airplane on the Ground, TASK 12-15-41-610-802.

SUBTASK 07-10-01-840-003

(10) Return airplane to ground mode.

(a) Do this task: Return the Airplane Systems Back to Their Normal on Ground Condition, TASK 32-09-00-840-802.

SUBTASK 07-10-01-080-008

(11) Remove the NLG towing lever pin, SPL-1499 (TASK 32-00-01-080-801).

SUBTASK 07-10-01-860-004

(12) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	7	C00629	GND PROX WARN

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C00523	HEATERS CAPT PITOT
E	4	C00700	HEATERS DRAIN MAST AIR

————— **END OF TASK** —————

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JACK AIRPLANE AXLES - MAINTENANCE PRACTICES

1. General

A. This procedure has these three tasks:

- (1) Lift the Airplane on Axle Jacks-Handling
- (2) Lift the Main Landing Gear Axles on Axle Jacks-Handling
- (3) Lift the Nose Landing Gear Axle With Axle Jacks-Handling.

TASK 07-10-03-580-801

2. Lift the Airplane on Axle Jacks-Handling

(Figure 201)

A. General

- (1) The jack axle points are under the MLG and the NLG axles. The axle jacks lift the landing gear. This lets you remove the wheel and tire, or the brake assemblies. When you use axle jacks, it is not necessary to lift the airplane fully.
- (2) The axle jack points let you change one or two flat tires on the same landing gear while the airplane is at the maximum taxi weight (MTW). The load on an axle jack point must not be more than the maximum limits.
- (3) Follow these safety instructions when you lift the airplane on the axle jacks:
 - (a) Do not lift the main gear axle more than necessary to get a 2 in. (51 mm) tire clearance for a fully inflated tire.
 - (b) When more than two tire failures occur on the same side of the airplane, lift the axles at the same time. This will keep the load level on the jacks.
 - (c) Put chocks on the wheels with no jacks. Release the brakes before you lift or lower the axle.
 - (d) Lift only one main landing gear at a time.
 - (e) Remove only one wheel on each landing gear at a time. Two wheels can be removed from the landing gear when a jack with a mechanical safety lock device is used.

B. References

Reference	Title
10-11-05-500-801	Chock Installation Winds/Gusts Maximum 40 mph (35 Knots) (P/B 201)
12-15-31-610-802	Main Landing Gear Shock Strut Servicing, Airplane on the Ground (P/B 301)
12-15-41-610-802	Nose Landing Gear Shock Strut Servicing, Airplane on the Ground (P/B 301)
32-00-01-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt.", which stands for Optional.

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Reference	Description
COM-1484	Jack - Axle, Nose Gear Part #: 0152.00 Supplier: 1777B Part #: 02-7813C0100 Supplier: 59603 Part #: 5004-55 Supplier: 00994 Part #: 5007-56 Supplier: 00994 Part #: 53D22004 Supplier: 00994 Part #: 642S Supplier: 94861 Part #: 8842 Supplier: 94861 Part #: J-AXLE12HPA Supplier: CD856 Part #: RC4509 Supplier: D2029 Part #: RH1606 Supplier: D2029 Opt Part #: 1008-50 Supplier: 00994 Opt Part #: 5923-010 Supplier: 00994 Opt Part #: RH1029 Supplier: D2029
COM-1505	Chocks - Wheel Part #: 19CAL455 - Type 1 Supplier: \$1329 Part #: 99-9028-6000 Supplier: 59603 Part #: AC6820-LR Supplier: 032T9 Part #: ALPHACHOCKS MID Supplier: 6X2T Part #: W86 Supplier: 3XZM7 Part #: W88 Supplier: 3XZM7 Opt Part #: W92 Supplier: 9L752
COM-5928	Jack - Axle, Main Gear Part #: 50P9AR Supplier: 94861 Part #: 65P10 Supplier: 94861 Part #: 65P10AR Supplier: 94861 Part #: 8842 Supplier: 94861 Part #: 8919 Supplier: 94861 Part #: RC4509 Supplier: D2029
SPL-1880	Equipment - Downlock, NLG and MLG Part #: C32026-15 Supplier: 81205

D. Location Zones

Zone	Area
734	Left Main Landing Gear
744	Right Main Landing Gear

E. Precautions for the Tail Stand

SUBTASK 07-10-03-840-023

- (1) Obey the tail stand precautions that follow:



CAUTION

DO NOT TOW THE AIRPLANE WHILE THE TAIL STAND IS INSTALLED.
WHEN YOU TOW THE AIRPLANE WHILE THE TAIL STAND IS
INSTALLED, IT CAN CAUSE DAMAGE TO EQUIPMENT.

- (a) Do not tow the airplane while the tail stand is installed.

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DO NOT DEFLATE OR SERVICE THE SHOCK STRUTS WHILE THE TAIL STAND IS INSTALLED. IF YOU DEFLATE OR SERVICE THE SHOCK STRUTS, THE LOAD ON THE TAIL STAND CAN BE TOO LARGE. THIS CAN CAUSE DAMAGE TO EQUIPMENT.

- (b) Do not deflate or service the shock struts while the tail stand is installed.



DO NOT JACK THE AIRPLANE AT THE MAIN JACK POINTS OR AXLES WHILE THE TAIL STAND IS INSTALLED. IF YOU JACK THE AIRPLANE, THE LOAD ON THE TAIL STAND CAN BE TOO HIGH WHICH CAN CAUSE DAMAGE TO EQUIPMENT.

- (c) Do not jack the airplane at the main jack points or axles while the tail stand is installed.

F. Prepare to Lift the Airplane with the Axle Jacks

SUBTASK 07-10-03-840-002

- (1) Make sure that the parking brake is set.

SUBTASK 07-10-03-840-003



MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

- (2) Make sure that the landing gear downlock pins equipment, SPL-1880 are installed in the main landing and nose landing gear.

- (a) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-01-480-801.

SUBTASK 07-10-03-580-001



MOVEMENT OF CARGO, PASSENGERS, OR CREW INTO OR OUT OF THE AIRPLANE WHILE THE AXLES ARE ON JACKS CAN CAUSE A CHANGE IN THE CENTER OF GRAVITY AND CAUSE A HIGH LOAD ON THE AXLE JACKS. IT CAN ALSO CAUSE THE AIRPLANE TO FALL OFF THE JACKS. INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (3) Make sure that the airplane center of gravity is in limits (Figure 203).

SUBTASK 07-10-03-840-004

- (4) Make sure that the airplane is turned in the wind direction (if possible) when it is not parked in a hangar or at a gate.

NOTE: The airplane can be lifted on the airplane axles in winds to 35 mph (30 knots).

SUBTASK 07-10-03-610-001

- (5) Make sure that the MLG and NLG shock struts are filled to the correct pressure.
- (a) Do this task: Main Landing Gear Shock Strut Servicing, Airplane on the Ground, TASK 12-15-31-610-802 .
- (b) Do this task: Nose Landing Gear Shock Strut Servicing, Airplane on the Ground, TASK 12-15-41-610-802.



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G. Lift the Airplane with Axle Jacks, Tires Inflated

SUBTASK 07-10-03-580-002



CAUTION

INSTALL THE JACK AT THE SPECIFIED AXLE JACK PAD. IF YOU INSTALL IT AT A DIFFERENT LOCATION, DAMAGE TO THE LANDING GEAR WILL OCCUR.

- (1) Install the applicable axle jacks directly below the jack pads on the landing gear axles.
 - (a) MLG or NLG axle jack, COM-1484 or equivalent.
 - (b) Prepare the axle jacks. See Figure 201 for standard axle jacks. See Table 201 and Figure 202 for axle jack heights and clearances, and tire conditions.

Table 201/07-10-03-993-804 Main Landing Gear Axle Jack Points

TIRE CONDITION	TIRE SIZE H 44.5x16.5, ALL PLY RATINGS (Figure 202 for Dimensions A and B)	
	A ^{*[1]*[2]}	B ^{*[3]*[2]}
NORMAL INFLATION	12.9 in. (327.7 mm)	15.8 in. (401.3 mm)
TWO TIRES FLAT	8.5 in. (215.9 mm)	14.6 in. (370.8 mm)
ON WHEEL RIMS	6.8 in. (172.7 mm)	18.3 in. (464.8 mm)
ON JACKS FOR TIRE CHANGE, TIRES INFLATED, GROUND CLEARANCE 2 in. (51 mm)	19.0 in. (482.6 mm)	N/A

*[1] Distance from the ground to the bottom of the jack pad.

*[2] Maximum taxi weight.

*[3] Distance between the tires.

SUBTASK 07-10-03-580-003

- (2) Install wheel chocks, COM-1505, on one set of wheels on each shock strut that is not being lifted with the jack.

NOTE: The wheel chocks prevent forward and aft movement of the airplane before the jack is installed. The wheel chocks can be moved continuously to prevent a possible opposite movement of the airplane.

- (a) Do this task: Chock Installation Winds/Gusts Maximum 40 mph (35 Knots), TASK 10-11-05-500-801.

SUBTASK 07-10-03-580-004

- (3) Release the parking brake.

SUBTASK 07-10-03-580-005



WARNING

OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (4) Operate the applicable axle jacks to lift the airplane wheels to the necessary height to get a 2.0 in. (50.8 mm) ground clearance.

NOTE: Refer to the jack manufacturer's instructions.

 - (a) Make sure that forward and aft jacks are lifted at the same time, if applicable.
 - (b) Make sure that the jack point loads are not more than the limits shown in Table 202.

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Table 202/07-10-03-993-805 737 MAX Axle Jack Point Load Specifications

MODEL MLG/NLG axle jack, COM-5928								
MAX. JACK LOAD	MIN. HT.	MAX. HT.	DIST. BTW. TIRES	CAP.	MIN. HT.	HYD. LIFT	SCREW EXT.	MAX. HT.
MAIN LANDING GEAR AXLE: ROUTINE, JACK POINT E								
42.7 t (38.7 mt)	12.6 in. (320.0 mm)	19.0 in. (482.6 mm)*[1]	15.8 in. (401.3 mm)*[2]	45 t (41 mt)	7 in. (178 mm)	12 in. (305 mm)	2.8 in. (71.1 mm)	21.9 in. (556.3 mm)
MAIN LANDING GEAR AXLE: FLATS, JACK POINT E								
42.7 t (38.7 mt)	8.5 in. (215.9 mm)	19.0 in. (482.6 mm)*[1]	14.6 in. (370.8 mm)	45 t (41 mt)	7 in. (178 mm)	12 in. (305 mm)	2.8 in. (71.1 mm)	21.9 in. (556.3 mm)
NOSE LANDING GEAR AXLE: ROUTINE, JACK POINT F								
9.6 t (8.7 mt)	8.9 in. (226.1 mm)	13.3 in. (337.8 mm)*[1]	7.2 in. (182.9 mm)	45 t (41 mt)	7 in. (178 mm)	12 in. (305 mm)	2.8 in. (71.1 mm)	21.9 in. (556.3 mm)
NOSE LANDING GEAR AXLE: FLATS, JACK POINT F								
9.6 t (8.7 mt)	6.8 in. (172.7 mm)	13.3 in. (337.8 mm)*[1]	6.5 in. (165.1 mm)	10 t (9 mt)	6 in. (152 mm)	8.25 in. (209.55 mm)	3 in. (76 mm)	17.25 in. (438.15 mm)

NOTES:

The aircraft manufacturer's specification and instructions must be followed. In the event of contradiction between the aircraft manufacturer's specifications, the aircraft manufacturer's specifications prevail.

Capacities shown in tons and (metric tons). Dimensions shown in inches and (millimeters).

Axle jack point heights are based on:

- Main gear tires H44.5 x 16.5-21
- Nose gear tires 27 x 7.75-15
- All tires are at normal inflation pressure.

*[1] Allows a 2 in. (51 mm) ground clearance.

*[2] Clearance between brake assemblies is 11.4 in. (289.6 mm).

H. Put the Airplane Back to its Usual Condition

SUBTASK 07-10-03-840-005

- (1) Make sure that the area below the airplane is clear of all personnel and equipment.



WARNING

OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (2) Lower the airplane off the axle jacks.

NOTE: Refer to the jack manufacturer's instructions.

- (3) Install wheel chocks, COM-1505.
- (4) Remove all jack equipment from below the axles.

————— **END OF TASK** —————

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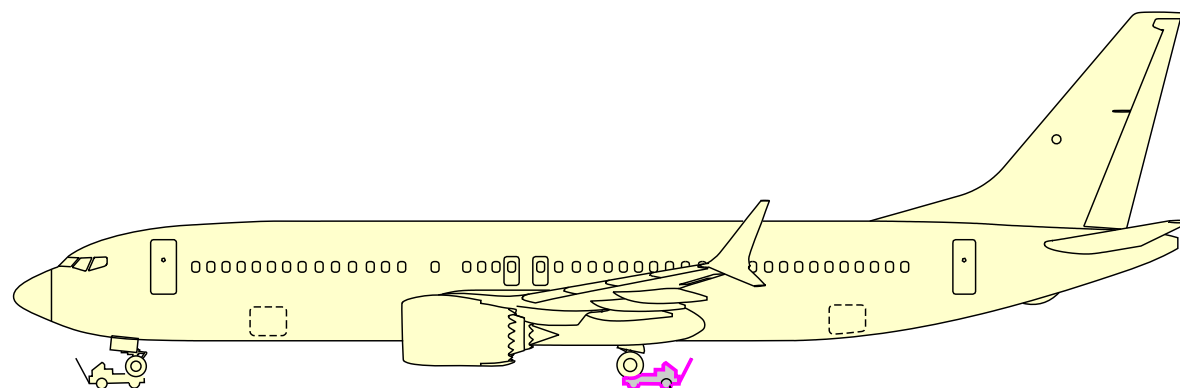
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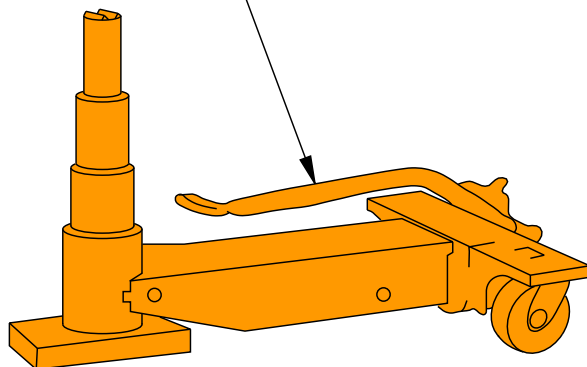
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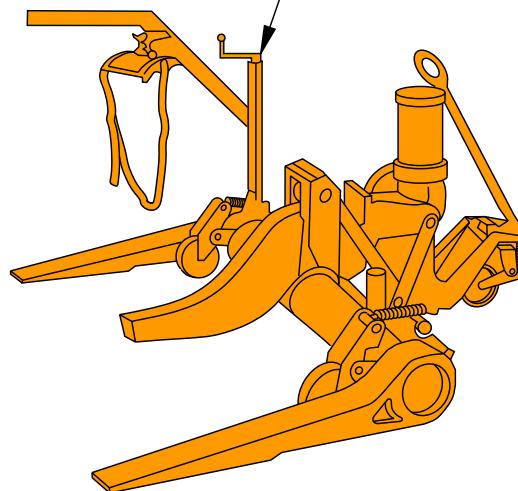
MAIN GEAR AXLE
JACKING POINTS
(LEFT SIDE IS SHOWN,
RIGHT SIDE IS OPPOSITE)

A

AXLE JACK
(WHEELED, ALLIGATOR TYPE)



AXLE JACK
(CANTILEVER
RHINO TYPE)



STANDARD AXLE JACKS

A

AXLE JACK
(HAND CARRY TYPE)



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Main Landing Gear Jacking Points, Standard Axle Jacks
Figure 201/07-10-03-990-801

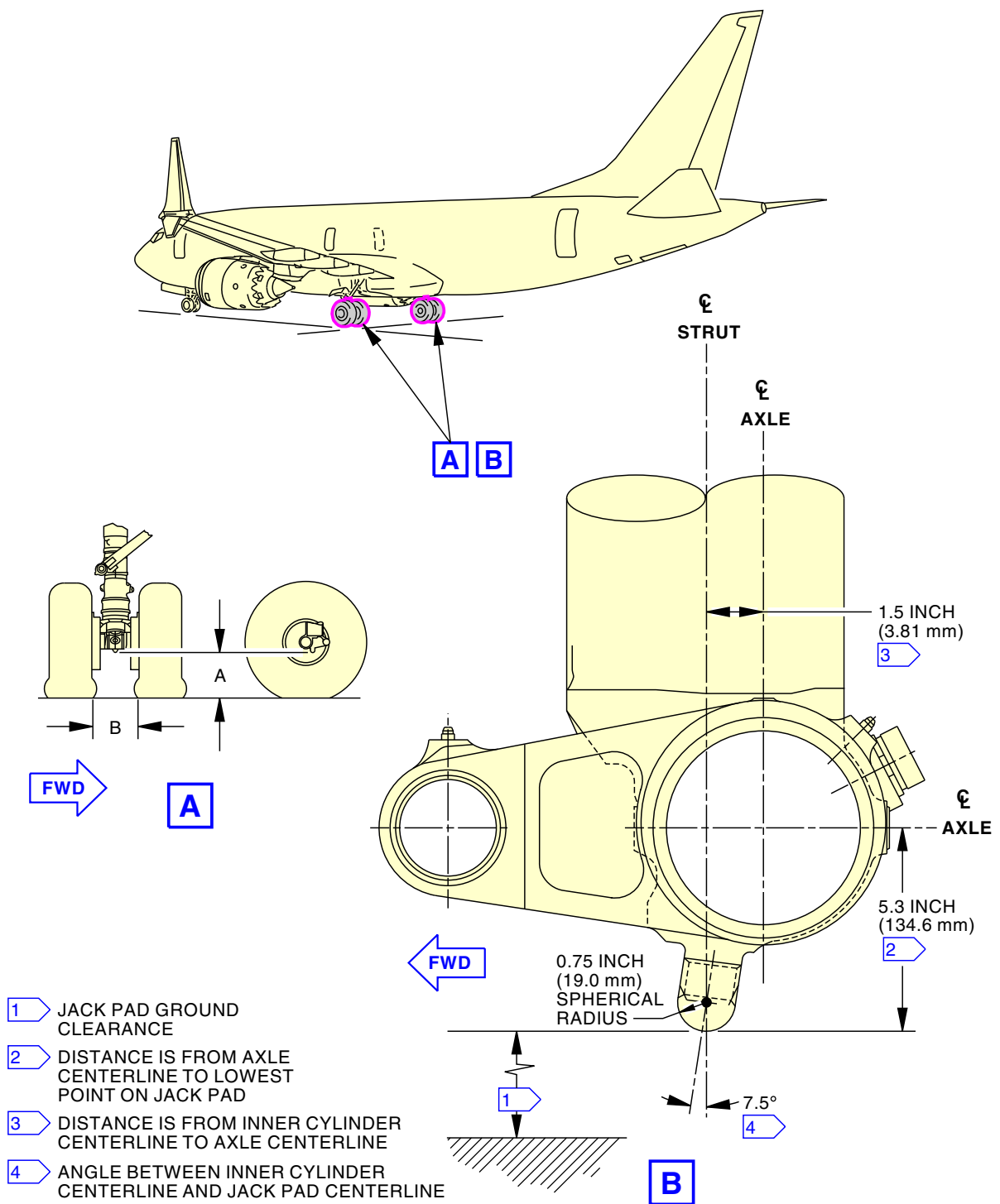
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2455482 S0000569884_V3

Main Landing Gear Jacking Points and Tire Conditions
Figure 202/07-10-03-990-802

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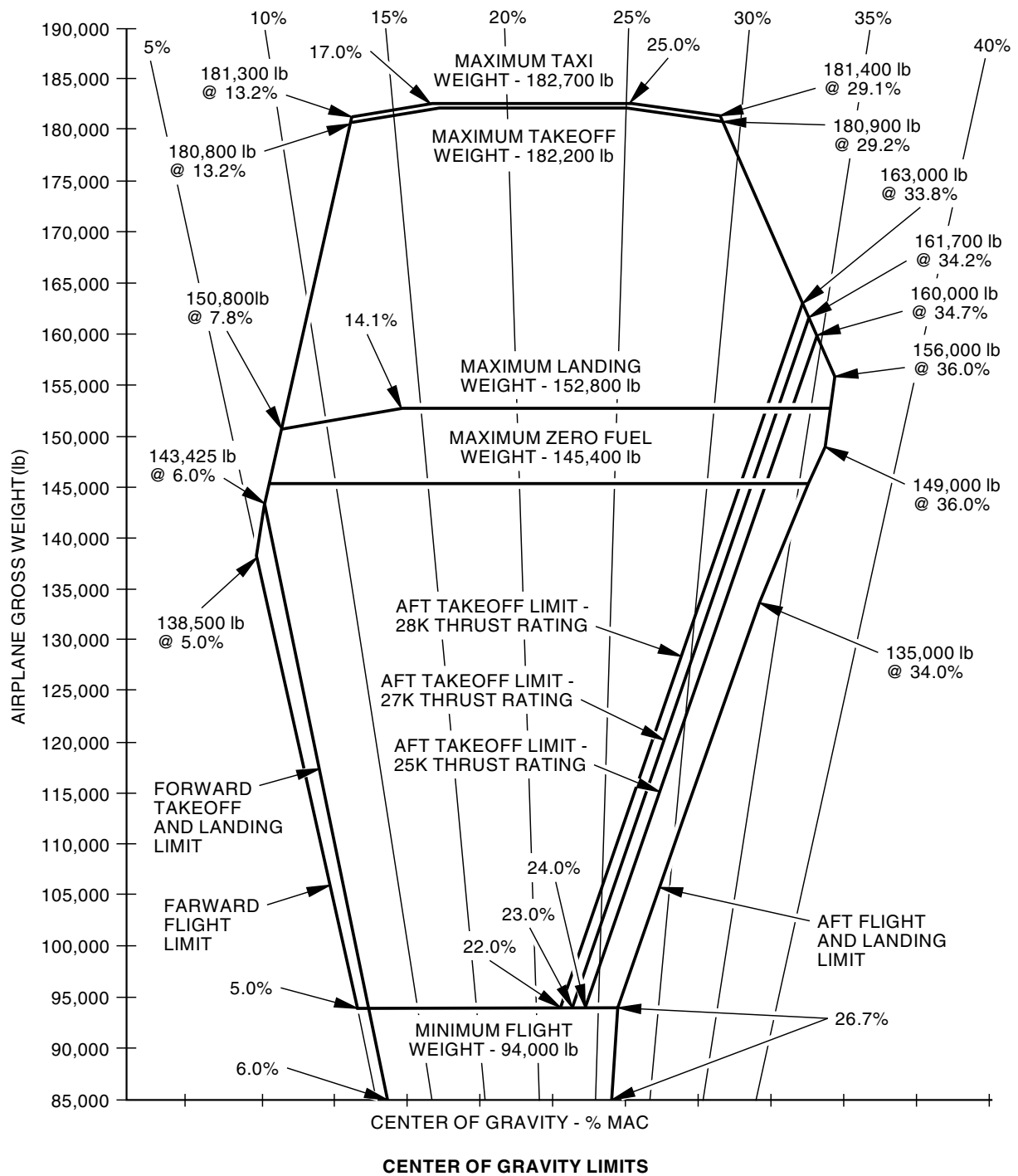
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Maximum Gross Weight versus Center of Gravity
Figure 203/07-10-03-990-804

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TASK 07-10-03-580-802

3. Lift the Main Landing Gear Axles on Axle Jacks-Handling

(Figure 201, Figure 202, Figure 204, Figure 205, Figure 206, and Figure 207)

A. General

- (1) This task has the steps to lift the main landing gear axle with low clearance axle jacks and incline blocks.
 - (a) The two main landing gears have a jack point with pads with a male 0.75 in. (19.05 mm) spherical radius, that is part of the shock strut cylinder.
 - (b) When two or more tires are flat, the height of the axle jack point decreases. This makes the main gear axle jacks too high to install. The main gear axle must be lifted to use the main gear axle jacks.
 - (c) The airplane can be lifted on one axle or a mixture of axles. When one axle jack is used, the airplane can be lifted in winds to the maximum limit. When two or more jacks are used, the airplane can be lifted in winds to the minimum limit.
 - (d) The airplane can be lifted with no tires flat on the same axle.
 - (e) If the airplane was stopped in a turn, move the airplane to 10 ft (3048 mm) or more. Move the airplane in a forward direction before the airplane is lifted.

