AIRCRAFT MAINTENANCE MANUAL

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Aircraft Type: **WT9 Dynamic LSA**

Model: **Club**

Type Certificate Number: **EASA.A.644**

THIS MANUAL INCLUDES THE MAINTENANCE INFORMATION REQUIRED TO BE AVAILABLE BY CS-LSA. THIS AIRPLANE HAS TO BE MAINTAINED IN COMPLIANCE WITH INFORMATION AND LIMITATIONS CONTAINED HEREIN

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B. Main wheel

The procedure for removal of the left main wheel is described.

Type of maintenance: Heavy

Personnel qualification: Independent certifying staff qualified in accordance with Part-66 or higher.

Recommended tools, materials, persons and documentation:

ITEM	QUANTITY
Phillips screwdriver	1 pc
Pliers	1 pc
Wrench 32	1 pc
Persons	1

Tab. 32-2 Recommended tools, materials, persons and documentation

(1) Main wheel removal:

(a) Jack the aircraft and secure the tail (Chapter 07-10).

(b) Remove the main gear fairing (see 2.A.(1)).

(c) Remove the split pin (6, Fig. 32-4), unscrew the nut (4) and remove the distance tube (5).

(d) Remove the safety stainless wire (2) and pull the main wheel (1) with the brake disc (3) out.

(2) Main wheel installation:

(a) Before assembling the main landing gear, ensure the wheel axle connection is not damaged.

(b) Align the brake disc (3, Fig. 32-4) with the gap in the brake calliper; install the wheel (1) on the wheel axle (7).

NOTE

Tabs of the brake disc (3) must fit between the wheel disc tabs.

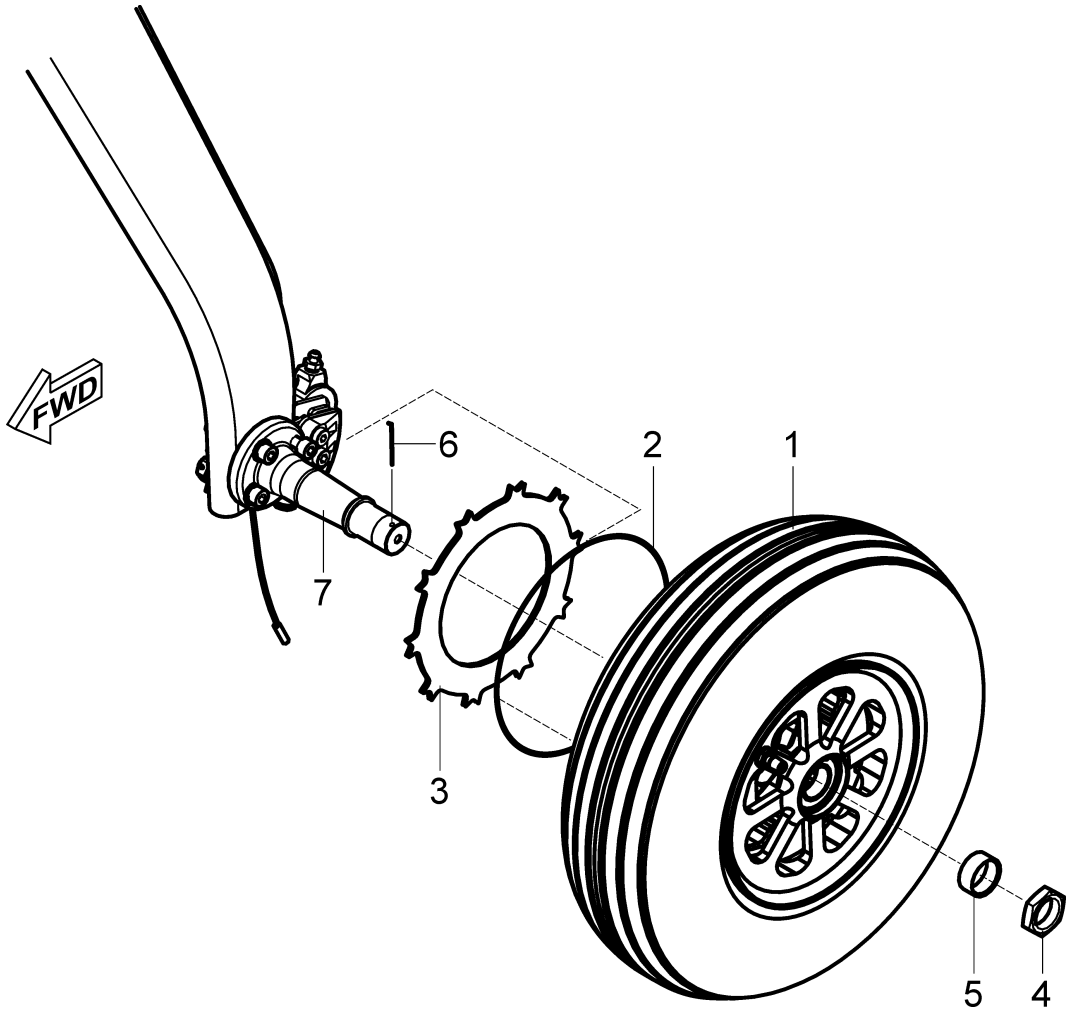
(c) Install the distance tube (5), tighten the nut (4) and lock it with the split pin (6).

(d) Wind the safety stainless wire (2) around the disc tabs and secure it.

(e) Install the main wheel fairing (see 2.A.(2)).

(f) Carry out a test and check:

- If all bolt connections are tight.
- Plays.
- Free rotation of the main wheel.
- Tire pressure (250 kPa).
- If grounding wire is touching the ground.



1 – Main wheel
2 – Safety stainless wire ø1 mm
3 – Brake disc
4 – Nut M24
5 – Distance tube
6 – Split pin ø0.8 mm
7 – Brake calliper with wheel axle

Fig. 32-4 Main Wheel Removal / Installation

C. Main landing gear leg

Type of maintenance: Heavy

Personnel qualification: Independent certifying staff qualified in accordance with Part-66 or higher.

Recommended tools, materials, persons and documentation:

ITEM	QUANTITY
Wrench 10	1 pc
Wrench 13	1 pc
Hex key 6	1 pc
Screwdriver	1 pc
Socket 13	1 pc
Pliers	1 pc
Split pin ø2 x 32 mm	4 pc
Stainless wire ø1 mm	AR
Silicone	AR
Contact adhesive	AR
Sealing adhesive tape	AR
Loctite 243	AR
Persons	2

Tab. 32-3 Recommended tools, materials, persons and documentation

(1) Main landing gear leg removal:

(a) Jack the aircraft and secure the tail (Chapter 07-10).

(b) Remove the main wheel (see 2.B.(1)).

(c) Remove the split pins (11, Fig. 32-5) and unscrew the nuts (6).

(d) Remove the washer (7), disconnect the wire (22), cable (10), remove the inner holder (8), guying plate (9), washers (5), bolts (3; 4).

(e) Disconnect the brake calliper with wheel axle (2).

NOTE

Disassembly of the brake calliper from the wheel axle is described in Chapter 32-40.

(f) Disconnect the brake line from the main landing leg (1) removing the adhesive tape (21).

(g) Under the wing centre section, remove the cover (8, Chapter 06-00, Fig. 06-2).

(h) Remove the laminated seat (Chapter 25-10) and remove the side cover (6, Chapter 06-00, Fig. 06-3) with a knife.

(i) Tear off the upholstery; remove the cover (5, Chapter 06-00, Fig. 06-3) with a knife.

(j) On the lower attachment (24, Fig. 32-5), unscrew the nuts (19), remove the washers (7), pad of the bottom holder (17), distance tubes (15) rubber plate (16), rubber plate (13), bushings (14), pad (12) and bolts (18).

(k) On the upper attachment (23), unscrew the nuts (19), remove the washers (7) and bolts (20).

(l) Pull the main landing leg (1) from the aircraft.

(2) Main landing gear leg installation:

(a) Before assembly of the main landing gear, check the outer surface of the landing gear leg for any cracks and ensure the wheel axle connection is not damaged.

(b) Insert the main landing leg (1, Fig. 32-5) into the centre section.

(c) On the upper attachment (23), install the bolts (20), washers (7) and slightly tighten the nuts (19).

(d) On the lower attachment (24), install the rubber plate (13), bushings (14), pad (12) and bolts (18).

(e) Install the distance tubes (15), rubber plate (16), pad of the bottom holder (17), washers (7) and slightly tighten the nuts (19).

