CIRRUS

SR2X
Service Bulletin

Number: **SB2X-32-22**
Issued: April 12, 2016

SNS SUBJECT: 32-20 NOSE GEAR - Nose Landing Gear Strut Assembly Inspection

1. COMPLIANCE

Mandatory: Cirrus considers this Service Bulletin to be MANDATORY. Accomplish this Service Bulletin at the next scheduled maintenance or within the next 50 flight hours, whichever occurs first. Compliance time begins upon receipt of this Service Bulletin.

2. EFFECTIVITY

SR20 Serials 2065 thru 2302

SR22 Serials 3712 thru 4299

SR22T Serials 0001 thru 1232

3. APPROVAL

FAA approval has been obtained on all technical data in this Service Bulletin that affects type design.

For aircraft not operating under FAA requirements and regulatory oversight, it is the operator's responsibility to ensure that installation of this Service Bulletin has been accepted by the local airworthiness authority.

4. PURPOSE

Cracks have been discovered on some nose landing gear strut assemblies at the fillet welds between the strut tube and the LH and RH gusset tubes. This Service Bulletin contains instructions for the inspection of the nose landing gear strut assembly.

If cracking is identified in metal on or around surface of fillet welds, the aircraft is prohibited from flight until the nose landing gear strut assembly is replaced.

5. DESCRIPTION

This Service Bulletin contains instructions for the inspection of the nose landing gear strut assembly.

6. WARRANTY INFORMATION

For aircraft under warranty at the issue date of this Service Bulletin, Cirrus will cover all parts and labor costs for this Service Bulletin if the work is accomplished within the Compliance time period and the work is performed at an authorized Cirrus Service Center.

7. MANPOWER REQUIREMENTS

0.25 man-hour

8. OTHER PUBLICATIONS AFFECTED

N/A

9. WEIGHT AND BALANCE

N/A

10. MATERIAL INFORMATION

N/A

EFFECTIVITY:
SR20 Serials 2065 thru 2302
SR22 Serials 3712 thru 4299
SR22T Serials 0001 thru 1232

11. ACCOMPLISHMENT INSTRUCTIONS

A. Acquire necessary tools, equipment, and supplies.

Description	P/N or Spec.	Supplier	Purpose
Flashlight	-	Any Source	Inspect nose landing gear strut assembly.
Inspection Mirror	-	Any Source	Inspect nose landing gear strut assembly.
10X Magnifier	-	Any Source	Inspect nose landing gear strut assembly.
Mild Dishwasher Soap (abrasive free)	-	Any Source	Clean nose landing gear strut assembly.
Cotton Cloth (clean, white, lint-free)	-	Any Source	Clean nose landing gear strut assembly.

B. Remove key from ignition.

C. Set BAT 1, BAT 2, and AVIONICS switches to OFF positions.

D. Remove engine cowling. (Refer to AMM 71-10)

E. Clean nose landing gear strut assembly on and around welds between strut tube and LH and RH gusset tubes with mild soap and cold or lukewarm water. Wipe dry with clean, dry cloth.

F. Visually inspect the nose landing gear strut assembly.

(1) Using flashlight, inspection mirror, and 10X magnifier, verify there is no evidence of cracking on or around surface of fillet welds between the strut tube and the LH and RH gusset tubes. (See Figure 01)

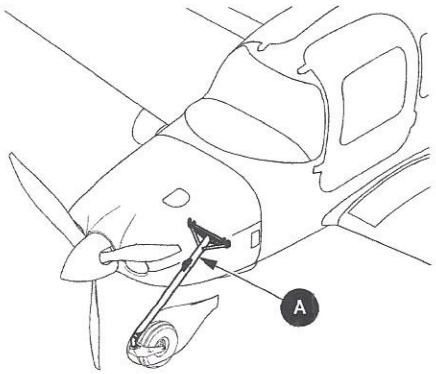
WARNING: **If cracking is identified in metal on or around surface of fillet welds, the aircraft is prohibited from flight until the nose landing gear strut assembly is replaced.**

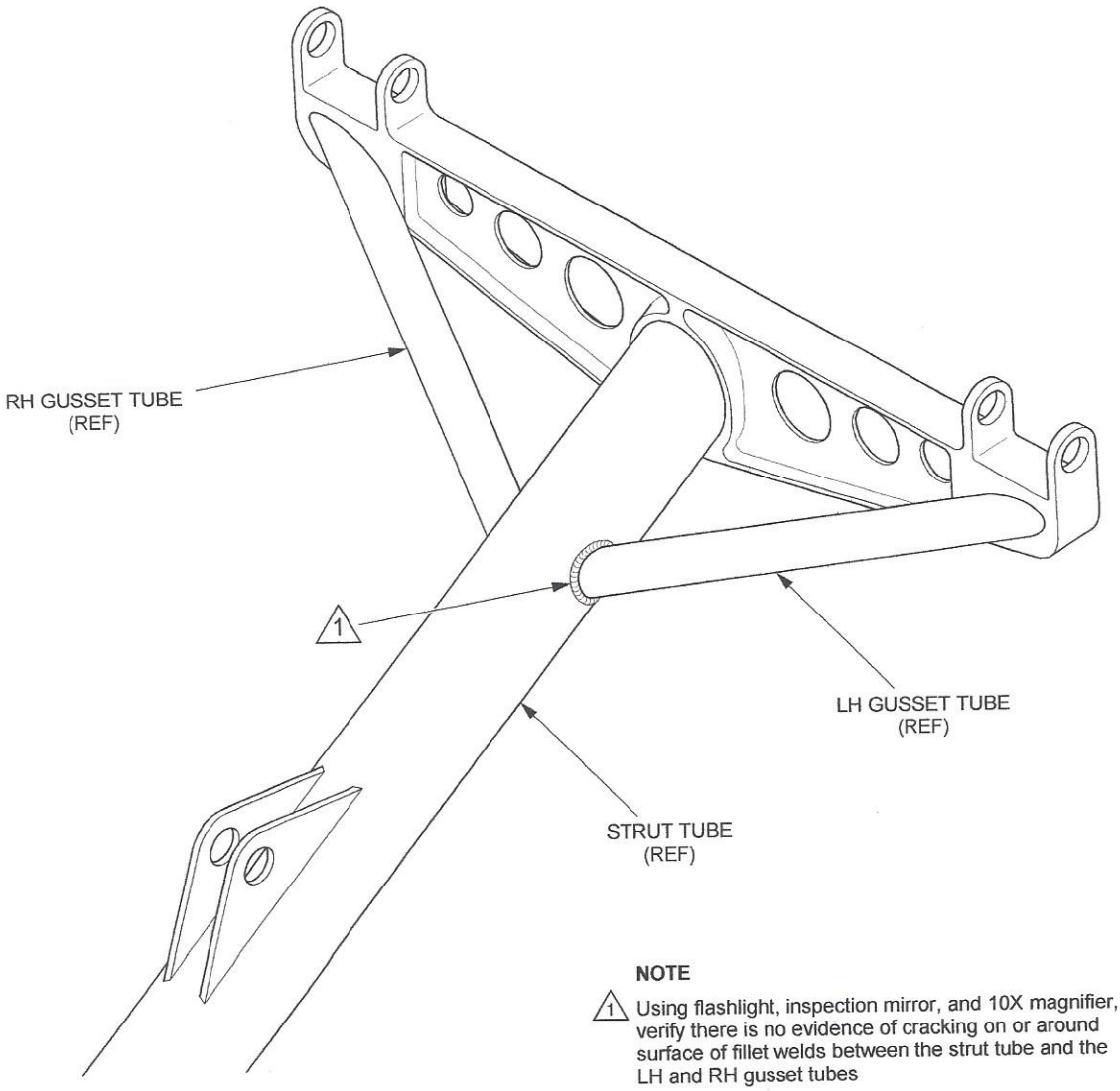
(2) If cracking is identified in paint or metal on or around surface of fillet welds, contact Cirrus for disposition.

