CHAPTER

07

LIFTING AND SHORING

CHAPTER 07
LIFTING AND SHORING

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CHAPTER 07
LIFTING AND SHORING

07-CONTENTS

CHAPTER 07
LIFTING AND SHORING

JACK AIRPLANE - MAINTENANCE PRACTICES

1. General

A. This procedure has the following tasks:

(1) Lift the airplane with the jacks.

(2) Lower the airplane off the jacks.

TASK 07-11-01-580-815

2. Lift the Airplane with the Jacks

A. General

(1) The airplane has three main jack points and four auxiliary jack points.

(a) The main jack points are the wing jack points A and B, and aft body jack point C.

(b) The four auxiliary jack points have one stabilizing and three landing gear axle jack points.

1) The stabilizing jack point is the forward body jack point D.

2) The three landing gear axle jack points are shown in (Jack Point Locations/Figure 201):

NOTE: See (Jack Point Locations/Figure 201) and (737-700 Jack Points and Landing Gear Tire Data/Figure 202 or 737-800 Jack Points and Landing Gear Tire Data/Figure 203) for the jack point locations, maximum loads on the jack points, and wing and body jack adapters.

a) jack points F on each main gear axle

b) jack point E below the nose landing gear axle.

(2) You can lift the airplane on jacks at different gross weights as long as the load on the individual jack points is not more than the maximum permitted.

(a) The sum of the individual jack point loads must not be more than the maximum jack weight.

NOTE: See 737-700 Jack Points and Landing Gear Tire Data/Figure 202 or 737-800 Jack Points and Landing Gear Tire Data/Figure 203.

(b) Airplane gross weight and center of gravity must be within allowable limits.

B. References

Reference	Title
12-15-31-610-802	Main Landing Gear Shock Strut Servicing (P/B 301)
12-15-41-610-802	Nose Landing Gear Shock Strut Servicing (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)

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-1482	Jack - Tripod, Aft Body (Part #: 15-100-40, Supplier: 00994, A/P Effectivity: 737-ALL) (Part #: 714A-WITH 36" LEG EXT, Supplier: 94861, A/P Effectivity: 737-ALL)
COM-1483	Jack - Tripod, Wing (Part #: 50-60-44, Supplier: 00994, A/P Effectivity: 737-ALL) (Part #: 759A, Supplier: 94861, A/P Effectivity: 737-ALL) (Part #: 8826, Supplier: 94861, A/P Effectivity: 737-ALL)
COM-5892	Jack - Tripod, Forward Body (Part #: 15-54-40, Supplier: 00994, A/P Effectivity: 737-ALL) (Part #: 714A, Supplier: 94861, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-1494	Adapter - Jack, Fitting, Wing Jacking Points (Part #: C07002-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-1495	Pad - Jack, Aft Body (Part #: C07004-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-1496	Adapter - Jack, Forward Body (Part #: C07007-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-1499	Pin - Lock, NLG Towing Lever (Part #: A09003-2, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Opt Part #: A09003-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

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 Lift The Airplane On Jacks

SUBTASK 07-11-01-480-001

(1) Do the steps that follow to prepare to lift the airplane on the jacks:

(a) Make sure the nose gear tires are near the center position.

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND 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.

(b) Make sure the landing gear down lock pins and the NLG towing lever pin, SPL-1499, are installed. Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-01-480-801.

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

(c) If electrical power is supplied to the airplane while it is on jacks, do the step that follows:

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

1) Make sure the airplane is in air mode when raised on jacks, do this task: Prepare to Put the Airplane in the Air Mode, TASK 32-09-00-840-801.

(d) Make sure that the airplane gross weight and the center of gravity (CG) are at the approved limits.

NOTE: The maximum gross weight you can lift the airplane at the primary wing and fuselage jack points is shown in 737-700 Jack Points and Landing Gear Tire Data/Figure 202 or 737-800 Jack Points and Landing Gear Tire Data/Figure 203.

(e) Make sure the stabilizer, the aileron, and the rudder trim controls are set to 0 degrees.

(f) Make sure the trailing edge flaps and leading edge devices are stowed in the flaps up configuration.

NOTE: The trailing edge flaps and leading edge devices must be stowed in the flaps up configuration for jacking the airplane in winds that approach 35 knots.

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

(g) Make sure the airplane is turned into the wind if it is possible, when it is out of the hangar.

NOTE: There are no special wind restrictions when you jack an individual landing gear with the axle jacks. Use tiedowns in winds that exceed 35 knots when you jack more than one landing gear. Make sure you use the mooring procedure in high winds.

CAUTION: DO NOT DEFLATE THE SHOCK STRUTS IF YOU DO A GEAR RETRACTION TEST. THE SHOCK STRUTS MUST BE FILLED CORRECTLY AND NOT INFLATED ABOVE THE CORRECT PRESSURE. IF YOU DO NOT OBEY THESE INSTRUCTIONS, DAMAGE TO THE WHEEL WELL AND THE SHOCK STRUTS WILL OCCUR.

(h) When you lift the airplane on jacks for a gear retraction test, do the steps that follow:

1) Ground airplane in two locations to the jack pads during landing gear retraction tests Static Grounding, TASK 20-40-11-910-801.

2) Make sure the nose landing gear shock strut is filled to the correct pressure before a gear retraction test, do this task: Nose Landing Gear Shock Strut Servicing, TASK 12-15-41-610-802.

3) Make sure the main landing gear shock struts are filled to the correct pressure before a gear retraction test, do this task: Main Landing Gear Shock Strut Servicing, TASK 12-15-31-610-802.

(i) Set the ATC mode switch on the ATC control panel to the STBY postition.

CAUTION: THE SHOCK STRUTS MUST BE FULLY DEFLATED BEFORE THE OLEO LOCK ASSEMBLY INSTALLATION. IF THE SHOCK STRUTS ARE NOT DEFLATED, YOU CAN CAUSE DAMAGE TO THE LOCK ASSEMBLY WHEN YOU LIFT THE AIRPLANE ON THE JACKS.

(j) When you lift the airplane on jacks to make the airplane level, to weight it, or for general maintenance, it is optional to deflate the shock struts of the landing gear.

NOTE: When you deflate the shock struts, the height that you have to lift the airplane decreases.

CAUTION: HORIZONTAL LOADS DUE TO SCUFFING OR SLIDING WILL BE TRANSMITTED THROUGH THE STRUCTURE TO THE JACK PADS. THIS CAN CAUSE THE JACKS TO FALL OVER.

CAUTION: IF YOU LIFT THE AIRPLANE TOO HIGH, THE LANDING GEAR SAFETY SWITCH CAN CLOSE. IF THIS OCCURS, IT CAN CAUSE THE HEATERS TO BURN OUT.

(k) Open the DRAIN MAST - AIR circuit breaker on the P18-3 circuit breaker panel,

Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
E	4	C00700	HEATERS DRAIN MAST AIR

(l) When you jack the airplane for the gear retraction test or when the shock struts are deflated and locked, the main gear shock strut will cant to trail 1.85 degrees aft of the vertical axis.

NOTE: When you lift the airplane, normal oleo extension on 88.15 degree angle causes aft wheel movement on the ground a maximum of 0.55 inch (1.4 centimeters). If the wheels are chocked or parking brakes are set when you lift or lower the airplane, wheel movement will cause the chocks to slide or the tires to scuff on the ground.

(m) Remove the recess fillers and fasteners from the jack pad adapter points at positions A, B, and C, and install the jack adapters with the tools listed below:

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

1) adapter, SPL-1494
2) adapter, SPL-1496
3) pad, SPL-1495

CAUTION: DURING WINDY CONDITIONS, YOU MUST USE THE STABILIZING JACK (JACK POINT D). YOU MUST PUT A PRE-LOAD ON THE STABILIZING JACK TO A MAXIMUM OF 5000 POUNDS (2268 KILOGRAMS) AT WINDS OF 35 MPH. IF YOU DO NOT OBEY THESE INSTRUCTIONS, YOU CAN CAUSE DAMAGE TO THE AIRPLANE.

(n) Put the primary jacks wing jack, COM-1483, forward body jack, COM-5892, and aft body jack, COM-1482 directly below the jack pads A, B, C, and D (required for windy conditions).

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

CAUTION: DO NOT EXCEED THE JACK MANUFACTURE'S MAXIMUM SCREW EXTENSION HEIGHT LIMIT. EXCEEDING THE LIMIT CAN CAUSE DAMAGE TO THE AIRPLANE AND THE JACK.

(o) Turn the jack screw extension out until the jacks socket is approximately 1 inch to 2 inches (2.5 to 5.0 centimeters) from the airplane jack pad.

(p) Rotate the Jack to align the castors to follow eachother and center the jack.

NOTE: With the caster wheels aligned, they can follow each other when the jack turns clockwise (counterclockwise, where applicable) for alignment and leveling.

(q) Align the jack pads and springs.

(r) Check the jack for vertical position by using a level placed against the jacks main cylinder in two places 90 degrees from each other.

(s) Operate the jack with hand pump or air pressure to push jack post up to the jack pad and seat jack on floor.

WARNING: THE JACKS EXTENSION SCREW LOCKNUT MUST BE LOWERED AS THE JACK IS RAISED PER THE JACK MANUFACTURER'S INSTRUCTIONS. FAILURE TO FOLLOW THE JACK MANUFACTURER'S INSTRUCTIONS CAN RESULT IN PERSONNEL INJURIES AND DAMAGE TO THE AIRPLANE AND JACK. .

(t) The jacks extension screw locknut must be lowered as the jack is raised.

F. Lift the Airplane

SUBTASK 07-11-01-580-001

(1) Lift the airplane on the jacks:

(a) Use a plumb bob and a leveling scale; not the inclonometer in the right wheel well.

NOTE: Use this to find the lateral level and longitudinal attitude while you lift the airplane.

NOTE: The plumb bob procedure is sufficiently accurate for general jacking, weighing, and gear retraction only. If you must use a more accurate procedure to make the airplane level, refer to Chapter 8, Leveling.

WARNING: MAKE SURE ALL PERSONS ARE AWAY FROM THE LEADING EDGE SLATS. THEY CAN MOVE AUTOMATICALLY (UNLESS OTHERWISE INHIBITED) DURING MAINTENANCE WHEN EITHER HYDRAULIC SYSTEM HAS PRESSURE AND THE TRAILING EDGE FLAPS ARE IN POSITION 1, 2, OR 5: ALSO WHEN THE NOSE OR THE MAIN LANDING GEAR AIR/GROUND RELAYS GIVE AN IN FLIGHT CONDITION. IF YOU DO NOT OBEY THESE INSTRUCTIONS, INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

WARNING: THE JACKS AT PADS A AND B MUST BE RAISED BEFORE, OR AT THE SAME TIME AS THE JACK AT JACK PAD C. IF YOU LIFT THE TAIL JACK BEFORE THE WING JACKS, YOU WILL FORCE THE NOSE OF THE AIRPLANE DOWN ON THE NOSE GEAR. THIS CAN PUT TOO MUCH LOAD ON THE TAIL JACK POINT. IT CAN ALSO PUT TOO MUCH LOAD ON THE TAIL JACK POINT AND THE NOSE STABILIZING JACK POINT WHEN YOU USE THE STABILIZING JACK. IF YOU DO NOT OBEY THESE INSTRUCTIONS, INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

CAUTION: LIFT THE AIRPLANE ON JACKS IN A HORIZONTAL ATTITUDE TO PREVENT SIDE LOADS INTO THE JACK POINTS. THIS CAN CAUSE THE JACKS TO MOVE OFF THE PADS OR PUT TOO MUCH LOAD ON THE JACK POINTS AND CAUSE DAMAGE TO THE AIRPLANE STRUCTURE.

(b) Put one person at each jack to operate the jack and to make sure the jack loads stay at the approved limit.

(c) Do not read pressure for jack reading; use ''ton'' reading.

(d) Put one person at the plumb bob in the wheel well to make sure the airplane is raised on the jacks in a level (+/- 1/2 degree) attitude.

WARNING: YOU MUST OPERATE THE JACKS PER THE JACK MANUFACTURER'S INSTRUCTIONS. IF YOU DO NOT FOLLOW THE JACK MANUFACTURER'S INSTRUCTIONS YOU CAN INJURE PERSONNEL AND DAMAGE THE AIRPLANE AND JACK.

CAUTION: WHEN YOU LIFT OR LOWER THE JACK, DO NOT PERMIT MORE THAN ONE INCH CLEARANCE BETWEEN THE JACK RAM LOCKNUT AND THE COLLAR. TOO MUCH CLEARANCE CAN CAUSE DAMAGE TO THE AIRPLANE STRUCTURE IF THERE IS A FAILURE OF THE JACK.

(e) Jack the airplane until the landing gear does not touch the ground.

NOTE: When you jack the airplane for a gear retraction test, jack the airplane 4 inches (10 centimeters) or more for tire arc sweep clearance.

(f) Remove the wheel chocks.

(g) Release the parking brake.

(h) If you must stabilize the airplane, lift the forward fuselage jack pad D until you hold sufficient weight to make the airplane stable.

NOTE: You must pre-load the stabilizer jack to a maximum of 5000 pounds (2268 kilograms) in winds of 35 mph.

(i) When you lift the airplane, always lower all the jack ram locknuts at the same time you lift the jacks. Keep a clearance of one inch (2.5 centimeters) or less from the nut to the collar until you complete the jacking. Then tighten the nut and tighten the lockscrew.

———————— END OF TASK ————————

TASK 07-11-01-580-816

3. Lower the Airplane Off the Jacks

A. References

Reference	Title
12-15-31-610-802	Main Landing Gear Shock Strut Servicing (P/B 301)
12-15-41-610-802	Nose Landing Gear Shock Strut Servicing (P/B 301)
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. Consumable Materials

Reference	Description	Specification
A00159	Compound - Sealing, Thread-Locking, Anaerobic, Single-Component (100-200 In-Lbs)	MIL-S-46163, Type II, Grade N
C00064	Coating - Aluminum Chemical Conversion	BAC5719, Type II, Class A (MIL-C-5541, Class A)
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79, Type III
G00009	Compound - Organic Corrosion Inhibiting	BMS3-23

C. 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

D. Lower the Airplane

SUBTASK 07-11-01-580-015

(1) Do the steps that follow to Lower the airplane off the jacks:

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

(a) Make sure the area below the airplane is clear.

(b) Make sure the landing gear control is in the down position.

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. THE LANDING GEAR COULD RETRACT AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

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

CAUTION: REMOVE THE STABILIZING JACK FROM BELOW THE AIRPLANE. THIS WILL PREVENT DAMAGE TO THE SKIN AND THE FRAME.

(d) Lower the stabilizing jack at jack point D (Jack Point Locations/Figure 201).

NOTE: Refer to the jack manufacturer's instructions.

NOTE: Keep 1 inch clearance between the locknut and collar.

1) Remove the auxiliary jack from below the airplane.

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

(e) Put wheel chocks in position to be installed when the airplane is on the ground.