(f) Tighten all nuts (19) connecting the landing leg (1) with the aircraft.

(g) Glue the covers (5; 6; Chapter 06-00, Fig. 06-3) with silicone (remove old silicone); glue the upholstery with Contact adhesive.

(h) Install the laminated seat (Chapter 25-10).

(i) Under the wing centre section install the cover (8, Chapter 06-00, Fig. 06-2).

(j) Connect the brake line and grounding wire with sealing adhesive tape (21, Fig. 32-5) in the middle of the main landing leg.

(k) On the bottom of the main landing leg, install the wheel axle with brake calliper (2), bolts (3; 4), washers (5), guying plate (9), inner holder (8), cable (10) with grounding wire (22) and washer (7); tighten the nuts (6) and lock them with new split pins (11).

(l) Install the main wheel (see 2.B.(2)).

(m) Carry out a test and check:

- That the castle nuts are secured with split pins.
- If all bolt connections are tight.
- Plays.
- Free rotation of the main wheel.
- Tire pressure (250 kPa).
- If grounding wire is touching the ground.
- That no foreign objects remain in the aircraft.
- There is no air in the brake system.

(3) Main landing gear inspection / check:

In the following table are shown the permissible plays for main landing gear attachment. These values should be not exceeded in operation.

SYSTEM	PROCEDURE TO FIND A PLAY	PROCEDURE TO REMEDY A PLAY	MAX. PRODUCT. PLAY	MAX. OPERATING PLAY
Main landing gear	Lift the aircraft. Move the main wheel forward/backward and inboard/outboard to find possible plays.	Check the legs attachment, wheels attachment. Replace the bearings, if necessary.	1 mm / 0.039 in	3 mm / 0.118 in

Tab. 32-4 Maximum Permissible Plays

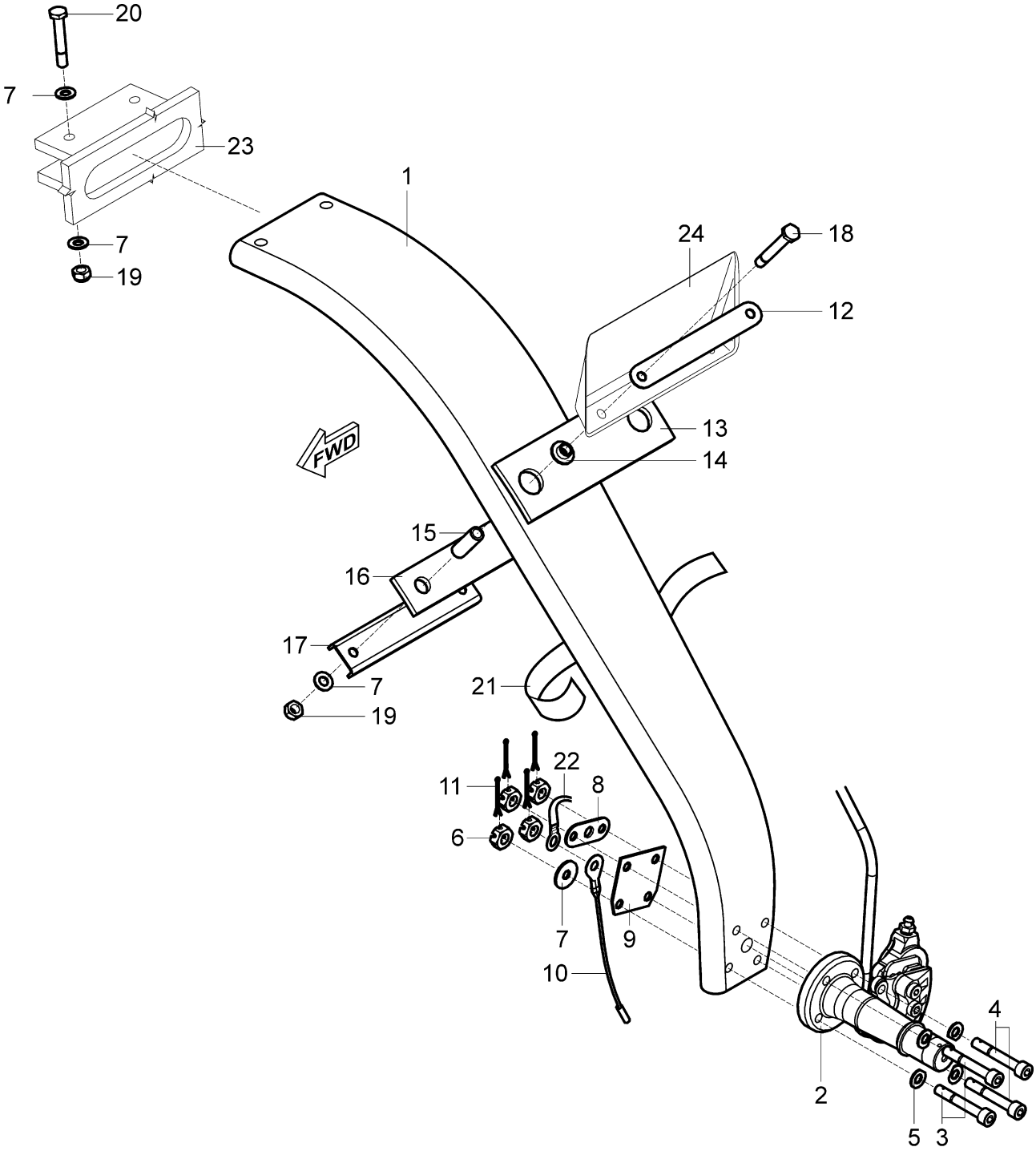


Fig. 32-5 Main Landing Gear Leg Removal / Installation (page 1 of 2)

1 – Main landing gear leg
2 – Brake calliper with wheel axle
3 – Bolt M8 x 52
4 – Bolt M8 x 57
5 – Cut washer ø8.4
6 – Castle nut M8
7 – Washer ø8.4 x 16 x 1.6
8 - Inner holder
9 - Guying plate
10 - Cable
11 - Split pin ø2 x 32
12 - Pad
13 - Rubber plate
14 - Bushing
15 - Distance tube
16 - Rubber plate
17 - Pad of bottom holder
18 - Bolt M8 x 58
19 - Self-locking nut M8
20 - Bolt M8 x 48
21 - Sealing adhesive tape
22 - Grounding wire

For information:

23 - Upper attachment
24 - Lower attachment

Fig. 32-5 Main Landing Gear Leg Removal / Installation (page 2 of 2)

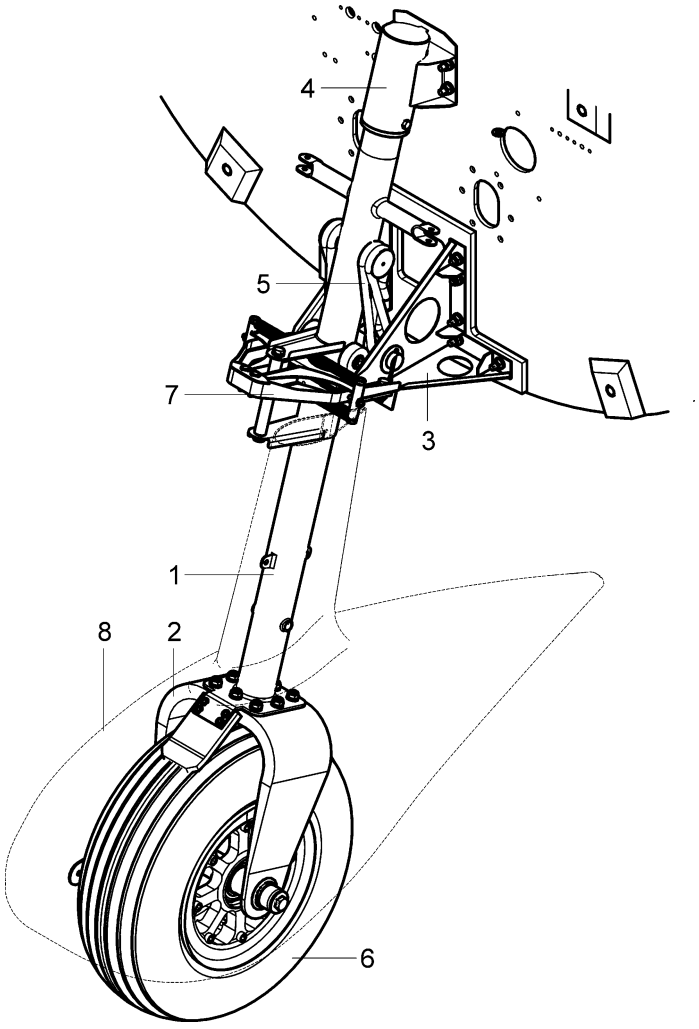
32-20 NOSE GEAR

1. DESCRIPTION

The metal nose landing gear leg (1, Fig. 32-6) with carbon fork (2) is attached to the firewall in the lower (3) and upper (4) supports. The nose landing gear incorporates bungees (5) (nose leg - lower support) and rubber damper (nose leg - upper support). Nose leg is steerable and controlled by foot control pedals by means of pull-push rods and is fitted with the centring mechanism (7).