B. References

Reference	Title
09-10-00-580-802	Main Gear Maintenance Towing (P/B 201)
10-11-05 P/B 201	CHOCK INSTALLATION
10-11-05-500-801	Chock Installation Winds/Gusts Maximum 40 mph (35 Knots) (P/B 201)
12-15-51-610-802	Add Nitrogen or Air to the Tire (P/B 301)
32-00-01-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-45-11-000-801	Main Landing Gear Wheel and Tire Assembly Removal (P/B 401)
32-45-11-400-801	Main Landing Gear Wheel and Tire Assembly - Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1486	Jack - Axle, Flyaway Part #: 142D1100-56 (Model 6510-56FT) Supplier: 00994 Part #: 5007-56FT Supplier: 00994 Part #: 8919 Supplier: 94861 Part #: 9510-56FT Supplier: 00994 Part #: RC9002 Supplier: D2029 Opt Part #: 7193-010 Supplier: 00994 Opt Part #: 9332-011 Supplier: 00994 Opt Part #: 9349-010 Supplier: 00994 Opt Part #: 9440-010 Supplier: 00994

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(Continued)

Reference	Description
COM-1505	Chocks - Wheel Part #: 19CAL455 - Type 1 Supplier: \$1329 Part #: 99-9028-6000 Supplier: 59603 Part #: AC6820-LR Supplier: 032T9 Part #: ALPHACHOCKS MID Supplier: 6X2T Part #: W86 Supplier: 3XZM7 Part #: W88 Supplier: 3XZM7 Opt Part #: W92 Supplier: 9L752
COM-5928	Jack - Axle, Main Gear Part #: 50P9AR Supplier: 94861 Part #: 65P10 Supplier: 94861 Part #: 65P10AR Supplier: 94861 Part #: 8842 Supplier: 94861 Part #: 8919 Supplier: 94861 Part #: RC4509 Supplier: D2029
SPL-1880	Equipment - Downlock, NLG and MLG Part #: C32026-15 Supplier: 81205

D. Location Zones

Zone	Area
713	Nose Landing Gear
734	Left Main Landing Gear
744	Right Main Landing Gear

E. Precautions for the Tail Stand

SUBTASK 07-10-03-840-024

(1) Obey the following tail stand precautions:



CAUTION

DO NOT TOW THE AIRPLANE WHILE THE TAIL STAND IS INSTALLED. WHEN YOU TOW THE AIRPLANE WHILE THE TAIL STAND IS INSTALLED, IT CAN CAUSE DAMAGE TO EQUIPMENT.

(a) Do not tow the airplane while the tail stand is installed.



CAUTION

DO NOT DEFLATE OR SERVICE THE SHOCK STRUTS WHILE THE TAIL STAND IS INSTALLED. IF YOU DEFLATE OR SERVICE THE SHOCK STRUTS, THE LOAD ON THE TAIL STAND CAN BE TOO LARGE. THIS CAN CAUSE DAMAGE TO EQUIPMENT.

(b) Do not deflate or service the shock struts while the tail stand is installed.



CAUTION

DO NOT JACK THE AIRPLANE AT THE MAIN JACK POINTS OR AXLES WHILE THE TAIL STAND IS INSTALLED. IF YOU JACK THE AIRPLANE, THE LOAD ON THE TAIL STAND CAN BE TOO HIGH WHICH CAN CAUSE DAMAGE TO EQUIPMENT.

(c) Do not jack the airplane at the main jack points or axles while the tail stand is installed.

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F. Prepare to Lift the Main Landing Axles with the Axle Jacks

SUBTASK 07-10-03-840-007



DO NOT LIFT THE AIRCRAFT ON JACKS IF THE WIND SPEED IS MORE THAN 30 KNOTS. WIND CAN CAUSE THE AIRCRAFT TO FALL FROM THE JACKS.

- (1) Do not put the airplane on jacks if the wind speed is more than 35 mph (30 knots).

SUBTASK 07-10-03-840-008



MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

- (2) Make sure that the landing gear downlock pins equipment, SPL-1880, is installed (TASK 32-00-01-480-801).

SUBTASK 07-10-03-840-009



MOVEMENT OF CARGO, PASSENGERS, OR CREW INTO OR OUT OF THE AIRPLANE WHILE THE AXLES ARE ON JACKS CAN CAUSE A CHANGE IN THE CENTER OF GRAVITY AND CAUSE A HIGH LOAD ON THE AXLE JACKS. IT CAN ALSO CAUSE THE AIRPLANE TO FALL OFF THE JACKS. INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (3) Make sure that the airplane center of gravity is within the specified limits (Figure 206).

SUBTASK 07-10-03-840-010

- (4) Set the stabilizer, aileron, and rudder trim controls to zero.

SUBTASK 07-10-03-840-011

- (5) Make sure that the airplane is turned in the wind direction when the airplane is not in a hangar.

NOTE: The airplane can be lifted on the airplane axles in winds to 35 mph (30 knots).

SUBTASK 07-10-03-840-012

- (6) Make sure that the parking brake is set.

G. Lift the Main Landing Gear Axles with Axle Jacks

SUBTASK 07-10-03-580-006

- (1) Make sure that the axle jack point loads are correct for the tire condition and axle jack used (Table 203 and Figure 205).

SUBTASK 07-10-03-580-024



INSTALL THE JACK AT THE SPECIFIED AXLE JACK PAD. IF YOU INSTALL IT AT A DIFFERENT LOCATION, DAMAGE TO THE LANDING GEAR WILL OCCUR.

- (2) If one tire on the main gear axle is flat, do these steps:
 - (a) Install the axle jack, COM-5928, or equivalent directly below the jack pads on the landing gear axles.
 - 1) Prepare the standard axle jacks (Figure 204).

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- 2) Check the axle jack heights, clearances, and tire conditions (Table 203 and Figure 205).

Table 203/07-10-03-993-801 Main Landing Gear Axle Jack Points

TIRE CONDITION	TIRE SIZE H 44.5x16.5, ALL PLY RATINGS (Figure 202 for Dimensions A and B)	
	A ^{*[1]*[2]}	B ^{*[3]*[2]}
NORMAL INFLATION	12.9 in. (327.7 mm)	15.8 in. (401.3 mm)
TWO TIRES FLAT	8.5 in. (215.9 mm)	14.6 in. (370.8 mm)
ON WHEEL RIMS	6.8 in. (172.7 mm)	18.3 in. (464.8 mm)
ON JACKS FOR TIRE CHANGE, TIRES INFLATED, GROUND CLEARANCE 2 in. (51 mm)	19.0 in. (482.6 mm)	N/A

*[1] Distance from the ground to the bottom of the jack pad.

*[2] Maximum taxi weight.

*[3] Distance between the tires.

SUBTASK 07-10-03-580-007

- (3) If the axle jacks cannot be installed or are not available, do these steps:



WARNING

MAKE SURE THE INCLINE BLOCK RAMP ANGLE IS NOT MORE THAN 5 DEGREES. IF THE ANGLE IS HIGHER, YOU CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

- (a) Put an incline block below the good wheel (Figure 207).
 - 1) Make sure that the incline block ramp angle is not more than 5 degrees.
 - 2) Make sure that the block is of sufficient height to make the subsequent installation of an axle jack not necessary.
- (b) Tow the airplane to move the main landing gear wheel up on the incline blocks (TASK 09-10-00-580-802).
- (c) Install the wheel chocks, COM-1505, on one set of wheels on each shock strut that is not being lifted with the jack (TASK 10-11-05-500-801).
- (d) Put the axle jack, COM-5928, or equivalent directly below the jack pads on the landing gear axles.
- (e) Release the parking brake.



WARNING

OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (f) Operate the axle jack to lift the airplane to the correct height to get a 2.0 in. (50.8 mm) ground clearance.
NOTE: Use the jack manufacturer's instructions.
- (g) Make sure that the jack point loads are not more than the limits (Table 204).

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Table 204/07-10-03-993-806 737 MAX Axle Jack Point Load Specifications

MODEL MLG/NLG axle jack, COM-5928								
MAX. JACK LOAD	MIN. HT.	MAX. HT.	DIST. BTW. TIRES	CAP.	MIN. HT.	HYD. LIFT	SCREW EXT.	MAX. HT.
MAIN LANDING GEAR AXLE: ROUTINE, JACK POINT E								
42.7 t (38.7 mt)	12.6 in. (320.0 mm)	19.0 in. (482.6 mm)*[1]	15.8 in. (401.3 mm)*[2]	45 t (41 mt)	7 in. (178 mm)	12 in. (305 mm)	2.8 in. (71.1 mm)	21.9 in. (556.3 mm)
MAIN LANDING GEAR AXLE: FLATS, JACK POINT E								
42.7 t (38.7 mt)	8.5 in. (215.9 mm)	19.0 in. (482.6 mm)*[1]	14.6 in. (370.8 mm)	45 t (41 mt)	7 in. (178 mm)	12 in. (305 mm)	2.8 in. (71.1 mm)	21.9 in. (556.3 mm)
NOSE LANDING GEAR AXLE: ROUTINE, JACK POINT F								
9.6 t (8.7 mt)	8.9 in. (226.1 mm)	13.3 in. (337.8 mm)*[1]	7.2 in. (182.9 mm)	45 t (41 mt)	7 in. (178 mm)	12 in. (305 mm)	2.8 in. (71.1 mm)	21.9 in. (556.3 mm)
NOSE LANDING GEAR AXLE: FLATS, JACK POINT F								
9.6 t (8.7 mt)	6.8 in. (172.7 mm)	13.3 in. (337.8 mm)*[1]	6.5 in. (165.1 mm)	10 t (9 mt)	6 in. (152 mm)	8.25 in. (209.55 mm)	3 in. (76 mm)	17.25 in. (438.15 mm)

NOTES:

The aircraft manufacturer's specification and instructions must be followed. In the event of contradiction between the aircraft manufacturer's specifications, the aircraft manufacturer's specifications prevail.

Capacities shown in tons and (metric tons). Dimensions shown in inches and (millimeters).

Axle jack point heights are based on:

- Main gear tires H44.5 x 16.5-21
- Nose gear tires 27 x 7.75-15
- All tires are at normal inflation pressure.

*[1] Allows a 2 in. (51 mm) ground clearance.

*[2] Clearance between brake assemblies is 11.4 in. (289.6 mm).

(h) Replace the main landing gear wheel and tire assembly.

- 1) Do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-11-000-801.
- 2) Do this task: Main Landing Gear Wheel and Tire Assembly - Installation, TASK 32-45-11-400-801.

SUBTASK 07-10-03-580-008

(4) If two tires on the main gear axle are flat, do these steps:

(a) Install the Flyaway Axle Jack, COM-1486, directly below the axle jack pad.

- 1) If the Flyaway Axle Jack, COM-1486, cannot be installed, put nitrogen in tires or use incline blocks (Figure 207 and TASK 12-15-51-610-802).

(b) Release the parking brake.

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OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (c) Operate the Flyaway Axle Jack, COM-1486, to lift the landing gear axle.
 - 1) Lift the axle with the Flyaway Axle Jack, COM-1486, to get sufficient clearance to install the main gear axle jack, COM-5928, or equivalent.
- (d) Install the main gear axle jack, COM-5928, or equivalent directly below the jack point of the axle with the two flat tires.



WARNING

OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (e) Operate the axle jack to lift the airplane to the correct height to get a 2.0 in. (50.8 mm) ground clearance.

NOTE: Refer to the jack manufacturer's instructions.
- (f) Make sure that the jack point loads are not more than the limits (Table 204).
- (g) Remove the Flyaway Axle Jack, COM-1486.
- (h) Replace the main landing gear wheel and tire assembly.
 - 1) Do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-11-000-801.
 - 2) Do this task: Main Landing Gear Wheel and Tire Assembly - Installation, TASK 32-45-11-400-801.

SUBTASK 07-10-03-580-025

- (5) If axle jacks of a correct height are not available, do one of the following procedures:



WARNING

USE A REGULATED PRESSURE SOURCE TO SERVICE THE TIRES. AN UNREGULATED PRESSURE SOURCE CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO THE EQUIPMENT.

- (a) Add nitrogen to the main landing gear tires that are serviceable as follows:

NOTE: A serviceable tire is a tire that is installed, inflated, and the tire condition is satisfactory. A minimum of one tire must be serviceable.

 - 1) Do this task: Add Nitrogen or Air to the Tire, TASK 12-15-51-610-802.
 - 2) Install the main gear axle jack, COM-5928, or equivalent.
 - 3) Install the wheel chock, COM-1505, on one set of wheels on each shock strut that is not being lifted (TASK 10-11-05-500-801).



WARNING

MAKE SURE THE INCLINE BLOCK RAMP ANGLE IS NOT MORE THAN 5 DEGREES. IF THE ANGLE IS HIGHER, YOU CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

- (b) Lift the main gear wheels onto incline blocks as follows (Figure 207):
 - 1) Put one incline block below each wheel of the main gear axle where an axle jack is necessary (Figure 207).



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- a) Make sure that the incline block ramp angle is not more than 5 degrees.

NOTE: The blocks must be level at a minimum height of 4 in. (102 mm) to install a jack with a closed height of 10 in. (254 mm).

- 2) Tow the airplane to move the main landing gear wheel up on the incline blocks (TASK 09-10-00-580-802).
- 3) Put a wheel chock, COM-1505, around the nose gear and opposite main landing gear (TASK 10-11-05-500-801).

- (c) Install the main gear axle jack, COM-5928, or equivalent.



WARNING

OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (d) Operate the axle jack, COM-5928, or equivalent to lift the airplane to the correct height to get a 2.0 in. (50.8 mm) ground clearance.

NOTE: Refer to the jack manufacturer's instructions.

- (e) Make sure that the jack point loads are not more than the limits (Table 204).
- (f) Replace the main landing gear wheel and tire assembly.
- 1) Do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-11-000-801.
- 2) Do this task: Main Landing Gear Wheel and Tire Assembly - Installation, TASK 32-45-11-400-801.

SUBTASK 07-10-03-580-009

- (6) If three tires are flat on the main gear axle, do these steps:
- (a) Replace the tire on the axle with the one flat tire first.
- 1) Replace the two flat tires on the other axle.
- (b) Do the procedures for two flat tires to lift the airplane in this task.

SUBTASK 07-10-03-580-010

- (7) If four tires are flat on the main gear axle, do these steps:



CAUTION

REPLACE THE AFT AXLE TIRES ON THE MAIN LANDING GEAR BEFORE THE FORWARD AXLE TIRES WHEN THEY ARE ALL FLAT. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE AIRPLANE CAN OCCUR.

- (a) Replace the tires on the rear axle first.
- 1) Replace the forward axle tires.
- (b) Do the procedures for two flat tires to lift the airplane in this task.

SUBTASK 07-10-03-580-019

- (8) If no tires are flat on the main gear axle, do these steps:

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FULLY DEFLATE THE TIRE BEFORE YOU REMOVE THE WHEEL AND TIRE ASSEMBLY. OR, DO AN INSPECTION OF THE WHEEL AND TIRE TO MAKE SURE THAT THEY ARE SAFE. AIR PRESSURE CAN CAUSE AN EXPLOSION OF THE DAMAGED WHEEL AND TIRE COMPONENTS. INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT CAN OCCUR.



REMOVE ONLY ONE WHEEL AND TIRE ASSEMBLY FROM THE MAIN LANDING GEAR AT A TIME. IF YOU REMOVE THE TWO WHEEL AND TIRE ASSEMBLIES AT THE SAME TIME, STRUCTURAL DAMAGE AND INJURY TO PERSONS CAN OCCUR IF THE AIRPLANE FALLS.

- (a) Put the jack directly below the jack pad on the main landing gear axles, do these steps:
- 1) Examine the wheels on the axles that are not lifted with the jack.
 - 2) Install the wheel chock, COM-1505, on all of the wheels on the axles that are not being lifted with the jack (PAGEBLOCK 10-11-05/201).



OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- 3) Install the axle jack, COM-5928, or equivalent to lift the airplane to the correct height.

NOTE: Refer to the jack manufacturer's instructions.

H. Put the Airplane Back to its Usual Condition

SUBTASK 07-10-03-580-020

- (1) Make sure that the area below the airplane is clear of all personnel and equipment.

SUBTASK 07-10-03-580-011



OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (2) Lower the airplane off the axle jacks.

NOTE: Refer to the jack manufacturer's instructions.

SUBTASK 07-10-03-580-021

- (3) Remove all jack equipment from below forward and aft axles.

SUBTASK 07-10-03-580-022

- (4) Install the wheel chock, COM-1505 (TASK 09-10-00-580-802).