G. Install engine cowling. (Refer to AMM 71-10)

H. Provide inspection results to Cirrus by visiting https://cirrusaircraft.formstack.com/forms/sb_feedback and completing feedback form.

I. Complete airplane records by noting compliance with SB2X-32-22 in Aircraft Logbook.





NOTE

1. Using flashlight, inspection mirror, and 10X magnifier, verify there is no evidence of cracking on or around surface of fillet welds between the strut tube and the LH and RH gusset tubes

DETAIL A

SR2_SB32_1573

Figure 01
Nose Landing Gear Strut Assembly Inspection

EFFECTIVITY:
SR20 Serials 2065 thru 2302
SR22 Serials 3712 thru 4299
SR22T Serials 0001 thru 1232

CIRRUS

SR2X
Service Bulletin

Number: **SB2X-32-22R1**
Issued: April 12, 2016
Revised July 14, 2017

SNS SUBJECT: 32-20 NOSE GEAR - Nose Landing Gear Strut Assembly Inspection

1. COMPLIANCE

Mandatory: Cirrus considers this Service Bulletin to be MANDATORY. Accomplish this Service Bulletin at the next scheduled maintenance or within the next 50 flight hours, whichever occurs first, and every 50 hours thereafter until terminating action occurs. Compliance time begins upon receipt of this Service Bulletin.

This bulletin was revised to update Compliance, Effectivity, Purpose, Manpower Requirements, and Accomplishment Instructions.

Operators who have successfully complied with the original release of this service bulletin, dated April 12, 2016, must complete Revision 1 of this Service Bulletin in its entirety, and must continue to perform this Service Bulletin every 50 hours thereafter until terminating action occurs.

Terminating action for this Service Bulletin is pending a resolution to be provided in an upcoming revision.

2. EFFECTIVITY

SR20 Serials 2065 & subs

SR22 Serials 3712 & subs

SR22T Serials 0001 & subs

3. APPROVAL

FAA approval has been obtained on all technical data in this Service Bulletin that affects type design.

For aircraft not operating under FAA requirements and regulatory oversight, it is the operator's responsibility to ensure that installation of this Service Bulletin has been accepted by the local airworthiness authority.

4. PURPOSE

Cracks have been discovered on some nose landing gear strut assemblies at the fillet welds between the strut tube and the LH and RH gusset tubes. This Service Bulletin contains instructions for the inspection of the nose landing gear strut assembly.

WARNING: **If left uninspected, cracks in the strut assemblies may lead to a collapsed nose landing gear.**

If cracking is identified in metal on or around surface of fillet welds, the aircraft is prohibited from flight until the nose landing gear strut assembly is replaced.

5. DESCRIPTION

This Service Bulletin contains instructions for the inspection of the nose landing gear strut assembly.

6. WARRANTY INFORMATION

For aircraft under warranty at the issue date of this Service Bulletin, Cirrus will cover all parts and labor costs for this Service Bulletin if the work is accomplished within the Compliance time period and the work is performed at an authorized Cirrus Service Center.

7. MANPOWER REQUIREMENTS

Initial compliance: 1.0 man-hour

Recurring compliance: 0.5 man-hour

8. OTHER PUBLICATIONS AFFECTED

N/A

9. WEIGHT AND BALANCE

N/A

10. MATERIAL INFORMATION

N/A

11. ACCOMPLISHMENT INSTRUCTIONS

A. Acquire necessary tools, equipment, and supplies.

Description	P/N or Spec.	Supplier	Purpose
Flashlight	100 foot-candles (1100 lux)	Any Source	Inspect for cracking.
Inspection Mirror	-	Any Source	Inspect for cracking.
10X Magnifier	-	Any Source	Inspect for cracking.
Mild Dishwasher Soap (abrasive free)	-	Any Source	Clean inspection area.
Cotton Cloth (clean, white, lint-free)	-	Any Source	Clean inspection area.
Masking Tape	-	Any Source	Mask surfaces.
Plastic Sheet	-	Any Source	Mask surfaces.
Paint Remover	-	Any Source	Remove paint.
Dye Penetrant	-	Any Source	Detect cracks.
Rust Inhibitor	MIL-PRF-16173E Grade 2	Any Source	Rust protect inspection area.

B. Remove key from ignition.

C. Set BAT 1, BAT 2, and AVIONICS switches to OFF positions.

D. Remove engine cowling. (Refer to AMM 71-10)

E. Remove nose gear fairing. (Refer to AMM 32-20)

F. Using dye penetrant, inspect the nose landing gear strut assembly.

(1) Solvent clean area on and around welds between strut and gusset tubes. (Refer to AMM 20-30)

Note: Ensure paint removal of the inspection area extends 1 - 1.5 inches (2.5 - 4 cm) from welds around the circumference of the strut and both gusset tubes. (See Figure 01)

(2) Mask off areas adjacent to inspection area to protect painted surfaces.

(3) Using paint remover per manufacturer's instructions, remove surface protection to expose welds and surrounding area.

(4) Wire brush area to remove all loose debris and/or corrosion.

(5) Dye penetrant inspect in accordance with FAA AC 43.13-1B, Chapter 5, Section 5.

Note: Typical crack formation is at the bottom edge of fillet welds for the LH and RH gussets. As the condition worsens, the cracking continues around the circumference of the nose strut tube.

A false positive dye penetrant inspection result that is not a crack (such as a weld under-cut) will show an indication of a crack along the inner or outer edge of gusset fillet weld.