The nose landing gear is equipped with aluminium wheel disc with tubeless tire (6) (see Chapter 32-40).

The nose wheel is fitted with the aerodynamic fairing (8).



1 – Landing gear leg
2 – Carbon fork
3 – Lower support
4 – Upper support
5 – Bungee
6 – Nose wheel
7 – Centring mechanism
8 – Wheel fairing

Fig. 32-6 Nose Landing Gear

2. MAINTENANCE PRACTICES

A. Nose wheel fairing

Type of maintenance: Line

Personnel qualification: Independent certifying staff qualified in accordance with Part-66 or higher.

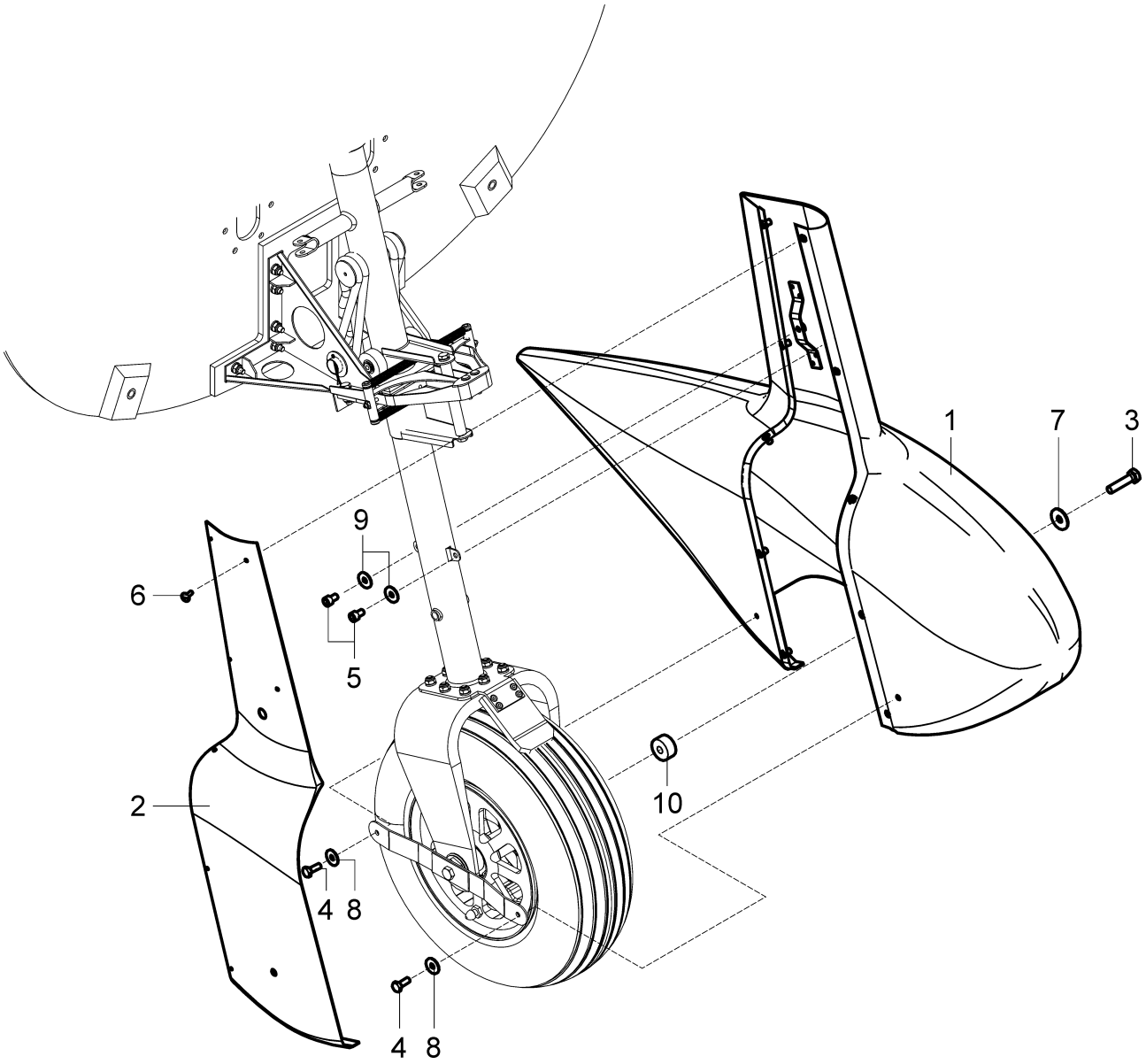
Recommended tools, materials, persons and documentation:

ITEM	QUANTITY
Screwdriver	1 pc
Pliers	1 pc
Hex key 6	1 pc
Wrench 10	1 pc
Wrench 13	1 pc
Loctite 243	AR
Persons	1

Tab. 32-5 Recommended tools, materials, persons and documentation

(1) Nose wheel fairing removal:
- (a) Unscrew the bolts (6, Fig. 32-7) and remove the cover (2).
- (b) Unscrew the bolts (3; 4; 5) and remove the washers (7; 8; 9).
- (c) Remove the wheel fairing (1) with the distance roller (10).

(2) Nose wheel fairing installation:
- (a) Thoroughly clean the inside of the fairing before each installation.
- (b) Adjust the wheel fairing (1, Fig. 32-7) with the distance roller (10) to the appropriate position.
- (c) Install the washers (7; 8; 9); apply Loctite 243 on the bolts threads and screw the bolts (3; 4; 5) in.
- (d) Install the cover (2) using the bolts (6).



1 – Nose wheel fairing
2 – Cover
3 – Bolt M8 x 20
4 – Bolt M6 x 16
5 – Allen bolt M6 x 10
6 – Bolt M5 x 16
7 – Washer ø8.4 x 24 x 2
8 – Washer ø6.4 x 18 x 1.6
9 – Serrated locking washer ø6.4
10 – Distance roller

Fig. 32-7 Nose Wheel Fairing Removal / Installation

B. Nose wheel

Type of maintenance: Heavy

Personnel qualification: Independent certifying staff qualified in accordance with Part-66 or higher.

Recommended tools, materials, persons and documentation:

ITEM	QUANTITY
Wrench 10	2 pc
Wrench 13	1 pc
Wrench 24	2 pc
Screwdriver	1 pc
Knife	1 pc
Socket 10	1 pc
Persons	1

Tab. 32-6 Recommended tools, materials, persons and documentation

(1) Nose wheel removal:

(a) Jack the aircraft and secure the tail (Chapter 07-10).

(b) Remove the nose gear fairing (see 2.A.(1)).

(c) Unscrew the bolt (8, Fig. 32-8), remove the washer (9) and the wheel fairing bracket (7).

(d) Straighten the tab on the washer (6), unscrew the special bolt (5), remove the washer (6) and pull the nose wheel axle (2) out.

(e) Remove the nose wheel (1) with the short distance tube (4) and the long distance tube (3).

(2) Nose wheel installation:

(a) Insert the nose wheel (1, Fig. 32-8) with the short distance tube (4) and the long distance tube (3) into the carbon fork (10).

(b) Slide the nose wheel axle (2) from the left side in; install the washer (6), tighten the special bolt (5) and secure it with the bending washer (6).