————— **END OF TASK** —————

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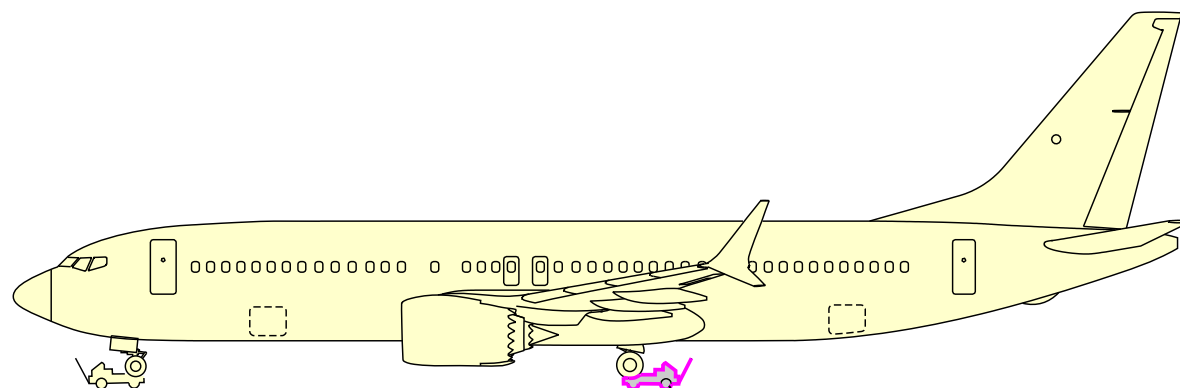
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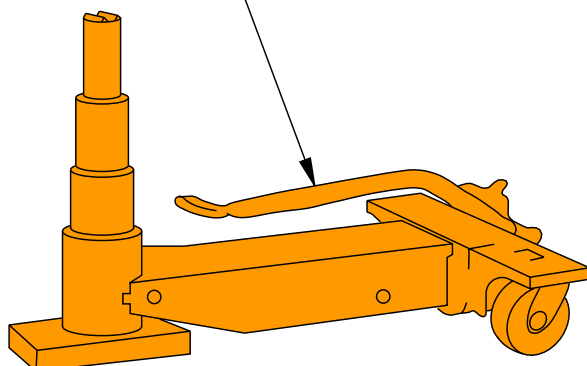
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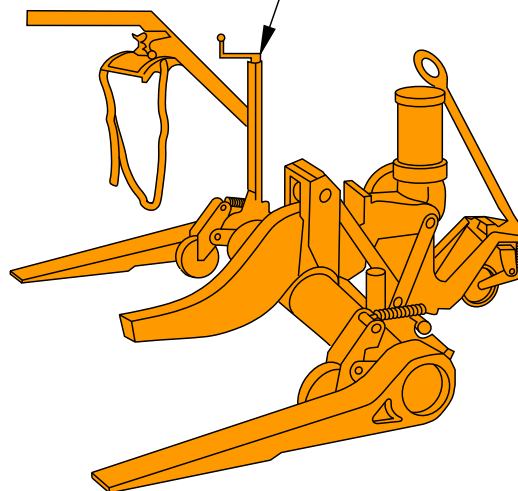
MAIN GEAR AXLE
JACKING POINTS
(LEFT SIDE IS SHOWN,
RIGHT SIDE IS OPPOSITE)

A

AXLE JACK
(WHEELED, ALLIGATOR TYPE)



AXLE JACK
(CANTILEVER
RHINO TYPE)



STANDARD AXLE JACKS

A

AXLE JACK
(HAND CARRY TYPE)



2455315 S0000569881_V1

Main Landing Gear Jacking Points, Standard Axle Jacks
Figure 204/07-10-03-990-809

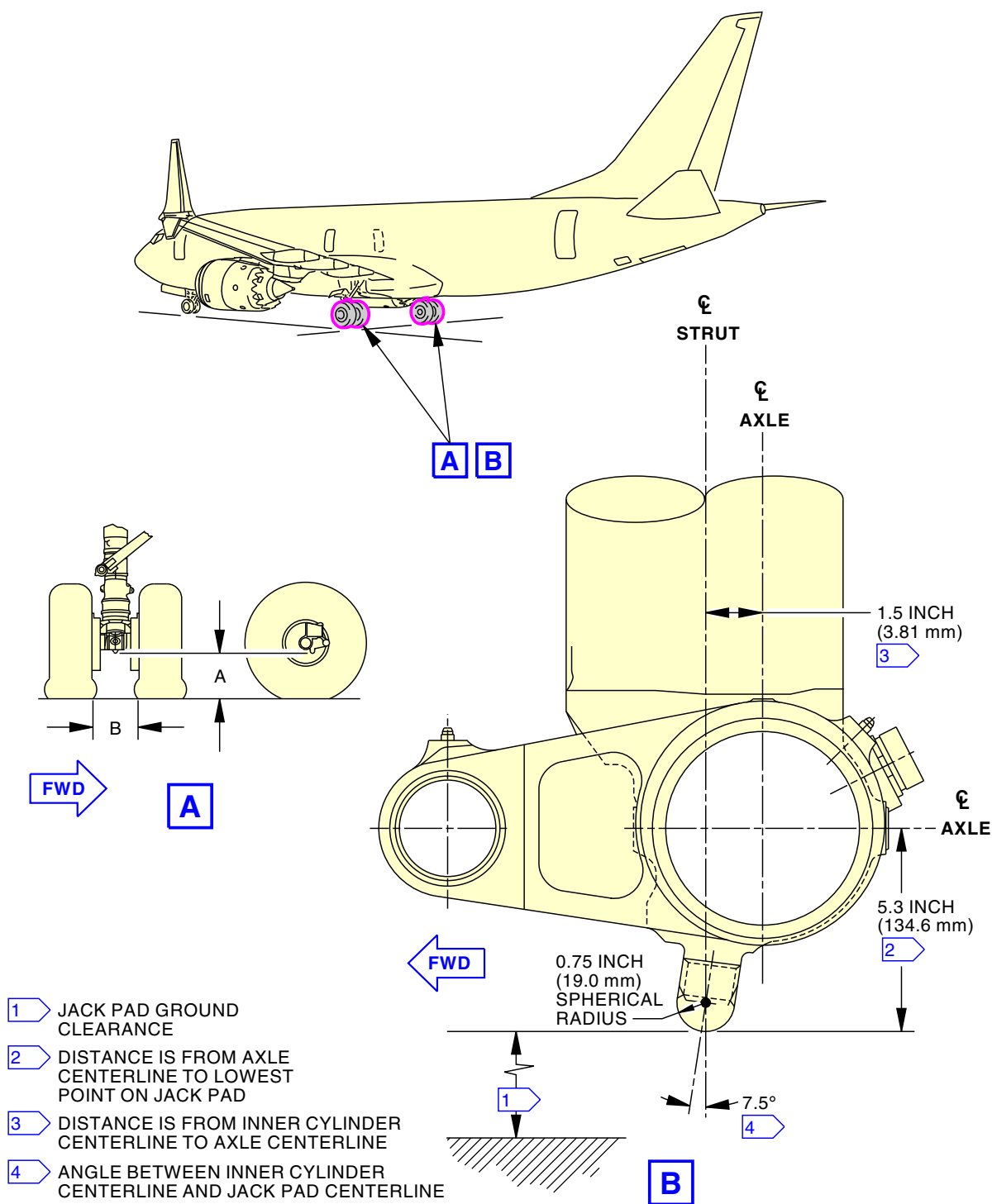
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2455482 S0000569884_V3

Main Landing Gear Jacking Points and Tire Conditions
Figure 205/07-10-03-990-810

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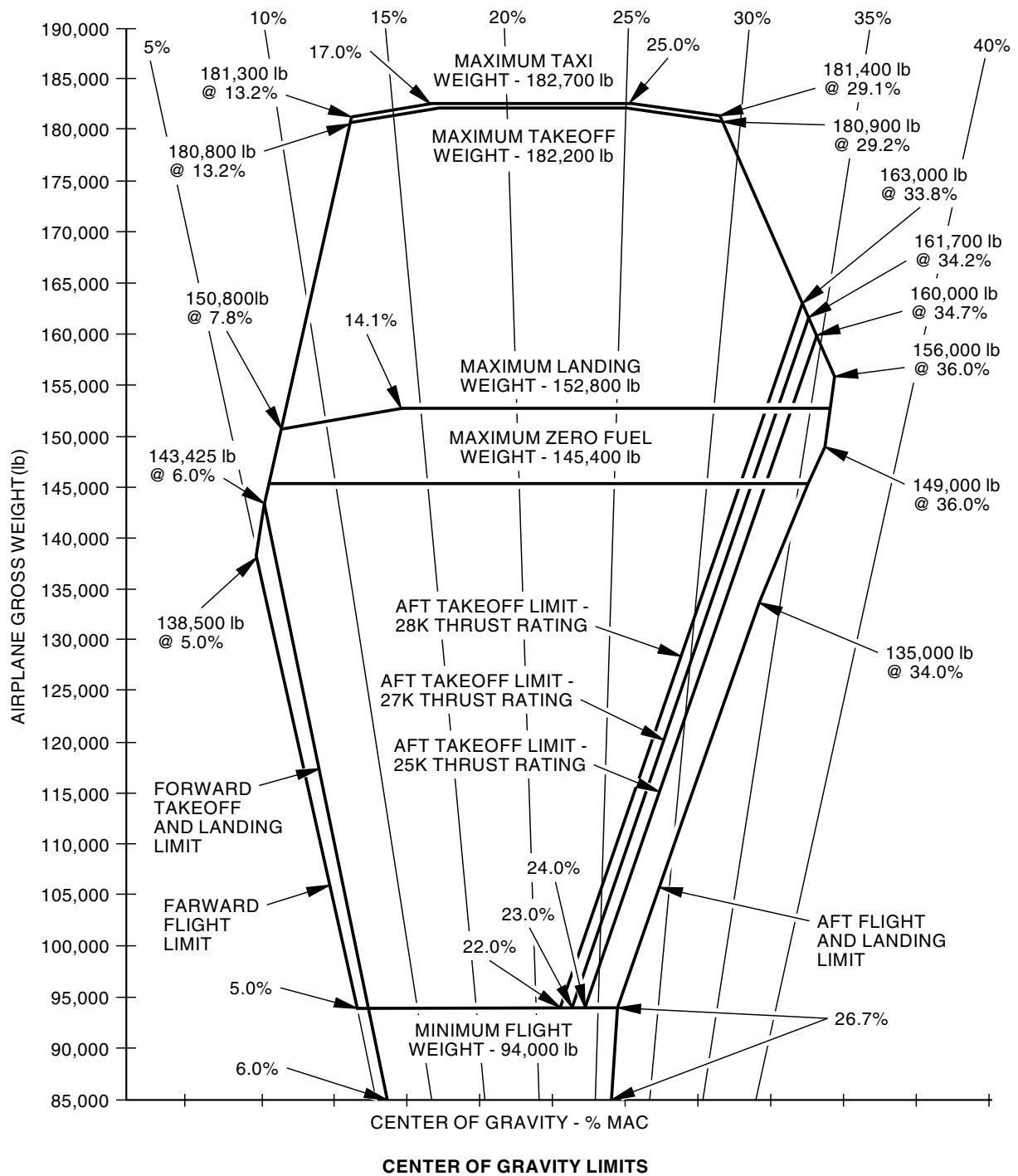
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2410653 S00061526059_V5

Maximum Gross Weight versus Center of Gravity
Figure 206/07-10-03-990-811

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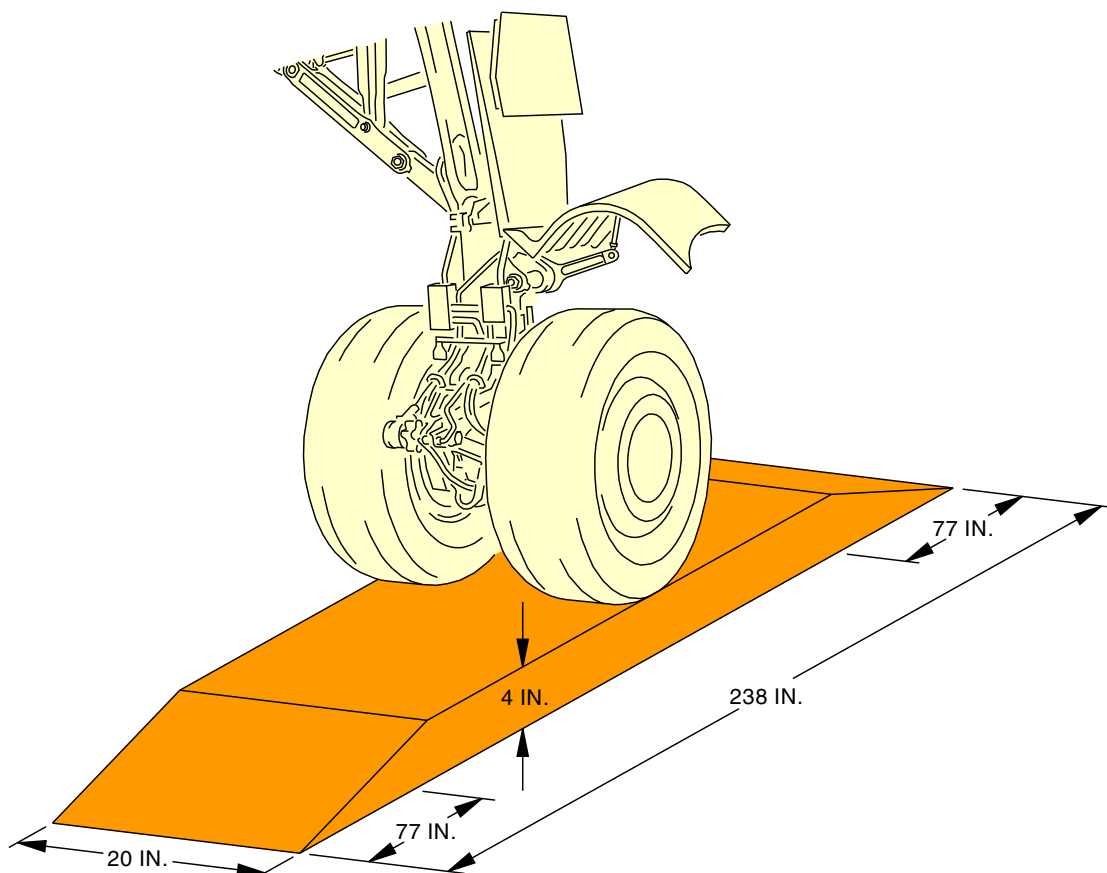
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2456824 S0000569885_V1

Incline Block, Example
Figure 207/07-10-03-990-812

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TASK 07-10-03-580-803

4. Lift the Nose Landing Gear Axle With Axle Jacks-Handling

(Figure 201, Figure 208, and Figure 210)

A. General

- (1) This task can be used for one, two, or no tires flat on the same axle.
- (2) The nose landing gear jack point is on the axle center line of the gear.
 - (a) The jack point is a pad with a male 0.75 in. (19.05 mm) spherical radius that is part of the nose gear.
- (3) Follow these safety instructions when the airplane is lifted on the axle jacks:
 - (a) Remove only one wheel on each gear at a time.

NOTE: Two wheels can be removed from the nose gear only when a jack with a mechanical safety device (lock device) is used.

- (4) If it is possible, make sure that the airplane is turned in the wind direction when it is not parked in a hangar or at a gate.

B. References

Reference	Title
07-10-21-580-801	Lift the Airplane Nose with the Nose Jack at Jack Point D (P/B 201)
09-10-00-580-801	Nose Gear Maintenance Towing (P/B 201)
10-11-05 P/B 201	CHOCK INSTALLATION
10-11-05-500-801	Chock Installation Winds/Gusts Maximum 40 mph (35 Knots) (P/B 201)
12-15-51-610-802	Add Nitrogen or Air to the Tire (P/B 301)
32-00-01-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-45-21-000-801	Nose Landing Gear Wheel and Tire Assembly Removal (P/B 401)
32-45-21-400-801	Nose Landing Gear Wheel and Tire Assembly Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

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Reference	Description
COM-1484	Jack - Axle, Nose Gear Part #: 0152.00 Supplier: 1777B Part #: 02-7813C0100 Supplier: 59603 Part #: 5004-55 Supplier: 00994 Part #: 5007-56 Supplier: 00994 Part #: 53D22004 Supplier: 00994 Part #: 642S Supplier: 94861 Part #: 8842 Supplier: 94861 Part #: J-AXLE12HPA Supplier: CD856 Part #: RC4509 Supplier: D2029 Part #: RH1606 Supplier: D2029 Opt Part #: 1008-50 Supplier: 00994 Opt Part #: 5923-010 Supplier: 00994 Opt Part #: RH1029 Supplier: D2029
COM-1505	Chocks - Wheel Part #: 19CAL455 - Type 1 Supplier: \$1329 Part #: 99-9028-6000 Supplier: 59603 Part #: AC6820-LR Supplier: 032T9 Part #: ALPHACHOCKS MID Supplier: 6X2T Part #: W86 Supplier: 3XZM7 Part #: W88 Supplier: 3XZM7 Opt Part #: W92 Supplier: 9L752
COM-5928	Jack - Axle, Main Gear Part #: 50P9AR Supplier: 94861 Part #: 65P10 Supplier: 94861 Part #: 65P10AR Supplier: 94861 Part #: 8842 Supplier: 94861 Part #: 8919 Supplier: 94861 Part #: RC4509 Supplier: D2029
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1880	Equipment - Downlock, NLG and MLG Part #: C32026-15 Supplier: 81205

D. Location Zones

Zone	Area
713	Nose Landing Gear

E. Precautions for the Tail Stand

SUBTASK 07-10-03-840-025

- (1) Obey the following tail stand precautions:



CAUTION

DO NOT TOW THE AIRPLANE WHILE THE TAIL STAND IS INSTALLED.
WHEN YOU TOW THE AIRPLANE WHILE THE TAIL STAND IS
INSTALLED, IT CAN CAUSE DAMAGE TO EQUIPMENT.

- (a) Do not tow the airplane while the tail stand is installed.

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DO NOT DEFLATE OR SERVICE THE SHOCK STRUTS WHILE THE TAIL STAND IS INSTALLED. IF YOU DEFLATE OR SERVICE THE SHOCK STRUTS, THE LOAD ON THE TAIL STAND CAN BE TOO LARGE. THIS CAN CAUSE DAMAGE TO EQUIPMENT.

- (b) Do not deflate or service the shock struts while the tail stand is installed.



DO NOT JACK THE AIRPLANE AT THE MAIN JACK POINTS OR AXLES WHILE THE TAIL STAND IS INSTALLED. IF YOU JACK THE AIRPLANE, THE LOAD ON THE TAIL STAND CAN BE TOO HIGH WHICH CAN CAUSE DAMAGE TO EQUIPMENT.

- (c) Do not jack the airplane at the main jack points or axles while the tail stand is installed.

F. Prepare to Lift the Nose Landing Gear Axle with the Axle Jack

SUBTASK 07-10-03-840-014



DO NOT LIFT THE AIRCRAFT ON JACKS IF THE WIND SPEED IS MORE THAN 30 KNOTS. WIND CAN CAUSE THE AIRCRAFT TO FALL FROM THE JACKS.

- (1) Do not put the airplane on jacks if the wind speed is more than 35 mph (30 knots).

SUBTASK 07-10-03-840-015



MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

- (2) Make sure that the landing gear downlock pins equipment, SPL-1880, and NLG towing lever pin, SPL-1499, are installed (TASK 32-00-01-480-801).

SUBTASK 07-10-03-840-016



MOVEMENT OF CARGO, PASSENGERS, OR CREW INTO OR OUT OF THE AIRPLANE WHILE THE AXLES ARE ON JACKS CAN CAUSE A CHANGE IN THE CENTER OF GRAVITY AND CAUSE A HIGH LOAD ON THE AXLE JACKS. IT CAN ALSO CAUSE THE AIRPLANE TO FALL OFF THE JACKS. INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (3) Make sure that the airplane center of gravity is within the specified limits (Figure 208).

SUBTASK 07-10-03-840-017

- (4) Set the stabilizer, aileron, and rudder trim controls to zero.

SUBTASK 07-10-03-840-018

- (5) Make sure that the airplane is turned in the wind direction when the airplane is not in a hangar or at a gate.

NOTE: The airplane can be lifted on the airplane axles in winds to 35 mph (30 knots).

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G. Lift the Nose Landing Gear Axle with the Axle Jack

SUBTASK 07-10-03-580-012



INSTALL THE JACK AT THE SPECIFIED AXLE JACK PAD. IF YOU INSTALL IT AT A DIFFERENT LOCATION, DAMAGE TO THE LANDING GEAR WILL OCCUR.

- (1) If the airplane is lifted at nose jack point D, an axle jack is not necessary (TASK 07-10-21-580-801).

SUBTASK 07-10-03-860-003

- (2) If one tire on the nose gear axle is flat, do these steps:
 - (a) Use the axle jack to lift the airplane.
 - (b) If you cannot install the axle jack or it is not available, do these steps:



MAKE SURE THE INCLINE BLOCK RAMP ANGLE IS NOT MORE THAN 5 DEGREES. IF THE ANGLE IS HIGHER, YOU CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

- 1) Put an inclined block below the good wheel.
 - a) Make sure that the incline block ramp angle is not more than 5 degrees.
 - b) Make sure that the block is of sufficient height to make the subsequent installation of an axle jack not necessary.
- 2) Tow the airplane to move the nose landing gear wheel up on the incline blocks (TASK 09-10-00-580-801).

SUBTASK 07-10-03-860-004

- (3) If two tires on the nose gear axle are flat, do these steps:
 - (a) If jacks of a correct height are available, use the axle jacks to lift the airplane.
 - (b) If jacks of a correct height are not available, do one of the two following procedures:
 - 1) Do the servicing of the nose landing gear tire that is serviceable (TASK 12-15-51-610-802).
 - a) Make sure that one tire is in satisfactory condition to be inflated and is installed correctly.
 - b) Install the axle jack, COM-1484, or equivalent.



MAKE SURE THE INCLINE BLOCK RAMP ANGLE IS NOT MORE THAN 5 DEGREES. IF THE ANGLE IS HIGHER, YOU CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

- 2) Lift the nose gear wheels onto inclined blocks:
 - a) Put one inclined block below each wheel of the nose gear axle that you need to install an axle jack.
 - b) Make sure that the incline block ramp angle is not more than 5 degrees.

NOTE: The blocks must be level at a minimum height of 4 in. (102 mm) to install a jack with a closed height of 10 in. (254 mm).
 - c) Tow the airplane to move the nose landing gear wheels up on the incline blocks (TASK 09-10-00-580-801).

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- d) Install the nose axle jack, COM-1484, or equivalent.

SUBTASK 07-10-03-580-015

- (4) Install the wheel chocks, COM-1505, on the main landing gear (TASK 10-11-05-500-801).

SUBTASK 07-10-03-580-017



OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (5) Operate the nose axle jack, COM-1484, or equivalent to lift the airplane to the correct height to get a 2.0 in. (50.8 mm) ground clearance.

NOTE: Refer to the jack manufacturer's instructions.

- (a) Make sure that the jack point loads are not more than the limits (Table 205 and Figure 210).

Table 205/07-10-03-993-802 Nose Landing Gear Axle Jacking Specifications

CONDITION	TIRE SIZE 27 X 7.75, ALL PLY RATINGS (Figure 210 for Dimensions A and B)	
	A ^{*[1]*[2]}	B ^{*[3]}
NORMAL INFLATION	9.0 in. (228.6 mm)	7.2 in. (182.9 mm)
TWO TIRES FLAT	6.8 in. (172.7 mm)	6.5 in. (165.1 mm)
ON WHEEL RIMS	5.25 in. (133.4 mm) ^{*[4]}	8.5 in. (215.9 mm)
ON JACKS FOR TIRE CHANGE, TIRES INFLATED, GROUND CLEARANCE 2 in. (51 mm)	13.3 in. (337.8 mm)	N/A
NOTE: Maximum nominal inflation pressure is 208 psig (15 kg/cm ²) at maximum weight.		