NOTE: If the ramp does not slope: Move the aft NLG chocks away from the tires. During the refuel, the NLG tires roll aft as the MLG shock absorber compresses. Make sure that the chocks do not touch the MLG tires. The weight of the fuel can lower the aircraft and cause the tires to catch the chocks.

NOTE: If the ramp slopes: Make sure that the chocks down from the tires touch the NLG and MLG tires. Make sure that the chocks up from the tires do not touch the NLG and MLG tires.

1) Make sure the wheel chocks do not touch the tires while you lower the airplane.

CAUTION: WHEN YOU LOWER THE JACK, DO NOT PERMIT MORE THAN ONE INCH CLEARANCE BETWEEN THE JACK RAM LOCKNUT AND THE COLLAR. TOO MUCH CLEARANCE CAN CAUSE DAMAGE TO THE AIRPLANE STRUCTURE IF THERE IS A FAILURE OF THE JACK.

(f) Loosen the lockscrew in the jack ram locknut at the jack.

NOTE: It is possible you will have to raise the jack ram a small amount. This will remove the load from the locknut and permit the locknut to move up the ram.

(g) Adjust the locknut up the ram until the locknut is less than 1 inch from the jack collar.

(h) Put one person at each jack location, and one person at the plumb bob and leveling scale.

1) Make sure there is communication between each person and the coordinator for the jack procedure.

CAUTION: DO NOT LOWER THE WING JACKS A AND B BEFORE THE TAIL JACK C OR THE NOSE GEAR WILL TOUCH FIRST. THIS WILL OVERLOAD THE TAIL JACK POINT C.

(i) Lower the jacks at jack points A, B, and C evenly and at the same time.

NOTE: Use the plumb bob in the right wheel well to keep the airplane level (+/- 1/2 degree).

NOTE: Always keep a 1 inch (2.5 centimeter) clearance between the locknut and the jack collar. If nose and main gear oleo lock assemblies are not installed, be sure that there are no obstructions in front of the main gear wheels and that parking brakes are not set. Because of a 1.85 degree cant of the shock strut, the wheels will move approximately 0.55 inch (1.4 centimeter) forward because of oleo retraction.

NOTE: You can remove a jack "hang up" condition. To do this, you lift and lower the jack until the ram is free. If the condition continues, lift and crib the airplane until you can replace the defective jack.

(j) Remove the jacks from jack points A, B, and C.

NOTE: Remove the jacks from below the airplane immediately after the jacks have cleared the jackpads and the adjacent structure.

E. Put the Airplane Back to Its Initial Condition

SUBTASK 07-11-01-410-004

(1) Remove the jack adapters from jack points A, B, and C.

SUBTASK 07-11-01-420-001

(2) Install the jack fitting cover plate and fasteners at positions A and B:

(a) Make sure 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 then apply one layer of primer, C00175 to the repair area.

CAUTION: INSTALL THE CORRECT FASTENERS (BACB30NN4K11). THIS WILL PREVENT DAMAGE TO THE STRUCTURE.

(b) Install the jack fitting cover plate with the fastener after you apply corrosion inhibiting compound, G00009 on all areas of the fastener hole including the countersink, and apply compound, A00159 on the threads of the fastener.

SUBTASK 07-11-01-610-001

(3) Service the shock struts for the main landing gear if it is necessary, do this task: Main Landing Gear Shock Strut Servicing, TASK 12-15-31-610-802.

SUBTASK 07-11-01-610-002

(4) Service the shock strut for the nose landing gear if it is necessary, do this task: Nose Landing Gear Shock Strut Servicing, TASK 12-15-41-610-802.

SUBTASK 07-11-01-840-001

(5) Return airplane back to ground mode, do this task: Return the Airplane Systems Back to Their Normal On Ground Condition, TASK 32-09-00-840-802.

SUBTASK 07-11-01-860-001

(6) Reset the PSEU by doing the following steps:

NOTE: When you simulate air mode by jacking the airplane you will induce nuisance faults.

(a) Push the ON/OFF switch on the PSEU BITE panel to turn the PSEU BITE display on.

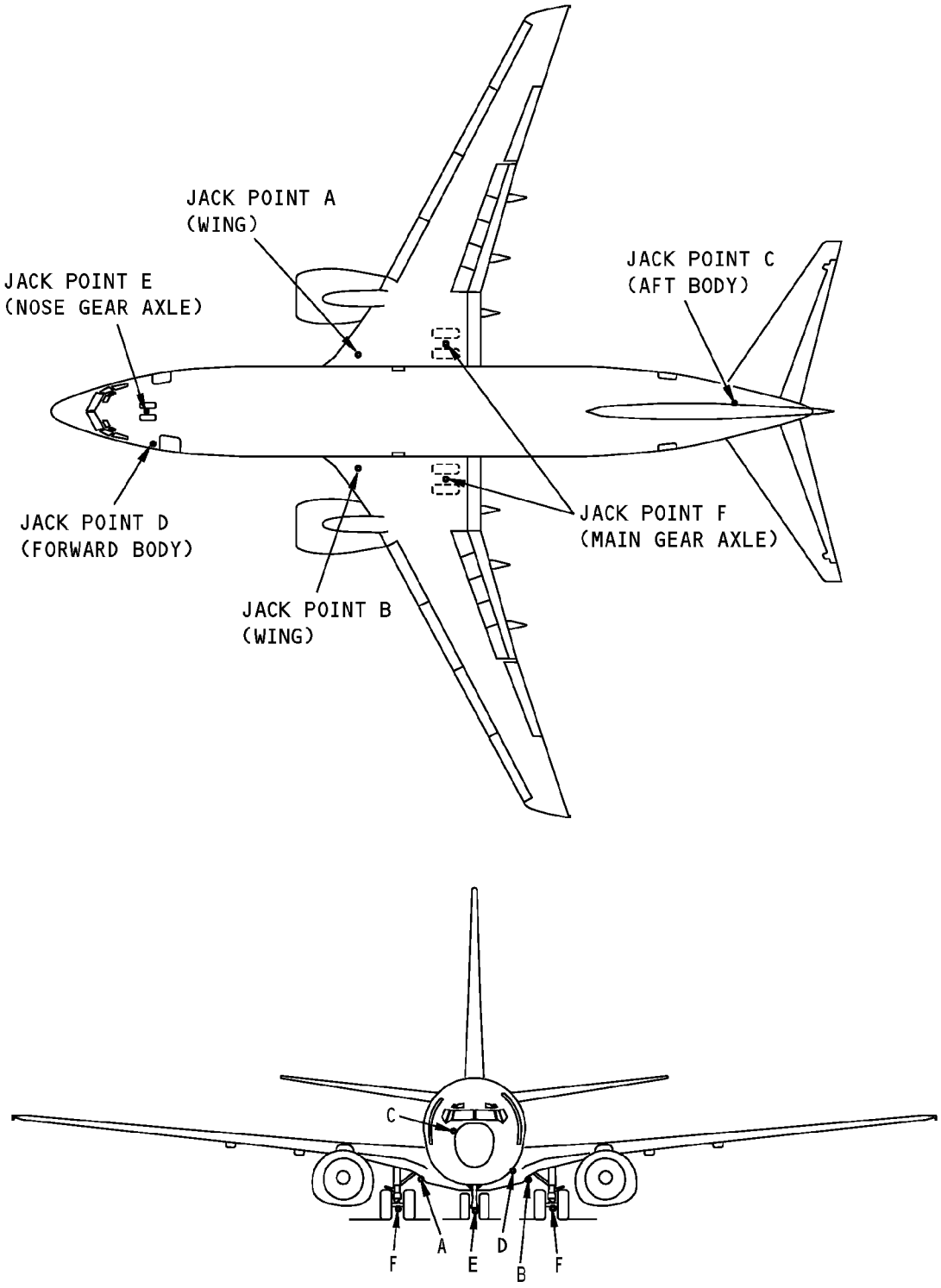
(b) Push YES switch to the following prompt: EXISTING FAULTS?

(c) Push the up arrow key until RESET LATCHES? shows on the PSEU display.

(d) Push the YES switch to select this option.

(e) Push YES switch to the following prompt: ARE YOU SURE?

———————— END OF TASK ————————



Jack Point Locations
Figure 201/07-11-01-990-801

JACK POINTS AND LOCATION		BODY STA	BUTTOCK LINE	HEIGHT ABOVE GROUND (INCHES) MIN 1	HEIGHT ABOVE GROUND (INCHES) MAX 2	MAXIMUM LOAD (POUNDS) 3	JACK ADAPTER
A	RIGHT WING	562.3	94.8R	65.4	100.4	56159	C07002
B	LEFT WING	562.3	94.8L	65.4	100.4	58063	C07002
C	AFT BODY	1086.9	11R	105.5	134.0	21673	C07004
D	FORWARD BODY	294.6	47.2L	57.6	96.0	17409	C07007
E	NOSE GEAR AXLE	291.0	0			18990	NONE
F	MAIN GEAR AXLE	705.6	112.6	SEE CHART BELOW		74444	NONE

JACK POINT DATA

LANDING GEAR	TIRE SIZE	CONDITION	DISTANCE FROM THE GROUND TO THE BOTTOM OF THE JACK PAD	CLEARANCE BETWEEN THE TIRES
MAIN GEAR	H43.5 X 16.0 - 21 (26 PLY)	NORMAL	12.6	16.77
		FLAT	8.5	15.1
		ON RIM	6.8	18.3
		TIRE CHANGE	18.45 4	
MAIN GEAR	H44.5 X 16.5 - 21 (28 PLY)	NORMAL	12.91	15.82
		FLAT	8.5	14.6
		ON RIM	6.8	18.3
		TIRE CHANGE	18.95 4	
NOSE GEAR	27 X 7.75 - 15 (26 PLY)	NORMAL	9.6	7.2
		FLAT	7.5	6.5
		ON RIM	6.3	8.5
		TIRE CHANGE	13.3 4	

LANDING GEAR TIRE DATA

F33132 S0006558442_V3

737-700 Jack Points and Landing Gear Tire Data
Figure 202 (Sheet 1 of 2)/07-11-01-990-817

1 THE SHOCK STRUTS ARE DEFLATED AND THE WHEELS ON RIM.

2 THE AIRPLANE IS ON JACKS WITH A 4-INCH CLEARANCE BELOW THE MAIN GEAR.

3 737-700 AIRPLANES;
THE SUM OF THE JACK LOADS AT POINTS A THRU D MUST BE LESS THAN 130,700 POUNDS, OR THE MAXIMUM ALLOWABLE JACK WEIGHT, WHICHEVER IS LESS. REFER TO FIGURE 203 FOR MAXIMUM ALLOWABLE AIRPLANE JACK WEIGHT.

4 IF THERE IS A 2-INCH TIRE CLEARANCE

737-700 Jack Points and Landing Gear Tire Data
Figure 202 (Sheet 2 of 2)/07-11-01-990-817

JACK POINTS AND LOCATION		BODY STA	BUTTOCK LINE	HEIGHT ABOVE GROUND (INCHES) MIN 1	HEIGHT ABOVE GROUND (INCHES) MAX 2	MAXIMUM LOAD (POUNDS) 3	JACK ADAPTER
A	RIGHT WING	562.3	94.7R	65.4	100.4	67938	C07002
B	LEFT WING	562.3	94.7L	65.4	100.4	69625	C07002
C	AFT BODY	1086.9	11R	105.5	134.0	21673	C07004
D	FORWARD BODY	294.6	47.2L	57.6	96.0	16566	C07007
E	NOSE GEAR AXLE	291.0	0			17134	NONE
F	MAIN GEAR AXLE	705.6	112.6	SEE CHART BELOW		85264	NONE

JACK POINT DATA

LANDING GEAR	TIRE SIZE	CONDITION	DISTANCE FROM THE GROUND TO THE BOTTOM OF THE JACK PAD	CLEARANCE BETWEEN THE TIRES
MAIN GEAR	H44.5 X 16.5 - 21 (28 PLY)	NORMAL	12.91	15.82
		FLAT	8.5	14.6
		ON RIM	6.8	18.3
		TIRE CHANGE	18.95 4	
NOSE GEAR	27 X 7.75 - 15 (12 PLY)	NORMAL	8.97	7.2
		FLAT	6.75	4.2
		ON RIM	6.25	
		TIRE CHANGE	13.25 4	

LANDING GEAR TIRE DATA

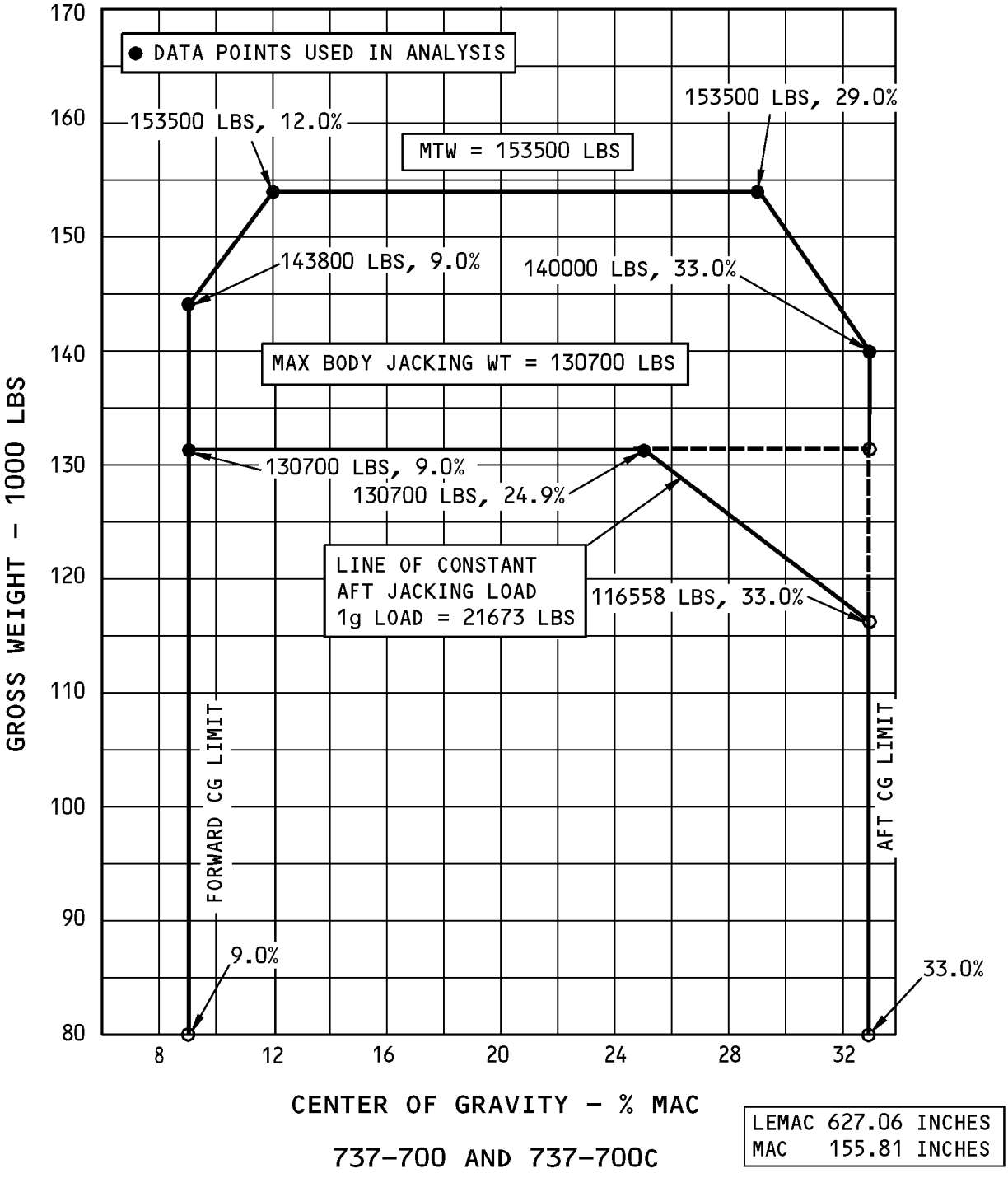
1 THE SHOCK STRUTS ARE DEFLATED AND THE WHEELS ON RIM.