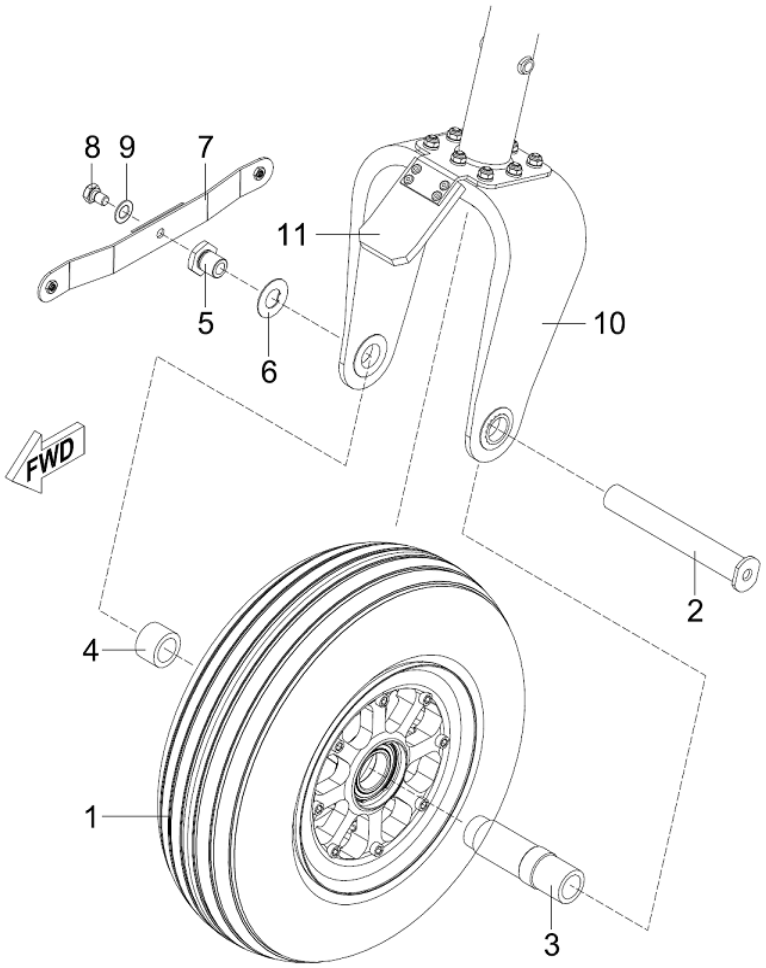
(c) Install the wheel fairing bracket (7), the washer (9), apply Loctite 243 on the bolt (8) thread and tighten the bolt (8).

(d) Check free rotation of the wheel (1) and if the braking plate (11) is effectively braking the wheel.

(e) Install the nose gear fairing (see 2.A.(2)).

(f) Carry out a test and check:

- If all bolt connections are tight.
- Plays.
- Free movement, rotation and damping of the nose landing gear.
- If the brake plate is braking the wheel.
- Tire pressure (250 kPa).
- That no foreign objects remain in the aircraft.



1 – Nose wheel
2 – Nose wheel axle
3 – Long distance tube
4 – Short distance tube
5 – Special bolt
6 – Tab washer ø16 x 32 x 1
7 – Wheel fairing bracket
8 – Bolt M8 x 12
9 – Washer ø8.4 x 16 x 1.6
10 – Fork
11 – Braking plate

Fig. 32-8 Nose Wheel Removal / Installation

C. Nose landing gear leg

Type of maintenance: Heavy

Personnel qualification: Independent certifying staff qualified in accordance with Part-66 or higher.

Recommended tools, materials, persons and documentation:

ITEM	QUANTITY
Wrench 10	2 pc
Wrench 13	1 pc
Wrench 24	2 pc
Screwdriver 10	1 pc
Hex key 2	1 pc
Socket 10	1 pc
Hand riveting tool	1 pc
Heat gun	1 pc
Knife	1 pc
Drill	1 pc
Drill bit ø4 mm	1 pc
Rubber rope	AR
Split pin ø2 x 32 mm	2 pc
Lockwire ø1.2 mm	AR
Vaseline	AR
Loctite 243	AR
Persons	2

Tab. 32-7 Recommended tools, materials, persons and documentation

(1) Nose landing gear leg removal:

(a) Jack the aircraft and secure the tail (Chapter 07-10).

(b) Remove the engine cowlings (Chapter 71-10).

(c) Remove the nose wheel (see 2.B.(1)).

(d) Disconnect the push rods from the landing strut levers (Chapter 27-20).

(e) Cut the rubber ropes (12, Fig. 32-9).

(f) Unscrew the nuts (30) and the bolts (32) and remove the springs (29).

(g) Unscrew the bolts (25), remove the washers (15) and the tube (26).

(h) Remove the split pins (17) and the tube (10).

(i) Remove the circlips (24), guiding wheels (6), guiding wheel axle (5).

(j) Remove the rubber plate (11).

(k) On the rear side of the clip assembly, unscrew the nuts (16), remove the washers (15) and the bolts (13).

NOTE

Clip assembly consists of pos. 7, 8, 9.

(l) On clip assembly, unscrew the nuts (16) remove the washers (15) and the bolts (14).

(m) Remove the clip assembly, stirrup (27) with beams (28).

(n) On the stirrup, unscrew the nuts (16) remove the washers (15), bolts (31) and remove the beams.

(o) Remove the nose landing gear (1).

(p) Remove the upper and lower casings (see 2.D.(1)).

(q) As necessary, remove the carbon fork (18) and the braking plate (21):

- Remove the carbon fork (18), by removing the nuts (16), washers (15), bolts (19) and pad (20).
- Remove the braking plate (21), by drilling out the blind rivets (22) and removing washers (23).

(2) Nose landing gear leg installation:

(a) Before assembly of the nose landing gear, check the outer surface of the nose landing gear for any cracks and corrosion. Check the rubber absorber (4, Fig. 32-9) for damage.

(b) As necessary, install the carbon fork and the braking plate:

- Install the carbon fork (18) on the landing strut (1), using bolts (19), pad (20), washers (15) and the nuts (16).
- Install the braking plate (21) on the landing strut tab, by drilling 4 holes ø4 in the braking plate (21) referring to landing strut tab holes. Put the washers (23) on blind rivets (22) and connect the braking plate (21) with the landing strut tab using the hand riveting tool.

(c) Install the upper and lower casings (see 2.D.(2)).

(d) Insert the guiding wheel axle (5), install the guiding wheels (6) and lock them with circlips (24).

(e) Lubricate the rubber absorber (4) with vaseline and slide it into the upper casing assembly (2).

(f) Slide the landing strut (1) into the upper casing (2) and push it into the lower casing (3).

NOTE

It is necessary use greater force.

(g) Put the rubber plate (11) between the guiding wheels (6) and the lower casing (3).

(h) Apply Loctite 243 on the bolt (9) thread, screw the bolt (9) into the sliding bearing (7).

(i) Put the bronze bushings (8) on the landing strut (1) with the rear sliding bearing (7).

NOTE

Allen head bolt (9) must fit into the gap between the bronze bushings (8).

(j) Connect the stirrup (27) with beams (28) using bolts (31), washers (15) and nuts (16).

(k) Install the stirrup (27) with beams (28) on the lower casing (3).

(l) Connect the rear sliding bearing (7) with the lower casing (3), using bolts (14), washers (15) and nuts (16) (do not tighten it).

(m) Connect the front sliding bearing with the rear sliding bearing (7) using bolts (13), washers (15) and nuts (16) (do not tighten it).

(n) Connect the front sliding bearing (7) with the lower casing (3) using bolts (14), washers (15) and nuts (16).

(o) Tighten all nuts fastening upper and lower casings (2; 3) (see 2.D.(2)); tighten all nuts (16) on the lower casings (3), apply Loctite 243 on the bolts (9) threads and tighten the bolts (9).

(p) Check free movement of the landing strut (1).

(q) At one end of the rubber ropes (12) make loops ∅ 20mm and secure it with lockwire; seal the ends.

(r) Slide the rubber ropes (12) on the tube (10), put them (10; 12) on the lower casing (3) and lock with split pins (17).

(s) Stretch the rubber ropes (12) (see Fig. 32-10) with force 100 N - 110 N, secure the ends with lockwire; cut and seal the ends.

CAUTION

ENSURE THAT THE FORCE IS DISTRIBUTED EVENLY ON FULL LENGTH OF THE RUBBER ROPES (12).

(t) Install the tube (26, Fig. 32-9) on the landing strut (1) using bolts (25), washers (15) and nuts (16).

(u) Install the springs (29) and bolts (32) on the beams (28); equally screw the bolts (32) so that the springs are tensioned; secure the bolts with nuts (30).

(v) Connect the nose gear push rods with nose gear levers (Chapter 27-20).

(w) Install the engine cowlings (Chapter 71-10).

(x) Install the nose wheel (see 2.B.(2)).