(6) Using flashlight, inspection mirror, and 10X magnifier, verify there is no evidence of cracking on or around surface of fillet welds between the strut tube and the LH and RH gusset tubes. (See Figure 01)

WARNING: **If cracking is identified in metal on or around surface of fillet welds, the aircraft is prohibited from flight until the nose landing gear strut assembly is replaced.**

(7) If cracking is identified in metal on or around surface of fillet welds, contact Cirrus for disposition.

G. Apply LPS3 Rust Inhibitor (or equivalent) to inspection area.

H. Remove masking tape.

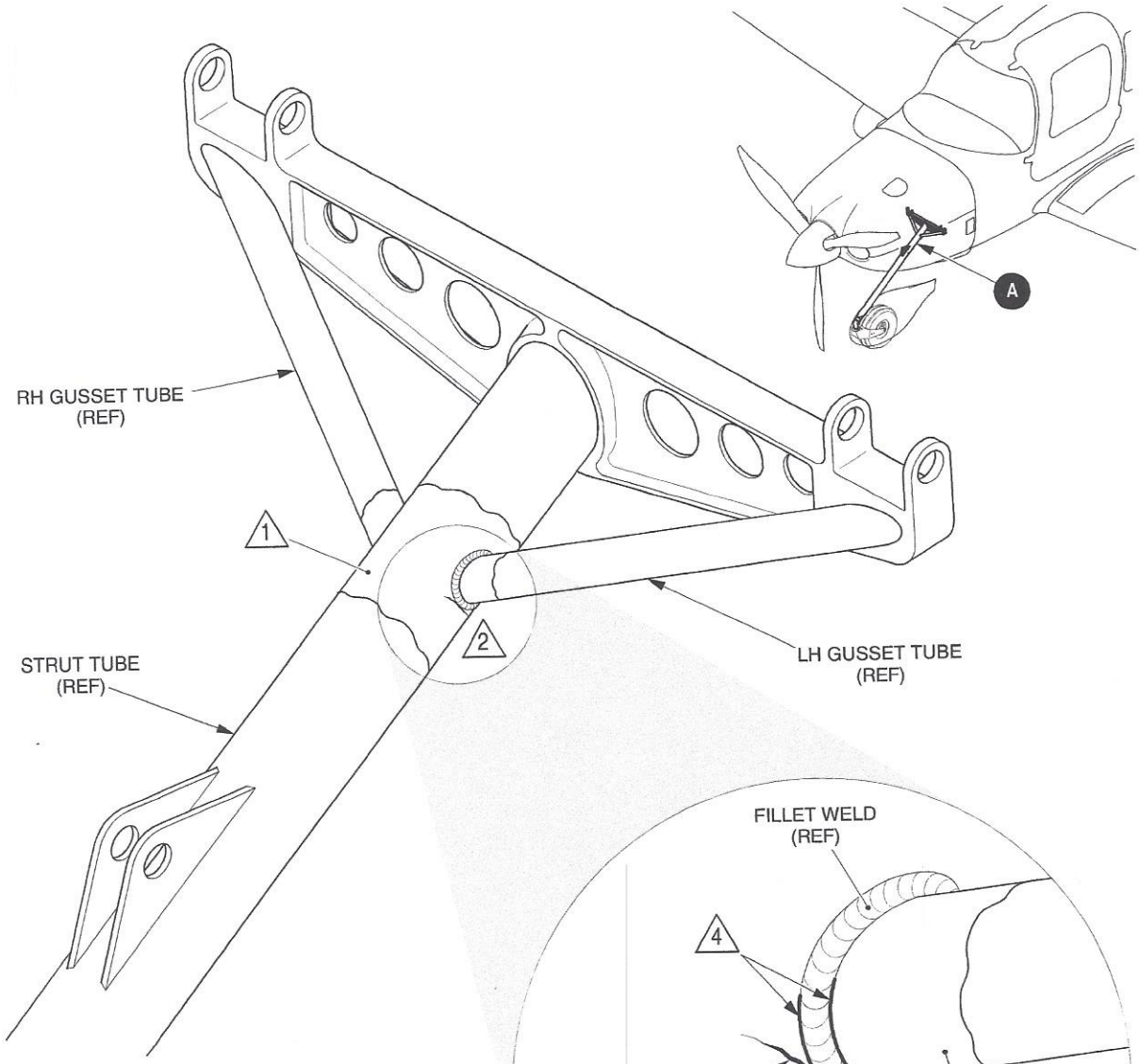
I. Install nose gear fairing. (Refer to AMM 32-20)

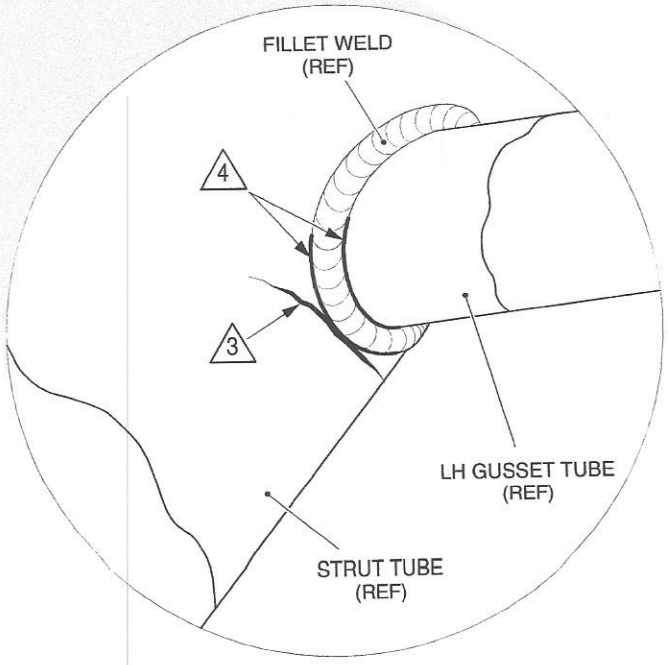
J. Install engine cowling. (Refer to AMM 71-10)

K. Provide inspection results to Cirrus by visiting https://cirrusaircraft.formstack.com/forms/sb_feedback and completing feedback form.

L. Complete airplane records by noting compliance with SB2X-32-22R1 in Aircraft Logbook.

To submit a Technical Publication change request, visit:
http://servicecenters.cirrusdesign.com/tech_pubs/SR2X/serviceloopform.asp
or contact us by email at techpubs@cirrusaircraft.com.





NOTE

1. Ensure paint removal of the inspection area extends 1 - 1.5 inches (2.5 - 4 cm) from welds around the circumference of the strut and both gusset tubes.

2. Using flashlight, inspection mirror, and 10X magnifier, verify there is no evidence of cracking on or around surface of fillet welds between the strut tube and the LH and RH gusset tubes.

3. Typical crack formation is at the bottom edge of fillet welds for the LH and RH gussets. As the condition worsens, the cracking continues around the circumference of the nose strut tube.