2 THE AIRPLANE IS ON JACKS WITH A 4-INCH CLEARANCE BELOW THE MAIN GEAR.

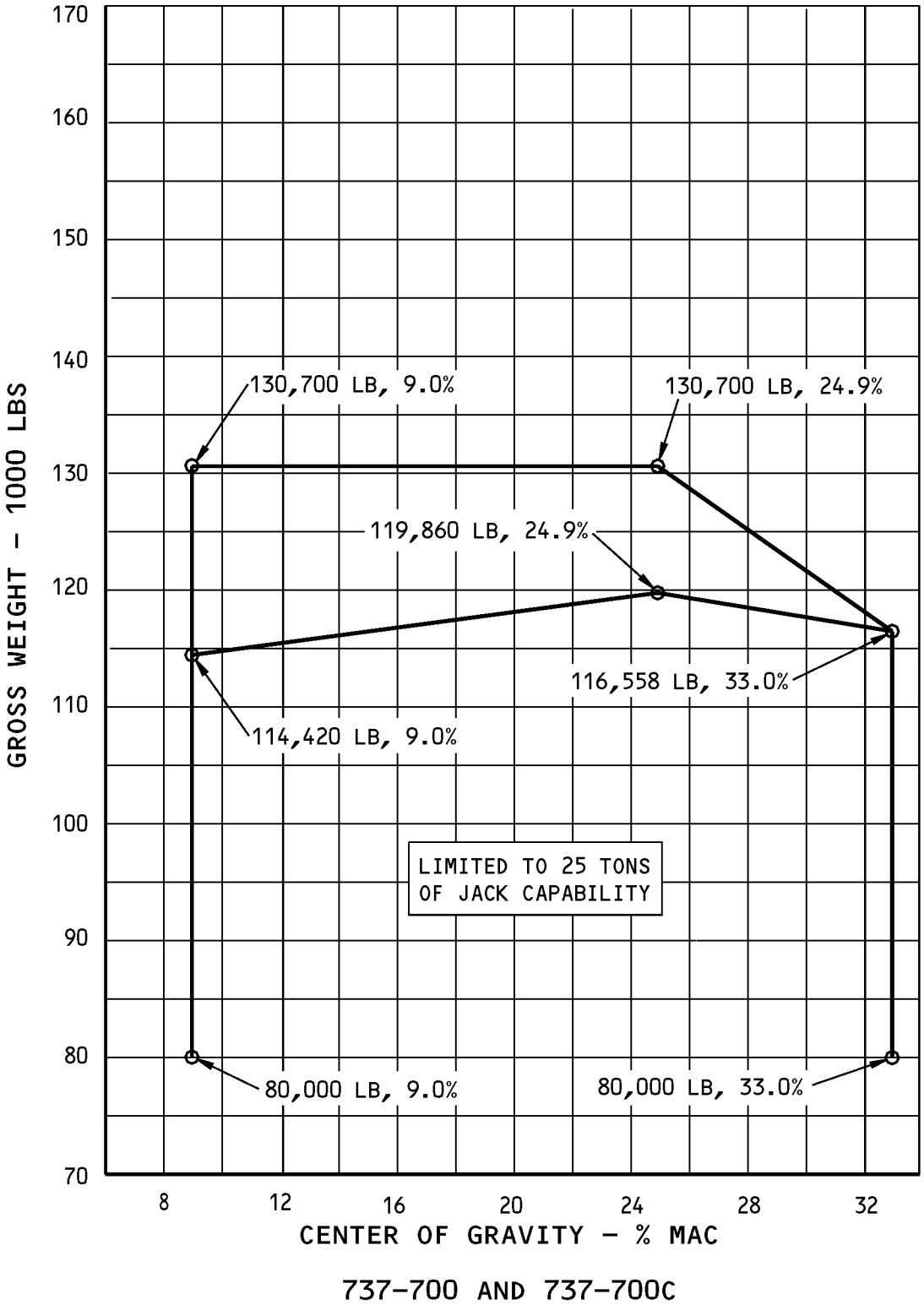
3 737-800 AIRPLANES;
THE SUM OF THE JACK LOADS AT POINTS A THRU D MUST BE LESS THAN 144,600 POUNDS, OR THE MAXIMUM ALLOWABLE JACK WEIGHT, WHICHEVER IS LESS. REFER TO FIGURE 203 FOR MAXIMUM ALLOWABLE AIRPLANE JACK WEIGHT.

4 IF THERE IS A 2-INCH TIRE CLEARANCE

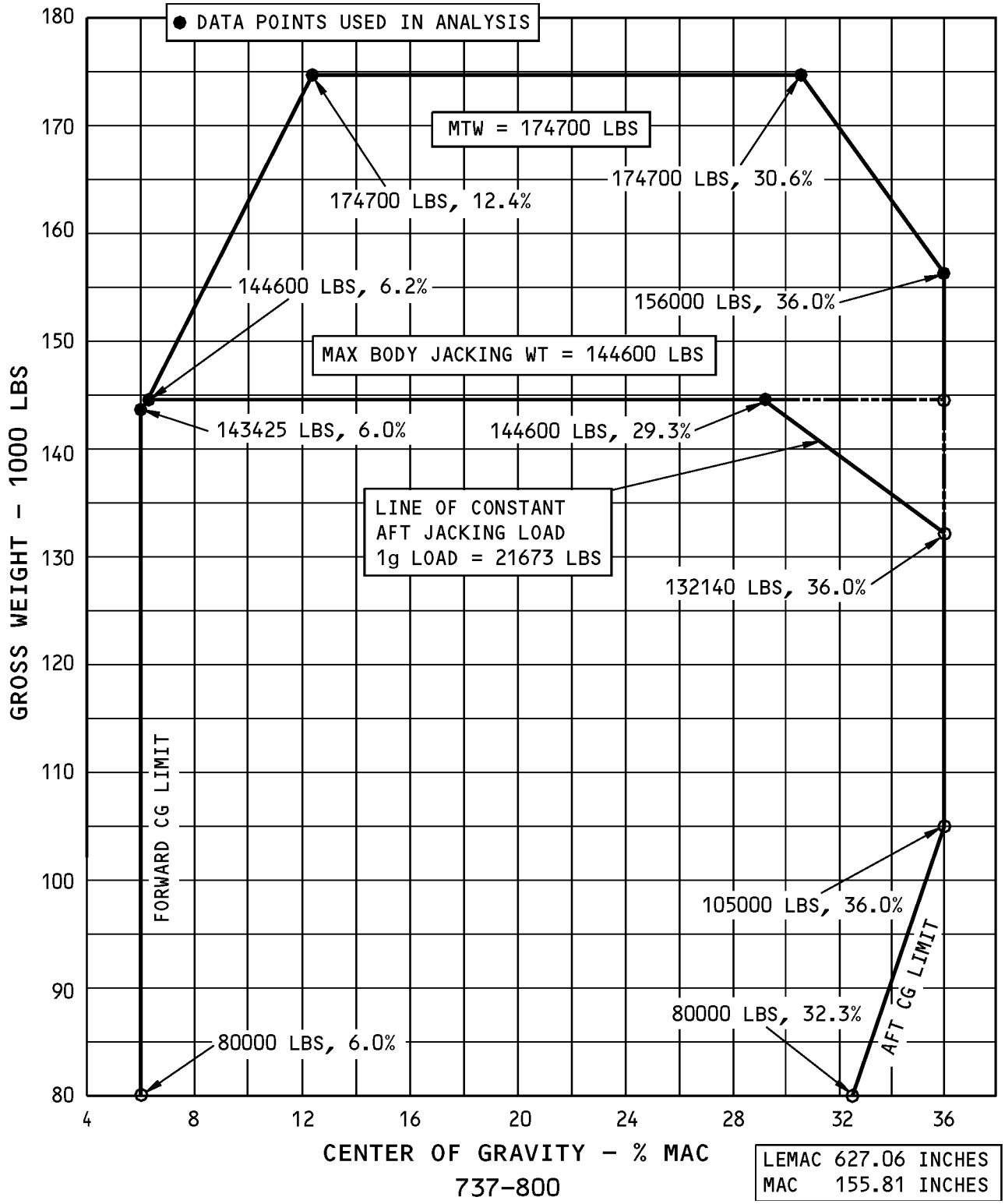
737-800 Jack Points and Landing Gear Tire Data
Figure 203/07-11-01-990-818



Maximum Gross Weight versus Center of Gravity
Figure 204 (Sheet 1 of 2)/07-11-01-990-819



Maximum Gross Weight versus Center of Gravity
Figure 204 (Sheet 2 of 2)/07-11-01-990-819



Maximum Gross Weight versus Center of Gravity
Figure 205/07-11-01-990-833

JACK AIRPLANE AXLES - MAINTENANCE PRACTICES

1. General

A. This procedure contains these two tasks:

(1) Lift the Airplane Main Landing Gear with Axle Jacks.

(2) Lift the Airplane Nose Landing Gear with Axle Jacks.

TASK 07-11-03-580-801

2. Lift the Main Landing Gear Axles with the Axle Jacks

A. General

CAUTION: WHEN YOU JACK THE AIRPLANE, DO NOT PUT THE JACK UNDER ANY PART OF THE LANDING GEAR EXCEPT FOR THE AXLE JACK PADS AT JACK POINTS E AND F. IF YOU DO NOT PUT THE JACK IN THE CORRECT LOCATIONS, LANDING GEAR FAILURE CAN OCCUR.

(1) There are jack points under each landing gear axle to permit the removal of the wheel and tire or brake assembly without jacking the complete airplane.

NOTE: There are no special wind restrictions when you jack an individual landing gear with the axle jacks. Use tie downs in winds that are more than 35 knots when you jack the complete airplane, or when you jack more than one landing gear. Make sure you use the mooring procedure in high winds, (TASK 10-21-00-580-801).

(2) Make sure you have the correct axle jack pad heights and clearances between the tires, (TASK 07-11-01-580-815).

NOTE: The dimensions can change when conditions change.

(3) The design of the axle jack points will permit you to change two flat tires on the same landing gear while the airplane is at the maximum taxi weight (MTW).

NOTE: The load on an axle jack point must not be more than the maximum permitted.

(4) Follow these safety instructions when you lift the airplane on the axle jacks:

(a) Lift only one main landing gear at a time.

(b) Remove only one wheel on each gear at a time.

NOTE: You can remove two wheels from the gear only when a jack with a mechanical safety provision (lock device) is used.

(c) Make sure the airplane is turned into the wind (if it is applicable) when it is out of the hangar.

B. References

Reference	Title
07-11-01-580-815	Lift the Airplane with the Jacks (P/B 201)
09-11-00-580-801	Towing (P/B 201)
10-21-00-580-801	Moor the Airplane (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)

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-1502	Chocks - Wheel (Part #: W88, Supplier: 9L752, A/P Effectivity: 737-ALL) (Part #: W92, Supplier: 9L752, A/P Effectivity: 737-ALL)
COM-5928	Jack - Axle, Main Gear (Part #: 2150-8.5, Supplier: 00994, A/P Effectivity: 737-100, -200, -300, -400, -500, -600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Part #: 50P9AR, Supplier: 94861, A/P Effectivity: 737-ALL) (Part #: 8842, Supplier: 94861, A/P Effectivity: 737-ALL)
SPL-1880	Equipment - Downlock, NLG and MLG (Part #: C32026-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Location Zones

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

E. Prepare for Procedure

SUBTASK 07-11-03-580-001

(1) Make sure the airplane center of gravity is within the specified limits, refer to this task: Lift the Airplane with the Jacks, TASK 07-11-01-580-815.

SUBTASK 07-11-03-580-002

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure the landing gear down lock equipment, SPL-1880, are installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-01-480-801.

F. Lift the Main Landing Gear

SUBTASK 07-11-03-580-003

(1) If one tire on the main gear axle is flat, do these steps:

(a) Use the minimum height axle jacks to lift the airplane, do this task: Lift the Airplane with the Jacks, TASK 07-11-01-580-815.

(b) If you cannot install the axle jack, do this step:

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.

1) Put an inclined block below the good wheel.

NOTE: Make sure the incline block ramp angle is not more than 5 degrees.

NOTE: Make sure the block is of sufficient height to make the subsequent installation of an axle jack not necessary.

2) Tow the airplane to move the main landing gear wheel up on the inclined blocks, do this task: Towing, TASK 09-11-00-580-801.

SUBTASK 07-11-03-580-004

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

(a) If jacks of a correct height are available, use the minimum height axle jacks to lift the airplane.

(b) If jacks of a correct height are not available, do one of the two procedures that follow:

1) Do the servicing of the main landing gear tire that is serviceable, do this task: Add Nitrogen or Air to the Tire, TASK 12-15-51-610-802.

NOTE: A serviceable tire, is a tire in satisfactory condition that can be inflated and is installed correctly.

a) Install the main gear axle jack, axle jack, COM-5928.

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.

2) Do this procedure to lift the main gear wheels onto inclined blocks:

a) Put one inclined block below each wheel of the main gear axle that you need to install an axle jack.

NOTE: Make sure the incline block ramp angle is not more than 5 degrees. The blocks must be level at a minimum height of 4 inches (10.16 centimeters) to install a jack with a closed height of 10 inches (25.4 centimeters).

b) Tow the airplane to move the main landing gear wheel up on the inclined blocks, do this task: Towing, TASK 09-11-00-580-801.

c) Put wheel chocks, COM-1502, around the nose gear and opposite main landing gear.

NOTE: If the ramp does not slope: Move the aft NLG chocks away from the tires. During the refuel, the NLG tires roll aft as the MLG shock absorber compresses. Make sure that the chocks do not touch the MLG tires. The weight of the fuel can lower the aircraft and cause the tires to catch the chocks.

NOTE: If the ramp slopes: Make sure that the chocks down from the tires touch the NLG and MLG tires. - make sure that the chocks up from the tires do not touch the NLG and MLG tires.

d) Install the main gear axle jack, axle jack, COM-5928.

(c) Lift the applicable landing gear on the axle jack.