*[1] Distance from the ground to the bottom of the jack pad.

*[2] Maximum taxi weight.

*[3] Distance between the tires.

*[4] Based on NLG "Roll-on" Rim DIA= 15.0 in. (381.0 mm).

SUBTASK 07-10-03-580-018

- (6) Replace the nose landing gear wheel and tire assembly.
- (a) Do this task: Nose Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-21-000-801.
- (b) Do this task: Nose Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-21-400-801.

SUBTASK 07-10-03-580-023

- (7) If no tires are flat on the nose gear axle, do these steps:

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FULLY DEFLATE THE TIRE BEFORE YOU REMOVE THE WHEEL AND TIRE ASSEMBLY. OR, DO AN INSPECTION OF THE WHEEL AND TIRE TO MAKE SURE THAT THEY ARE SAFE. AIR PRESSURE CAN CAUSE AN EXPLOSION OF THE DAMAGED WHEEL AND TIRE COMPONENTS. INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT CAN OCCUR.



REMOVE ONE WHEEL AND THE TIRE ASSEMBLY FROM THE NOSE LANDING GEAR AT A TIME. IF YOU REMOVE THE TWO WHEEL AND THE TIRE ASSEMBLIES AT THE SAME TIME, THE AIRPLANE CAN FALL. STRUCTURAL DAMAGE AND INJURY TO PERSONNEL CAN OCCUR.

- (a) Put the jack directly below the jack pad on the nose landing gear axle, do these steps:
- 1) Examine the wheels on the axle that is not lifted with the jack.
 - 2) Install the wheel chock, COM-1505, on all of the wheels on the axles that are not being lifted with the jack (PAGEBLOCK 10-11-05/201).



OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- 3) Install the axle jack, COM-5928, or equivalent to lift the airplane wheel(s) to the necessary height.

NOTE: Refer to the jack manufacturer's instructions.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 07-10-03-840-026

- (1) Make sure that the area below the airplane is clear of personnel and equipment.

SUBTASK 07-10-03-840-019



OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (2) Lower the airplane off of the axle jack.

NOTE: Use the jack manufacturer's instructions.

SUBTASK 07-10-03-840-027

- (3) Remove the axle jack from below the axle.

SUBTASK 07-10-03-840-020

- (4) Remove the NLG towing lever pin, SPL-1499, from the nose wheel steering mechanism.

SUBTASK 07-10-03-840-022

- (5) Install the wheel chocks, COM-1505 (TASK 10-11-05-500-801).

————— **END OF TASK** —————

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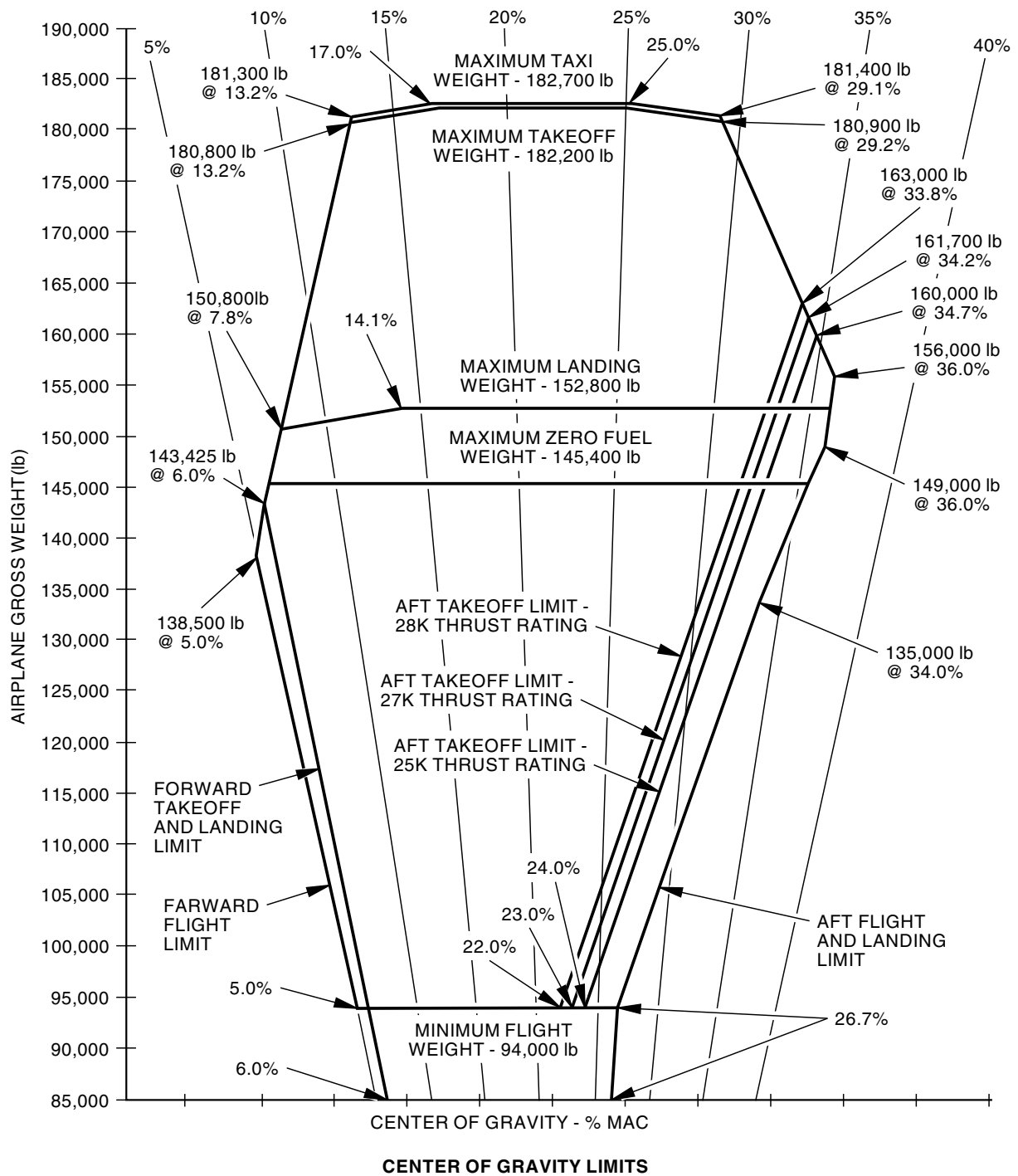
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Maximum Gross Weight versus Center of Gravity
Figure 208/07-10-03-990-805

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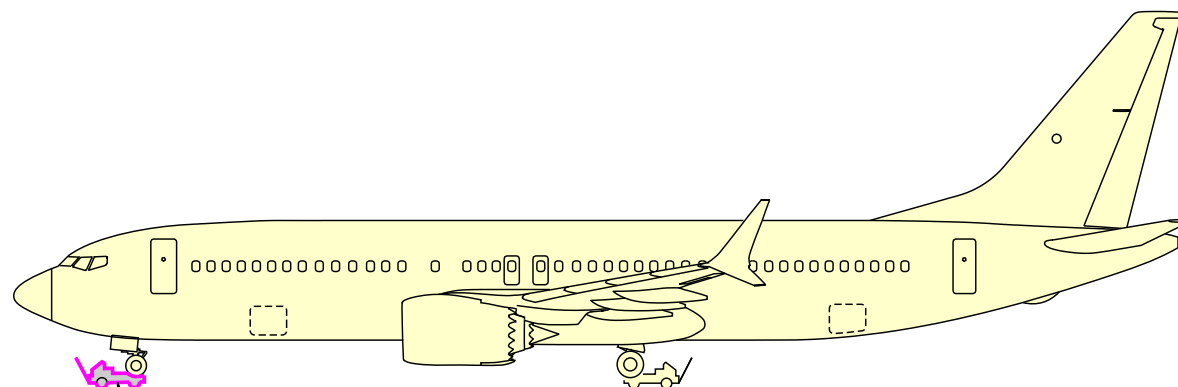
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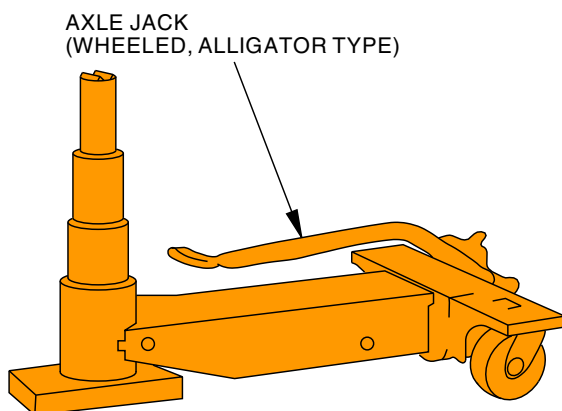


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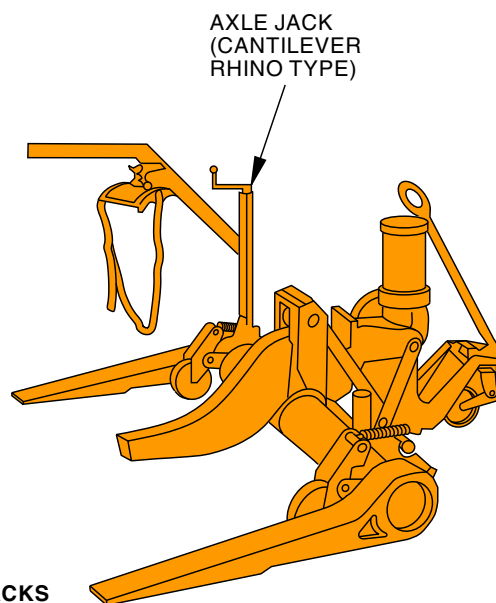


NOSE GEAR
AXLE JACKING
POINT

A



AXLE JACK
(WHEELED, ALLIGATOR TYPE)



AXLE JACK
(CANTILEVER
RHINO TYPE)



AXLE JACK
(HAND CARRY TYPE)

STANDARD AXLE JACKS

A

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Nose Landing Gear Jacking Point, Standard Axle Jack
Figure 209/07-10-03-990-806

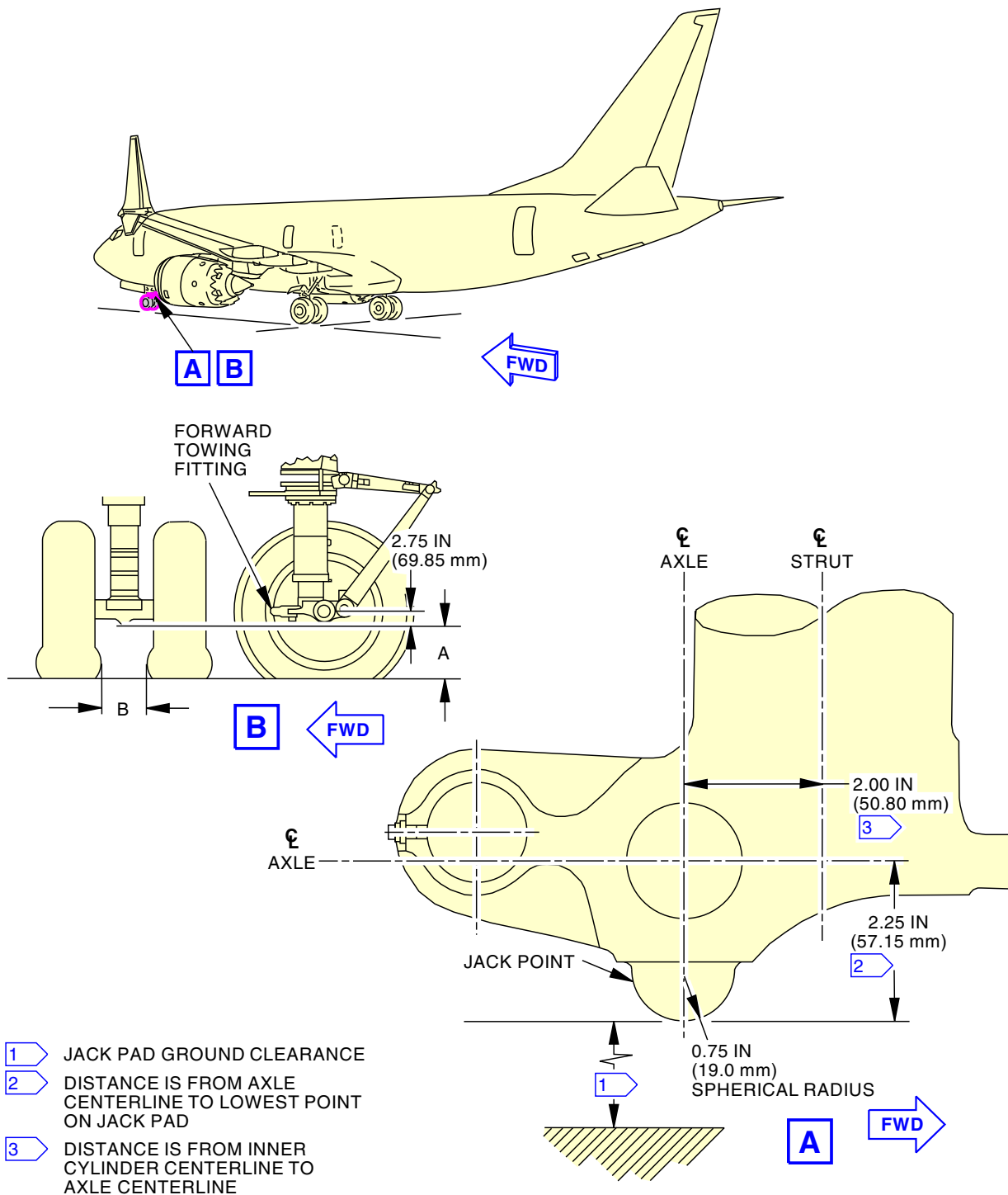
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Nose Landing Gear Axle Jack Point and Tire Conditions
Figure 210/07-10-03-990-807

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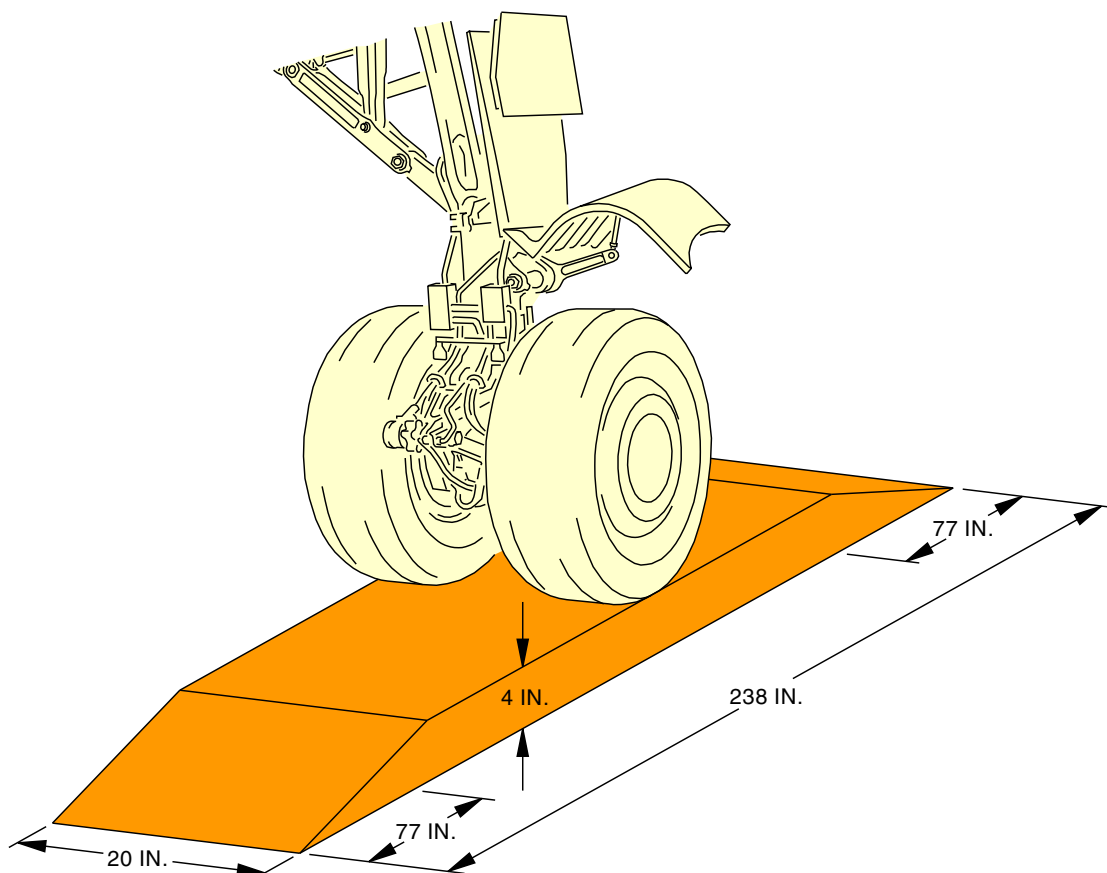
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Incline Block, Example
Figure 211/07-10-03-990-808

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TILT AIRPLANE FOR TAIL CLEARANCE - MAINTENANCE PRACTICES

1. **General**

- A. This procedure has these tasks:
- (1) Tilt the Airplane for Tail Clearance
 - (2) Balance Check for Tilted Airplane
 - (3) Tow the Tilted Airplane
 - (4) Lower the Airplane Nose.
- B. These procedures will lift the airplane nose, measure the balance of the airplane, tow the airplane, and lower the airplane nose. The first task will lower the airplane tail to get clearance through hangar doors. The next task is a balance check before you tilt the airplane. The next task is to tow the tilted airplane to the necessary location. The last task is to lower the airplane nose.
- C. Use the nose dolly to lift the nose of the airplane to get sufficient tail clearance to get through the hangar doors. As the airplane body attitude increases to a maximum of 10 degrees, 48 minutes, or the nose gear wheels are lifted 84 inches with maximum extension of the nose strut limited to 22 inches, the tail height is reduced to approximately 28 feet, dependant on the dolly manufacturer's limitations.
- D. When you tilt the airplane, install a ballast to keep the airplane constant when you lift the nose. See Figure 211 when the total airplane moment is below +900 for ballast requirements.
- E. A nose gear ramp can be used to get clearance to let the vertical tail through the hangar doors.

TASK 07-10-06-580-801

2. **Tilt the Airplane for Tail Clearance**

(Figure 201, Figure 202, Figure 203, Figure 211, and Figure 213)

A. **General**

- (1) A ballast must be installed when the total moment of the airplane about the main gear axle is not more than +1000. The ballast keeps the airplane stable when the airplane tail is lifted (Figure 211 and Figure 213).

B. **References**

Reference	Title
10-11-05-500-801	Chock Installation Winds/Gusts Maximum 40 mph (35 Knots) (P/B 201)
12-14-00-600-801	Potable Water System - Drain (P/B 301)
12-15-31-610-802	Main Landing Gear Shock Strut Servicing, Airplane on the Ground (P/B 301)
12-15-41-610-802	Nose Landing Gear Shock Strut Servicing, Airplane on the Ground (P/B 301)
12-17-01-610-801	Waste Tank Servicing (P/B 301)
28-26-00-650-801	Fuel Tank Defueling (P/B 201)
32-00-01-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-21-31-000-803	Nose Landing Gear Torsion Link Disconnection (P/B 401)

C. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

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Reference	Description
COM-1505	Chocks - Wheel Part #: 19CAL455 - Type 1 Supplier: \$1329 Part #: 99-9028-6000 Supplier: 59603 Part #: AC6820-LR Supplier: 032T9 Part #: ALPHACHOCKS MID Supplier: 6X2T Part #: W86 Supplier: 3XZM7 Part #: W88 Supplier: 3XZM7 Opt Part #: W92 Supplier: 9L752
COM-8827	Dolly - Lift, Nose Part #: AM-2067-M-100 Supplier: 9M323 Part #: HW0702 Supplier: D2029
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1880	Equipment - Downlock, NLG and MLG Part #: C32026-15 Supplier: 81205

D. Location Zones

Zone	Area
710	Subzone - Landing Gear: Nose Landing Gear and Landing Gear Doors
730	Subzone - Left Main Landing Gear and Landing Gear Doors
740	Subzone - Right Main Landing Gear and Landing Gear Doors

E. Prepare for the Lift the Airplane Nose with a Nose Lift Dolly

SUBTASK 07-10-06-840-001

- (1) Defuel the airplane to no more than 6000 lb (2722 kg) of fuel.

NOTE: The 6000 lb (2722 kg) is the maximum allowable fuel weight.

- (a) Do this task: Fuel Tank Defueling, TASK 28-26-00-650-801.

SUBTASK 07-10-06-840-002

- (2) Drain the potable water and waste water tanks.

- (a) Do this task: Potable Water System - Drain, TASK 12-14-00-600-801 .

- (b) Do this task: Waste Tank Servicing, TASK 12-17-01-610-801.

SUBTASK 07-10-06-840-003

- (3) If there is snow or ice on the empennage, remove the unwanted material.

SUBTASK 07-10-06-840-004

- (4) Inflate the nose landing gear shock strut (Figure 203).

- (a) Extend the shock strut (TASK 12-15-41-610-802).

- (b) Hold the shock strut with the nylon strap, rope, sling (or applicable equipment) to keep the dimension "X" to 23 in. (58.4 cm) maximum.

- (c) Make sure that dimension "X" is not more than 23 in. (58.4 cm).

SUBTASK 07-10-06-840-005

- (5) Deflate the main landing gear shock struts.