(y) Carry out a test and check:

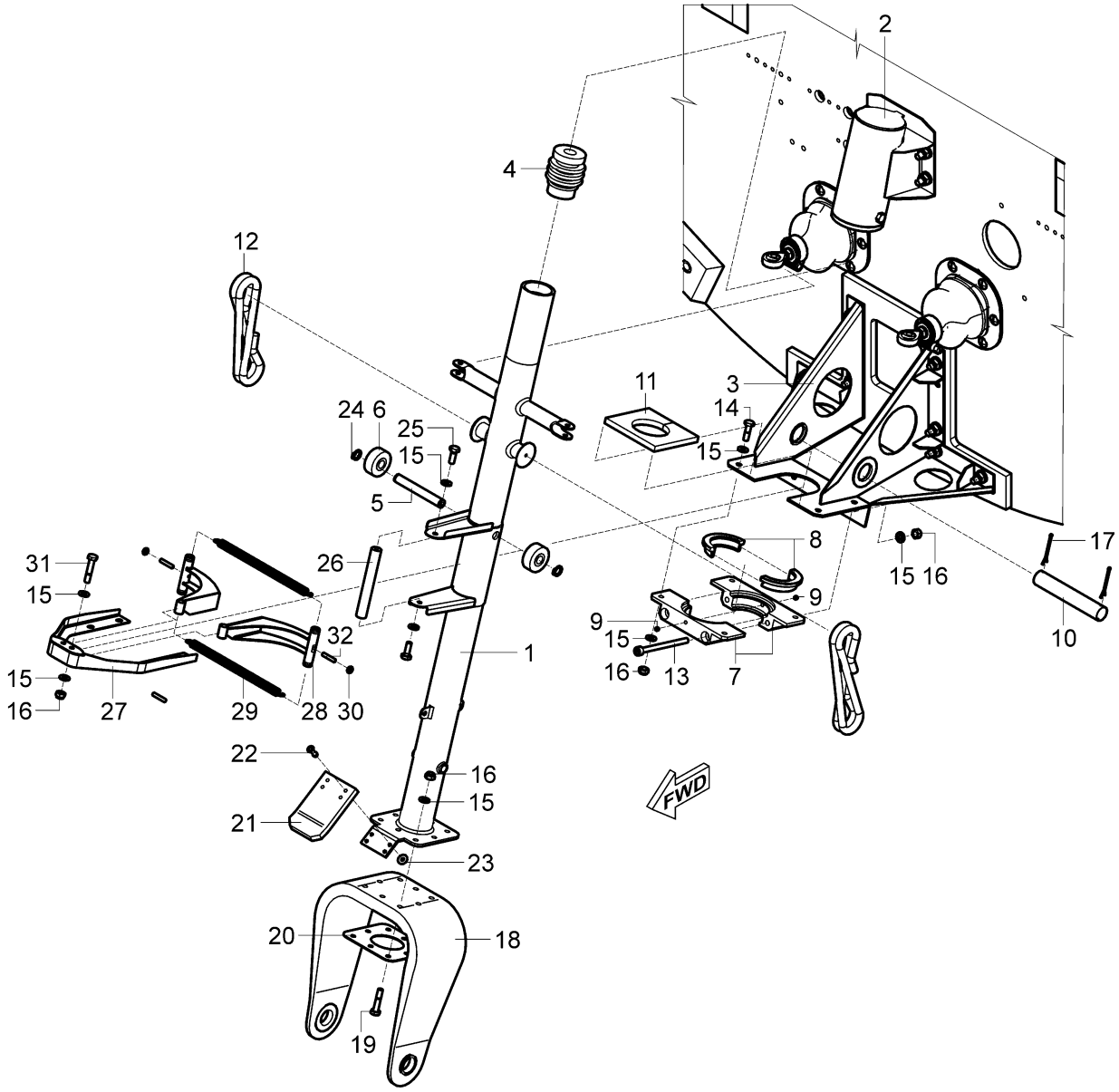
- That parts are secured with split pins and circlips.
- If all bolt connections are tight.
- Plays.
- Free movement, rotation and damping of the nose landing gear.
- If the braking plate is braking the wheel.
- That the rubber ropes are secured with lockwire.
- Tire pressure (200 kPa).
- That no foreign objects remain in the aircraft.

(3) Nose landing gear inspection / check

In the following table the permissible plays for nose landing gear attachment are shown. These values should not be exceeded in operation.

SYSTEM	PROCEDURE TO FIND A PLAY	PROCEDURE TO REMEDY A PLAY	MAX. PRODUCT. PLAY	MAX. OPERATING PLAY
Nose landing gear	Lift the aircraft. Move the nose wheel forward and backward to find possible plays.	Replace the bushings of the upper and lower holder.	1 mm / 0.039 in	3 mm / 0.118 in

Tab. 32-8 Maximum Permissible Plays



1 – Landing strut	12 – Rubber rope	23 – Washer ø4.3 x 12 x 1
2 – Upper casing	13 – Bolt M6 x 85	24 – Circlip ø10
3 – Lower casing	14 – Bolt M6 x 26	25 – Bolt M6 x 16
4 – Rubber absorber	15 – Washer ø6.4x12x1.6	26 – Tube
5 – Guiding wheel axle	16 – Self-locking nut M6	27 – Stirrup
6 – Guiding wheels	17 – Split pin ø2 x 32	28 – Beam
7 – Sliding bearing	18 – Carbon fork	29 – Spring
8 – Bronze bushing	19 – Bolt M6x28	30 – Bolt M6x30
9 – Allen head bolt M4 x 5	20 – Pad	31 – Bolt M6x30
10 – Tube	21 – Brake plate	32 – Allen head bolt M4 x 20
11 – Rubber plate	22 – Blind rivet ø4 x 16	

Fig. 32-9 Nose Landing Gear Leg Removal / Installation

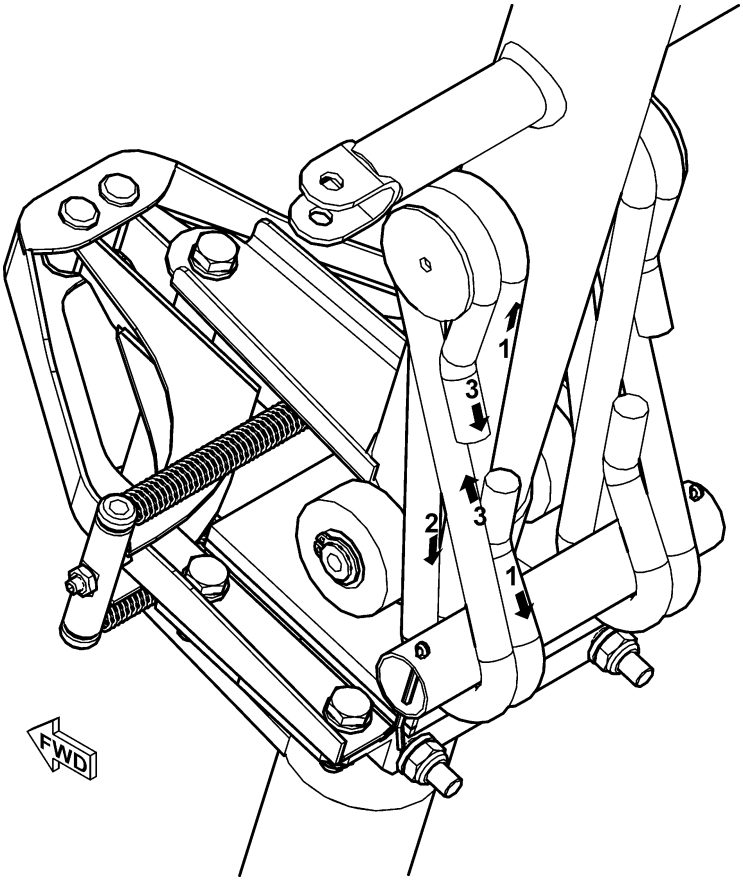


Fig. 32-10 Method of Turning the Rubber Rope

D. Nose landing gear leg casings

Type of maintenance: Heavy

Personnel qualification: Independent certifying staff qualified in accordance with Part-66 or higher.

Recommended tools, materials, persons and documentation:

ITEM	QUANTITY
Wrench 10	2 pc
Wrench 8	1 pc
Loctite 243	AR
Persons	2

Tab. 32-9 Recommended tools, materials, persons and documentation

(1) Nose landing gear leg casing removal:

(a) Remove the nose landing gear leg (see 2.C.(1)).