4. A false positive dye penetrant inspection result that is not a crack (such as a weld under-cut) will show an indication of a crack along the inner or outer edge of gusset fillet weld.

DETAIL A

SR2_SB32_1573B

Figure 01
Nose Landing Gear Strut Assembly Inspection

EFFECTIVITY:
SR20 Serials 2065 & subs
SR22 Serials 3712 & subs
SR22T Serials 0001 & subs

CIRRUS

SR2X
Service Bulletin

Number: **SB2X-32-22R2**
Issued: April 12, 2016
Revised January 5, 2018

SNS SUBJECT: 32-20 NOSE GEAR - Nose Landing Gear Strut Assembly Inspection

1. COMPLIANCE

Mandatory: Cirrus considers this Service Bulletin to be MANDATORY. Accomplish this Service Bulletin at the next scheduled maintenance or within the next 50 flight hours, whichever occurs first, and every 50 hours thereafter until terminating action occurs. Compliance time begins upon receipt of this Service Bulletin.

This bulletin was revised to update Compliance and Effectivity.

Operators who have successfully complied with the original release of this service bulletin, dated April 12, 2016, must complete Revision 2 of this Service Bulletin in its entirety, and must continue to perform this Service Bulletin every 50 hours thereafter until terminating action occurs.

Terminating action for this Service Bulletin is pending a resolution to be provided in an upcoming revision.

2. EFFECTIVITY

SR20 Serials 2065 thru 2364 w/ Beringer wheels

SR22 Serials 3712 thru 4505, 4507, 4510, 4511, 4520, and 4523 w/ Beringer wheels

SR22T Serials 0001 thru 1573, 1593 thru 1595 w/ Beringer wheels

3. APPROVAL

FAA approval has been obtained on all technical data in this Service Bulletin that affects type design.

For aircraft not operating under FAA requirements and regulatory oversight, it is the operator's responsibility to ensure that installation of this Service Bulletin has been accepted by the local airworthiness authority.

4. PURPOSE

Cracks have been discovered on some nose landing gear strut assemblies at the fillet welds between the strut tube and the LH and RH gusset tubes. This Service Bulletin contains instructions for the inspection of the nose landing gear strut assembly.

WARNING: **If left uninspected, cracks in the strut assemblies may lead to a collapsed nose landing gear.**

If cracking is identified in metal on or around surface of fillet welds, the aircraft is prohibited from flight until the nose landing gear strut assembly is replaced.

5. DESCRIPTION

This Service Bulletin contains instructions for the inspection of the nose landing gear strut assembly.

6. WARRANTY INFORMATION

For aircraft under warranty at the issue date of this Service Bulletin, Cirrus will cover all parts and labor costs for this Service Bulletin if the work is accomplished within the Compliance time period and the work is performed at an authorized Cirrus Service Center.

7. MANPOWER REQUIREMENTS

Initial compliance: 1.0 man-hour

Recurring compliance: 0.5 man-hour

8. OTHER PUBLICATIONS AFFECTED

N/A

9. WEIGHT AND BALANCE

N/A

10. MATERIAL INFORMATION

N/A

11. ACCOMPLISHMENT INSTRUCTIONS

A. Acquire necessary tools, equipment, and supplies.

Description	P/N or Spec.	Supplier	Purpose
Flashlight	100 foot-candles (1100 lux)	Any Source	Inspect for cracking.
Inspection Mirror	-	Any Source	Inspect for cracking.
10X Magnifier	-	Any Source	Inspect for cracking.
Mild Dishwasher Soap (abrasive free)	-	Any Source	Clean inspection area.
Cotton Cloth (clean, white, lint-free)	-	Any Source	Clean inspection area.
Masking Tape	-	Any Source	Mask surfaces.
Plastic Sheet	-	Any Source	Mask surfaces.
Paint Remover	-	Any Source	Remove paint.
Dye Penetrant	-	Any Source	Detect cracks.
Rust Inhibitor	MIL-PRF-16173E Grade 2	Any Source	Rust protect inspection area.

B. Remove key from ignition.

C. Set BAT 1, BAT 2, and AVIONICS switches to OFF positions.

D. Remove engine cowling. (Refer to AMM 71-10)

E. Remove nose gear fairing. (Refer to AMM 32-20)

F. Using dye penetrant, inspect the nose landing gear strut assembly.

(1) Solvent clean area on and around welds between strut and gusset tubes. (Refer to AMM 20-30)

Note: Ensure paint removal of the inspection area extends 1 - 1.5 inches (2.5 - 4 cm) from welds around the circumference of the strut and both gusset tubes. (See Figure 01)

(2) Mask off areas adjacent to inspection area to protect painted surfaces.

(3) Using paint remover per manufacturer's instructions, remove surface protection to expose welds and surrounding area.

(4) Wire brush area to remove all loose debris and/or corrosion.

(5) Dye penetrant inspect in accordance with FAA AC 43.13-1B, Chapter 5, Section 5.

Note: Typical crack formation is at the bottom edge of fillet welds for the LH and RH gussets. As the condition worsens, the cracking continues around the circumference of the nose strut tube.

A false positive dye penetrant inspection result that is not a crack (such as a weld under-cut) will show an indication of a crack along the inner or outer edge of gusset fillet weld.

(6) Using flashlight, inspection mirror, and 10X magnifier, verify there is no evidence of cracking on or around surface of fillet welds between the strut tube and the LH and RH gusset tubes. (See Figure 01)

WARNING: **If cracking is identified in metal on or around surface of fillet welds, the aircraft is prohibited from flight until the nose landing gear strut assembly is replaced.**

(7) If cracking is identified in metal on or around surface of fillet welds, contact Cirrus for disposition.

