NOSE GEAR STRUT - SERVICING

1. Servicing

A. Nose Gear Strut Extension Check (See Figure 301.)

NOTE: Extreme temperature changes have significant effect on inflation pressures of the landing gear struts. When there is a great difference between the ambient temperature of where the aircraft was last serviced and where the aircraft has now landed, the strut static deflection must be checked to see if it is within limits.

CAUTION: IF THE NOSE GEAR STRUT DOES NOT MEET THE SPECIFIED LIMITS, IT MUST BE SERVICED IN ACCORDANCE WITH THE STRUT SERVICE PROCEDURES.

DO NOT PRESSURIZE A STRUT TO BRING THE STRUT DEFLECTION WITHIN THE CORRECT LIMITS. IMPROPER STRUT DEFLECTION COULD BE THE RESULT OF HYDRAULIC FLUID LOSS. SERVICE THE STRUT IN ACCORDANCE WITH THE STRUT SERVICE PROCEDURES TO ENSURE ADEQUATE FLUID LEVELS.

(1) Measure the distance between the edge of the cylinder and the edge of the fork. The distance must be 8.16 in [20.73 cm] maximum and 1.30 in [3.30 cm] minimum.
(2) If the dimension is at or below this limit, service the nose gear strut. (Refer to 12-10-03.)
(3) If the dimension is at or above this limit, the nose gear strut may need servicing depending on the aircraft loading.

B. Service the Nose Gear Strut (Preferred Method) (See Figure 301.)

NOTE: The preferred method of servicing the nose gear strut must always be used when the service facility has appropriate provisions for jacking the Learjet aircraft.

(1) Get the necessary tools and equipment.

NOTE: You can use equivalent alternatives for these items.

NAME	PART NUMBER	MANUFACTURER	USE
Detergent		Commercially Available	Soap solution
Dry Air or Nitrogen	MIL-N-6011	Commercially Available	Service the nose gear strut
Hydraulic Fluid	MIL-H-5606	Commercially Available	Service the nose gear strut
Safety Wire	MS20995F32	Commercially Available	Safety the air valve
Strut Service Kit	14-6895-6000	Tronair Inc. Holland, OH	Service the nose gear strut with nitrogen

(2) Remove cap from air valve.

WARNING: DO NOT RELEASE THE AIR FROM THE STRUT BY LOOSENING OR REMOVING THE AIR VALVE. LOOSEN VALVE END NUT ONLY. FAILURE TO COMPLY CAN CAUSE BODILY INJURY.

CAUTION: THE IMPORTANCE OF PROPER NOSE GEAR STRUT SERVICING CANNOT BE OVEREMPHASIZED. OVERFILLING WITH HYDRAULIC FLUID, OR UNDER INFLATION, CAN RESULT IN IMPROPER STRAIGHTENING AFTER LIFT-OFF OR JAMMING OF THE NOSE WHEEL IN THE RETRACTED POSITION.

SLOWLY LOOSEN END NUT TO PREVENT THE HYDRAULIC FLUID FROM SPEWING OUT WITH THE RELEASE OF THE AIR PRESSURE.

(3) Slowly loosen valve end nut and release all air pressure from strut.
(4) Remove the safety wire from the air valve.
(5) Loosen and remove the air valve from the strut.
(6) With aircraft resting on landing gear, fill strut with clean hydraulic fluid to level of air valve port.
(7) Install the air valve and tighten.
(8) Install the safety wire on the air valve.
(9) Set the aircraft on jacks and jack until the nose wheel tire is clear of the ground. (Refer to 07-00-01.)
(10) Connect the strut service kit adapter to the air valve.
(11) Slowly loosen valve end nut. This will enable strut to receive air.
(12) Open the valve on the dry compressed air or nitrogen source and inflate the strut to 58 (± 3) psi [400 (± 21) kPa].

NOTE: Strut inflation pressure may be increased to a maximum of 78 psi [538 kPa] at the operator's discretion to prevent bottoming of strut.

For sod runway operation, it is recommended that the strut inflation be increased to 75 (± 3) psi [517 (± 21) kPa].

(13) Tighten valve end nut.
(14) Close the valve on the dry compressed air or nitrogen source.
(15) Disconnect the strut service kit from air valve.
(16) Using a soap solution, check the air valve for leaks.
(17) Install cap on air valve.
(18) Remove the aircraft from the jacks. (Refer to 07-00-01.)

C. Service the Nose Gear Strut (Alternate Method) (See Figure 301.)

NOTE: The alternate method of servicing the nose gear strut can be used if the service facility does not have appropriate provisions for jacking the Learjet aircraft.

Before servicing the nose gear strut, the strut must be fully compressed with the aircraft full of fuel, without baggage, crew, or passengers.

(1) Get the necessary tools and equipment.

NOTE: You can use equivalent alternatives for these items.

NAME	PART NUMBER	MANUFACTURER	USE
Detergent		Commercially Available	Soap solution
Dry Air or Nitrogen	MIL-N-6011	Commercially Available	Service the nose gear strut
Hydraulic Fluid	MIL-H-5606	Commercially Available	Service the nose gear strut
Safety Wire	MS20995F32	Commercially Available	Safety the air valve
Strut Service Kit	14-6895-6000	Tronair Inc. Holland, OH	Service the nose gear strut with nitrogen

(2) Remove cap from air valve.