(a) Remove the lower casing (3, Fig. 32-11), by unscrewing the nuts (7), removing the washers (8; 9) and bolts (6).

(b) Remove the upper casing assembly (1), by unscrewing the nuts (7), removing the washers (8; 9) and bolts (6).

(c) Disassemble the upper casing assembly (1), by unscrewing the bolts (5) and removing the bushing (4).

(2) Nose landing gear leg casing installation:

(a) Install the upper holder (1, Fig. 32-11) on the firewall (10), using the bolts (6) and washers (8; 9), slightly screw the nuts (7) in.

NOTE

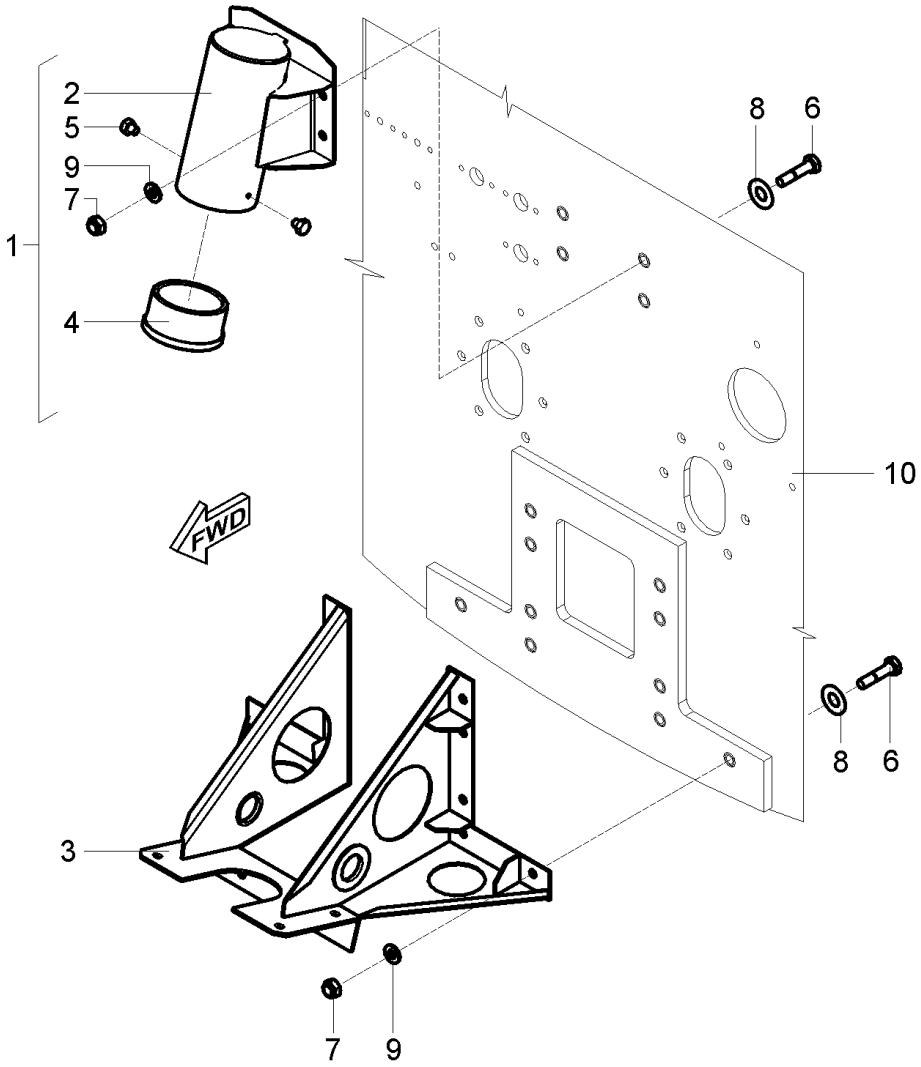
Nuts will be tightened after assembly of the landing strut.

(b) Assemble the upper casing, by sliding the bushing (4) into the holder (1), apply Loctite 243 on the bolts (5) threads and tighten the bolts (5).

(c) Install the lower casing (3) on the firewall, using bolts (6), washers (8; 9) and nuts (7).

(d) Install the nose landing gear leg (see 2.C.(2)).

(e) Tighten the nuts (7) fastening the upper and lower casings (2; 3).



1 – Upper casing
2 – Holder
3 – Lower casing
4 – Bushing
5 – Bolt M5 x 5
6 – Bolt M6 x 26
7 – Self-locking nut M6
8 – Washer ø6.4 x 18 x 1.6
9 – Washer ø6.4 x 12 x 1.6

For information:

10 – Firewall

Fig. 32-11 Nose Landing Gear Leg Casing Removal / Installation

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32-40 WHEELS AND BRAKES

1. DESCRIPTION

This chapter describes the wheels and brake system and their operation.

The main landing gear is equipped with an aluminium Beringer wheel discs (1, Fig. 32-12) with tubeless tires 15x6.00-6 (2). The wheel discs consist of split rim with two ball bearings. The main wheels are equipped with hydraulic brakes.

The nose landing gear is equipped with an aluminium Beringer wheel disc (3) with tubeless tire 13x5.00-6 (4). The wheel disc consists of split rim with two ball bearings.

The main gear wheels are equipped with Beringer hydraulic brakes which are controlled by the brake lever (10) located on the central console. The brake lever acts through the push rod and lever directly onto the master cylinder (7) located in the central console. The brake fluid reservoir (9) is also located In the central console. The assembled pressure limiter (8) is located under the left seat. Master cylinder is connected with the pressure limiter and both brake callipers (5) by hydraulic hoses (11).

Brake discs (6) are inserted into to the shaped wheel rim and locked by a wire. Callipers (5) are attached to the wheel axles.

The brakes have two positions using grooves at the slotted link: parking brake and maximum braking.

Parking brake operation:

– To apply parking braking, move brake lever backward to **PARK** position.

– To release parking braking, unlatch the brake lever and release fully forward.

Maximum braking operation:

– To apply the maximum braking, move the brake lever fully backward to **MAX** position.

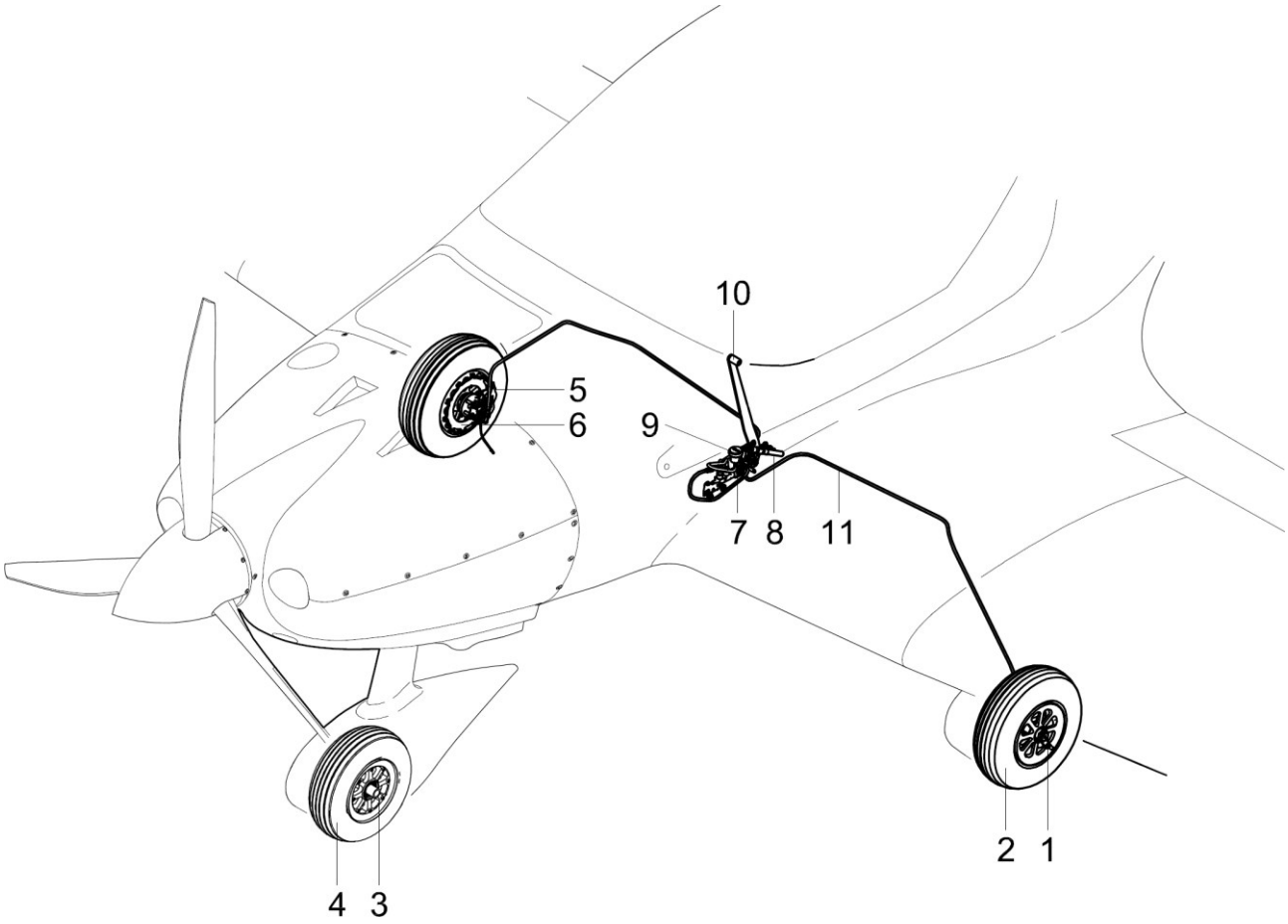
– To release maximum braking, unlatch the brake lever and release fully forward.