G. Apply LPS3 Rust Inhibitor (or equivalent) to inspection area.

H. Remove masking tape.

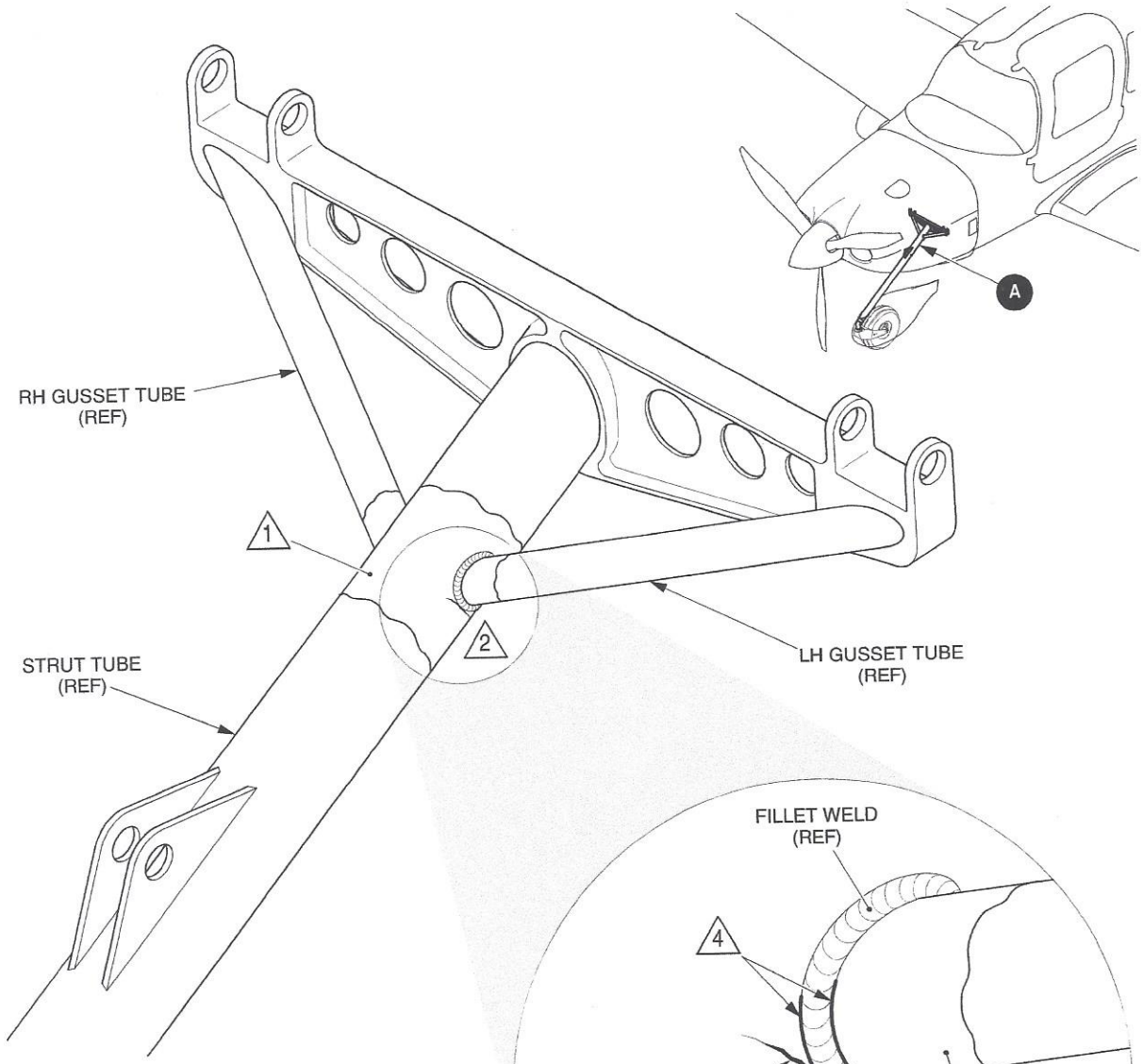
I. Install nose gear fairing. (Refer to AMM 32-20)

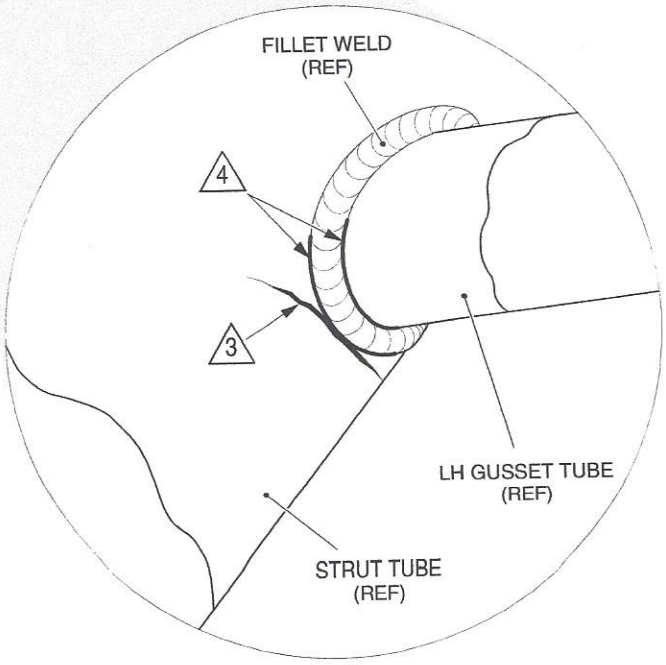
J. Install engine cowling. (Refer to AMM 71-10)

K. Provide inspection results to Cirrus by visiting https://cirrusaircraft.formstack.com/forms/sb_feedback and completing feedback form.

L. Complete airplane records by noting compliance with SB2X-32-22R2 in Aircraft Logbook.

To submit a Technical Publication change request, visit:
http://servicecenters.cirrusdesign.com/tech_pubs/SR2X/serviceloopform.asp
or contact us by email at techpubs@cirrusaircraft.com.





NOTE

1. Ensure paint removal of the inspection area extends 1 - 1.5 inches (2.5 - 4 cm) from welds around the circumference of the strut and both gusset tubes.

2. Using flashlight, inspection mirror, and 10X magnifier, verify there is no evidence of cracking on or around surface of fillet welds between the strut tube and the LH and RH gusset tubes.

3. Typical crack formation is at the bottom edge of fillet welds for the LH and RH gussets. As the condition worsens, the cracking continues around the circumference of the nose strut tube.

4. A false positive dye penetrant inspection result that is not a crack (such as a weld under-cut) will show an indication of a crack along the inner or outer edge of gusset fillet weld.

DETAIL A

SR2_SB32_1573B

Figure 01
Nose Landing Gear Strut Assembly Inspection

CIRRUS

SR2X
Service Bulletin

Number: SB2X-32-23
Issued: July 14, 2017

SNS SUBJECT: 32-20 NOSE GEAR - Nose Wheel Shimmy Reduction

1. COMPLIANCE

Mandatory: Cirrus considers this Service Bulletin to be MANDATORY. Accomplish this Service Bulletin at the next scheduled maintenance or within the next 50 flight hours, whichever occurs first. Compliance time begins upon receipt of this Service Bulletin.

2. EFFECTIVITY

SR20 Serials 2065 & subs w/ Beringer wheels

SR22 Serials 3712 & subs w/ Beringer wheels

SR22T Serials 0001 & subs w/ Beringer wheels

3. APPROVAL

FAA approval has been obtained on all technical data in this Service Bulletin that affects type design.

For aircraft not operating under FAA requirements and regulatory oversight, it is the operator's responsibility to ensure that installation of this Service Bulletin has been accepted by the local airworthiness authority.