NOTE: Use the jack manufacturer's instructions to lift the airplane on the jacks.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 07-11-03-580-005

(1) Lower the airplane off of the axle jack.

NOTE: Use the jack manufacturer's instructions to lower the airplane off the jacks

——————— END OF TASK ———————

TASK 07-11-03-580-802

3. Lift the Airplane Nose Landing Gear with the Axle Jack at Jack Point E

A. General

(1) If you lift the airplane at nose jack point D, an axle jack is not necessary, do this task: Lift the Airplane Nose with the Nose Jack at Jack Point D, TASK 07-11-21-580-801.

(2) Follow this safety instruction when you lift the airplane on jacks:

(a) Remove only one wheel on each gear at one time.

NOTE: You can remove two wheels from the gear only when a jack with a mechanical safety device (lock device) is used.

(3) Make sure the airplane is turned into the wind (if it is applicable) when it is out of the hangar.

B. References

Reference	Title
07-11-01-580-815	Lift the Airplane with the Jacks (P/B 201)
07-11-21-580-801	Lift the Airplane Nose with the Nose Jack at Jack Point D (P/B 201)
09-11-00-580-801	Towing (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)
32-21-31-000-803	Nose Landing Gear Torsion Link Disconnection (P/B 401)
32-21-31-400-803	Nose Landing Gear Torsion Link Connection (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-1484	Jack - Axle, Nose Gear (Part #: 2150-8.5, Supplier: 00994, A/P Effectivity: 737-100, -200, -300, -400, -500, -600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Part #: 5923-010, Supplier: 00994, A/P Effectivity: 737-100, -200, -200C, -300, -400, -500, -600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Part #: 642S, Supplier: 94861, A/P Effectivity: 737-ALL) (Part #: 8842, Supplier: 94861, A/P Effectivity: 737-ALL)
COM-1502	Chocks - Wheel (Part #: W88, Supplier: 9L752, A/P Effectivity: 737-ALL) (Part #: W92, Supplier: 9L752, A/P Effectivity: 737-ALL)
SPL-1499	Pin - Lock, NLG Towing Lever (Part #: A09003-2, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Opt Part #: A09003-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-1880	Equipment - Downlock, NLG and MLG (Part #: C32026-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

D. Location Zones

Zone	Area
713	Nose Landing Gear

E. Prepare to Lift the Airplane Nose Landing Gear with an Axle Jack

SUBTASK 07-11-03-580-007

(1) Make sure the airplane center of gravity is within the airplane limit, refer to this task: Lift the Airplane with the Jacks, TASK 07-11-01-580-815.

SUBTASK 07-11-03-860-004

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND 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.

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

SUBTASK 07-11-03-020-001

WARNING: DISCONNECT THE NOSE GEAR TORSION LINKS. THE RUDDER PEDALS ARE CONNECTED TO THE NOSE GEAR STEERING AND MOVEMENT CAN PUSH THE NOSE GEAR OFF THE JACK. IF YOU DO NOT OBEY THESE INSTRUCTIONS, INJURY TO PERSON OR DAMAGE TO EQUIPMENT CAN OCCUR.

(3) Disconnect the nose gear torsion links, do this task: Nose Landing Gear Torsion Link Disconnection, TASK 32-21-31-000-803.

NOTE: If the torsion links are disconnected and an incline block is put under the good wheel, the nose gear will steer to one side when it is towed.

F. Lift the Nose Landing Gear

SUBTASK 07-11-03-580-008

(1) If one tire on the nose gear axle is flat, do these steps:

(a) Use the minimum height axle jacks to lift the airplane, do this task: Lift the Airplane with the Jacks, TASK 07-11-01-580-815.

(b) If you cannot install the axle jack, do this step:

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.

1) Put an inclined block below the good wheel.

NOTE: Make sure the incline block ramp angle is not more than 5 degrees.

NOTE: Make sure 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 up on the inclined blocks, do this task: Towing, TASK 09-11-00-580-801.

SUBTASK 07-11-03-580-009

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

(a) If jacks of a correct height are available, use the minimum height axle jacks to lift the airplane.

(b) If jacks of a correct height are not available, do one of the two procedures that follow:

1) Do the servicing of the nose landing gear tire that is serviceable, do this task: Add Nitrogen or Air to the Tire, TASK 12-15-51-610-802.

NOTE: Make sure one tire is in satisfactory condition to be inflated and is installed correctly.

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

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.

2) Do this procedure to 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.

NOTE: Make sure the incline block ramp angle is not more than 5 degrees. The blocks must be level at a minimum height of 4 inches (10.16 centimeters) to install a jack with a closed height of 10 inches (25.4 centimeters).

b) Tow the airplane to move the nose landing gear wheels up on the inclined blocks, do this task: Towing, TASK 09-11-00-580-801.

c) Put wheel chocks, COM-1502, around the wheels of the main landing gear.

NOTE: If the ramp does not slope: Move the aft NLG chocks away from the tires. During the refuel, the NLG tires roll aft as the MLG shock absorber compresses. Make sure that the chocks do not touch the MLG tires. The weight of the fuel can lower the aircraft and cause the tires to catch the chocks.

NOTE: If the ramp slopes: Make sure that the chocks down from the tires touch the NLG and MLG tires. - make sure that the chocks up from the tires do not touch the NLG and MLG tires.

d) Install the axle jack between the wheels of the gear.

(c) Lift the airplane on the axle jack.

NOTE: Use the jack manufacturers instructions to lift the airplane on the jacks.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 07-11-03-580-010

(1) Lower the airplane off of the axle jack.

NOTE: Use the jack manufacturers instructions to lower the airplane off the jack.

SUBTASK 07-11-03-860-007

(2) Connect the nose gear torsion links after the repair, do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-31-400-803.

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

END OF TASK

TILT AIRPLANE FOR TAIL CLEARANCE - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Tilt the airplane for the tail clearance

(2) Balance check for the tilted airplane

(3) Tow the tilted airplane

(4) Lower the airplane nose with the nose lift dolly

TASK 07-11-06-580-801

2. Tilt the Airplane For the Tail Clearance

(Example of a Nose Lift Dolly/Figure 201, Vertical Tail Height Versus Nose Gear Jack Height/Figure 202, Nose Gear Shock Strut Extension/Figure 203, Moment Due to Ballast/Figure 211, Balance Check for Towing Tilted Airplane/Figure 213)

A. General

(1) You can lift the airplane nose with a nose lift dolly, COM-8827 to lower the airplane's tail for clearance in the hangar or storage area (Example of a Nose Lift Dolly/Figure 201).

(2) You must add ballast when the total moment of the airplane about the main gear axle is not more than +1000 (Moment Due to Ballast/Figure 211, Balance Check for Towing Tilted Airplane/Figure 213).

(a) This step will keep the airplane stable when you lift the airplane nose.

(3) You can use a nose gear ramp to permit the vertical fin to go through the hangar door.

B. References

Reference	Title
12-14-01-600-801	Potable Water System - Drain (P/B 301)
12-15-31-610-802	Main Landing Gear Shock Strut Servicing (P/B 301)
12-15-41-610-802	Nose Landing Gear Shock Strut Servicing (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)

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-1502	Chocks - Wheel (Part #: W88, Supplier: 9L752, A/P Effectivity: 737-ALL) (Part #: W92, Supplier: 9L752, A/P Effectivity: 737-ALL)
COM-8827	Dolly - Lift, Nose (Part #: AM-2067-M-100, Supplier: 9M323, A/P Effectivity: 737-600, -700, -800, -900) (Part #: HW0702, Supplier: D2029, A/P Effectivity: 737-ALL)

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 to Lift the Airplane with a Nose Dolly

SUBTASK 07-11-06-580-001

(1) Do the steps that follow to prepare to lift the airplane with a nose lift dolly, COM-8827:

(a) Defuel the airplane to approximately 6000 pounds of fuel, do this task: Fuel Tank Defueling, TASK 28-26-00-650-801.

(b) Drain the potable water and waste water tanks, do these tasks: Potable Water System - Drain, TASK 12-14-01-600-801 and Waste Tank Servicing, TASK 12-17-01-610-801.

(c) If there is snow or ice on the empennage, make sure to remove the unwanted material.

(d) Inflate the nose shock strut, do this task: Nose Landing Gear Shock Strut Servicing, TASK 12-15-41-610-802.

1) Hold the shock strut with the nylon strap, a rope, a sling (or applicable equipment) to keep the Dimension X to 23 inches (58.4 centimeters) maximum (Nose Gear Shock Strut Extension/Figure 203).

2) Make sure Dimension "X" is not more than 23 inches (58.4 centimeters) (Nose Gear Shock Strut Extension/Figure 203).

(e) Inflate the shock struts on the main gear, do this task: Main Landing Gear Shock Strut Servicing, TASK 12-15-31-610-802.

1) Make sure the minimum extension on the shock struts is 1-1/2 (38.1 millimeters) ± 1/8 inches (3.18 millimeters).

(f) Find the nose height that is necessary to get the tail clearance (Vertical Tail Height Versus Nose Gear Jack Height/Figure 202).

(g) Make sure the nose landing gear is in its neutral position.

(h) Do the steps that follow to put the nose lift dolly, COM-8827 on the nose gear:

1) Remove the rear lock bar from the nose lift dolly, COM-8827.

2) Put the nose lift dolly, COM-8827 in the center of the nose gear.

3) Disconnect the torsion links on the nose landing gear.

4) Install the nose lift dolly, COM-8827 lock bar behind the tires.

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(i) Make sure all the landing gear downlocks are installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-01-480-801

(j) Loosely put chocks, COM-1502 on the main gear wheels .

NOTE: If the ramp does not slope: Move the aft NLG chocks away from the tires. During the refuel, the NLG tires roll aft as the MLG shock absorber compresses. Make sure that the chocks do not touch the MLG tires. The weight of the fuel can lower the aircraft and cause the tires to catch the chocks.

NOTE: If the ramp slopes: Make sure that the chocks down from the tires touch the NLG and MLG tires. - make sure that the chocks up from the tires do not touch the NLG and MLG tires.

(k) You must add ballast when the total moment of the airplane about the main gear axle is not more than +1000 in-lbX(10)-3, (Moment Due to Ballast/Figure 211, Balance Check for Towing Tilted Airplane/Figure 213).

1) This step will keep the airplane stable when you lift the airplane nose.

F. Lift the Airplane Nose

SUBTASK 07-11-06-210-001

WARNING: MAKE SURE ALL PERSONS ARE AWAY FROM THE LEADING EDGE SLATS. THEY CAN MOVE AUTOMATICALLY (UNLESS OTHERWISE INHIBITED) DURING MAINTENANCE. IF YOU DO NOT OBEY THESE INSTRUCTIONS, INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

CAUTION: DO NOT LIFT THE AIRPLANE NOSE MORE THAN 84 INCHES (2.13 METERS). THE AIRPLANE WILL NOT BE STABLE IF YOU LIFT THE NOSE MORE THAN 84 INCHES (2.13 METERS). THIS CAN CAUSE DAMAGE TO THE AIRPLANE.

(1) Do the steps that follow to lift the airplane nose to the necessary height with the nose lift dolly, COM-8827.

NOTE: See the nose lift dolly, COM-8827 manufacturer's instructions.

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

(b) Make sure the airplane brakes are released.

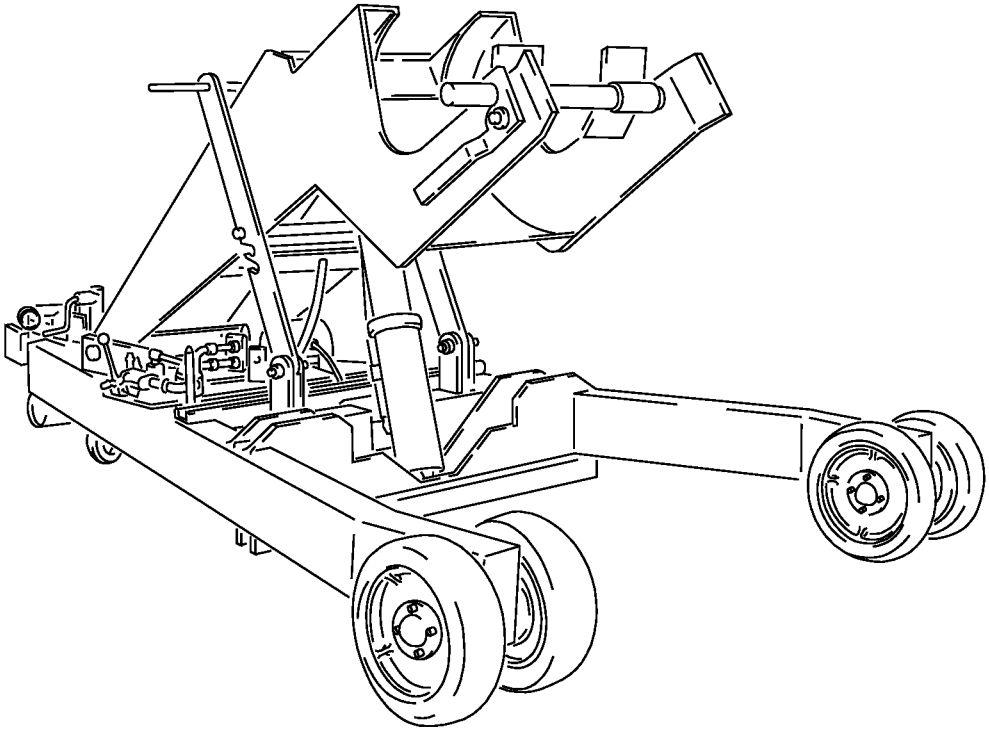
CAUTION: DO NOT TOW THE AIRPLANE WHEN THE STRUT EXTENSION (DIMENSION "X") IS MORE THAN 23 INCHES. THIS CAN CAUSE DAMAGE TO THE CENTERING CAMS ON THE NOSE GEAR.

(c) Make sure the Dimension "X" is not more than 23 inches (58.4 centimeters) (Nose Gear Shock Strut Extension/Figure 203).