Scheme of the brake system is shown in Fig. 32-13.

Only brake fluid of DOT-4 (meets classification J1703c) should be used for the brake system (type for medium hard or hard operation). In general, the certified automobile brake fluid meets the requirements. Brake fluid refilling is necessary when the efficiency of the brake system becomes low due to a fluid leak. The brake system is fed from the brake fluid reservoir located under the pilot seat.

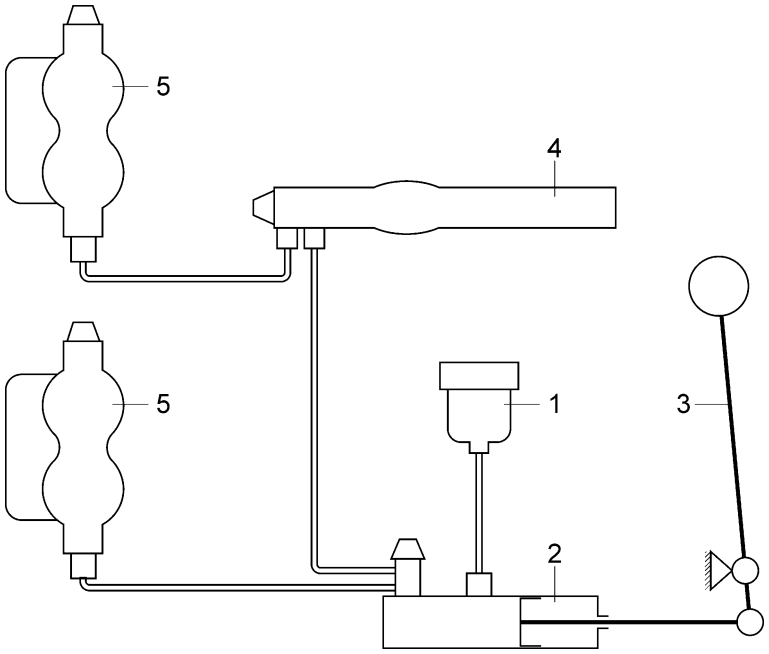
The brake fluid gets thick during aircraft operation and absorbs air humidity. This is the most important condition, which causes brake system failures. It is not possible to determine exactly when it occurs.

Information about the brake fluid used by the manufacturer is recorded on a placard at the firewall in the engine compartment.



1 – Main wheel disc
2 – Main wheel tire
3 – Nose wheel disc
4 – Nose wheel tire
5 – Brake calliper
6 – Brake disc
7 – Master cylinder
8 – Pressure limiter
9 – Brake fluid reservoir
10 – Brake lever
11 – Hose

Fig. 32-12 Wheels and Brakes



1 – Brake fluid reservoir
2 – Master cylinder
3 – Brake lever
4 – Pressure limiter
5 – Brake calliper

Fig. 32-13 Brake System Scheme

2. MAINTENANCE PRACTICES

All wheels (with tires fitted) must be balanced before the installation. If a new tire is installed, the wheel must be re-balanced (with the tire fitted) before the installation. Unbalanced wheels can cause vibration to the landing gear.

A. Main wheel

Type of maintenance: Line

Personnel qualification: Independent certifying staff qualified in accordance with Part-66 or higher.

Recommended tools, materials, persons and documentation:

ITEM	QUANTITY
Hex key 5	1 pc
Beringer jig	1 pc
Circlip pliers	1 pc
O ring	2 pc
Loctite 243	AR
Persons	1
Beringer documentation- Procedure to change brake pads on 2 piston calliper ref: EA-01	-

Tab. 32-10 Recommended tools, materials, persons and documentation

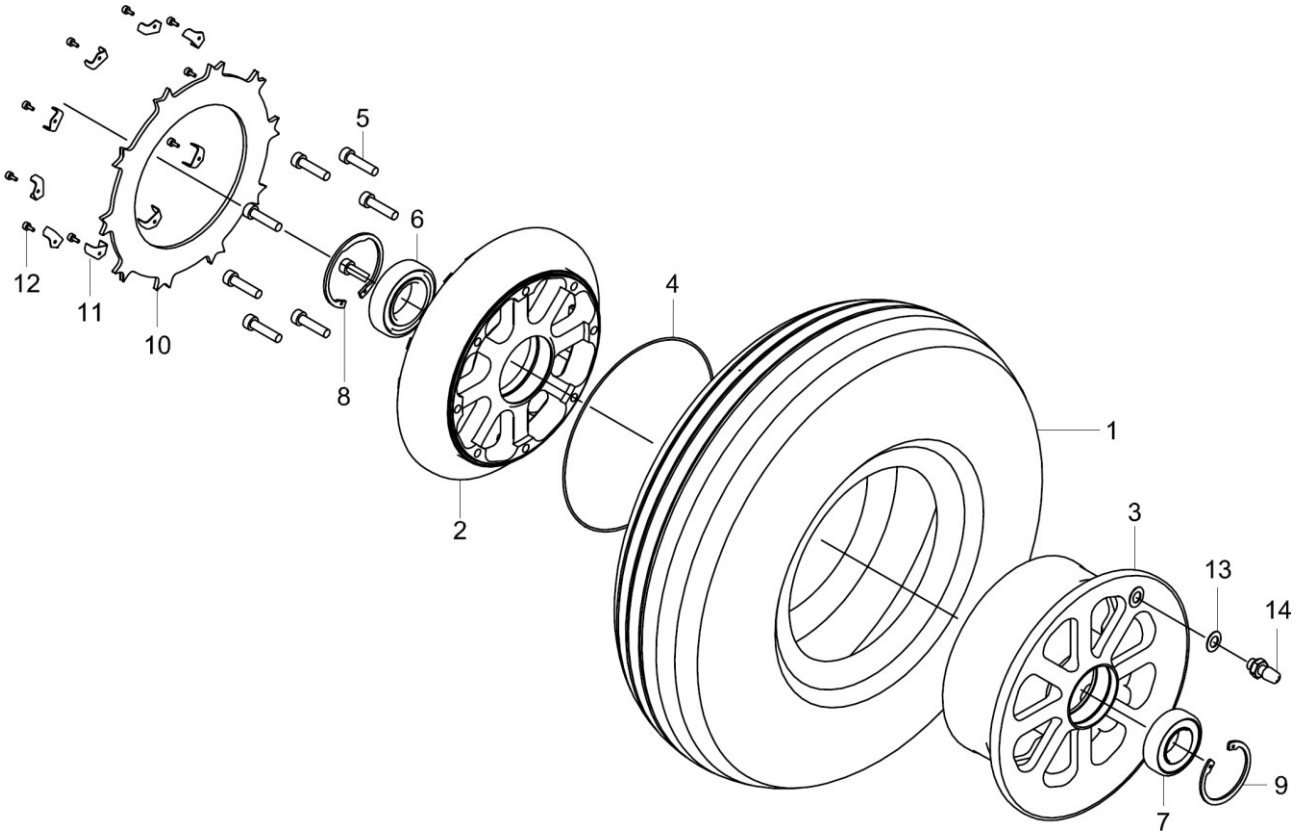
(1) Main wheel tire replacement:
- (a) Remove the main wheel (Chapter 32-10).
- (b) Deflate the tire to zero pressure.
- (c) Separate the tire (1, Fig. 32-14) from the discs (2; 3).
- (d) Unscrew the bolts (5) and disassemble discs (2; 3).
- (e) Remove the O ring (4).
- (f) Before assembly of the wheel, thoroughly clean the discs and tires on contact surfaces.
- (g) Press the tire (1) using the Beringer jig (Fig. 32-15).
- (h) Install the new O rings (4) and discs (2; 3.