4. PURPOSE

On affected airplanes, nose wheel shimmy may exist on aircraft equipped with Beringer wheels. *Nose wheel shimmy* is defined as "a lateral oscillation or wobble of the NLG resulting in a shaking feeling throughout the cabin of the aircraft that can vary in intensity." This is normally encountered during the landing roll-out and will subside as speed is reduced. Although less common, NLG shimmy may also be present during the take-off roll, or during high speed taxi.

These shimmy events can be greatly reduced or eliminated by lowering the nose tire pressure and increasing the force required to rotate the nose wheel fork by increasing the torque on the (NLG) spindle nut.

Note: A nose tire vibration due to imbalance or tire damage can be mistaken for NLG shimmy. However, it is advisable that both conditions be examined closely and considered in tandem during aircraft inspection.

5. DESCRIPTION

This Service Bulletin contains instructions for the adjustment of the nose tire pressure and force required to rotate the nose wheel fork.

6. WARRANTY INFORMATION

For aircraft under warranty at the issue date of this Service Bulletin, Cirrus will cover all parts and labor costs for this Service Bulletin if the work is accomplished within the Compliance time period and the work is performed at an authorized Cirrus Service Center.

7. MANPOWER REQUIREMENTS

1.0 man-hour

8. OTHER PUBLICATIONS AFFECTED

SR20 Airplane Maintenance Manual (p/n 12137-001 / 12137-002)

SR20 Pilot's Operating Handbook (p/n 11934-004 / 11934-005)

SR22 / SR22T Airplane Maintenance Manual (p/n 13773-001 / 13773-002)

SR22 Pilot's Operating Handbook (p/n 13772-002 / 13772-004 / 13772-006)

SR22T Pilot's Operating Handbook (p/n 13772-003 / 13772-005 / 13772-007)

9. WEIGHT AND BALANCE

N/A

10. MATERIAL INFORMATION

N/A

11. ACCOMPLISHMENT INSTRUCTIONS

A. Remove key from ignition.

B. Set BAT 1, BAT 2, and AVIONICS switches to OFF positions.

C. Remove engine cowling. (Refer to AMM 71-10)

D. Remove nose gear fairing. (Refer to AMM 32-20)

Note: For affected aircraft, Cirrus Engineering has changed the:

- NLG tire pressure from 40 - 90 psi to 40 - 50 psi, and
- force required to rotate the nose wheel fork from 20 - 25 lbs to 30 - 35 lbs.

The Pilot's Operating Handbook and FAA Approved Airplane Flight Manual, and the Airplane Maintenance Manual, will be updated at the next scheduled revision to reflect this change.

E. Adjust NLG tire pressure to 40 - 50 psi (276 - 344 kPa). (See Figure 01)

F. Increase force required to rotate the nose wheel fork. (See Figure 01)

(1) Acquire necessary tools, equipment, and supplies.

Description	P/N or Spec.	Supplier	Purpose
Spring Scale	-	Any Source	Measure nose wheel fork/wheel assembly rotational force.
Marine Grease, Lithium	-	Any Source	Coat spindle threads.
Cotter Pin	MS24665-355	Any Source	Replace hardware

(2) Raise airplane on jacks. (Refer to AMM 07-10)

(3) Remove cotter pin securing castellated spindle nut to nose gear strut.

(4) Attach spring scale to axle on nose wheel fork assembly and torque castellated spindle nut so a constant force of more than 49 lbs (22.2 kg) is required to rotate nose wheel fork and wheel assembly. (Refer to AMM 20-60)

(5) Loosen castellated spindle nut.

(6) Attach spring scale to axle on nose wheel fork assembly and torque castellated spindle nut so a constant force of 30 - 35 lbs (13.6 - 15.9 kg) is required to rotate nose wheel fork and wheel assembly. (Refer to AMM 20-60)

CAUTION: To ensure nose gear security, use a new cotter pin on reinstallation.

(7) Secure nut with new cotter pin. Bend cotter pin legs around castellated spindle nut as shown. (See Figure 01)

CAUTION: Do not allow grease to come in contact with spindle bearing surface or nose wheel fork bearings. Failure to comply with this caution may result in nose wheel shimmy Lower airplane off jacks. (Refer to AMM 07-10)

(8) Apply a thin coat of grease to exposed spindle threads.

(9) Lower airplane off jacks. (Refer to AMM 7-10)

G. Install nose gear fairing. (Refer to AMM 32-20)

H. Install engine cowling. (Refer to AMM 71-10)

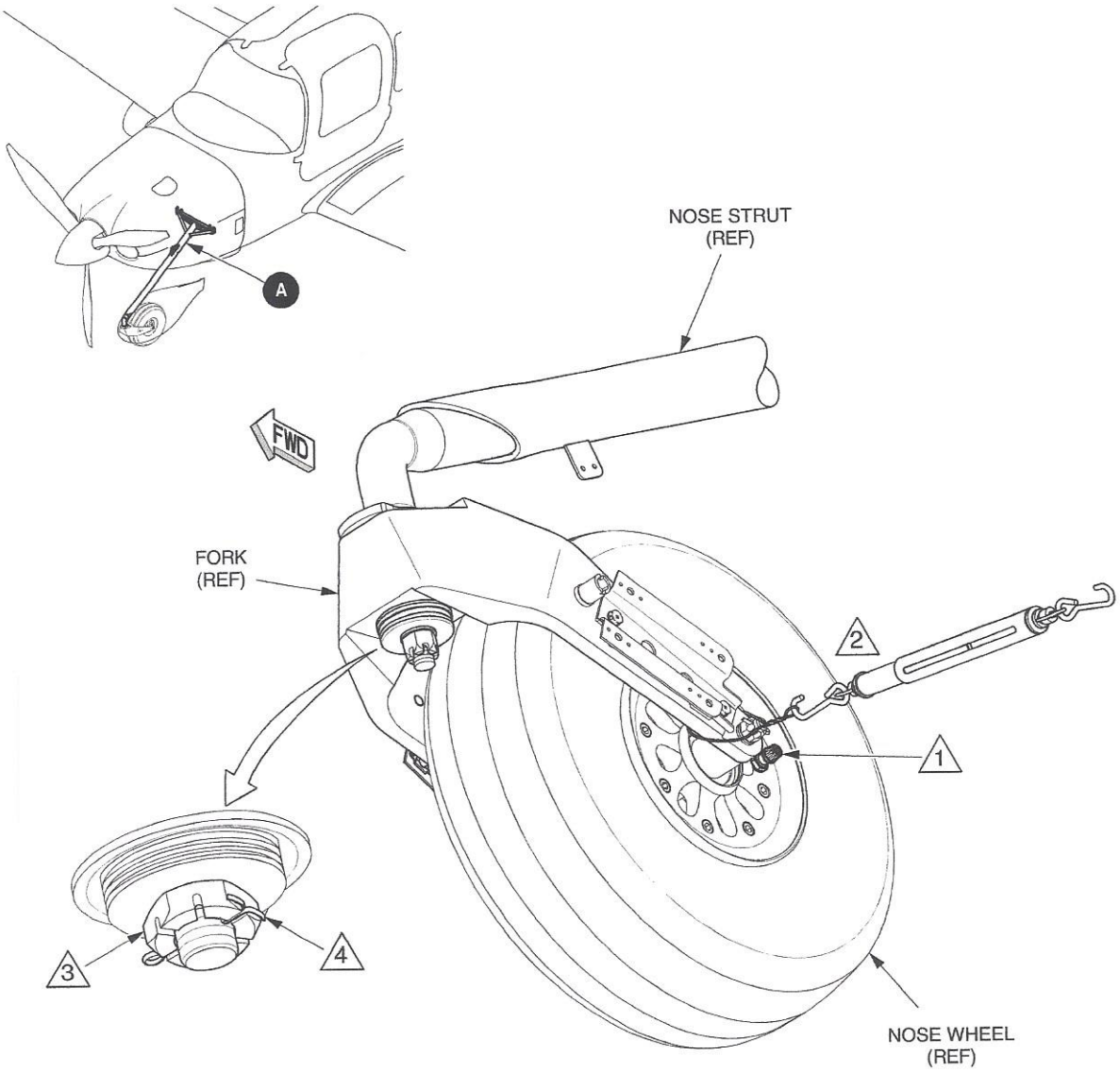
I. If nose landing gear has experienced shimmy prior to performing this Service Bulletin, perform SB2X-32-22R1 (or later) to verify that cracks do not exist in metal on or around surface of nose landing gear strut fillet welds.