- (a) Do this task: Main Landing Gear Shock Strut Servicing, Airplane on the Ground, TASK 12-15-31-610-802.

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- (b) Make sure that the minimum extension on the shock struts is 1.50 ± 0.13 in. (38.10 ± 3.18 mm).

SUBTASK 07-10-06-840-006

- (6) Find the nose height that is necessary to get the correct tail clearance (Figure 202).

SUBTASK 07-10-06-840-007

- (7) Make sure that the nose landing gear is in the neutral steering position.

SUBTASK 07-10-06-480-001

- (8) Install the nose lift dolly, COM-8827, on the nose gear (Figure 201).
 - (a) Remove the rear lock bar from the nose lift dolly, COM-8827.
 - (b) Put the nose lift dolly, COM-8827, in the center of the nose gear.
 - (c) Disconnect the torsion links on the nose landing gear.
 - 1) Do this task: Nose Landing Gear Torsion Link Disconnection, TASK 32-21-31-000-803.
 - (d) Install the nose lift dolly, COM-8827, lock bar behind the tires.

SUBTASK 07-10-06-840-008



MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.



ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (9) Make sure that the landing gear downlock pins equipment, SPL-1880, and NLG towing lever pin, SPL-1499, are installed.
 - (a) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-01-480-801.

SUBTASK 07-10-06-480-002

- (10) Install the wheel chock, COM-1505, on the main landing gear wheels, loosely.
 - (a) Do this task: Chock Installation Winds/Gusts Maximum 40 mph (35 Knots), TASK 10-11-05-500-801.

SUBTASK 07-10-06-580-001

- (11) Make sure that the center of gravity and balance of the airplane are correct before you lift the airplane nose.
 - (a) Do this task: Balance Check for the Tilted Airplane, TASK 07-10-06-280-801.

NOTE: When the airplane is turned to a tilted position, the center of gravity changes to follow the main gear axle. The aft movement, plus additional adverse effects or wind, upgrades, and fuel movement causes the airplane to tip or settle on, or momentarily touch the ground. The balance check procedures must be recorded to make sure that the airplane is balanced correctly before you lift the airplane.



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SUBTASK 07-10-06-480-003

- (12) Install the ballast if total moment is not correct (Figure 211 and Figure 213).

NOTE: When the total moment of the airplane about the main gear axle is not more than +1000 in-lbX(10)-3 the ballast must be installed. The ballast keeps the airplane stable when you lift the nose of the airplane.

F. Lift the Airplane Nose with the Nose Lift Dolly

SUBTASK 07-10-06-580-002



OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE NOSE DOLLY. IF YOU DO NOT FOLLOW THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Lift the airplane nose to the necessary height with the nose lift dolly, COM-8827.

NOTE: Refer to the manufacturer's instructions.

SUBTASK 07-10-06-580-003

- (2) Operate the gear scoop DOWN to hold the nose lift dolly, COM-8827, in the uplock position.

SUBTASK 07-10-06-580-004

- (3) Release the parking brake.

SUBTASK 07-10-06-580-005

- (4) Do a check again to make sure that the dimension "X" is not more than 23 in. (58.4 cm) (Figure 203).
- (a) Do not tow the airplane when the strut dimension "X" is more than 23 in. (58.4 mm).
 - (b) If dimension "X" is more than 23 in. (58.4 cm), release pressure in the shock strut until dimension "X" is 23 in. (58.4 cm) or less.
 - 1) Adjust the strap equipment to keep the dimension "X" to 23 in. (58.4 cm) maximum.

SUBTASK 07-10-06-580-006

- (5) Tow the airplane to the necessary location.
- (a) Do this task: Tow the Tilted Airplane, TASK 07-10-06-580-802.

————— **END OF TASK** —————

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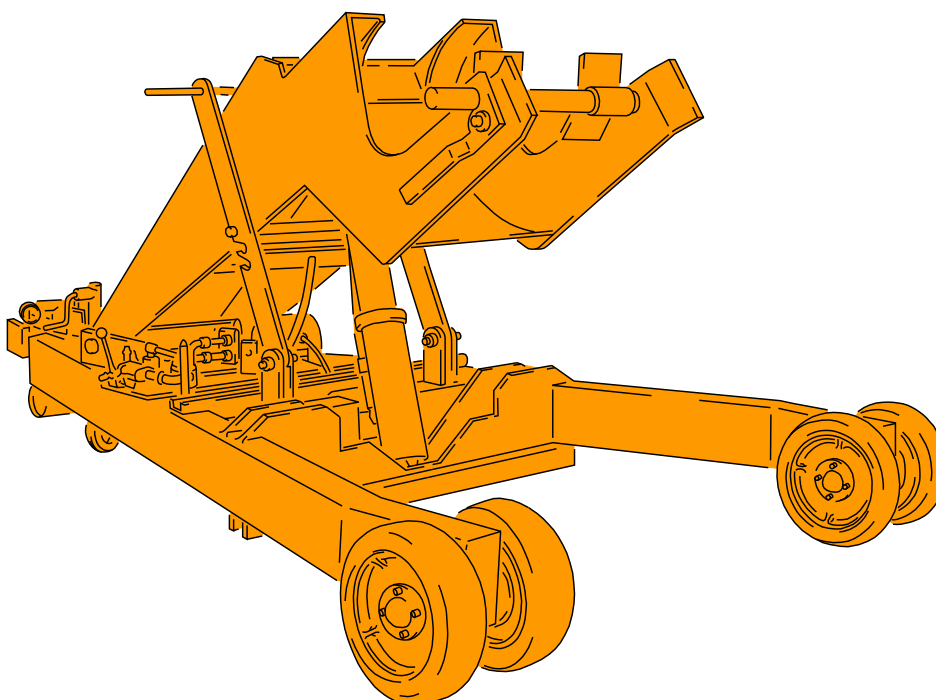
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Nose Lift Dolly, Example
Figure 201/07-10-06-990-801

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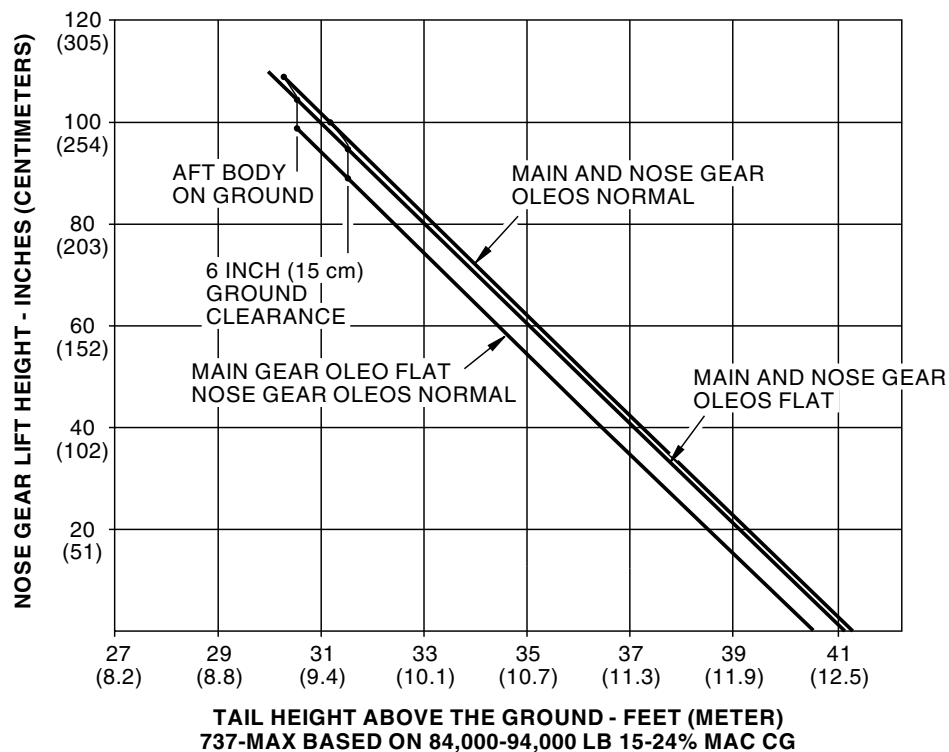
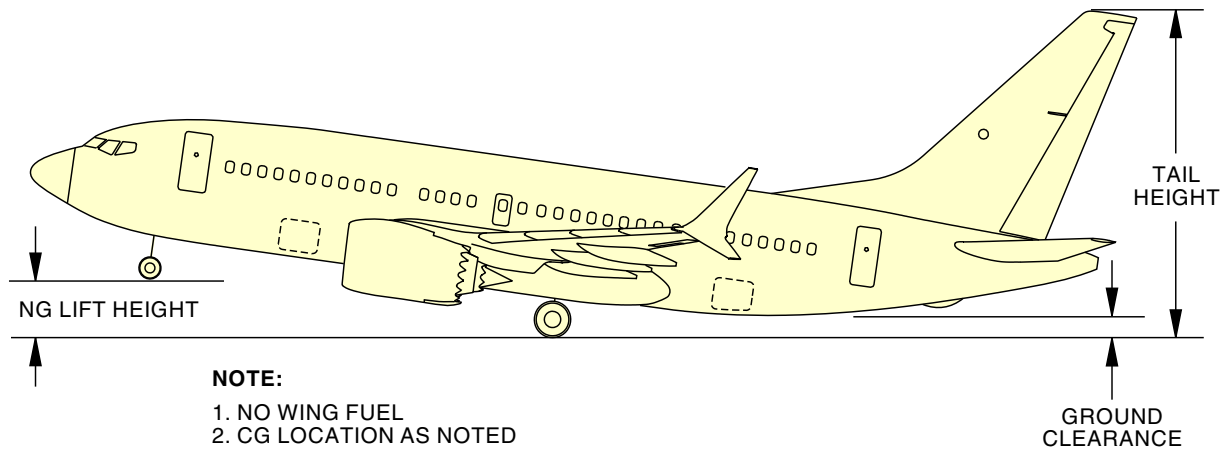
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Vertical Tail Height Versus Nose Gear Jack Height
Figure 202/07-10-06-990-802

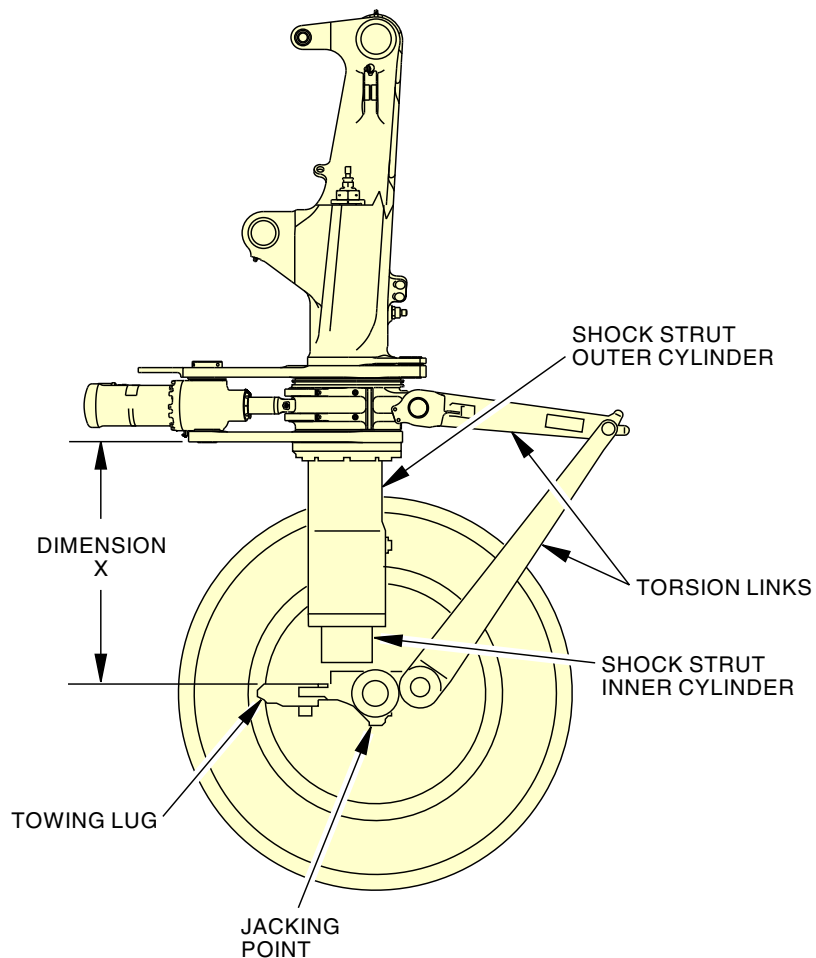
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STRUT POSITION	DIMENSION X
FULLY COMPRESSED	13.8 INCHES (35.1 cm)
FULLY EXTENDED	29.3 INCHES (74.4 cm)

2410657 S00061526070_V3

Nose Landing Gear Shock Strut Extension
Figure 203/07-10-06-990-803

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TASK 07-10-06-280-801

3. Balance Check for the Tilted Airplane

A. General

- (1) When the airplane is turned to a tilted position, the center of gravity changes to follow the main gear axle. The aft movement, plus additional adverse effects or wind, upgrades, and fuel movement causes the airplane to tip or settle on, or momentarily touch the ground.
- (2) The balance check procedures are recorded to make sure that the airplane is balanced correctly before you lift the airplane nose. The balance check will make sure that the airplane stays stable when tilted. A ballast is added when the airplane moment is not correct to keep the airplane stable or a dolly can be used as a ballast. If the dolly is used as a ballast, the dolly must be attached to the nose gear wheels.
- (3) If there is snow or ice on the empennage, it should be removed before tilting the airplane or it must be included in the balance check.

B. Balance Check

SUBTASK 07-10-06-580-007

- (1) When you do the balance check, you add moments due to changes in the airplane when the items listed below occur:
 - (a) Airplane weight (Figure 204).
 - (b) Tilted airplane (Figure 205).
 - (c) Fuel movement (Figure 206).
 - (d) Wind (Figure 207).
 - (e) Tow vehicle acceleration (Figure 208).
 - (f) Grade of the Ramp (Figure 209).
 - (g) The sum of these moments are required to be more than +900,000 inch-pounds (+900 x 103 inch-pounds).
 - (h) Dolly restraint (Figure 209 and Figure 210) shows the maximum nose gear load for tilted airplanes.

NOTE: Make sure that the dolly has the capacity equivalent to or more than the maximum load of the airplane nose (Figure 212).

NOTE: See Figure 211 and Figure 213 for an example of how to calculate a balance check when you tow the airplane.

————— END OF TASK —————

EFFECTIVITY
SIA ALL

D633AM101-SIA

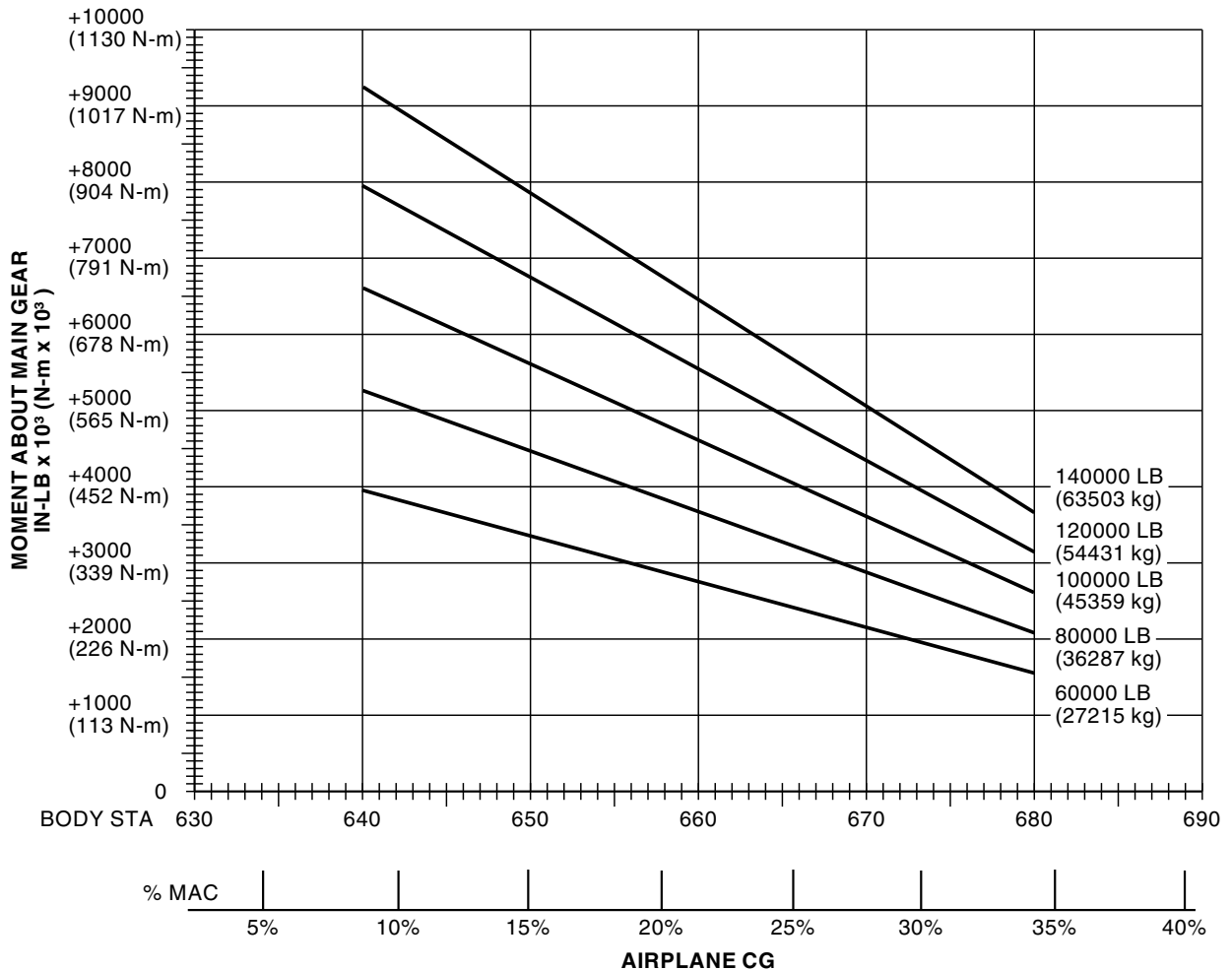
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1. FIND THE AIRPLANE CG
2. GO UP TO THE AIRPLANE WEIGHT LINE
3. GO LEFT TO FIND THE MOMENT

EXAMPLE:

CG = 15%
WEIGHT = 80000 LB (36287 kg)
MOMENT = +4500 IN-LB (508 N-m)

NOTE:

USE THE AIRPLANE CONFIGURATION, WEIGHT/BALANCE, AND CG AT TIME THAT YOU TILT THE AIRPLANE. REFER TO THE WEIGHT AND BALANCE MANUAL TO GET THE CORRECT WEIGHT/BALANCE AND CG.

