MAIN WHEEL TIRE - SERVICING

EFFECTIVITY: ALL

1. General

   A. This section gives the procedures to do a check of the pressure of the main landing gear (MLG) wheel tire and charge it.

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

TASK NUMBER	*DESCRIPTION*	*EFFECTIVITY*
32-49-01-600-801-A ♦	MLG WHEEL TIRE - CHECK AND CHARGE	ALL

TASK 32-49-01-600-801-A
EFFECTIVITY: ALL

2. MLG WHEEL TIRE - CHECK AND CHARGE

A. General

(1) To do the check of the pressure of the tire, use only pressure gauges with a good precision.

(2) For aircraft equipped with wheel pressure gauge, the check of the pressure can also be done with other external gauge, but do not use the wheel pressure gauge as a reference during inflation of the tire.

(3) Incorrect pressure decreases the life of the tire and puts the airplane at risk.

(4) Use the correct equipment to inflate the tire.

(5) Install the relief valve to the pressure line as a safety device.

B. References

REFERENCE	*DESIGNATION*
AMM TASK 32-49-01-600-801-A/300	MLG WHEEL TIRE - CHECK AND CHARGE
SB 145-00-0032	-
SB 145-32-0030	-
SB 145-32-0093	-
SB145-00-0028	-
SB145-00-0032	-
SB145-32-0030	-
SB145-32-0093	-

C. Zones and Accesses

Not Applicable

D. Tools and Equipment

ITEM	*DESCRIPTION*	*PURPOSE*	*QTY*
GSE 026	Pressure gauge	To examine the pressure	
GSE 027	Pressure regulator valve with pressure gauges	To inflate the tire	
GSE 028	Nitrogen Service Regulator	To regulate the pressure supplied to the system	

E. Auxiliary Items

Not Applicable

F. Consumable Materials

SPECIFICATION (BRAND)	*DESCRIPTION*	*QTY*
Spec. BB-N-411 - Type I, Class I, Grade B	Nitrogen	AR

G. Expandable Parts

Not Applicable

H. Persons Recommended

QTY	*FUNCTION*	*PLACE*
1	Does the task	RH and LH MLG
1	Helps the other technician	RH and LH MLG

I. Check of MLG Tire Inflation Pressure (Figure 301)

SUBTASK 610-002-A

(1) Remove the cap (1) from the valve (2).

CAUTION:
- DO NOT BLEED AIR FROM A HOT TIRE TO MAKE THE PRESSURE COME TO THE CORRECT LIMITS BECAUSE, AT AMBIENT TEMPERATURE, THE PRESSURE WILL BE LESS THAN THE CORRECT OPERATIONAL PRESSURE.
- EXAMINE THE PRESSURE ONLY WHEN THE TIRE IS COLD.

(2) Do the check of the service pressure:

NOTE: There is no technical objection to the use of temperature-compensated pressure gauge to do the pressure check of a hot tire. But such equipment must give measurements equivalent to the cold tire pressure given in the AMM. Before the use of a temperature-compensated pressure gauge, refer to the Manufacturer's instructions applicable to the equipment.

(a) For aircraft not equipped with wheel pressure gauge, connect the pressure gauge (3) to the valve (2). Refer to table 301.

(b) For aircraft equipped with wheel pressure gauge, the check of the pressure can also be done with other external gauge. Refer to table 301.

Table 301 - MLG WHEEL TIRE PRESSURE

AIRCRAFT MODEL	MAIN TIRE DIMENSION	MAIN TIRE PRESSURE (Loaded) [1]
EMB-145ER	30x9.5-14 16PR	145 - 0/+ 5 psi
EMB-145EU	30x9.5-14 16PR	
EMB-145LR (PRE-MOD. SB145-32-0030 or PRE-MOD. SB 145-32-0093)	30x9.5-14 16PR	154 - 0/+ 8 psi

[1] For unloaded inflation pressure, these values must be decreased by four percent (4%) for you to get the equivalent loaded inflation pressure.