J. Monitor NLG tire pressure and force required to rotate the nose wheel fork, and maintain at Cirrus recommended values.

K. Complete airplane records by noting compliance with SB2X-32-23 in Aircraft Logbook.

To submit a Technical Publication change request, visit:
http://servicecenters.cirrusdesign.com/tech_pubs/SR2X/serviceloopform.asp
or contact us by email at techpubs@cirrusaircraft.com.

EFFECTIVITY:
SR20 Serials 2065 & subs w/ Beringer wheels
SR22 Serials 3712 & subs w/ Beringer wheels
SR22T Serials 0001 & subs w/ Beringer wheels



NOTES

1. Adjust NLG tire pressure to 40 - 50 psi (276 - 344 kPa).
2. Attach spring scale to axle.
3. Torque castellated spindle nut so a constant force of more than 49 lb (22.2 kg) is required to rotate nose wheel fork and wheel assembly. Loosen castellated spindle nut and re-torque so a constant force of 30 - 35 lb (13.6 - 15.9 kg) is required to rotate nose wheel fork and wheel assembly.
4. Install new cotter pin as shown.

DETAIL A

SR2_SB32_1614

Figure 01
Nose Wheel Shimmy Reduction

EFFECTIVITY:
SR20 Serials 2065 & subs w/ Beringer wheels
SR22 Serials 3712 & subs w/ Beringer wheels
SR22T Serials 0001 & subs w/ Beringer wheels

CIRRUS

SR2X
Service Bulletin

Number: **SB2X-32-23R1**
Issued: July 14, 2017
Revised: January 5, 2018

SNS SUBJECT: 32-20 NOSE GEAR - Nose Wheel Shimmy Reduction

1. COMPLIANCE

Mandatory: Cirrus considers this Service Bulletin to be MANDATORY. Accomplish this Service Bulletin at the next scheduled maintenance or within the next 50 flight hours, whichever occurs first. Compliance time begins upon receipt of this Service Bulletin.

This bulletin was revised to update Effectivity, Purpose, Description, and Accomplishment Instructions.

Operators who have successfully complied with the original release of this service bulletin, dated July 14, 2017, must complete Revision 1 of this Service Bulletin in its entirety.

2. EFFECTIVITY

SR20 Serials 2065 thru 2364 w/ Beringer wheels

SR22 Serials 3712 thru 4505, 4507, 4510, 4511, 4520, and 4523 w/ Beringer wheels

SR22T Serials 0001 thru 1573, 1593 thru 1595 w/ Beringer wheels

3. APPROVAL

FAA approval has been obtained on all technical data in this Service Bulletin that affects type design.

For aircraft not operating under FAA requirements and regulatory oversight, it is the operator's responsibility to ensure that installation of this Service Bulletin has been accepted by the local airworthiness authority.

4. PURPOSE

On affected airplanes, nose wheel shimmy may exist on aircraft equipped with Beringer wheels. *Nose wheel shimmy* is defined as "a lateral oscillation or wobble of the NLG resulting in a shaking feeling throughout the cabin of the aircraft that can vary in intensity." This is normally encountered during the landing roll-out and will subside as speed is reduced. Although less common, NLG shimmy may also be present during the take-off roll, or during high speed taxi.

These shimmy events can be greatly reduced or eliminated by lowering the nose tire pressure and verifying the force required to rotate the nose wheel fork.

Note: A nose tire vibration due to imbalance or tire damage can be mistaken for NLG shimmy. However, it is advisable that both conditions be examined closely and considered in tandem during aircraft inspection.

5. DESCRIPTION

This Service Bulletin contains instructions for the adjustment of the nose tire pressure and the verification of the force required to rotate the nose wheel fork.

6. WARRANTY INFORMATION

For aircraft under warranty at the issue date of this Service Bulletin, Cirrus will cover all parts and labor costs for this Service Bulletin if the work is accomplished within the Compliance time period and the work is performed at an authorized Cirrus Service Center.

7. MANPOWER REQUIREMENTS

1.0 man-hour

8. OTHER PUBLICATIONS AFFECTED

SR20 Airplane Maintenance Manual (p/n 12137-001 / 12137-002)

SR20 Pilot's Operating Handbook (p/n 11934-004 / 11934-005)

SR22 / SR22T Airplane Maintenance Manual (p/n 13773-001 / 13773-002)

SR22 Pilot's Operating Handbook (p/n 13772-002 / 13772-004 / 13772-006)

SR22T Pilot's Operating Handbook (p/n 13772-003 / 13772-005 / 13772-007)

9. WEIGHT AND BALANCE

N/A

10. MATERIAL INFORMATION

N/A

11. ACCOMPLISHMENT INSTRUCTIONS

A. Remove key from ignition.

B. Set BAT 1, BAT 2, and AVIONICS switches to OFF positions.

C. Remove engine cowling. (Refer to AMM 71-10)

D. Remove nose gear fairing. (Refer to AMM 32-20)

Note: For affected aircraft, Cirrus Engineering has changed the:

NLG tire pressure has changed from:

- 40 to 90 psi (276 to 621 kPa) or
- 40 to 50 psi (276 to 345 kPa)

to:

- 30 to 35 psi (207 to 241 kPa)
- Verify force required to rotate the nose wheel fork is 20 to 25 lbs (9.1 to 11.3 kg).