2410658 S00061526072_V3

Moment Due to Airplane Weight
Figure 204/07-10-06-990-804

EFFECTIVITY
SIA ALL

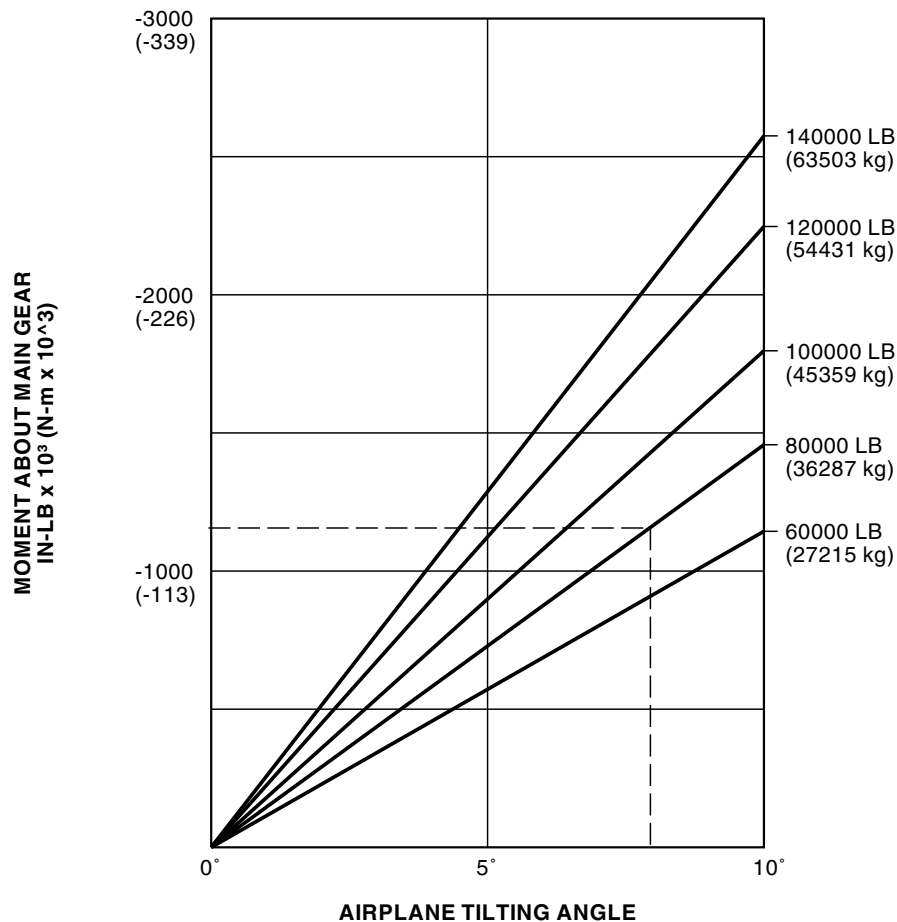
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1. FIND THE MAXIMUM ANGLE THE AIRPLANE WILL BE TILTED
2. GO UP TO THE AIRPLANE WEIGHT
3. GO LEFT TO FIND THE MOMENT

EXAMPLE:

TILT = 8°
WEIGHT = 80,000 LB (36,287 kg)
MOMENT = -1,150 IN-LB (-130 N-m)

2410659 S00061526073_V2

Moment Due to Tilting
Figure 205/07-10-06-990-805

EFFECTIVITY
SIA ALL

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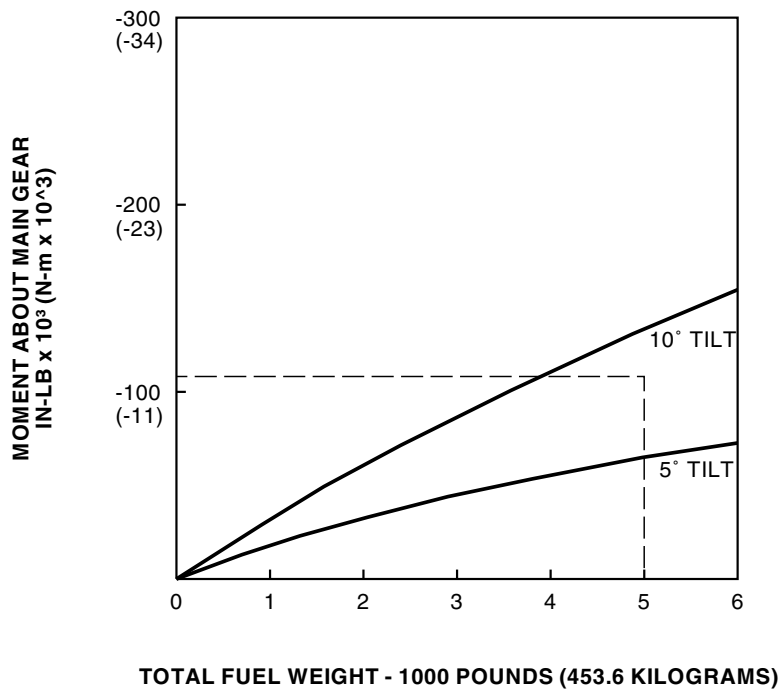
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1. FIND THE TOTAL FUEL WEIGHT
2. GO UP TO THE TILT LINE
3. GO LEFT TO FIND THE MOMENT

EXAMPLE:

TILT = 8°
FUEL WEIGHT = 5000 LB (2268 kg)
MOMENT = -105 IN-LB (-12 N-m)

2410660 S00061526074_V3

Moment Due to Fuel Movement
Figure 206/07-10-06-990-806

EFFECTIVITY
SIA ALL

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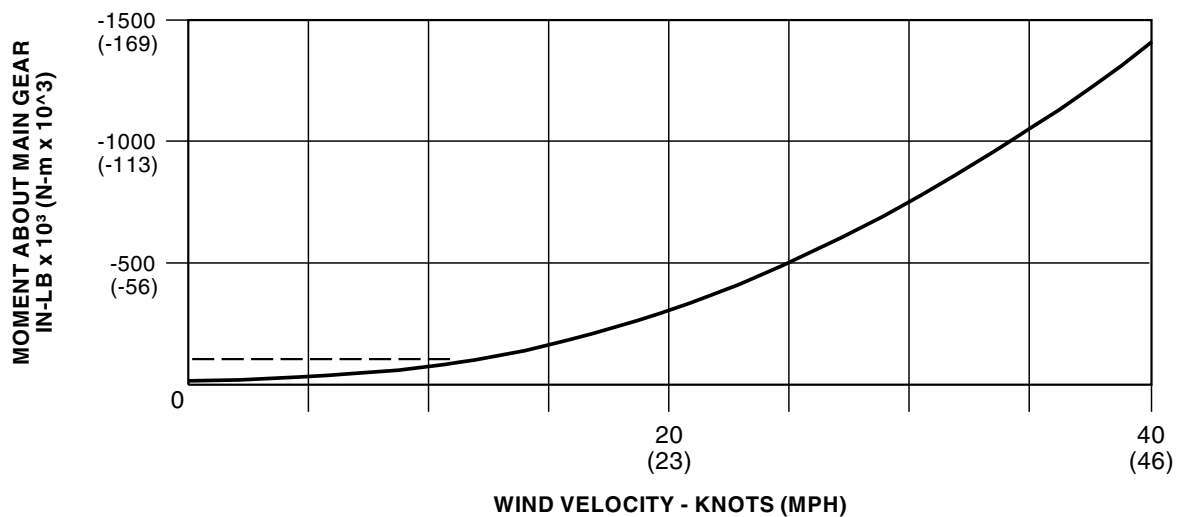
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1. FIND THE MAXIMUM WIND VELOCITY
2. GO UP TO THE LINE
3. GO LEFT TO FIND THE MOMENT

EXAMPLE:

WIND = 11 KNOTS (12.7 MPH)
MOMENT = -100 IN-LB (-11 N-m)

CAUTION:

DO NOT TOW A TILTED AIRPLANE WHEN
WINDS ARE MORE THAN 35 MPH (30 KNOTS).

2410661 S00061526075_V2

Moment Due to Wind
Figure 207/07-10-06-990-807

EFFECTIVITY
SIA ALL

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AIRPLANE WEIGHT LB (kg)	60000 (27215)	70000 (31752)	80000 (36287)	90000 (40823)	MORE THAN 100000 (45359)
MOMENT ABOUT MAIN GEAR IN-LB x 10 ³ (N-m x 10 ³)	-160 (-18)	-190 (-21)	-220 (-25)	-250 (-28)	-280 (-32)

2410662 S00061526076_V2

Moment Due to Tow Vehicle Acceleration
Figure 208/07-10-06-990-808

EFFECTIVITY
SIA ALL

D633AM101-SIA

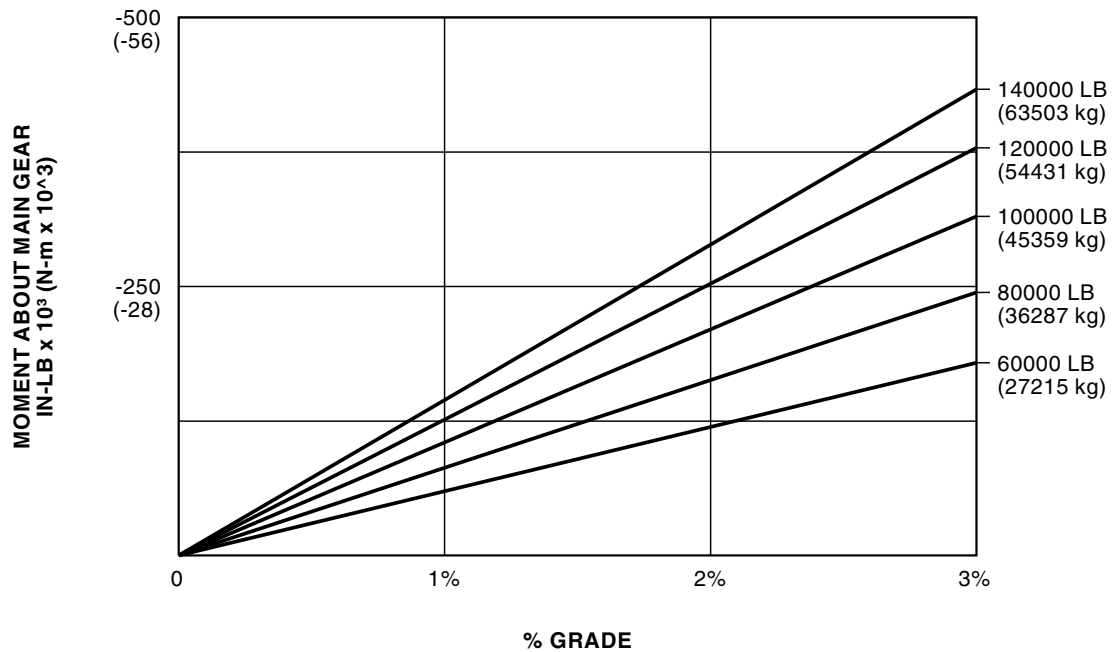
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1. FIND THE % GRADE (1% GRADE EQUALS 1-FOOT RISE PER 100 FEET)
2. GO UP TO THE AIRPLANE WEIGHT
3. GO LEFT TO FIND THE MOMENT

EXAMPLE:

GRADE = 2%
WEIGHT = 80000 LB (36287 kg)
MOMENT = -160 IN-LB (-18 N-m)

2410663 S00061526077_V2

Moment Due to Towing Upgrade
Figure 209/07-10-06-990-809

EFFECTIVITY
SIA ALL

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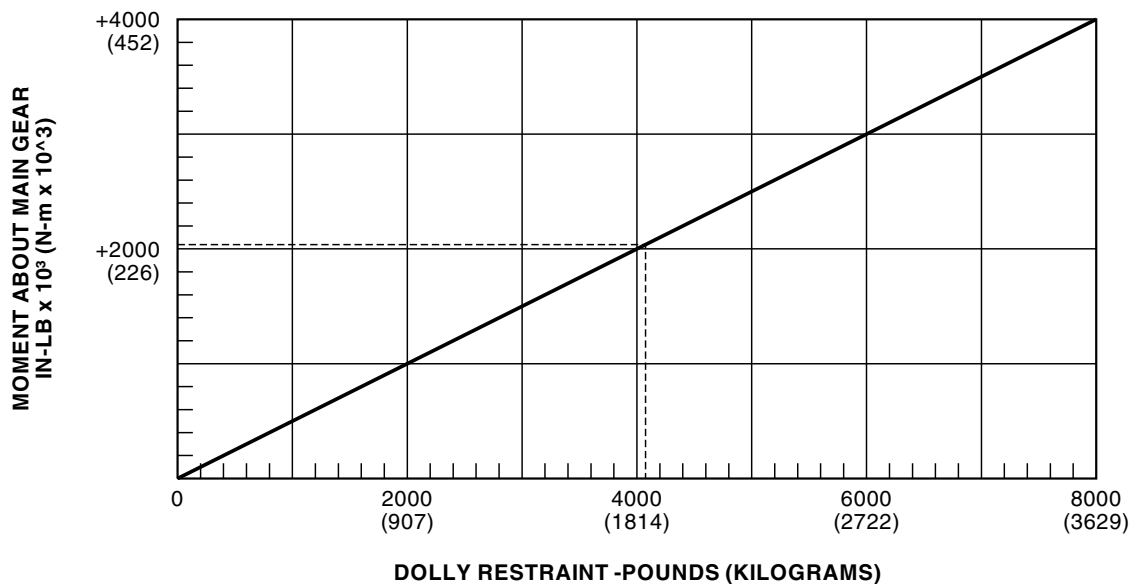
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1. FIND THE MAXIMUM DOWN LOAD THAT THE DOLLY CAN SAFELY APPLY ON THE NOSE GEAR
2. GO UP TO THE LINE
3. GO LEFT TO FIND THE MOMENT

EXAMPLE:

MAX RESTRAINT LOAD = 4150 LB (1882 kg)
MOMENT = 2030 IN-LB (229 N-m)

2410664 S00061526078_V2

Moment Due to Dolly Restraint
Figure 210/07-10-06-990-810

EFFECTIVITY
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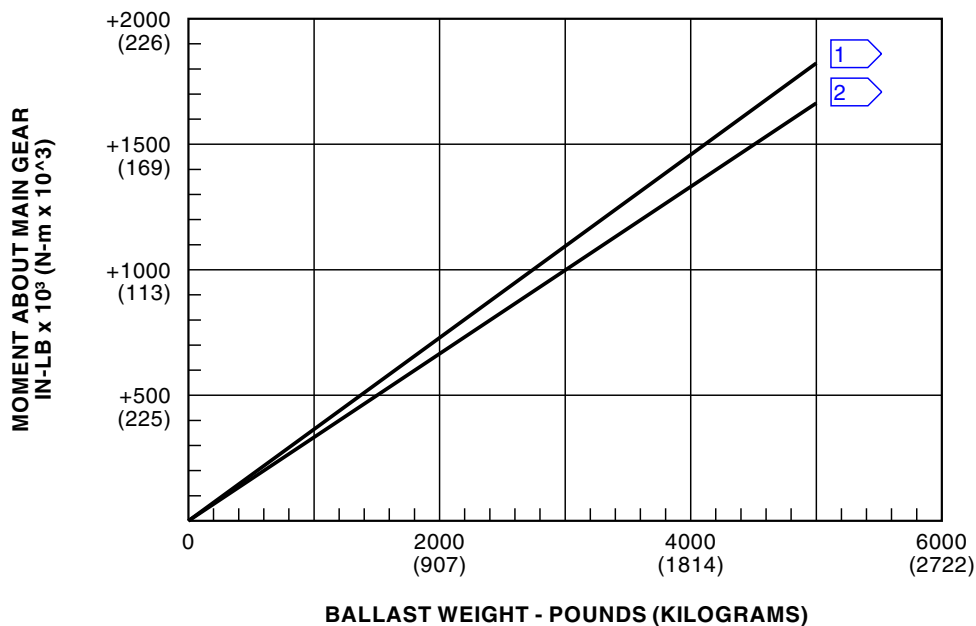
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NOTE:

IF BALLAST IS NECESSARY, READ THE MOMENT EFFECT FROM FIGURE 213

EXAMPLE:

1. +MOMENT REQUIRED FROM FIGURE 213 = +200
2. +200 = 600 LB (272 kg) BALLAST AT **2** OR 550 LB (249 kg) BALLAST AT **1**

- 1** BALLAST LOCATED ON UPPER DECK FLOOR IMMEDIATELY AFT OF FORWARD ENTRY DOOR.
- 2** BALLAST LOCATED IN FORWARD CARGO COMPARTMENT FORWARD OF DOOR.

2410665 S00061526079_V2

Moment Due to Ballast
Figure 211/07-10-06-990-811

EFFECTIVITY
SIA ALL

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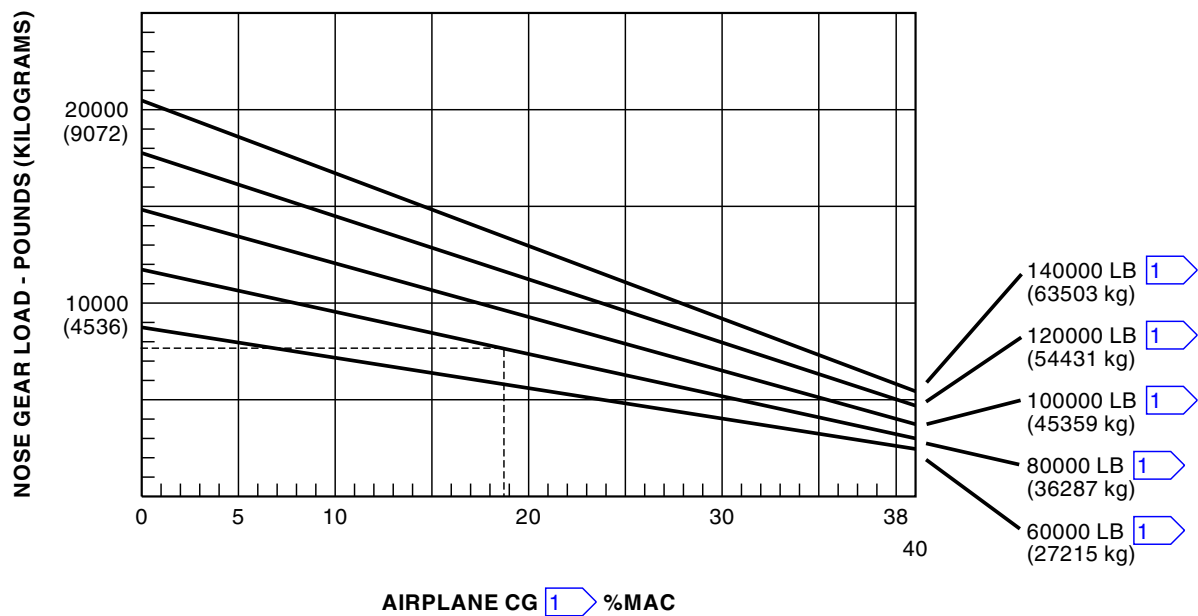
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EXAMPLE:

AIRPLANE TOTAL WEIGHT = 80000 LB (36287 kg)
% MAC = 19%
MAXIMUM NOSE GEAR LOAD = 7700 LB (3493 kg)

1 AIRPLANE WEIGHT AND CG
INCLUDE BALLAST (IF USED).

2410666 S00061526080_V2

Maximum Nose Gear Load
Figure 212/07-10-06-990-812

EFFECTIVITY
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AIRPLANE WEIGHT AND	80000 LB (36287 kg)
CG AT TIME OF TILT 1	19 % MAC
TOTAL FUEL ON BOARD	5000 LB (2268 kg)
ANGLE OF TILT 2	8.0 °
MAXIMUM GRADE AIRPLANE IS TO BE TOWED UP	2.0 %
MAXIMUM DOWN RESTRAINT DOLLY IS CAPABLE OF	4150 LB (1882 kg)

	MOMENT IN-LB x 10 ³ (N-m x 10 ³)
1. MOMENT DUE TO AIRPLANE WEIGHT (FROM FIGURE 204)	+ 3700 (418)
2. MOMENT DUE TO TILTING AIRPLANE (FROM FIGURE 205)	- 1150 (-130)
3. MOMENT DUE TO FUEL MOVEMENT (FROM FIGURE 206)	- 105 (-12)
4. MOMENT DUE TO TOW VEHICLE ACCELERATION (FIGURE 208)	- 220 (-25)
5. MOMENT DUE TO TOWING UPGRADE (FROM FIGURE 209)	- 160 (-18)
6. MOMENT DUE TO DOLLY RESTRAINT (FROM FIGURE 210)	+ 2030 (229)
7. MOMENT DUE TO WIND (FROM FIGURE 207)	- 100 (-11)
TOTAL ITEMS 1 THROUGH 7 IF TOTAL IS LESS THAN +1000 BALLAST MUST BE ADDED	+ 3980 (449)
8. MOMENT DUE TO BALLAST (FROM FIGURE 211)	+ _____ NOT REQUIRED
TOTAL ITEMS 1 THROUGH 8 MUST BE MORE THAN +1000	+ 3980 (449)

- 1 SEE WEIGHT AND BALANCE MANUAL FOR WEIGHT AND CG INFORMATION.
- 2 SEE FIGURE 214 FOR TILT AND CLEARANCE DATA.

2410667 S00061526081_V3

Balance Check for Towing Tilted Airplane
Figure 213/07-10-06-990-813

EFFECTIVITY
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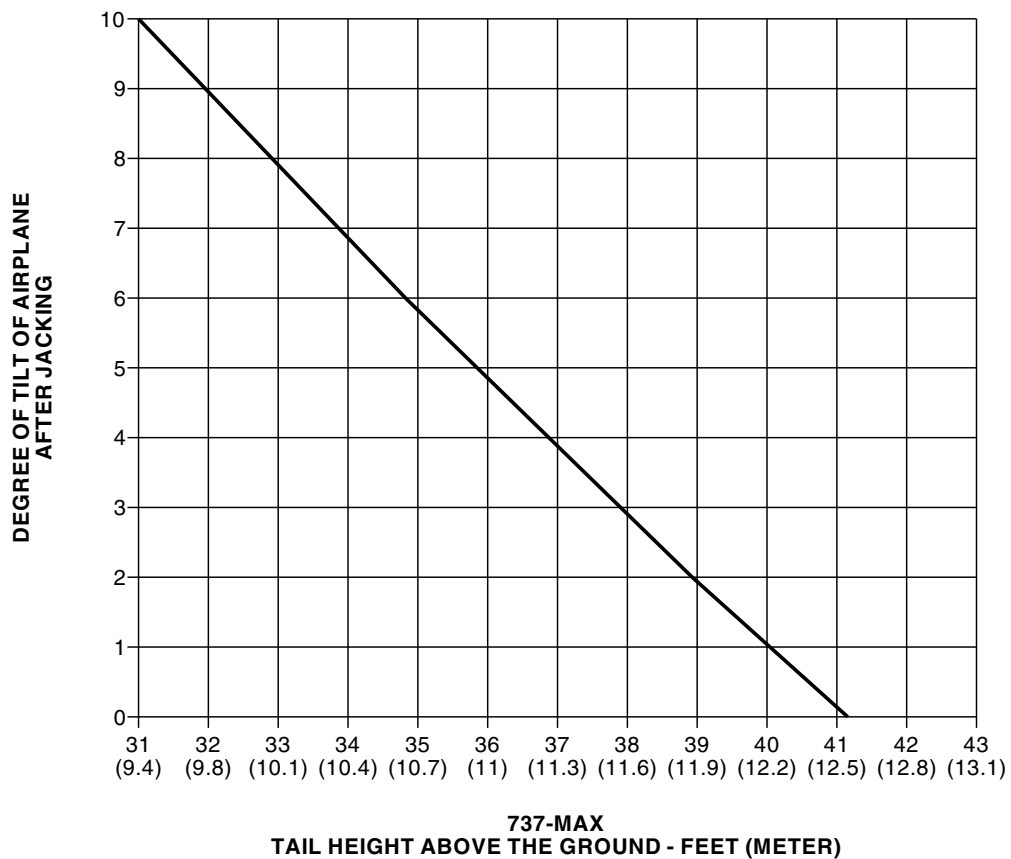
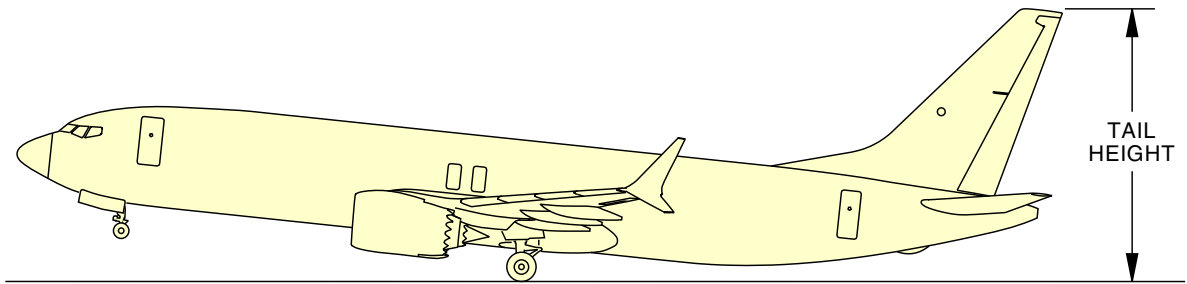
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2410669 S00061526083_V2

Vertical Tail Height Versus Degree of Tilt of the Airplane After Jacking
Figure 214/07-10-06-990-814

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737-7/8/8200/9/10 AIRCRAFT MAINTENANCE MANUAL

TASK 07-10-06-580-802

4. Tow the Tilted Airplane

A. General

- (1) When you tow the airplane in a nose-up attitude, sudden starts and stops can damage the nose gear oleo. Make sure that you tow the airplane in a smooth direction. Do not make sharp turns when you tow a tilted airplane.