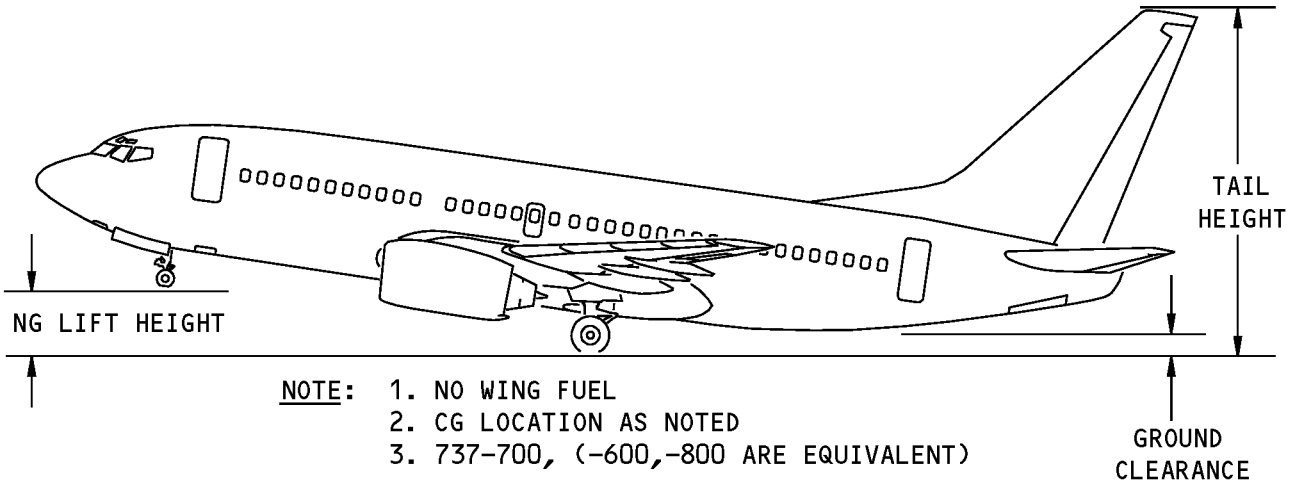
1) If Dimension "X" is more than 23 inches (58.4 centimeters), release the strut pressure until Dimension "X" is 23 inches (58.4 centimeters) or less.

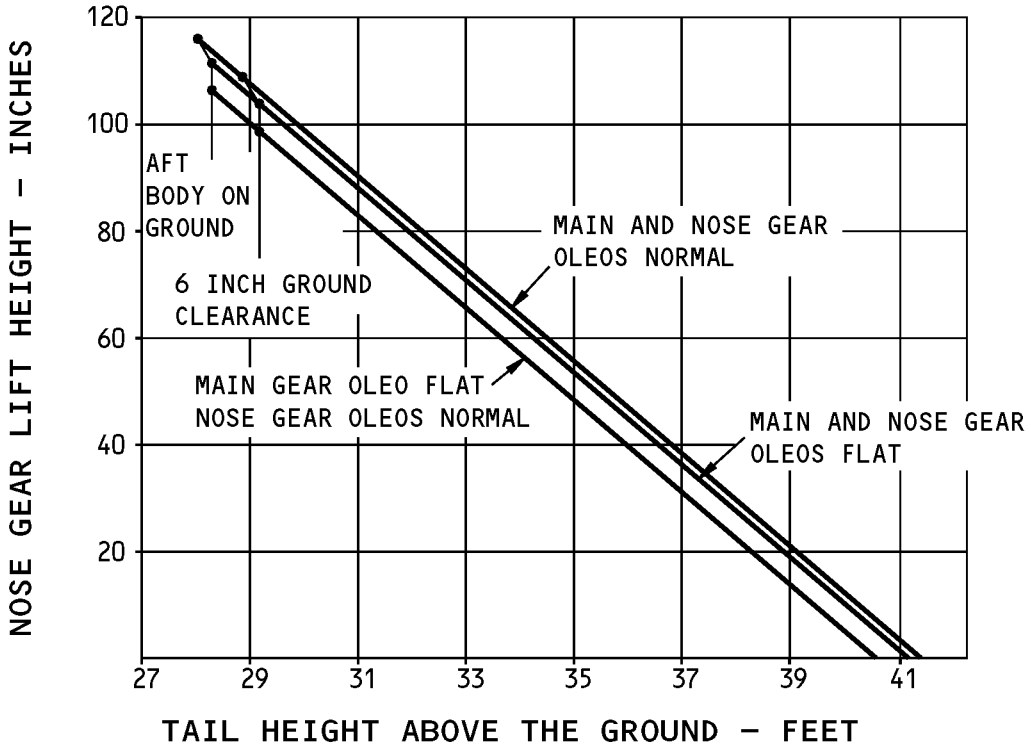
2) Adjust the strut limit, if it is necessary.

END OF TASK



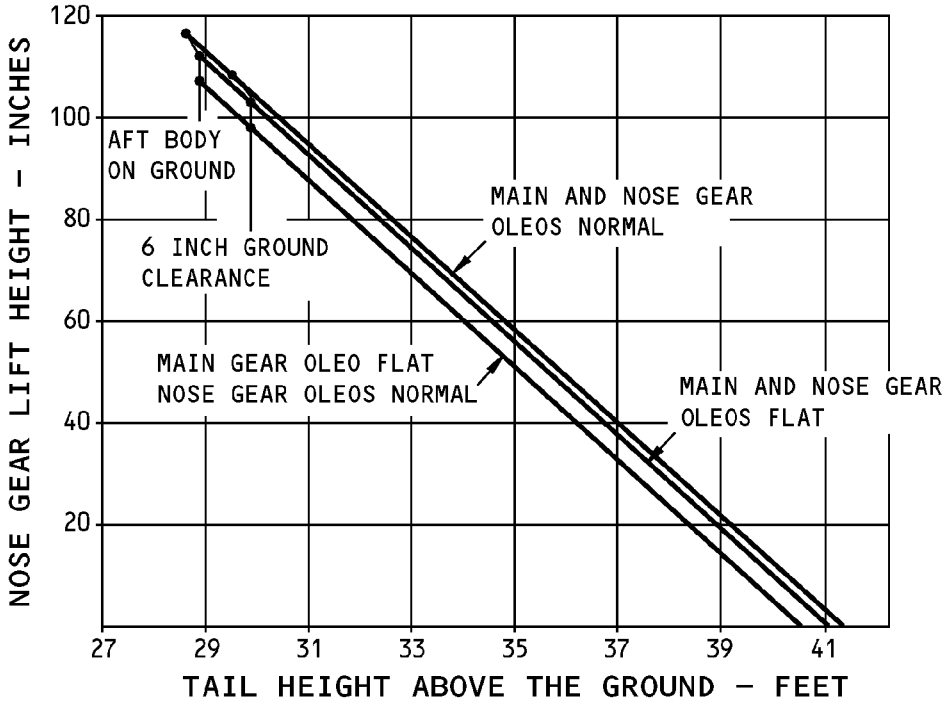
Example of a Nose Lift Dolly
Figure 201/07-11-06-990-801

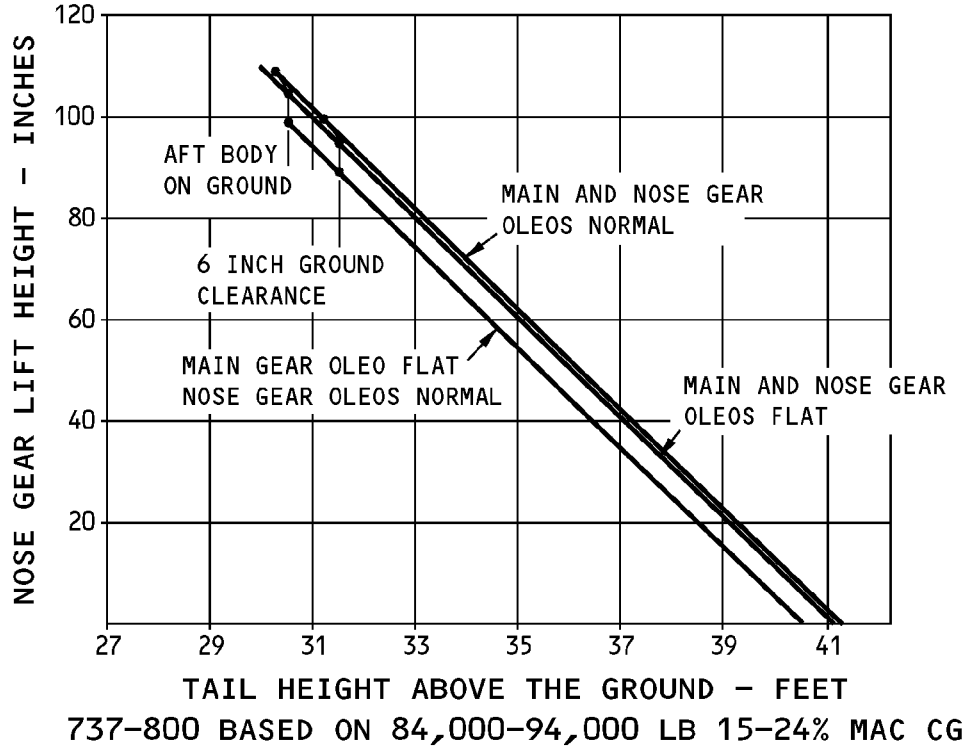




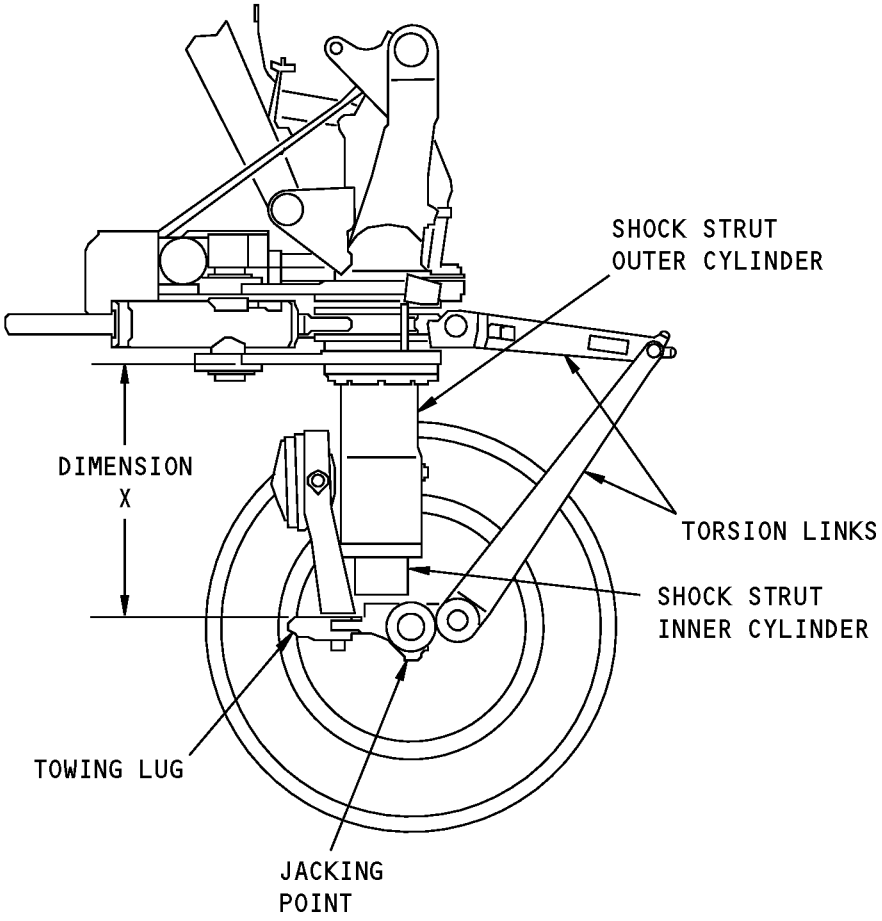
737-600 BASED ON 73,000-83,000 LB 18-26% MAC CG

Vertical Tail Height Versus Nose Gear Jack Height
Figure 202 (Sheet 1 of 2)/07-11-06-990-802





Vertical Tail Height Versus Nose Gear Jack Height
Figure 202 (Sheet 2 of 2)/07-11-06-990-802



STRUT POSITION	DIMENSION X
FULLY COMPRESSED	13.5 INCHES
FULLY EXTENDED	25.5 INCHES

Nose Gear Shock Strut Extension
Figure 203/07-11-06-990-803

TASK 07-11-06-280-801

3. Balance Check for the Tilted Airplane

(Moment Due to Airplane Weight/Figure 204, Moment Due to Tilting/Figure 205, Moment Due to Fuel Movement/Figure 206, Moment Due to Wind/Figure 207, Moment Due to Tow Vehicle Acceleration/Figure 208, Moment Due to Towing Upgrade/Figure 209, Moment Due to Dolly Restraint/Figure 210, Moment Due to Ballast/Figure 211, Maximum Nose Gear Load/Figure 212, Balance Check for Towing Tilted Airplane/Figure 213, Vertical Tail Height Versus Degree of Tilt of the Airplane After Jacking/Figure 214)

A. General

(1) When you lift the airplane nose, the center of gravity of the airplane moves aft with respect to the main gear axle.

(a) This movement, plus the wind, grade of the ramp, and fuel movement can cause the airplane to move.

1) This can also make the aft fuselage of the airplane touch the ground.

(b) You must complete a balance check form to make sure the airplane will be stable.

1) Add the ballast, if it is necessary.

NOTE: You can use the dolly as a ballast.

a) If you use the dolly as ballast, make sure the dolly is attached to the nose gear wheels.

B. Balance Check for the Tilted Airplane

SUBTASK 07-11-06-970-001

(1) Do the steps that follow to do the balance check for the tilted airplane:

(a) Add the moments about the main gear because of the items listed below:

1) Airplane weight (Moment Due to Airplane Weight/Figure 204).

2) Tilted airplane (Moment Due to Tilting/Figure 205).

3) Fuel movement (Moment Due to Fuel Movement/Figure 206).

4) Wind (Moment Due to Wind/Figure 207).

5) Tow vehicle acceleration (Moment Due to Tow Vehicle Acceleration/Figure 208).

6) Grade of the Ramp (Moment Due to Towing Upgrade/Figure 209).

7) Dolly restraint (Moment Due to Towing Upgrade/Figure 209, Moment Due to Dolly Restraint/Figure 210).

a) Make sure the sum of these moments is more than +1,000,000 inch-pounds.

b) Make sure the dolly has the capacity equivalent to or more than the maximum load of the airplane nose (Maximum Nose Gear Load/Figure 212).