The Pilot's Operating Handbook and FAA Approved Airplane Flight Manual, and the Airplane Maintenance Manual, will be updated at the next scheduled revision to reflect this change.

E. Adjust NLG tire pressure to 30 to 35 psi (207 to 241 kPa). (See Figure 01)

F. Verify force required to rotate the nose wheel fork. (See Figure 01)

(1) Acquire necessary tools, equipment, and supplies.

Description	P/N or Spec.	Supplier	Purpose
Spring Scale	-	Any Source	Measure nose wheel fork/wheel assembly rotational force.
Marine Grease, Lithium	-	Any Source	Coat spindle threads.
Cotter Pin	MS24665-355	Any Source	Replace hardware

(2) Raise airplane on jacks. (Refer to AMM 07-10)
(3) Remove cotter pin securing castellated spindle nut to nose gear strut. (Refer to AMM 32-20)
(4) Loosen castellated spindle nut.
(5) Attach spring scale to axle on nose wheel fork assembly and torque castellated spindle nut so a constant force of 20 to 25 lbs (9.1 to 11.3 kg) is required to rotate nose wheel fork and wheel assembly. (Refer to AMM 20-60)

CAUTION: To ensure nose gear security, use a new cotter pin on reinstallation.

(6) Secure nut with new cotter pin. Bend cotter pin legs around castellated spindle nut as shown. (See Figure 01)

CAUTION: Do not allow grease to come in contact with spindle bearing surface or nose wheel fork bearings. Failure to comply with this caution may result in nose wheel shimmy.

(7) Apply a thin coat of grease to exposed spindle threads.
(8) Lower airplane off jacks. (Refer to AMM 07-10)

G. Install nose gear fairing. (Refer to AMM 32-20)
H. Install engine cowling. (Refer to AMM 71-10)
I. If nose landing gear has experienced shimmy prior to performing this Service Bulletin, perform SB2X-32-22R1 (or later) to verify that cracks do not exist in metal on or around surface of nose landing gear strut fillet welds.
J. Monitor NLG tire pressure and force required to rotate the nose wheel fork, and maintain at Cirrus recommended values.
K. Complete airplane records by noting compliance with SB2X-32-23R1 in Aircraft Logbook.

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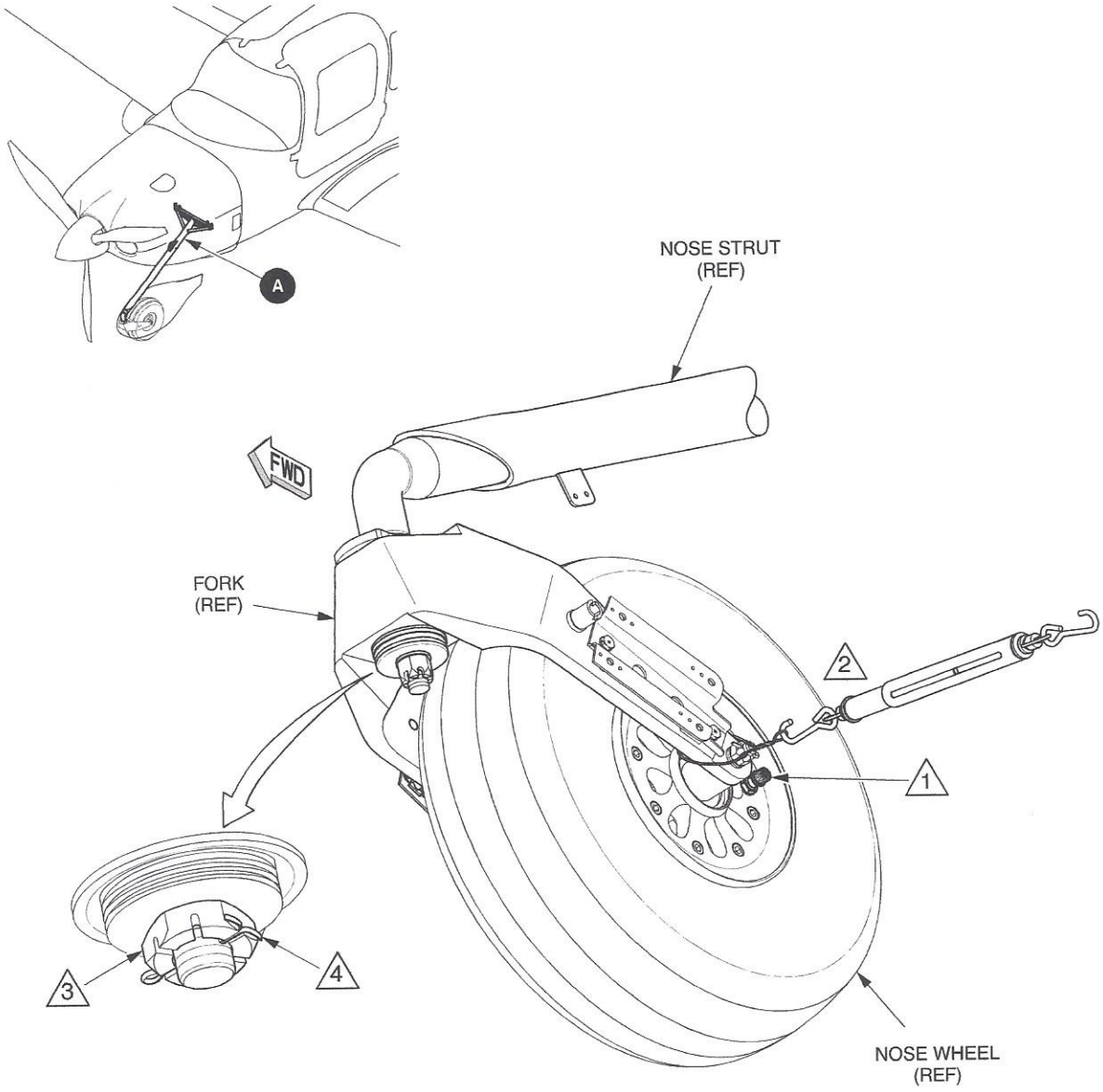

NOTES

1. Adjust NLG tire pressure to 30 - 35 psi (207 - 241 kPa).
2. Attach spring scale to axle.
3. Loosen castellated spindle nut and re-torque so a constant force of 20 - 25 lb (9.1 - 11.3 kg) is required to rotate nose wheel fork and wheel assembly.
4. Install new cotter pin as shown.

DETAIL A

SR2_SB32_1614

Figure 01
Nose Wheel Shimmy Reduction