Table 301 - MLG WHEEL TIRE PRESSURE (Continued)

AIRCRAFT MODEL	MAIN TIRE DIMENSION	MAIN TIRE PRESSURE (Loaded) [1]
EMB-145LR (POST-MOD. SB145-32-0093)	H30x9.5-16 16PR	154 - 0/+ 8 psi
EMB-145STD	30x9.5-14 16PR	136 - 0/+ 5 psi
EMB-145EP	30x9.5-14 16PR	148 - 0/+ 5 psi
EMB-135 ER (PRE-MOD. SB145-00-0028)	30x9.5-14 16PR	134 ± 3 psi
EMB-135 ER (POST-MOD. SB145-00-0028)	30x9.5-14 16PR	138 ± 3 psi
EMB-145MP	30x9.5-14 16PR	150 ± 3 psi
EMB-145MK	30x9.5-14 16PR	
EMB-135KE (ERJ-140ER)	30x9.5-14 16PR	145 ± 3 psi
EMB-135KL (ERJ-140LR)	H30x9.5-16 16PR	153 ± 3 psi
EMB-135KL (ERJ-140LR)	30x9.5-14 16PR	148 ± 3 psi
EMB-135LR	30x9.5-14 16PR	
EMB-135BJ	H30x9.5-16 16PR	160 ± 4 psi
EMB-145 LU	H30x9.5-16 16PR	
EMB-145 LR (POST-MOD. SB145-32-0030 and PRE-MOD. SB 145-00-0032)	H30x9.5-16 16PR	
EMB-145 LR (POST-MOD. SB145-00-0032)	H30x9.5-16 16PR	166 ± 4 psi

[1] For unloaded inflation pressure, these values must be decreased by four percent (4%) for you to get the equivalent loaded inflation pressure.

NOTE: Loaded inflation pressure means inflation pressure for weight-on-wheel aircraft.
Unloaded inflation pressure means inflation pressure for aircraft on jacks.

(3) If there is a large temperature decrease between the departure and the destination airports, you must adjust the tire pressure for the colder airport before the flight. If the temperature difference is equal to or greater than 25°C (45°F), do this procedure:

(a) Increase the tire pressure 1% for each 3°C (5.4°F) of temperature difference.

1 E. g.:

Temperature at departure airport = 20°C (68°F)

Temperature at arrival airport = -10°C (14°F)

Temperature difference = 30°C (54°F)

Increase the tire pressure: (30°C /3 x 1%) = 10% (54°F /5.4 x 1% = 10%)

If the tire pressure is 145 psi, increase the tire pressure: 145 psi + 10% = 160 psi.

(4) If the pressure of one tire is at or near the lower limit of the permitted pressure range, it is recommended that you inflate the tire to an intermediate value in this pressure range to prevent unnecessary removals in subsequent pressure checks. For this, charge as given in item K (AMM TASK 32-49-01-600-801-A/300).

(5) For tire (4) with less than the minimum service pressure, refer to this table:

Table 302 - COLD PRESSURE SETTING

COLD TIRE SERVICE PRESSURE (%)	RECOMMENDED ACTION
100% to 105% of minimum loaded service pressure	None - Normal cold tire operating range
95% to less than 100% of minimum loaded service pressure	Inflate to specified service pressure again
90% to less than 95% of minimum loaded service pressure	Examine tire/wheel assembly for cause of pressure loss. Inflate again and write the occurrence in the applicable document. Remove tire/wheel assembly if pressure loss is higher than 5% and occurs again in 24 hours[1]
80% to less than 90% of minimum loaded service pressure	Remove tire/wheel assembly from aircraft
Less than 80% of minimum loaded service pressure	Remove tire/wheel assembly and adjacent tire/wheel assembly from aircraft
Blown fuse plug	Discard tire. If the plug blows while in service (rolling), also scrap axle mate

[1] The tire removed because of low inflation pressure must be examined by an authorized retreader to make sure that the casing did not have internal degradation. If it did, discard the tire.