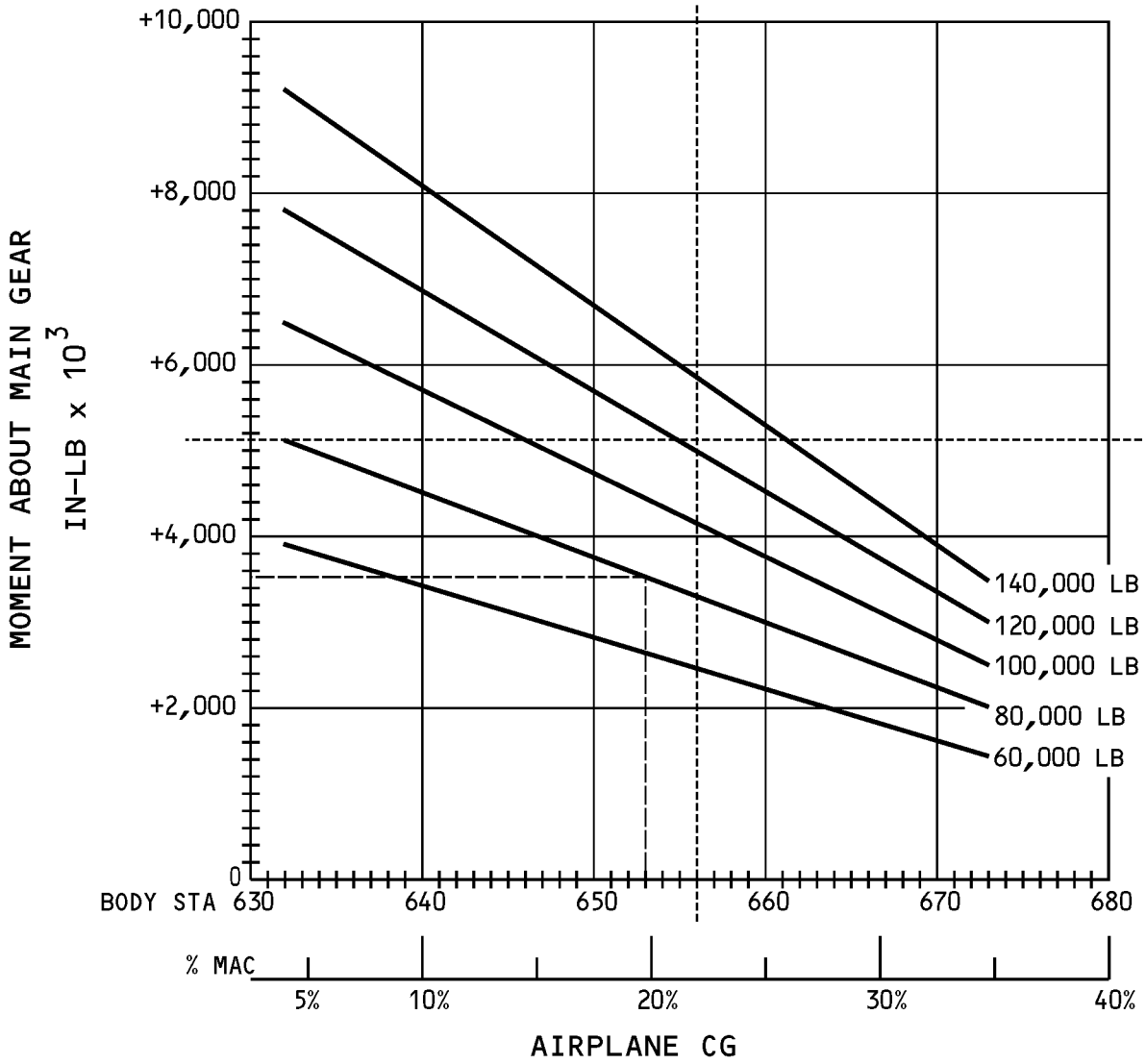
NOTE: (Moment Due to Ballast/Figure 211, Balance Check for Towing Tilted Airplane/Figure 213) is an example to calculate a balance check when you tow the airplane.

———————— END OF TASK ————————

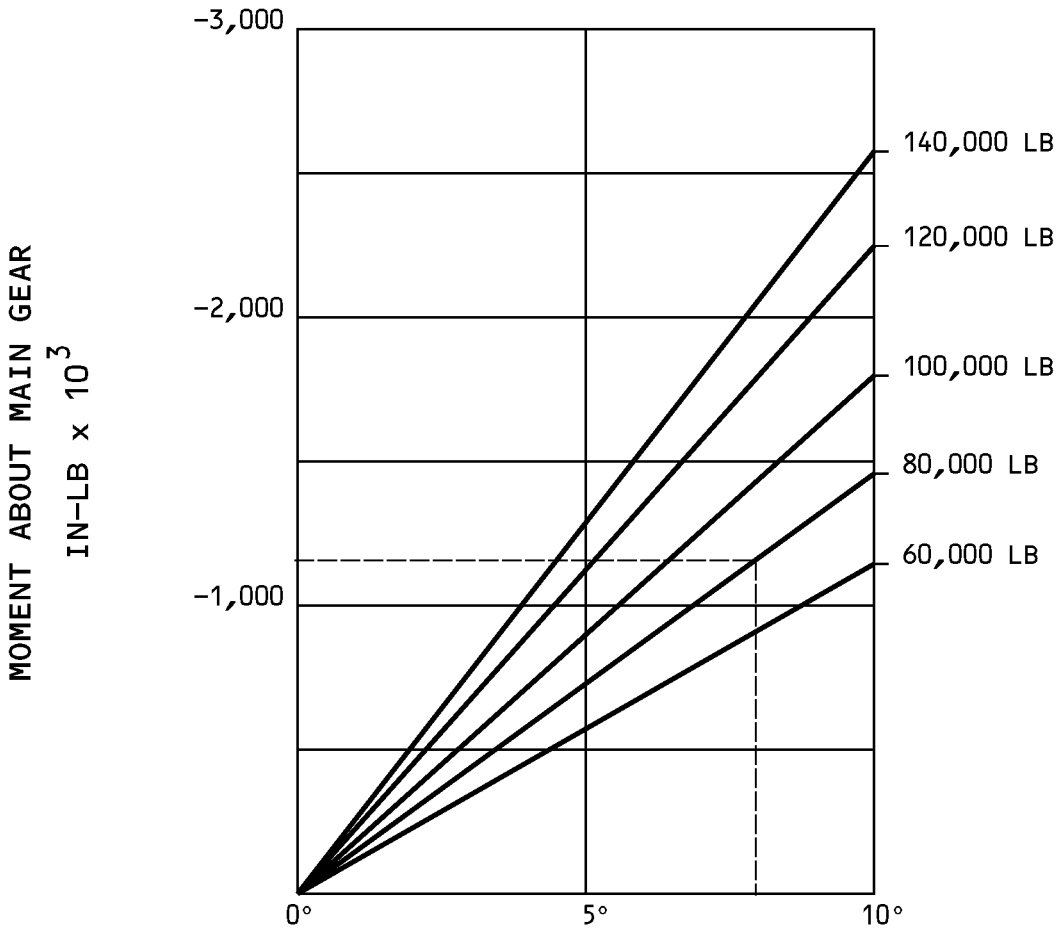
1. FIND THE AIRPLANE CG
2. GO UP TO THE AIRPLANE WEIGHT LINE
3. GO LEFT TO FIND THE MOMENT

NOTE: USE WEIGHT AND CG FOR AIRPLANE IN THE CONFIGURATION IT WILL BE IN AT TIME OF TILTING. REFER TO THE WEIGHT AND BALANCE MANUAL TO DETERMINE WEIGHT AND CG.

EXAMPLE: CG = 19%
WEIGHT = 80,000 LB
MOMENT = +3700



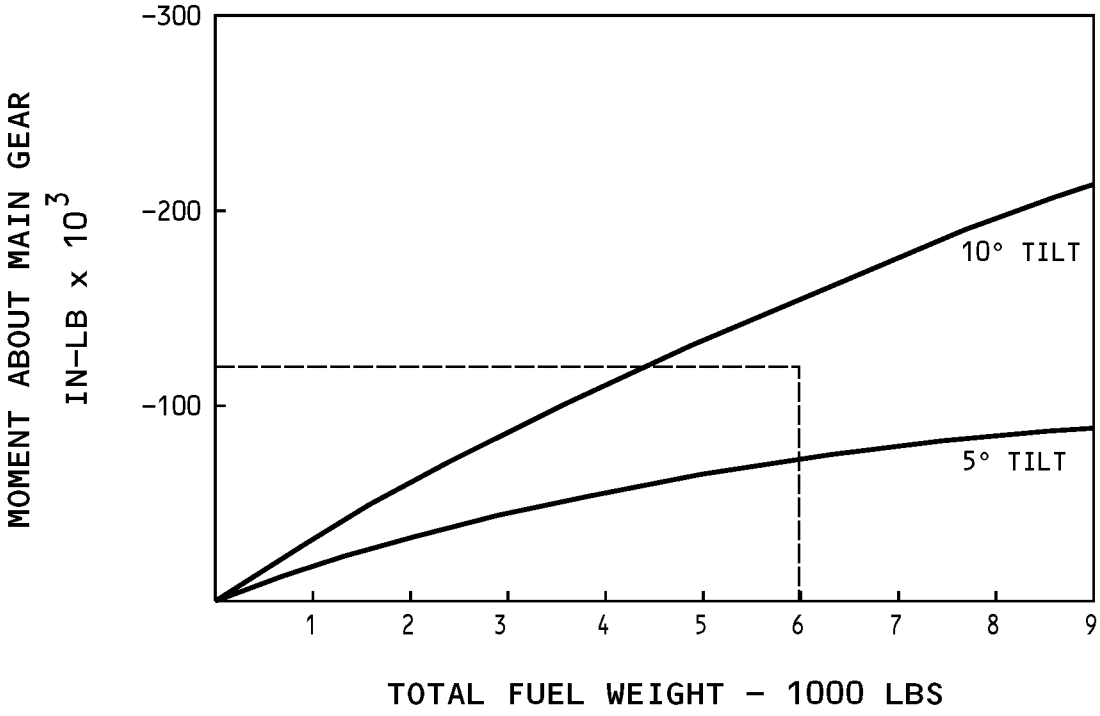
Moment Due to Airplane Weight
Figure 204/07-11-06-990-804



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

EXAMPLE: TILT = 8°
WEIGHT = 80,000 LB
MOMENT = -1150

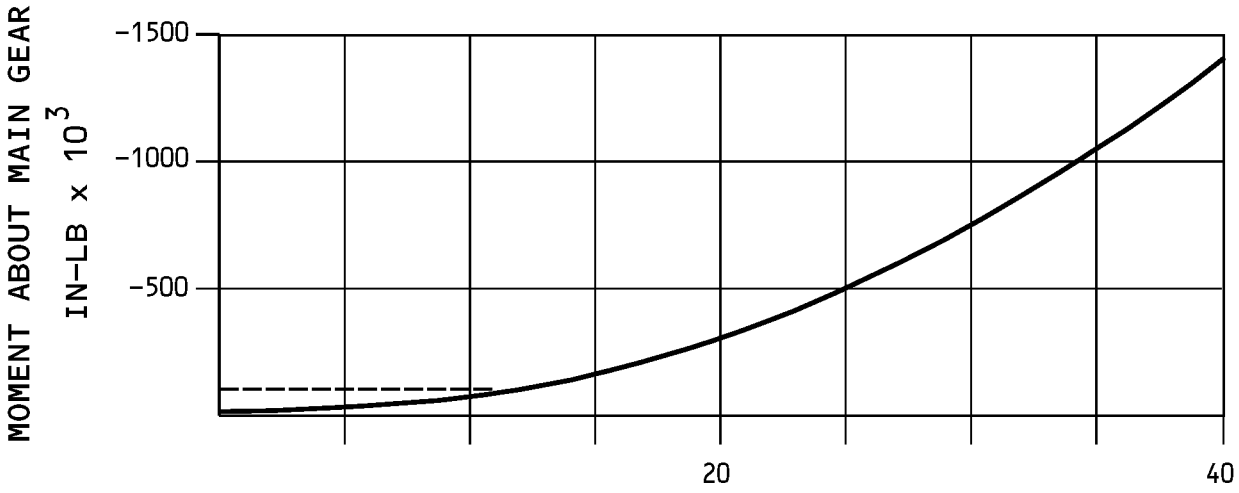
Moment Due to Tilting
Figure 205/07-11-06-990-805



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 = 6,000 LB
MOMENT = -120

Moment Due to Fuel Movement
Figure 206/07-11-06-990-806



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

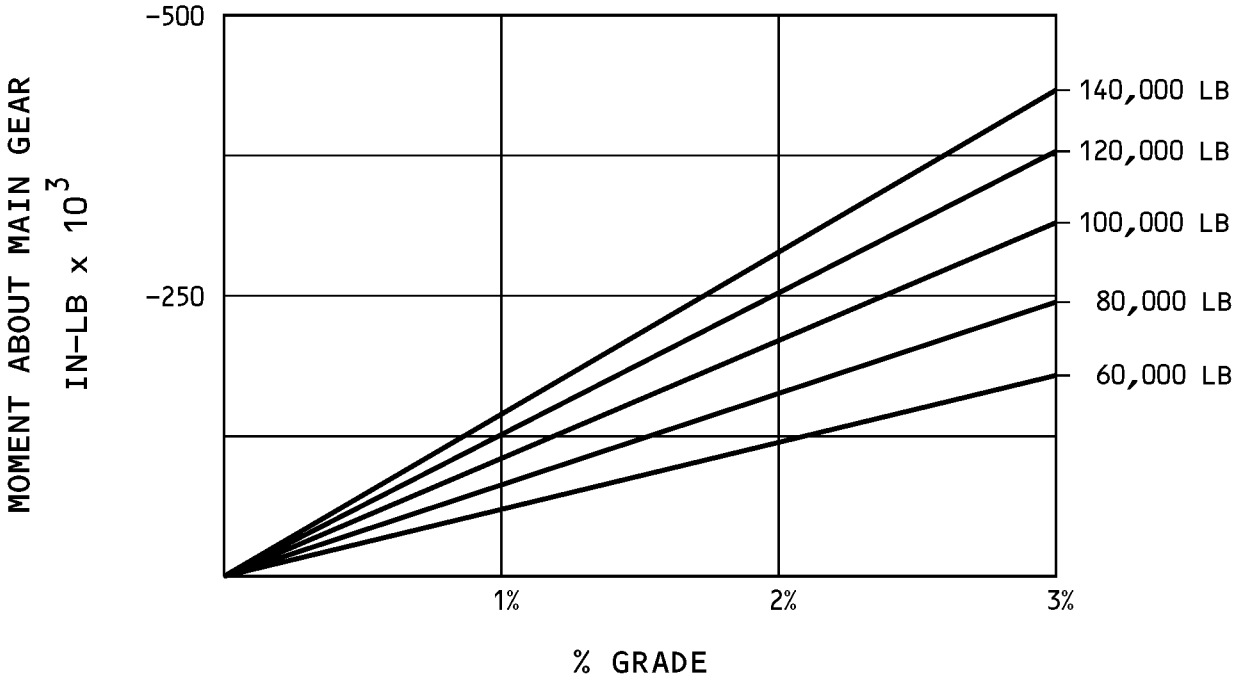
EXAMPLE: WIND = 11 KNOTS
MOMENT = -100

CAUTION: TOWING THE AIRPLANE TILTED IN HIGH WINDS IS NOT RECOMMENDED.