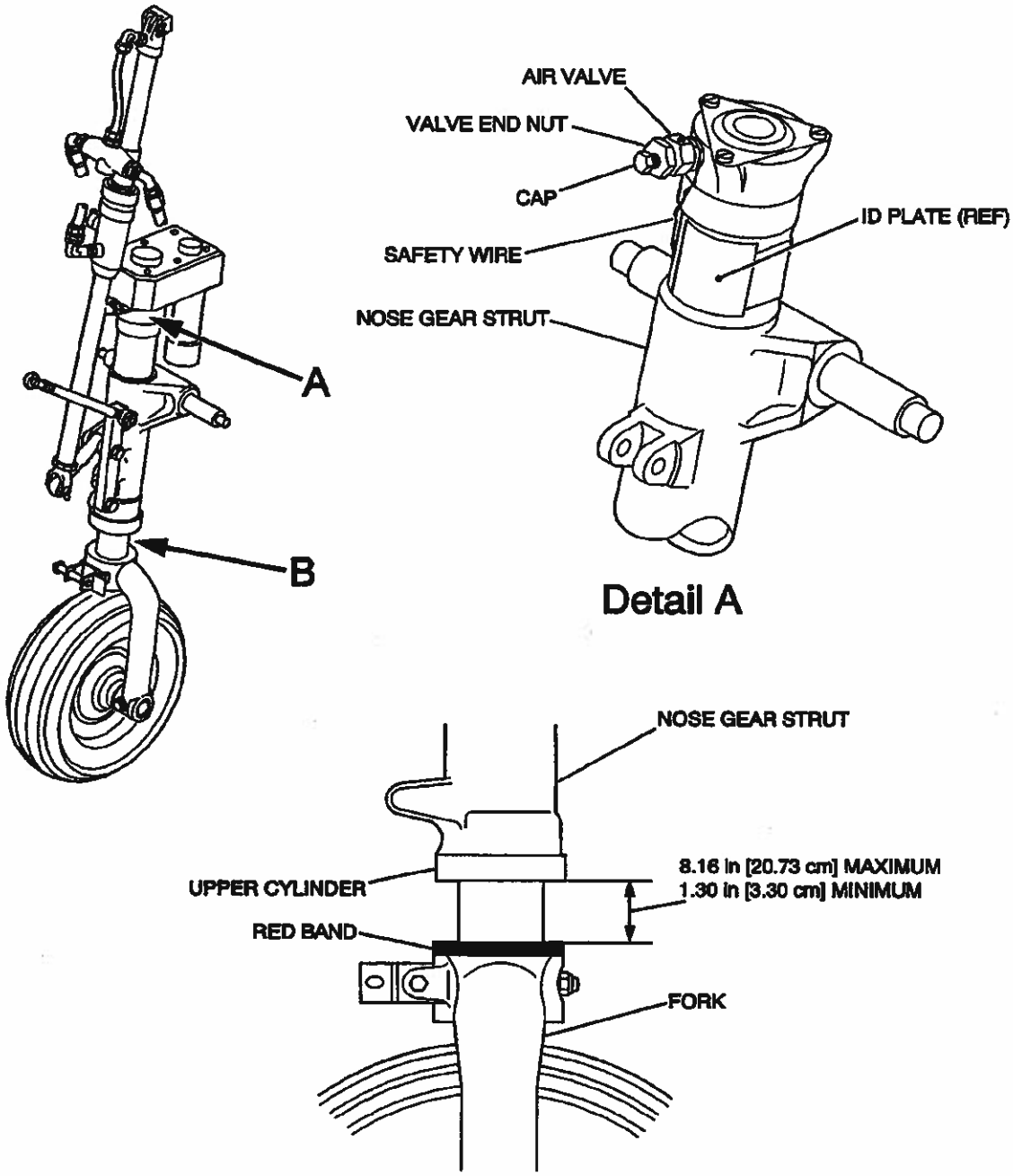
WARNING: DO NOT RELEASE THE AIR FROM THE STRUT BY LOOSENING OR REMOVING THE AIR VALVE. LOOSEN VALVE END NUT ONLY. FAILURE TO COMPLY CAN CAUSE BODILY INJURY.

CAUTION: THE IMPORTANCE OF PROPER NOSE GEAR STRUT SERVICING CANNOT BE OVEREMPHASIZED. OVERFILLING WITH HYDRAULIC FLUID, OR UNDER INFLATION, CAN RESULT IN IMPROPER STRAIGHTENING AFTER LIFT OFF OR JAMMING OF THE NOSE WHEEL IN THE RETRACTED POSITION.

SLOWLY LOOSEN END NUT TO PREVENT THE HYDRAULIC FLUID FROM SPEWING OUT WITH THE RELEASE OF THE AIR PRESSURE.

(3) Slowly loosen valve end nut and release all air pressure from the strut.
(4) Remove the safety wire from the air valve.
(5) Loosen and remove the air valve from the strut.
(6) With aircraft resting on landing gear, fill strut with clean hydraulic fluid to level of air valve port.
(7) Install the air valve and tighten.
(8) Install the safety wire on the air valve.
(9) Connect the strut service kit adapter to the air valve.
(10) Slowly loosen valve end nut. This will enable strut to receive air.

(11) Open the valve on the dry compressed air or nitrogen source and inflate the strut until the distance between the edge of the cylinder and the edge of the fork is 8.16 inch [20.73 cm] maximum and 1.30 inch [3.30 cm] minimum.
(12) Tighten valve end nut.
(13) Close the valve on the dry compressed air or nitrogen source.
(14) Using a soap solution, check the air valve for leaks.
(15) Disconnect the strut service kit from air valve.
(16) Install cap on air valve.



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Nose Gear Strut Servicing
Figure 301