(6) Special Out-Station Procedure for tire (4) (Morning Cold Pressure Check Only). Refer to special parameters for dispatch of the aircraft as follows:

(a) This procedure is only applicable to EMB-145LR (POST-MOD. SB 145-32-0030 or POST-MOD SB 145-32-0093, and PRE-MOD. SB 145-00-0032) versions which use H30x9.5-16 16PR tire:

1 Condition 1 - If the service pressure is between 148 psi and 156 psi.

- Action - Reinflate to 164 psi.

2 Condition 2 - If the service pressure is between 140 psi and 148 psi and tire mate is within operating pressure limits.

- Action - Reinflate to 164 psi.

3 Condition 3 - If the service pressure is between 125 psi and 140 psi and tire mate is within operating pressure limits.

- Action 1 - Reinflate tire to 164 psi.
- Action 2 - Remove the inflation source and, if no leaks are detected within 30 minutes, let the aircraft complete a maximum of two scheduled flights.

- Action 3 - After two flights (maximum), remove the underinflated tire, label it with "underinflated operation" and remove the mate too.
- Action 4 - Send the two tires to the retreader for inspection.

(b) This procedure is only applicable to EMB-145LR (POST-MOD. SB 145-00-0032) version which use H30x9.5-16 16PR tire:

1 Condition 1 - If the service pressure is between 154 psi and 162 psi.

- Action - Reinflate to 170 psi.

2 Condition 2 - If the service pressure is between 146 psi and 154 psi and the tire mate is within operating pressure limits.

- Action - Reinflate to 170 psi.

3 Condition 3 - If the service pressure is between 129 psi and 146 psi and tire mate is within operating pressure limits.

- Action 1 - Reinflate tire to 170 psi.
- Action 2 - Remove the inflation source and, if no leaks are detected within 30 minutes, let the aircraft complete a maximum of two scheduled flights.
- Action 3 - After two flights (maximum), remove the underinflated tire, label it "underinflated operation", and remove the mate also.
- Action 4 - Send the two tires to the retreader for inspection.

(c) This procedure is only applicable to EMB-135LR version.

1 Condition 1 - If the service pressure is between 137 psi and 144 psi.

- Action - Reinflate to 151 psi.

2 Condition 2 - If the service pressure is between 130 psi and 137 psi and tire mate is within operating pressure limits.

- Action - Reinflate to 151 psi.

3 Condition 3 - If the service pressure is between 115 psi and 130 psi and tire mate is within operating pressure limits.

- Action 1 - Reinflate to 151 psi.
- Action 2 - Remove the inflation source and, if no leaks are detected within 30 minutes, let the aircraft complete a maximum of two scheduled flights.
- Action 3 - After two flights (maximum), remove the underinflated tire, label it "underinflated operation", and remove the mate also.
- Action 4 - Send the two tires to the retreader for inspection.

J. Preparation

SUBTASK 841-002-A

(1) Adjust the outlet pressure of the nitrogen cylinder with 25% more than the nominal pressure of the tire given in Table 301 .

NOTE: • After you adjust the pressure in the regulator, inflate the tire progressively, so as not to exceed the correct nominal pressure value. Then do the applicable adjustments: inflate or deflate the tires, as necessary.

• This adjustment makes the tire servicing procedure quicker.

K. Charge (Figure 302)

SUBTASK 610-003-A

CAUTION: INFLATE THE TIRE WITH NITROGEN ONLY WHEN THE TIRE IS COLD.

(1) Remove the cap (1) from the valve (2).

(2) Connect the hose (3) to the valve (2).

WARNING: • **BEFORE THE SUBSEQUENT STEP, MAKE SURE THAT THE AREA IN FRONT OF THE TIRE IS CLEAR TO PREVENT POSSIBLE INJURY TO PERSONS DURING THE CHARGING OF THE TIRE (REFER TO THE FIGURE).**

• **NEVER USE THE WHEEL PRESSURE GAUGE AS A REFERENCE DURING INFLATION OF THE TIRE.**

(3) Inflate the tire (4) and monitor the pressure with the pressure gauge (GSE 027 and GSE 028). Refer to Figure 302.

(4) Disconnect the hose (3) from the valve (2).