B. References

Reference	Title
10-11-05-500-801	Chock Installation Winds/Gusts Maximum 40 mph (35 Knots) (P/B 201)
32-00-01-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1505	Chocks - Wheel Part #: 19CAL455 - Type 1 Supplier: \$1329 Part #: 99-9028-6000 Supplier: 59603 Part #: AC6820-LR Supplier: 032T9 Part #: ALPHACHOCKS MID Supplier: 6X2T Part #: W86 Supplier: 3XZM7 Part #: W88 Supplier: 3XZM7 Opt Part #: W92 Supplier: 9L752
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1880	Equipment - Downlock, NLG and MLG Part #: C32026-15 Supplier: 81205

D. Prepare to Tow the Tilted Airplane

SUBTASK 07-10-06-840-009



MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.



ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (1) Make sure that the landing gear downlock pins equipment, SPL-1880 and the NLG towing lever pin, SPL-1499 are installed.
 - (a) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-01-480-801.

E. Tow the Tilted Airplane

SUBTASK 07-10-06-580-008

- (1) Make sure that the dolly caster is fully retracted.

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SUBTASK 07-10-06-080-001

- (2) Remove the wheel chock, COM-1505.

SUBTASK 07-10-06-580-009



OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE NOSE DOLLY. IF YOU DO NOT FOLLOW THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (3) Tow the airplane to the location.

NOTE: Refer to the manufacturer's instructions.



OBEY THESE PRECAUTIONS. IF YOU IGNORE THESE PRECAUTIONS, DAMAGE TO EQUIPMENT WILL OCCUR.

- (a) Make sure that you move the airplane in a smooth direction.
- (b) Do not stop or start moving quickly when you tow the airplane.
- (c) Do not make sharp turns while you tow the airplane.
- (d) Keep the airplane stable while you tow the airplane.

SUBTASK 07-10-06-480-004

- (4) Install the wheel chock, COM-1505.

- (a) Do this task: Chock Installation Winds/Gusts Maximum 40 mph (35 Knots), TASK 10-11-05-500-801.

SUBTASK 07-10-06-580-010

- (5) Lower the airplane nose.

- (a) Do this task: Lower the Airplane Nose, TASK 07-10-06-580-803.

————— **END OF TASK** —————

TASK 07-10-06-580-803

5. Lower the Airplane Nose

A. References

Reference	Title
10-11-05-500-801	Chock Installation Winds/Gusts Maximum 40 mph (35 Knots) (P/B 201)
32-00-01-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-01-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-21-31-400-803	Nose Landing Gear Torsion Link Connection (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt.", which stands for Optional.

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Reference	Description
COM-1505	Chocks - Wheel Part #: 19CAL455 - Type 1 Supplier: \$1329 Part #: 99-9028-6000 Supplier: 59603 Part #: AC6820-LR Supplier: 032T9 Part #: ALPHACHOCKS MID Supplier: 6X2T Part #: W86 Supplier: 3XZM7 Part #: W88 Supplier: 3XZM7 Opt Part #: W92 Supplier: 9L752
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1880	Equipment - Downlock, NLG and MLG Part #: C32026-15 Supplier: 81205

C. Prepare to Lower the Airplane Nose

SUBTASK 07-10-06-840-010



MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.



ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (1) Make sure that the landing gear downlock pins equipment, SPL-1880 and the NLG towing lever pin, SPL-1499 are installed.
 - (a) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-01-480-801.

SUBTASK 07-10-06-840-011

- (2) Release the airplane brakes.

SUBTASK 07-10-06-840-012

- (3) Remove the wheel chocks.

D. Lower the Airplane Nose

SUBTASK 07-10-06-580-011

- (1) Lift the scoop to remove the dolly uplocks.

SUBTASK 07-10-06-580-012

- (2) Release the uplocks.

SUBTASK 07-10-06-580-013

- (3) Make sure that the area below the airplane is clear of personnel and equipment.

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SUBTASK 07-10-06-580-014



WARNING

OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE NOSE DOLLY. IF YOU DO NOT FOLLOW THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (4) Lower the nose dolly smoothly and slowly.

NOTE: Refer to the manufacturer's instructions.

SUBTASK 07-10-06-580-015

- (5) Install the wheel chock, COM-1505 around the main gear wheels.
- (a) Do this task: Chock Installation Winds/Gusts Maximum 40 mph (35 Knots), TASK 10-11-05-500-801.

SUBTASK 07-10-06-580-016

- (6) Remove the lock bar behind the nose tire and remove the dolly.

SUBTASK 07-10-06-080-002

- (7) Move the dolly away from the airplane.

SUBTASK 07-10-06-860-001

- (8) Apply the airplane brakes.

E. Put the Airplane Back to its Usual Condition

SUBTASK 07-10-06-420-001

- (1) Connect torsion links on the nose gear if they were disconnected.
- (a) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-31-400-803.

SUBTASK 07-10-06-080-003

- (2) Remove the ballast, if installed.

SUBTASK 07-10-06-080-004

- (3) Remove the landing gear downlock pins equipment, SPL-1880 and the NLG towing lever pin, SPL-1499.
- (a) Do this task: Landing Gear Downlock Pins Removal, TASK 32-00-01-080-801

————— **END OF TASK** —————

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AFT FUSELAGE TAIL STAND - MAINTENANCE PRACTICES

1. General

- A. The primary function of the tail stand is to support the airplane tail in an aft CG condition during loading and/or unloading of passengers and cargo.

TASK 07-10-08-800-801

2. Aft Fuselage Tail Stand Removal and Installation

(Figure 201)

A. **References**

Reference	Title
10-11-01 P/B 201	NORMAL PARKING - MAINTENANCE PRACTICES
10-11-03 P/B 201	HIGH WIND CONDITIONS PARKING - MAINTENANCE PRACTICES

B. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-863	Support - Tail, Aft Fuselage

C. **Precautions for Removal/Installation of the Tail Stand**

SUBTASK 07-10-08-840-001

- (1) Obey the tail stand precautions that follow:

- (a) Do not tow the tail stand with a vehicle.



CAUTION

DO NOT TOW THE AIRPLANE WHILE THE TAIL STAND IS INSTALLED. TOWING THE AIRPLANE WHILE THE TAIL STAND IS INSTALLED CAN CAUSE DAMAGE TO EQUIPMENT.

- (b) Do not tow the airplane while the tail stand is installed.



CAUTION

DO NOT DEFLATE OR SERVICE THE SHOCK STRUTS WHILE THE TAIL STAND IS INSTALLED. IF YOU DEFLATE OR SERVICE THE SHOCK STRUTS, THE LOAD ON THE TAIL STAND CAN BE TOO LARGE. THIS CAN CAUSE DAMAGE TO EQUIPMENT.

- (c) Do not deflate or service the shock struts while the tail stand is installed.



CAUTION

DO NOT JACK THE AIRPLANE AT THE MAIN JACK POINTS OR AXLES WHILE THE TAIL STAND IS INSTALLED. IF YOU JACK THE AIRPLANE, THE LOAD ON THE TAIL STAND CAN BE TOO HIGH WHICH CAN CAUSE DAMAGE TO EQUIPMENT.

- (d) Do not jack the airplane at the main jack points or axles while the tail stand is installed.

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WARNING

KEEP PERSONNEL AND EQUIPMENT OUT OF THE FALL ZONE AREA WHEN YOU INSTALL OR REMOVE THE TAIL STAND. IF THE TAIL STAND FALLS, INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (e) Keep the "Fall Zone" area clear of unnecessary equipment and personnel, see Figure 201.
- (f) When you use the tail stand for the 737-800/900, be aware that it will not always fit. The fit depends on the level of the parking surface and airplane aft center of gravity at arrival.
- (g) If using a 737-800/900 tail stand, the tail stand can get stuck after airplane loading and a reasonable force by hand needs to be applied to the base to remove tail stand.

D. Prepare to Install the Tail Stand

SUBTASK 07-10-08-840-002

- (1) Make sure that the airplane is parked before installing the tail stand. Do the applicable task:
 - (a) When parking the airplane in normal conditions, do this task: NORMAL PARKING - MAINTENANCE PRACTICES, PAGEBLOCK 10-11-01/201.
NOTE: Normal conditions consist of winds below 25 knots (46 km/h).
 - (b) When parking the airplane in windy conditions, do this task: HIGH WIND CONDITIONS PARKING - MAINTENANCE PRACTICES, PAGEBLOCK 10-11-03/201.
NOTE: Windy conditions consist of winds above 25 knots (46 km/h).
 - 1) Do not use the tail stand if wind speeds are above 40 knots (74 km/h).

SUBTASK 07-10-08-840-003

- (2) Make sure the tail stand is serviceable.
 - (a) Check to see if the level indicators are in good condition.
 - (b) At least once a day, check the function of the gas spring:
 - 1) With the tail stand away from the airplane structure, move the upper tube assembly down until it is at the bottom of its travel.
 - a) Make sure the upper tube assembly moves freely past the INSTALLATION ZONE band to the full compression band on the lower tube assembly.
 - 2) Slowly release the upper tube assembly and allow it to move to the full extend position.
 - a) Make sure the OK TO USE band is visible once the upper tube assembly has reached its full extend position.

E. Install the Tail Stand

SUBTASK 07-10-08-400-001

- (1) Do the steps that follow to install the tail stand (tail support, SPL-863):
 - (a) Slowly lift the tip of the tail stand up toward the aft body jack point.
 - (b) Make sure that you do not hit the tail skid, drain masts, and fuselage with the tool when you install the tail stand.
 - (c) Insert the tip of the tail stand into the aft body jack point.
 - (d) Move the base of the tail stand until the tail stand is in the vertical position.
NOTE: The upper tube assembly will compress when lifting the tail stand up to the vertical position.

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- 1) If the upper tube assembly compresses to the red band and it prevents the tail stand to be put in the vertical position, then remove the tail stand and adjust the jack screw shorter to allow for correct installation.
- (e) Use the levels to make sure the tail stand is vertical.
 - 1) Move the base of the tail stand as necessary to make the tail stand vertical.
- (f) Adjust the jack screw until the upper tube assembly is at the INSTALLATION ZONE band.

NOTE: The upper tube assembly will move up and down during passenger and cargo loading and unloading.

 - 1) Adjust the jack screw by rotating the handles on the lower tube assembly.

F. Remove the Tail Stand

SUBTASK 07-10-08-000-001

- (1) Do the steps that follow to remove the tail stand:
 - (a) Make sure the INSTALLATION ZONE band on the lower tube assembly is visible.
 - 1) If the INSTALLATION ZONE band is not visible, do the step that follows:
 - a) Remove the load on the tail stand by adjusting the jack screw until the INSTALLATION ZONE band is visible.

NOTE: The tail stand has load on it when the upper tube assembly is in the full compression (red) zone.

NOTE: Adjusting the jack screw until the INSTALLATION ZONE band is visible allows clearance to compress the gas spring before removal of the tail stand.
 - (b) Carefully lift the lower tube assembly up and slowly move the tail stand base away from the vertical position until the OK TO USE band is visible.
 - (c) Remove the tip of the tail stand from the aft body jack point.
 - (d) Make sure you do not hit the tail skid, drain masts or fuselage structure when you remove the tail stand.
 - (e) Carefully move the tail stand away from the airplane.

————— **END OF TASK** —————

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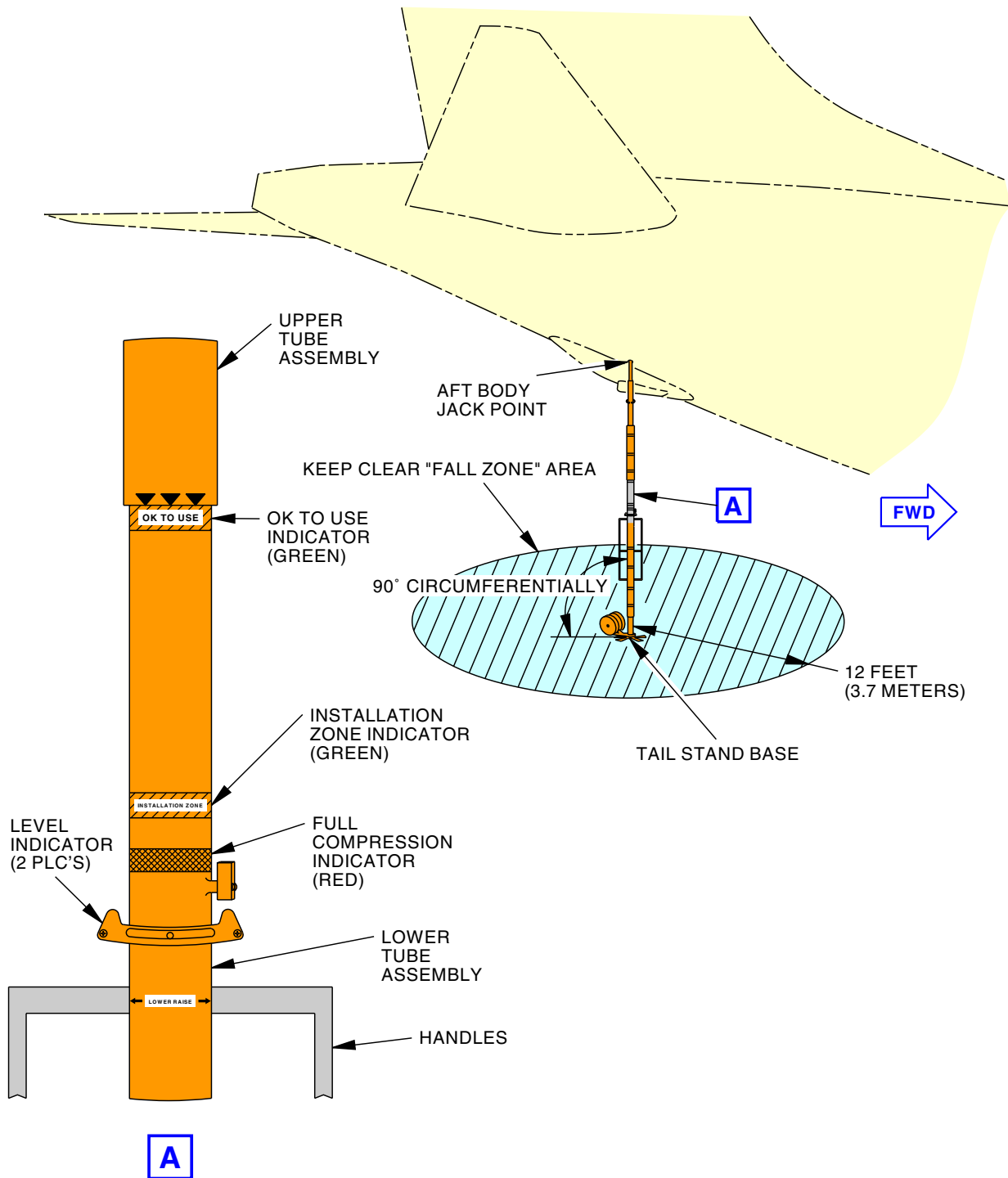
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Aft Fuselage Tail Stand Removal and Installation
Figure 201/07-10-08-990-801

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JACK AIRPLANE NOSE - MAINTENANCE PRACTICES

1. General

- A. This procedure has two tasks:
- (1) Lift the airplane nose with the nose jack at Jack Point D
 - (2) Lower the airplane nose off of the jack at Jack Point D.
- B. When lifting the airplane nose with the stabilizing jack point you can jack the airplane in winds up to 35 knots (40 mph).

TASK 07-10-21-580-801

2. Lift the Airplane Nose with the Nose Jack at Jack Point D

(Figure 201, Figure 202, and Figure 203)

A. General

 CAUTION	IF THE TAIL STAND IS INSTALLED, DO NOT LIFT THE AIRPLANE NOSE. IF YOU LIFT THE AIRPLANE NOSE, THE LOAD ON THE TAIL STAND CAN BE TOO HIGH. IF YOU DO NOT OBEY, DAMAGE TO EQUIPMENT CAN OCCUR.
---	--

- (1) The airplane nose has two jack points to lift and lower the airplane:
 - (a) The forward body jack point at jack point D.
 - (b) The nose axle jack point at jack point E.
 - 1) If the nose axle jack is used to lift the axle, the forward body jack at jack point D is not necessary, do this task: Lift the Nose Landing Gear Axle With Axle Jacks-Handling, TASK 07-10-03-580-803.
- (2) There are two configurations to lift the nose landing gear.
 - (a) The cylinder of the nose gear is serviced to its normal pressure to do a gear retraction test.
 - (b) The nose gear cylinder is deflated with a cylinder retention lock installed on the nose landing gear. When the nose gear cylinder is deflated, it decreases the necessary height to lift the nose gear.

B. References

Reference	Title
07-10-03-580-803	Lift the Nose Landing Gear Axle With Axle Jacks-Handling (P/B 201)
12-15-41-610-802	Nose Landing Gear Shock Strut Servicing, Airplane on the Ground (P/B 301)
32-00-01-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-09-00-860-801	Put the Airplane in the Air Mode (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

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Reference	Description
COM-11238	Jack - Tripod, Forward Body Part #: 02A7896C0100 Supplier: 59603 Part #: 0916.00 Supplier: 1777B Part #: 1284.00 Supplier: 1777B Part #: 1287.00 Supplier: 1777B Part #: 1289.00 Supplier: 1777B Part #: 1481.00 Supplier: 1777B Part #: 1481.90 Supplier: 1777B Part #: 1484.00 Supplier: 1777B Part #: 1488.00 Supplier: 1777B Part #: 1496.00 Supplier: 1777B Part #: 15-54-40 Supplier: 00994 Part #: 714A Supplier: 94861 Part #: 718B Supplier: 94861 Part #: 8901 Supplier: 94861 Part #: FEN122 Supplier: D2029 Part #: FENT101 Supplier: D2029 Part #: TJ2S03001 Supplier: D2029 Opt Part #: 718A Supplier: 94861 Opt Part #: D01051 Supplier: D2029
SPL-1496	Adapter - Jack, Forward Body Part #: C07007-19 Supplier: 81205
SPL-1871	Strap - Retention, NLG/MLG Inner Cylinder Part #: C32030 -31 Supplier: 81205 Opt Part #: C32030-10 Supplier: 81205

D. Location Zones

Zone	Area
100	Lower Half of Fuselage
110	Subzone - Body Station 130 to Station 396
115	Nose Landing Gear Wheel Well - Left

E. Prepare to Lift the Airplane Nose

SUBTASK 07-10-21-840-001

- (1) Do the steps that follow to prepare to lift the airplane with the tripod jack, COM-11238:



CAUTION

DO NOT PUT THE AIRPLANE ON THE JACKS IN WINDS MORE THAN 35 KNOTS (40 MPH). IF YOU DO NOT OBEY THESE INSTRUCTIONS, DAMAGE TO THE AIRPLANE CAN OCCUR.

- (a) Turn the airplane in the direction of the wind when not in a hangar.

NOTE: When lifting the airplane nose with the stabilizing jack point you can jack the airplane in winds up to 35 knots (40 mph).

- (b) Make sure that the nose gear tires are near the center steering position.



WARNING

MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

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(WARNING PRECEDES)



WARNING

ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (c) Make sure that the landing gear downlock pins are installed (TASK 32-00-01-480-801).



CAUTION

DO NOT CHANGE THE CENTER OF GRAVITY WHEN THE AIRPLANE IS ON THE JACKS. DO NOT PUT FUEL INTO THE FUEL TANKS, OR MOVE FUEL BETWEEN FUEL TANKS. DO NOT MOVE PERSONNEL AND EQUIPMENT IN OR NEAR THE AFT END OF THE FUSELAGE. IF YOU DO NOT OBEY THESE PRECAUTIONS, DAMAGE TO THE AIRPLANE CAN OCCUR.

- (d) Make sure that the airplane gross weight and the Center of Gravity (CG) are within the limits shown in Figure 203.

NOTE: It is the airplane operator's decision and responsibility to keep the CG within the limits during maintenance and to make sure that a minimum number of people are on the wings when the airplane is on jacks.