Moment Due to Wind
Figure 207/07-11-06-990-807

AIRPLANE WEIGHT	60,000	70,000	80,000	90,000	MORE THAN 100,000
MOMENT ABOUT MAIN GEAR $IN-LB \times 10^3$	-160	-190	-220	-250	-280

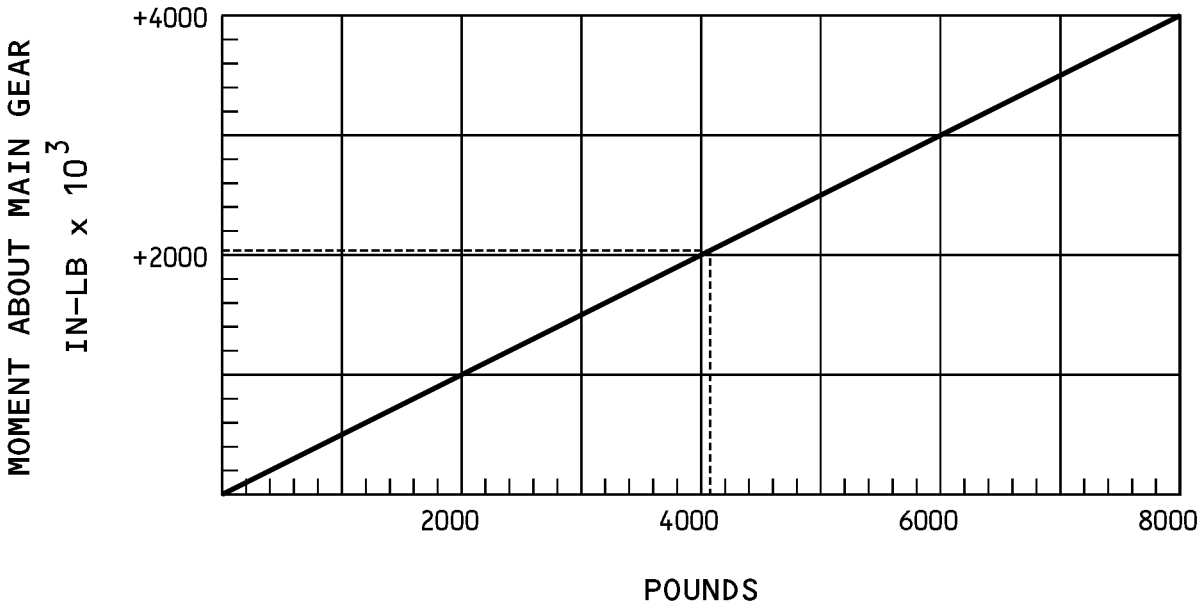
Moment Due to Tow Vehicle Acceleration
Figure 208/07-11-06-990-808



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 = 80,000 LB
MOMENT = -160

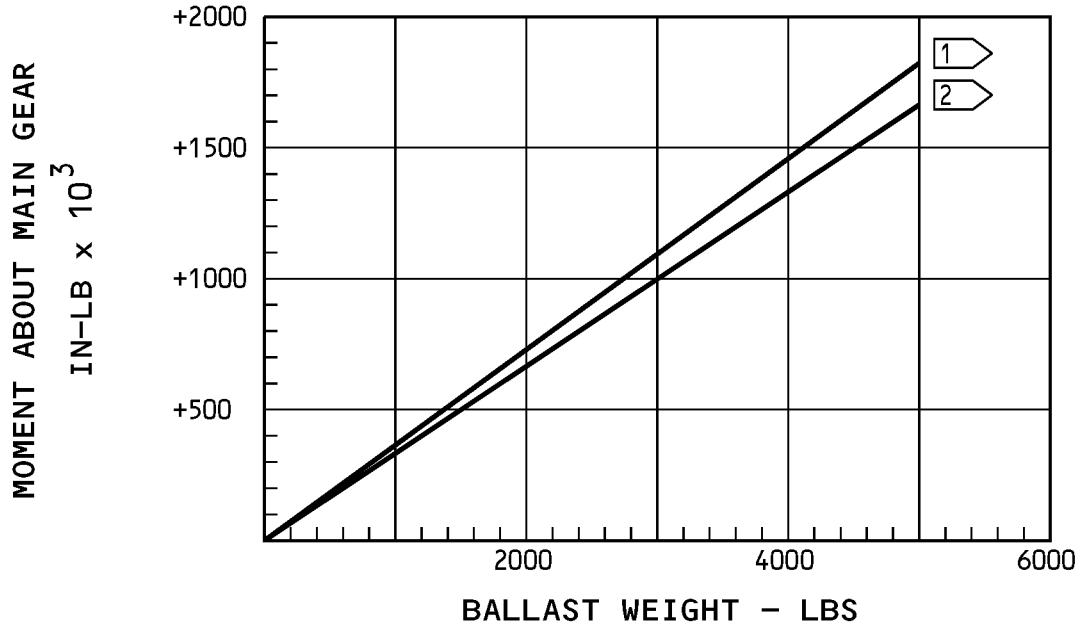
Moment Due to Towing Upgrade
Figure 209/07-11-06-990-809



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
MOMENT = 2030

Moment Due to Dolly Restraint
Figure 210/07-11-06-990-810



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

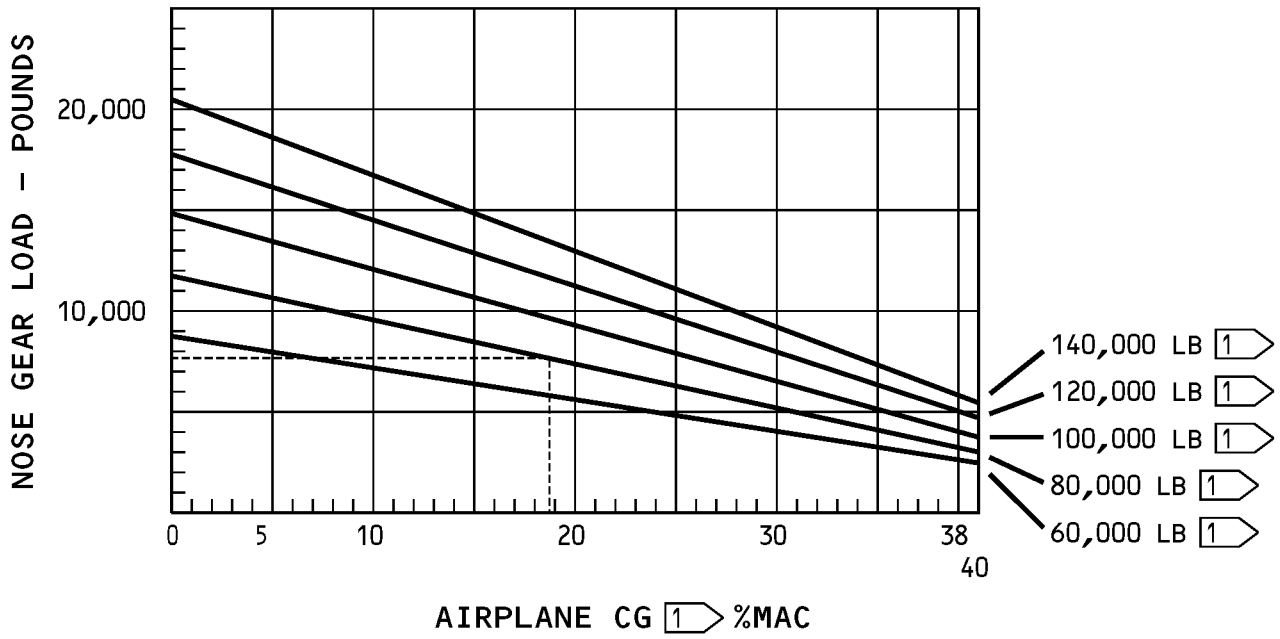
EXAMPLE: 1. +MOMENT REQUIRED FROM FIGURE 213 = +200

2. +200 = 600 LB BALLAST AT 2 OR
550 LB 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

Moment Due to Ballast
Figure 211/07-11-06-990-811



EXAMPLE: AIRPLANE TOTAL WEIGHT = 80,000 LB
% MAC = 19%
MAXIMUM NOSE GEAR LOAD = 7700 LB

1 AIRPLANE WEIGHT AND CG
INCLUDE BALLAST (IF USED)

Maximum Nose Gear Load
Figure 212/07-11-06-990-812

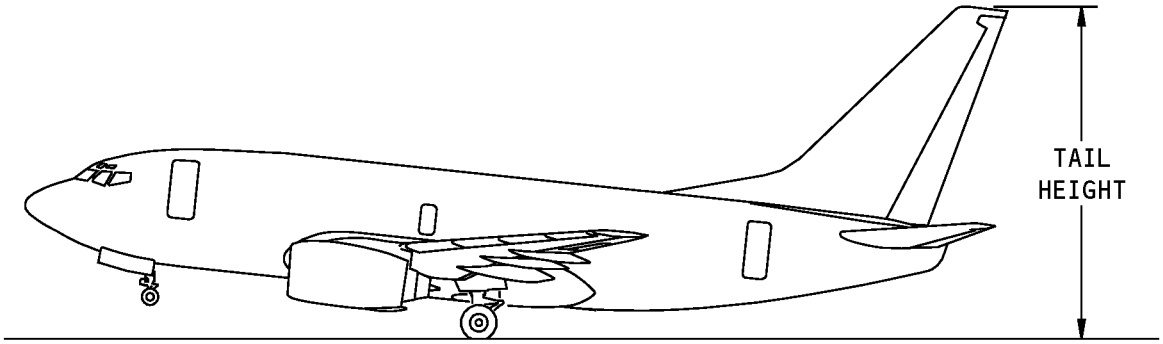
AIRPLANE WEIGHT AND	80,000	LB
CG AT TIME OF TILT [1]	19	% MAC
TOTAL FUEL ON BOARD	6,000	LB
ANGLE OF TILT [2]	8.0	°
MAXIMUM GRADE AIRPLANE IS TO BE TOWED UP	2.0	%
MAXIMUM DOWN RESTRAINT DOLLY IS CAPABLE OF	4150	LB

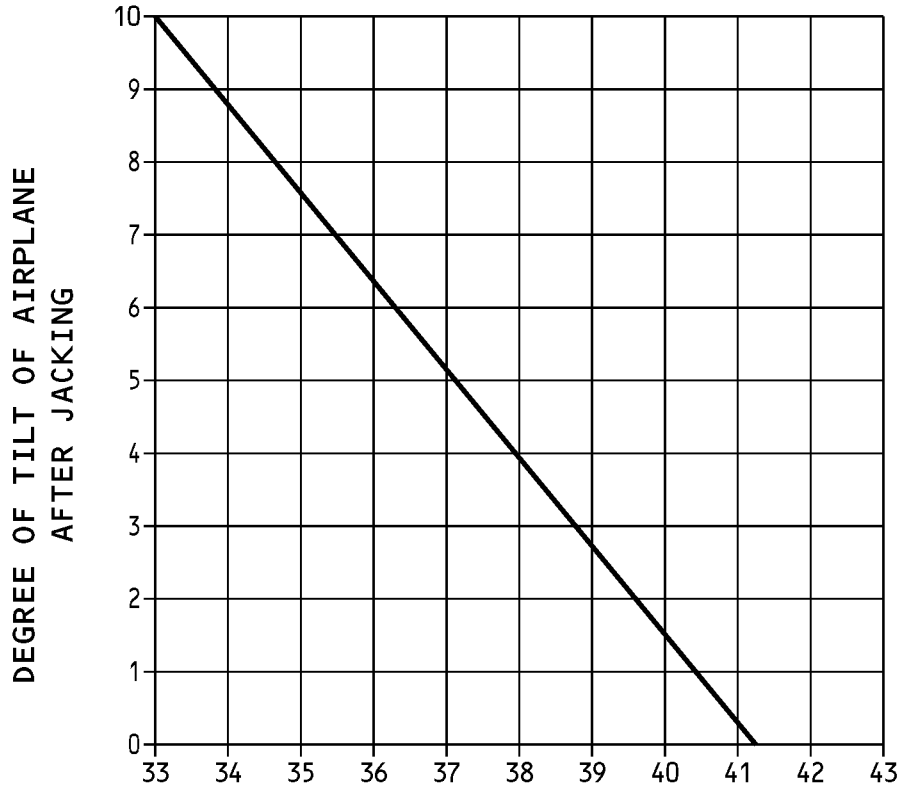
	MOMENT IN-LB X 10^3	
1. MOMENT DUE TO AIRPLANE WEIGHT (FROM FIGURE 204)	+ 3700	
2. MOMENT DUE TO TILTING AIRPLANE (FROM FIGURE 205)	- 1150	
3. MOMENT DUE TO FUEL MOVEMENT (FROM FIGURE 206)	- 120	
4. MOMENT DUE TO TOW VEHICLE ACCELERATION (FIGURE 208)	- 220	
5. MOMENT DUE TO TOWING UPGRADE (FROM FIGURE 209)	- 160	
6. MOMENT DUE TO DOLLY RESTRAINT (FROM FIGURE 210)	+ 2030	
7. MOMENT DUE TO WIND (FROM FIGURE 207)	- 100	
TOTAL ITEMS 1 THROUGH 7 IF TOTAL IS LESS THAN +1000 BALLAST MUST BE ADDED	+ 3980	
8. MOMENT DUE TO BALLAST (FROM FIGURE 211)	+ _____	NOT REQUIRED
TOTAL ITEMS 1 THROUGH 8 MUST BE MORE THAN +1000	+ 3980	

[1] SEE WEIGHT AND BALANCE MANUAL FOR WEIGHT AND CG INFORMATION.

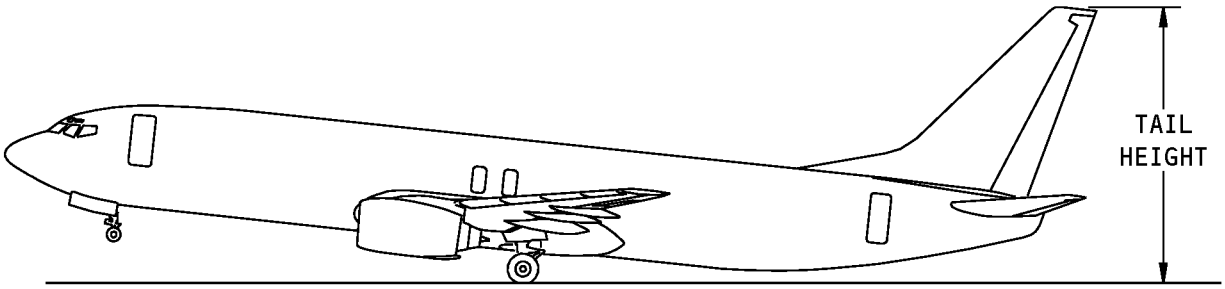
[2] SEE FIGURE 214 FOR TILT AND CLEARANCE DATA.