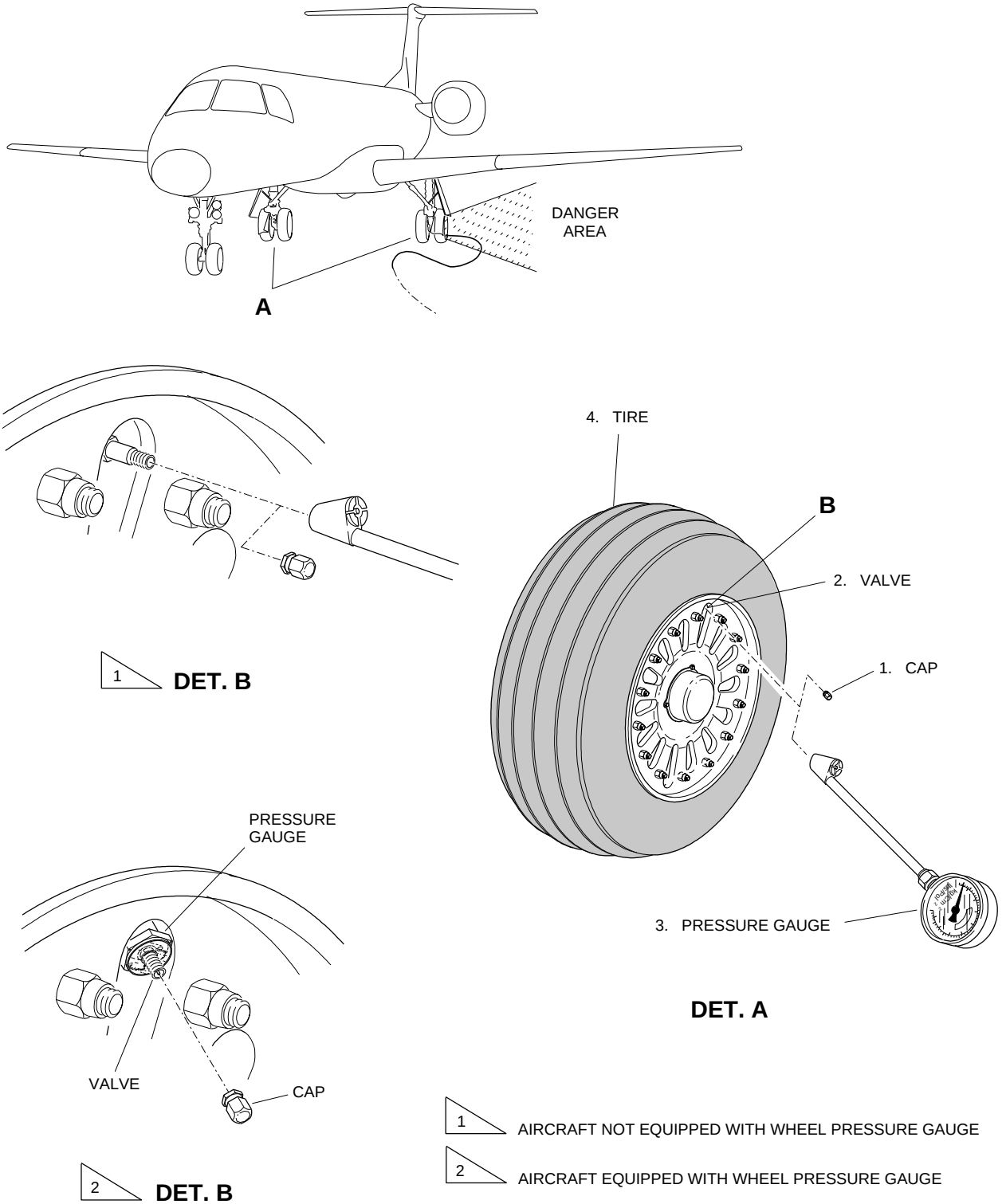
(5) Examine the valve (2) for leakage.

(6) Install the cap (1) of the valve (2).

EFFECTIVITY: ALL

MLG Wheel Tire - Check

Figure 301



145AMM320012.MCE B

EFFECTIVITY: ALL

MLG Wheel Tire - Charge
Figure 302