- (e) Set the stabilizer control to neutral (4 units).
(f) Set aileron and rudder trim controls to 0 degrees.
(g) Install the forward body (jack point D) jack adapter, SPL-1496, as follows (Figure 201):
1) Remove the eight bolts that are supplied with the jack adapter, SPL-1496.



CAUTION

USE THE BOLTS SUPPLIED WITH THE JACK ADAPTER. IF YOU USE OTHER BOLTS, YOU CAN CAUSE DAMAGE TO THE AIRPLANE.

- 2) Install the jack adapter, SPL-1496, with the eight bolts.
a) Tighten the eight bolts to 160 in-lb (18 N·m) - 240 in-lb (27 N·m).



CAUTION

WHEN POSITIONING NOSE JACK, JACK MUST BE EXTENDED ONLY UNTIL IT JUST TOUCHES NOSE JACKING RECEPTACLE. IF JACK IS EXTENDED FURTHER, DAMAGE CAN RESULT.

- (h) Put the tripod jack, COM-11238 below Jack Point D.

NOTE: The jack must be turned such that a line between the aft two footpads is perpendicular to the airplane centerline. The jack must also be centered below the jack pad.

NOTE: The jack must have a pressure gage (if it is applicable) and a conversion table to give the pounds of load at each jack point.

- (i) Release the parking brake.
(j) Make sure that the front chocks on the main landing gear are forward approximately 2 in. (51 mm) from the tires.
NOTE: This is to let the tires roll when the nose is lifted.
(k) Remove the chocks from the nose wheels.



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- (l) Make sure that the airplane is in air-mode when raised on jacks, do this task: Put the Airplane in the Air Mode, TASK 32-09-00-860-801.

F. Lift the Airplane Nose With Nose Jack, Inner Cylinder Retention Strap Installed

NOTE: The steps that follow will lock the nose landing gear in a compressed position. This decreases the jack height when the nose wheels are lifted off the ground.

SUBTASK 07-10-21-580-012

- (1) Deflate the nose landing gear shock strut (TASK 12-15-41-610-802).

SUBTASK 07-10-21-580-013



DO NOT USE THE SHOCK-STRUT RETENTION-STRAP ON A SHOCK STRUT THAT IS PRESSURIZED. THE STRAP CAN BREAK AND CAUSE INJURIES TO PERSONS AND DAMAGE TO COMPONENTS OF THE LANDING GEAR.



IF YOU WILL RETRACT THE NOSE LANDING GEAR, DO NOT INSTALL THE RETENTION STRAPS. DURING A RETRACTION, THE RETENTION STRAPS WILL CAUSE DAMAGE TO EQUIPMENT.



DO NOT USE THE SHOCK STRUT RETENTION STRAP ON A SHOCK STRUT THAT IS PRESSURIZED. THE STRAP CAN BREAK AND CAUSE DAMAGE TO THE MAIN LANDING GEAR.

- (2) Install the landing gear inner cylinder retention strap, SPL-1871 (Figure 202).

NOTE: If you will lift the nose gear to replace the nose gear shock strut O-rings, this step is not necessary. You will have to extend the shock strut during the O-ring installation procedure.

- (a) Put the nose landing gear in its center steering position.

NOTE: If the tires are not near the center steering position, and the Nose Landing Gear (NLG) towing lever pin is not installed, then you may not be able to center the tires.



MAKE SURE THAT THE AREA BELOW THE AIRPLANE IS CLEAR OF ALL EQUIPMENT BEFORE THE AIRPLANE IS LOWERED. IF YOU DO NOT OBEY THESE INSTRUCTIONS, DAMAGE TO THE AIRPLANE CAN OCCUR.

- (b) Make sure that the area below the airplane is clear.
(c) Install the lock on the compressed shock strut retention strap, SPL-1871.

G. Lift The Airplane Nose

SUBTASK 07-10-21-580-019



OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

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(WARNING PRECEDES)



DO NOT LIFT THE NOSE OF THE AIRPLANE TO MORE THAN SIX INCHES OF TIRE CLEARANCE. IF YOU LIFT THE NOSE HIGHER, SIDE LOADS THAT ARE MORE THAN THE LOAD LIMITS CAN OCCUR. THIS CAN CAUSE DAMAGE TO THE JACK RAM AND THE JACK ADAPTER.

- (1) Lift the nose of the airplane to the necessary height.

NOTE: Refer to the jack manufacturer's instructions.

- (a) When winds are greater than 35 knots (40 mph), preload the tripod jack, COM-11238 to a maximum of 5000 lb (2268 kg).
- (b) Keep a distance of 1 in. (25 mm) or less between the jack ram locknut and jack collar.

SUBTASK 07-10-21-580-021

- (2) Apply the parking brake.

SUBTASK 07-10-21-580-022

- (3) Screw down the jack ram locknut.

- (a) Tighten the setscrew when the nose gear has the necessary clearance.

————— END OF TASK —————

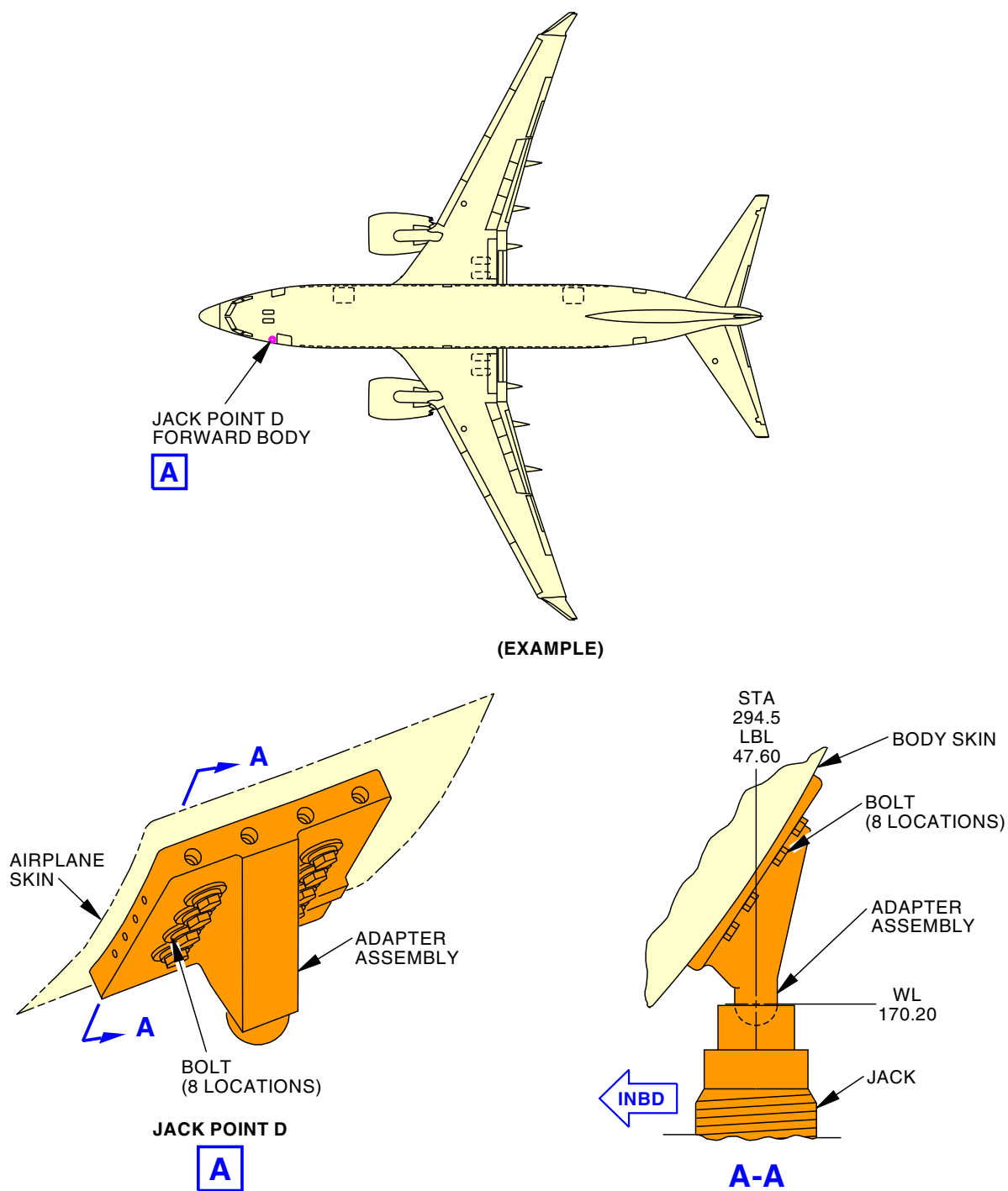
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Forward Body Jack Adapter Fitting
Figure 201/07-10-21-990-801

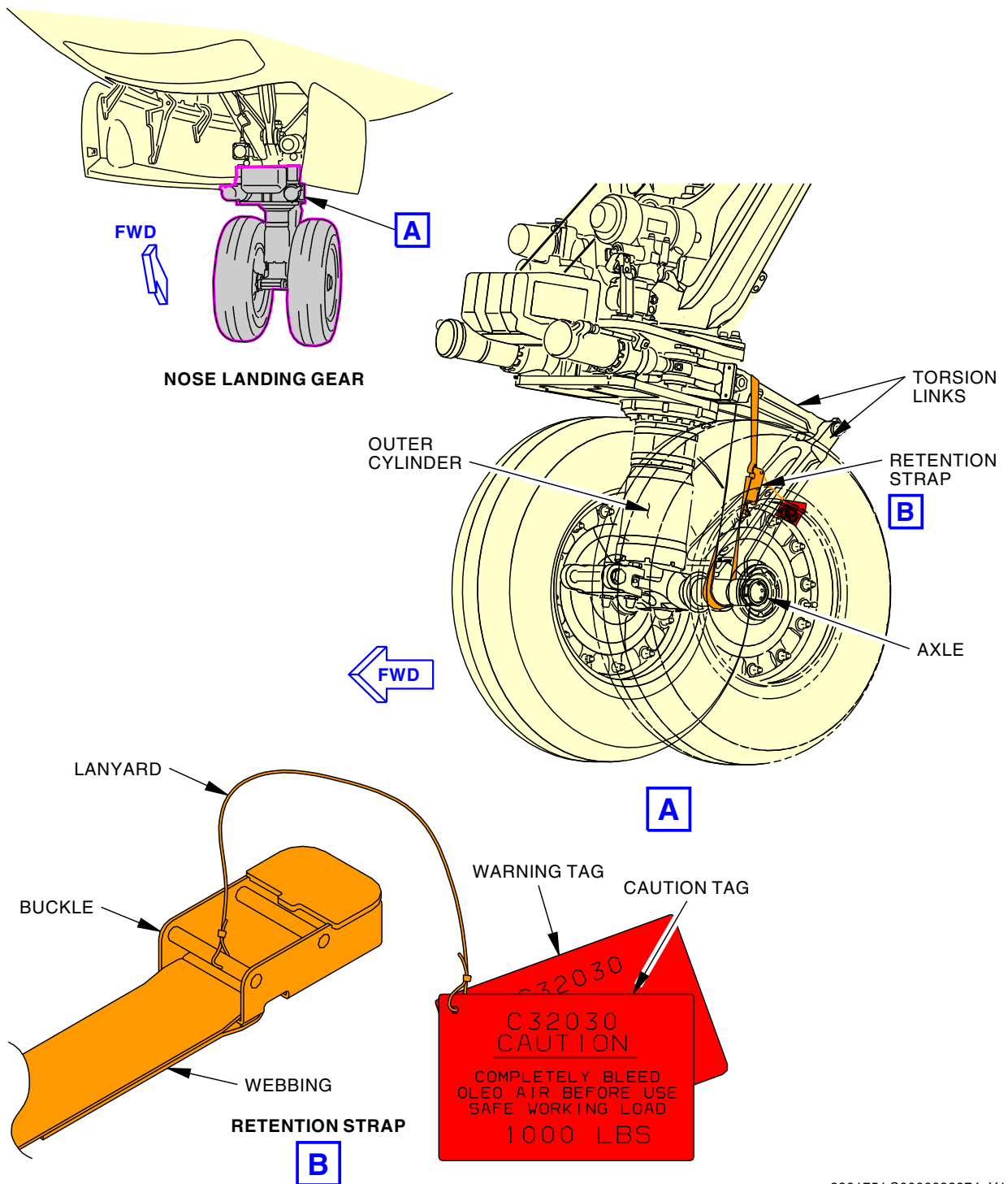
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Landing Gear Inner Cylinder Retention Strap Installation
Figure 202/07-10-21-990-802

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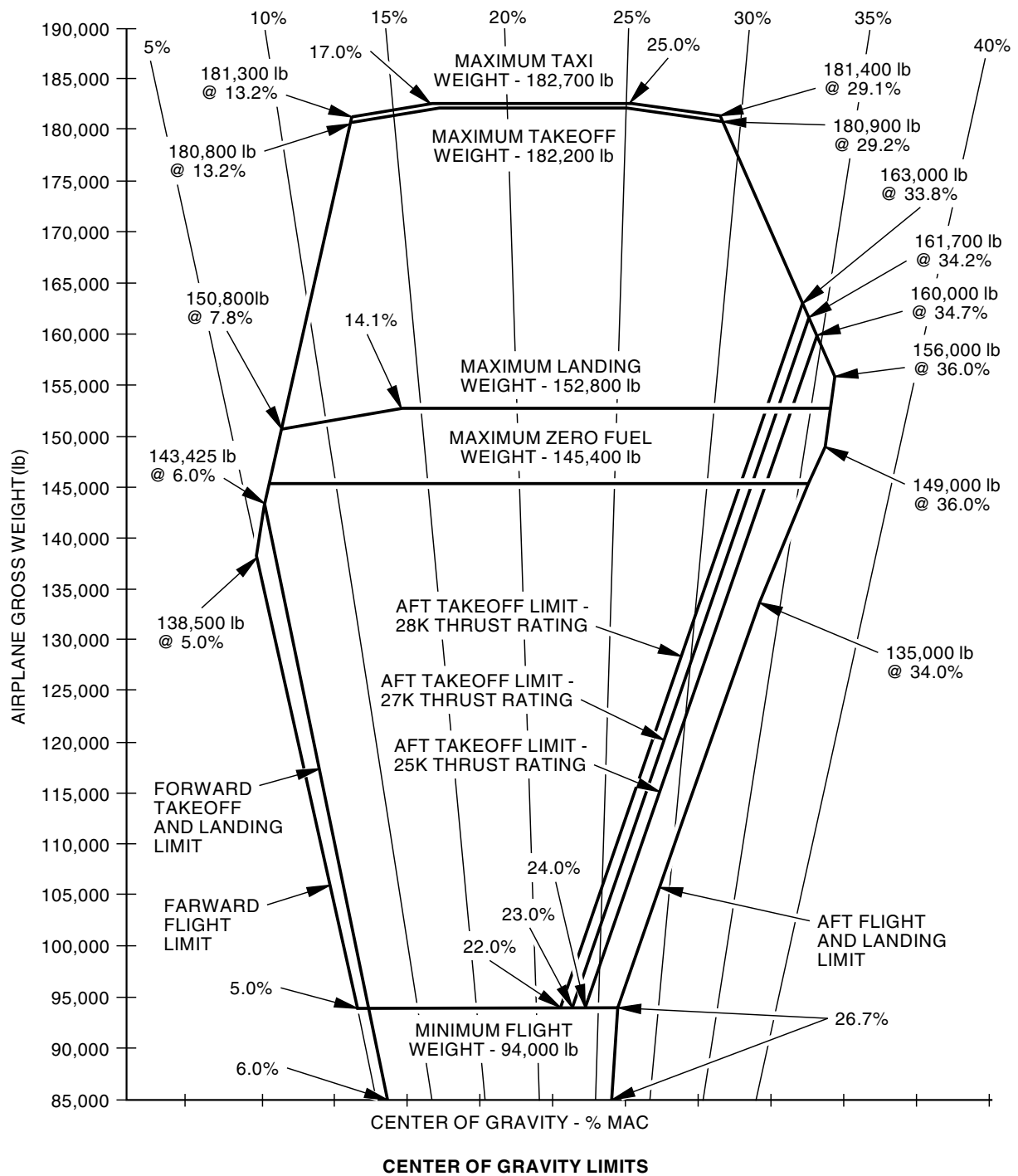
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Maximum Gross Weight versus Center of Gravity
Figure 203/07-10-21-990-803

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TASK 07-10-21-580-802

3. Lower the Airplane Nose, Jack Point D

(Figure 201, Figure 202, and Figure 203)

A. References

Reference	Title
12-15-31-610-802	Main Landing Gear Shock Strut Servicing, Airplane on the Ground (P/B 301)
12-15-41-610-802	Nose Landing Gear Shock Strut Servicing, Airplane on the Ground (P/B 301)
32-00-01-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-09-00-860-802	Return the Airplane to the Ground Mode (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1505	Chocks - Wheel Part #: 19CAL455 - Type 1 Supplier: \$1329 Part #: 99-9028-6000 Supplier: 59603 Part #: AC6820-LR Supplier: 032T9 Part #: ALPHACHOCKS MID Supplier: 6X2T Part #: W86 Supplier: 3XZM7 Part #: W88 Supplier: 3XZM7 Opt Part #: W92 Supplier: 9L752
COM-11238	Jack - Tripod, Forward Body Part #: 02A7896C0100 Supplier: 59603 Part #: 0916.00 Supplier: 1777B Part #: 1284.00 Supplier: 1777B Part #: 1287.00 Supplier: 1777B Part #: 1289.00 Supplier: 1777B Part #: 1481.00 Supplier: 1777B Part #: 1481.90 Supplier: 1777B Part #: 1484.00 Supplier: 1777B Part #: 1488.00 Supplier: 1777B Part #: 1496.00 Supplier: 1777B Part #: 15-54-40 Supplier: 00994 Part #: 714A Supplier: 94861 Part #: 718B Supplier: 94861 Part #: 8901 Supplier: 94861 Part #: FEN122 Supplier: D2029 Part #: FENT101 Supplier: D2029 Part #: TJ2S03001 Supplier: D2029 Opt Part #: 718A Supplier: 94861 Opt Part #: D01051 Supplier: D2029
SPL-1496	Adapter - Jack, Forward Body Part #: C07007-19 Supplier: 81205

C. Location Zones

Zone	Area
100	Lower Half of Fuselage

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(Continued)

Zone	Area
110	Subzone - Body Station 130 to Station 396
115	Nose Landing Gear Wheel Well - Left

D. Prepare to Lower the Airplane Nose

SUBTASK 07-10-21-840-010



WARNING

MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.



WARNING

ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (1) Make sure that the landing gear downlock pins are installed (TASK 32-00-01-480-801).

SUBTASK 07-10-21-840-011

- (2) Make sure that the landing gear control handle is in the down position.

SUBTASK 07-10-21-840-012



WARNING

MAKE CERTAIN THAT AREA IS CLEARED OF ALL WORK-STANDS AND EQUIPMENT PRIOR TO JACKING AIRCRAFT.

- (3) Make sure that the area is clear of persons and equipment.

SUBTASK 07-10-21-840-013

- (4) Make sure that the chocks that are installed at the main landing gear are 2 in. (50.80 mm) from the tires.

NOTE: When the airplane is lowered the main landing gear tires can move. This lets the tires move onto the chocks.

SUBTASK 07-10-21-980-001

- (5) Release the parking brake.

E. Lower the Airplane Nose Off the Forward Body Jack

SUBTASK 07-10-21-580-023



WARNING

OBEY THE MANUFACTURER'S INSTRUCTIONS WHEN YOU OPERATE THE JACKS. IF YOU IGNORE THE INSTRUCTIONS, INJURIES TO PERSONNEL AND DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (1) Lower the tripod jack, COM-11238 at jack point D.
- (a) Operate the tripod jack, COM-11238 keeping a 1 in. (25 mm) distance or less between the jack ram locknut and the jack collar.
- NOTE: Refer to the jack manufacturer's instructions.
- NOTE: When the locknut does not move, lift the jack ram to remove the load to let the locknut move up the ram.

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- (b) Lower the tripod jack, COM-11238 until the jack is at the bottom or the weight of the airplane is on the nose landing gear tires.
- (c) Move the tripod jack, COM-11238 away from the airplane.

SUBTASK 07-10-21-080-001

- (2) If installed, remove the retention strap.

SUBTASK 07-10-21-580-024

- (3) Install the nose wheel chock, COM-1505.

SUBTASK 07-10-21-980-002

- (4) Set the parking brake.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 07-10-21-840-014

- (1) Remove the forward body (jack point D) jack adapter, SPL-1496 as follows (Figure 201):
 - (a) Remove the jack adapter, SPL-1496 and the eight bolts from the forward body jack point D.

NOTE: Keep the eight bolts and the jack adapter, SPL-1496 together.

SUBTASK 07-10-21-840-015

- (2) Service the shock struts for the main landing gear, if necessary.
 - (a) Do this task: Main Landing Gear Shock Strut Servicing, Airplane on the Ground, TASK 12-15-31-610-802.

SUBTASK 07-10-21-840-016

- (3) Service the shock strut for the nose landing gear, if necessary.
 - (a) Do this task: Nose Landing Gear Shock Strut Servicing, Airplane on the Ground, TASK 12-15-41-610-802.

SUBTASK 07-10-21-840-018

- (4) Return the airplane to the ground mode.
 - (a) Do this task: Return the Airplane to the Ground Mode, TASK 32-09-00-860-802.

———— **END OF TASK** ————

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SHORING - MAINTENANCE PRACTICES

1. General

- A. This procedure has a task with a reference to the Aircraft Recovery Document.

TASK 07-20-00-580-801

2. Shoring

A. **General**

- (1) Refer to the Airplane Recovery Document, D626AM004, for data on Shoring.

———— **END OF TASK** ————

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