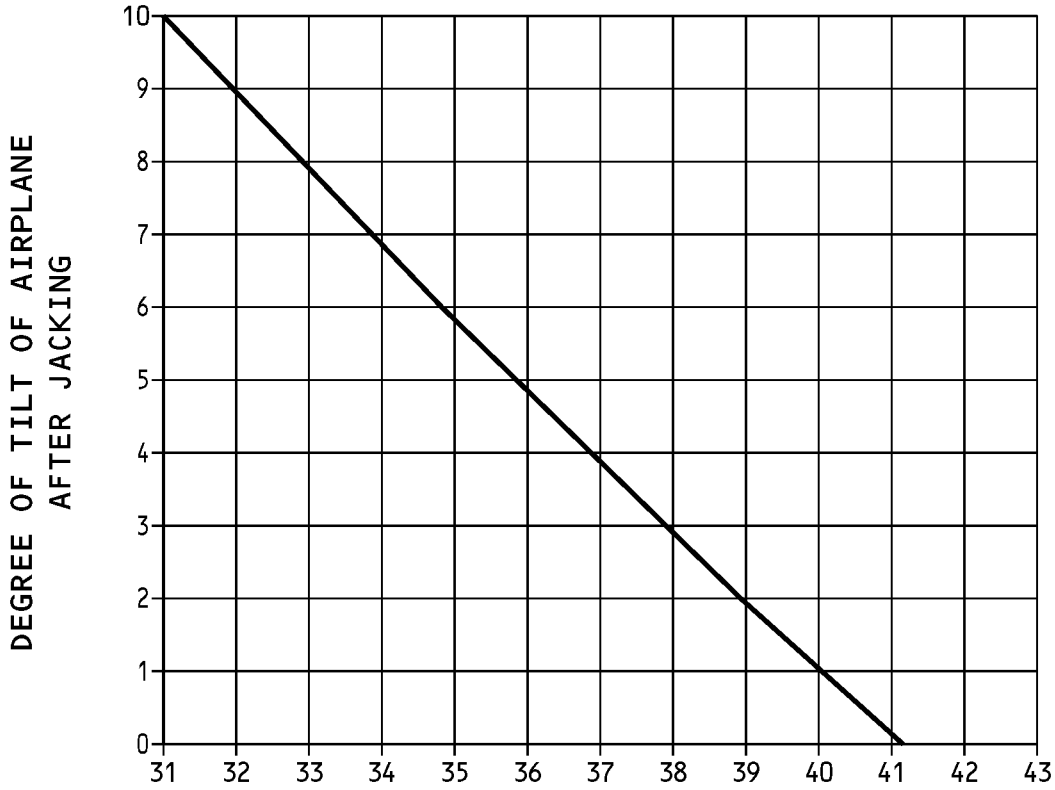
Balance Check for Towing Tilted Airplane
Figure 213/07-11-06-990-813





Vertical Tail Height Versus Degree of Tilt of the Airplane After Jacking
Figure 214 (Sheet 1 of 2)/07-11-06-990-814





Vertical Tail Height Versus Degree of Tilt of the Airplane After Jacking
Figure 214 (Sheet 2 of 2)/07-11-06-990-814

TASK 07-11-06-580-802

4. Tow the Tilt Airplane

A. References

Reference	Title
32-00-01-480-801	Landing Gear Downlock Pins Installation (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-1502	Chocks - Wheel (Part #: W88, Supplier: 9L752, A/P Effectivity: 737-ALL) (Part #: W92, Supplier: 9L752, A/P Effectivity: 737-ALL)

C. Tow the Tilted Airplane

SUBTASK 07-11-06-210-002

(1) Do the steps that follow to tow the tilted airplane:

(a) Make sure all landing gear downlocks are installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-01-480-801.

(b) Make sure the dolly caster is fully retracted.

NOTE: See the dolly manufacturers instructions.

(c) Remove the main gear wheel chocks.

CAUTION: TOW THE AIRPLANE SMOOTHLY. DO NOT START OR STOP SUDDENLY WHEN YOU TOW THE AIRPLANE. IT CAN CAUSE DAMAGE TO THE NOSE GEAR OLEO. DO NOT MAKE SHARP TURNS WHILE YOU TOW THE AIRPLANE. IT WILL NOT KEEP THE AIRPLANE STABLE AND YOU CAN CAUSE DAMAGE TO THE AIRPLANE.

(d) Tow the airplane to the necessary location.

(e) Make sure to put the wheel chocks around the main gear wheels when you park the airplane chocks, COM-1502.

NOTE: If the ramp does not slope: Move the aft NLG chocks away from the tires. During the refuel, the NLG tires roll aft as the MLG shock absorber compresses. Make sure that the chocks do not touch the MLG tires. The weight of the fuel can lower the aircraft and cause the tires to catch the chocks.

NOTE: If the ramp slopes: Make sure that the chocks down from the tires touch the NLG and MLG tires. - make sure that the chocks up from the tires do not touch the NLG and MLG tires.

END OF TASK

TASK 07-11-06-580-803

5. Lower the Airplane Nose

A. References

Reference	Title
32-00-01-480-801	Landing Gear Downlock Pins Installation (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-1502	Chocks - Wheel (Part #: W88, Supplier: 9L752, A/P Effectivity: 737-ALL) (Part #: W92, Supplier: 9L752, A/P Effectivity: 737-ALL)

C. Lower the Airplane Nose with the Nose Lift Dolly

SUBTASK 07-11-06-080-001

(1) Do the steps that follow to lower the airplane nose:

(a) Make sure all landing gear downlocks are installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-01-480-801.

(b) Release the airplane brakes, if it is necessary.

(c) Remove the wheel chocks from the main gear wheels, if installed.

(d) Lift the scoop to remove the dolly uplocks.

(e) Release the uplocks.

(f) Lower the dolly smoothly and slowly.

(g) Put wheel chocks around the main gear wheels chocks, COM-1502.

NOTE: If the ramp does not slope: Move the aft NLG chocks away from the tires. During the refuel, the NLG tires roll aft as the MLG shock absorber compresses. Make sure that the chocks do not touch the MLG tires. The weight of the fuel can lower the aircraft and cause the tires to catch the chocks.

NOTE: If the ramp slopes: Make sure that the chocks down from the tires touch the NLG and MLG tires. - make sure that the chocks up from the tires do not touch the NLG and MLG tires.

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

(i) Move the dolly away from the airplane.

D. Put the Airplane Back to its Usual Condition.

SUBTASK 07-11-06-420-001

(1) Connect torsion links on the nose gear if they were disconnected.

———————— END OF TASK ————————

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.

TASK 07-11-21-580-801

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

A. General

(1) You can lift or lower airplane nose at two jack points:

(a) The nose jack point at Jack Point D.

NOTE: When you lift or lower the nose you must use the correct precautions.

(b) If you lift the airplane at axle Jack Point E, a nose jack is not necessary. Do this task: Lift the Airplane Nose Landing Gear with the Axle Jack at Jack Point E, TASK 07-11-03-580-802.

(2) There are two configurations to jack the nose landing gear.

(a) The cylinder of the nose gear must be correctly inflated to do a gear retraction test.

(b) The nose gear cylinder can be deflated and a lock installed to reduce the height that the nose gear needs to be lifted.

B. References

Reference	Title
07-11-01-580-815	Lift the Airplane with the Jacks (P/B 201)
07-11-03-580-802	Lift the Airplane Nose Landing Gear with the Axle Jack at Jack Point E (P/B 201)
24-22-00-860-811	Supply Electrical Power (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)
52-61-00-860-806	Forward Airstair Retraction in Normal Mode (P/B 201)
52-61-00-860-808	Forward Airstair Retraction in Standby 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.

Reference	Description
COM-5892	Jack - Tripod, Forward Body (Part #: 15-54-40, Supplier: 00994, A/P Effectivity: 737-ALL) (Part #: 714A, Supplier: 94861, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-1496	Adapter - Jack, Forward Body (Part #: C07007-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-1499	Pin - Lock, NLG Towing Lever (Part #: A09003-2, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Opt Part #: A09003-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

(Continued)

Reference	Description
SPL-1871	Strap - Retention, NLG/MLG Inner Cylinder (Part #: C32030-10, Supplier: 81205, A/P Effectivity: 737-100, -200, -200C, -300, -400, -500, -600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-1880	Equipment - Downlock, NLG and MLG (Part #: C32026-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

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 07-11-21-580-001

(1) Do the steps that follow to prepare to lift the airplane with the nose jack:

(a) Make sure the nose gear tires are near the center position.

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND 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.

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

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

(c) Make sure that the airplane gross weight and the center of gravity (CG) are at the approved limits, refer to this task: Lift the Airplane with the Jacks, TASK 07-11-01-580-815.

NOTE: You can move the components on the airplane to different locations to change the CG. Do this to make sure you stay in the load limit of the nose jack point. You must stay in the approved CG and weight limits.

(d) Set the stabilizer control to neutral (4 units).

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

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

(f) Make sure the airplane is turned into the wind when it is out of the hangar.

NOTE: There are no special wind restrictions when you jack an individual landing gear with the axle jacks. Use tie downs in winds that are more than 35 knots when you jack more than one landing gear. Make sure you use the mooring procedure in high winds.

(g) Install the nose jack pad adapter at jack point D adapter, SPL-1496.

HAP 006-010

(h) Retract the airstairs if it is applicable. Do this task: Forward Airstair Retraction in Normal Mode, TASK 52-61-00-860-806 or Forward Airstair Retraction in Standby Mode, TASK 52-61-00-860-808.

HAP ALL

CAUTION: MAKE SURE THE JACK IS CENTERED BELOW THE JACK PAD. IF THE JACK DOES NOT GO INTO THE CENTER OF THE JACK PAD DURING JACKING, IT CAN CAUSE DAMAGE TO THE AIRPLANE OR THE JACK.

(i) Put the nose jack below the 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.

(j) Release the airplane brakes.

(k) Move the front chocks on the main landing gear forward approximately 2 in. (51 mm) from the tires.

NOTE: This is to let the tires roll when the nose is lifted.

(l) Remove the chocks from the nose wheels.

(m) Apply electrical power if it is necessary, do this task: Supply Electrical Power, TASK 24-22-00-860-811.

WARNING: THE AIRPLANE WILL GO INTO AIRMODE WHEN IT IS RAISED ON JACKS CAUSING FLIGHT CONTROL SURFACES AND ICE PROTECTION SYSTEMS TO OPERATE. THESE SYSTEMS CAN CAUSE INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(n) Make sure the airplane is in airmode when raised on jacks, do this task: Prepare to Put the Airplane in the Air Mode, TASK 32-09-00-840-801.

F. Lift the Airplane Nose with the Cylinder Lock Installed

NOTE: This step locks the nose landing gear in the compressed position to reduce the jack height when lifting the nose wheels off of the ground.

SUBTASK 07-11-21-580-002

(1) Install the nose landing gear cylinder lock strap, SPL-1871.

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 position.

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

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

(b) Make sure the area below the airplane is clear.

CAUTION: DO NOT DEFLATE THE SHOCK STRUTS IF YOU DO A GEAR RETRACTION TEST. THE SHOCK STRUTS MUST BE FILLED CORRECTLY AND NOT INFLATED ABOVE THE CORRECT PRESSURE. IF YOU DO NOT OBEY THESE INSTRUCTIONS, DAMAGE TO THE WHEEL WELL AND THE SHOCK STRUT WILL OCCUR.

(c) Install the lock on the compressed shock strut strap, SPL-1871.

G. Lift The Airplane Nose

SUBTASK 07-11-21-580-003

(1) Do the steps that follow to lift the airplane with the forward body jack, COM-5892:

WARNING: YOU MUST MAKE SURE THAT ALL PERSONS ARE AWAY FROM THE LEADING EDGE FLAPS AND SLATS. THEY CAN MOVE AUTOMATICALLY (UNLESS OTHERWISE INHIBITED) DURING MAINTENANCE WHEN EITHER HYDRAULIC SYSTEM HAS PRESSURE AND THE TRAILING EDGE FLAPS ARE IN POSITION 1, 2, OR 5: ALSO, THE NOSE OR THE MAIN LANDING GEAR AIR/GROUND RELAYS GIVE AN IN FLIGHT CONDITION. IF YOU DO NOT OBEY THESE INSTRUCTIONS, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

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

CAUTION: YOU MUST NOT PERMIT THE WEIGHT ON THE JACK POINT TO BE MORE THAN THE APPROVED LIMIT. IF YOU DO NOT OBEY THESE INSTRUCTIONS, YOU CAN CAUSE DAMAGE TO THE AIRPLANE STRUCTURE.

CAUTION: WHEN YOU LIFT OR LOWER THE JACK, DO NOT PERMIT MORE THAN ONE INCH CLEARANCE BETWEEN THE JACK RAM LOCKNUT AND THE COLLAR. TOO MUCH CLEARANCE CAN CAUSE DAMAGE TO THE AIRPLANE STRUCTURE IF THERE IS A FAILURE OF THE JACK.

(a) Lift the airplane on the forward body jack, COM-5892.

NOTE: Keep a distance of 1 in. (25 mm) or less between the jack ram locknut and the jack collar.

NOTE: To permit a retraction test of the nose landing gear, lift the nose until there is approximately 4 in. (102 mm) between the nose wheels and the ground.

(b) Screw down the jack ram locknut and tighten the setscrew when the nose gear has the necessary clearance.

END OF TASK

TASK 07-11-21-580-802

3. Lower the Airplane Nose Off of the Jack

A. References

Reference	Title
12-15-41-610-802	Nose Landing Gear Shock Strut Servicing (P/B 301)
24-22-00-860-812	Remove Electrical Power (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
SPL-1499	Pin - Lock, NLG Towing Lever (Part #: A09003-2, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ) (Opt Part #: A09003-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)
SPL-1880	Equipment - Downlock, NLG and MLG (Part #: C32026-1, Supplier: 81205, A/P Effectivity: 737-600, -700, -700C, -700ER, -700QC, -800, -900, -900ER, -BBJ)

C. Location Zones

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

D. Lower the Airplane Off of the Nose Jack

SUBTASK 07-11-21-580-004

(1) Do the steps that follow to Lower the airplane nose off of the jack:

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL OF THE LANDING GEAR. THE LANDING GEAR COULD RETRACT AND CAUSE INJURY 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.

(a) Make sure the landing gear ground lockpins equipment, SPL-1880 and the NLG towing lever pin, SPL-1499,are installed on the nose landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-01-480-801.

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

(b) Make sure the area below the airplane is clear.

(c) Make sure the landing gear control handle is in the down position.

CAUTION: WHEN YOU LIFT OR LOWER THE JACK, DO NOT PERMIT MORE THAN ONE INCH CLEARANCE BETWEEN THE JACK RAM LOCKNUT AND THE COLLAR. TOO MUCH CLEARANCE CAN CAUSE DAMAGE TO THE AIRPLANE STRUCTURE IF THERE IS A FAILURE OF THE JACK.

(d) Lower the nose jack at Jack Point D.

NOTE: You must keep a distance of one inch (2.54 centimeters) or less between the jack ram locknut and the jack collar.

NOTE: It is possible you will have to initially lift the jack ram slightly to remove the load on the jack ram locknut and permit the locknut to be moved up the ram.

(e) Lower the jack until the jack is at the bottom or until the airplane weight is fully on the nose landing gear.

1) Move the jack away from the airplane.

E. Put the Airplane Back to Its Usual Condition

SUBTASK 07-11-21-840-001

(1) Do the steps that follow:

(a) Do the servicing of the shock-strut on the nose landing gear if it is necessary, do this task: Nose Landing Gear Shock Strut Servicing, TASK 12-15-41-610-802.

(b) Remove the electrical power if it was supplied during the jack procedure, do this task: Remove Electrical Power, TASK 24-22-00-860-812.

(c) Return the airplane system back to normal ground condition, do this task: Return the Airplane Systems Back to Their Normal On Ground Condition, TASK 32-09-00-840-802

———————— END OF TASK ————————

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, D6-26A004 for data on Shoring.

———————— END OF TASK ————————