CAUTION

A NEW O RING HAS TO BE INSTALLED AT EACH TIRE CHANGE.

(i) Apply Loctite 243 on the bolts (5) threads and tighten the bolts (5) at torque moment 10 Nm, in order acc. to Fig. 32-15; make sure that the assembled parts are sealed well.
(j) Inflate the tire to the appropriate pressure 250 kPa.
(k) After 24 hours check that the air leakage is not more than 10%.
(l) Inflate the tire to the appropriate pressure.

(2) Main wheel bearings replacement:
(a) Remove the main wheel (Chapter 32-10).
(b) Deflate the tire to zero pressure.
(c) Separate the tire (1, Fig. 32-14) from the discs (2; 3).
(d) Unscrew the bolts (5) and disassemble the discs (2; 3).
(e) Remove the O ring (4).
(f) Use Circlip pliers to remove the circlips (8; 9) and pull out the bearings (6; 7).
(g) Slide in the new bearings (6; 7) and secure with circlips (8; 9).
(h) Install the tire (see 2.A.(1)).



1 – Tire
2 – Inner disc
3 – Outer disc
4 – O ring
5 – Bolt (8 pcs)
6 – Bearing
7 – Bearing
8 – Circlip
9 – Circlip
10 – Brake disc
11 – Clip (10 pcs)
12 – Clip screw (10 pcs)
13 – O ring
14 – Valve

Fig. 32-14 Main Wheel

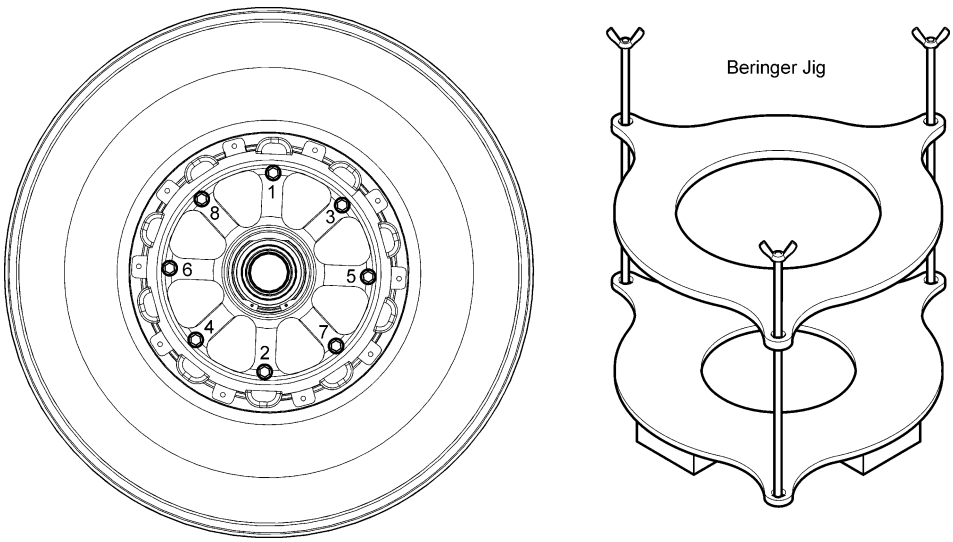


Fig. 32-15 Order of Tightening the Allen Bolts, Beringer Jig

B. Nose wheel

Type of maintenance: Line

Personnel qualification: Independent certifying staff qualified in accordance with Part-66 or higher.

Recommended tools, materials, persons and documentation:

ITEM	QUANTITY
Hex key 5	1 pc
Beringer jig	1 pc
Circlip pliers	1 pc
O ring	2 pc
Loctite 243	AR
Persons	1
Beringer documentation- Procedure to change brake pads on 2 piston calliper ref: EA-01	-

Tab. 32-11 Recommended tools, materials, persons and documentation

(1) Nose wheel tire replacement:

(a) Remove the nose wheel (Chapter 32-40).

(b) Deflate the tire to zero pressure.

(c) Separate the tire (1, Fig. 32-16) from the discs (2; 3).

(d) Unscrew the bolts (5) and disassemble the discs (2; 3).

(e) Remove the O ring (5).

(f) Before assembly of the wheel, thoroughly clean the discs and tires on the contact surfaces.

(g) Press the tire (1) using the Beringer jig (Fig. 32-15).

(h) Install the new O ring (5) and discs (2; 3).

CAUTION

A NEW O RINGS MUST BE INSTALLED AT EACH TIRE CHANGE.

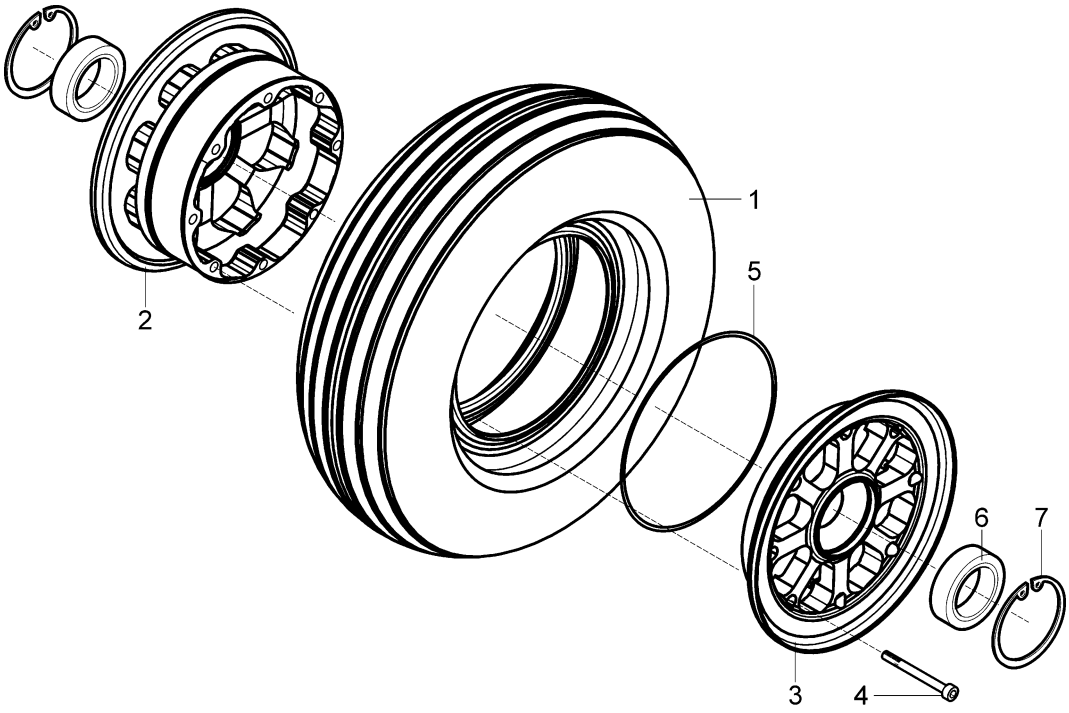
(i) Apply Loctite 243 on the bolts (4) threads and tighten the bolts (4) at torque moment 10 Nm, in order acc. to Fig. 32-15; make sure that the assembled parts are sealed well

(j) Inflate the tire to appropriate pressure 250 kPa.

(k) After 24 hours check that the air leakage is not more than 10%.

(l) Inflate the tire to the appropriate pressure.

(2) Nose wheel bearings replacement:
  (a) Remove the wheel (Chapter 32-40).
  (b) Deflate the tire to zero pressure.
  (c) Separate the tire (1, Fig. 32-16) from the discs (2; 3).
  (d) Unscrew the bolts (4) and disassemble the discs (2; 3).
  (e) Remove the O ring (5).
  (f) Use Circlip pliers to remove the circlips (7) and pull out the bearings (6).
  (g) Slide in the new bearings (6) and secure with circlips (7).
  (h) Install the tire (see 2.B.(1)).



1 – Tire
2 – Disc 1
3 – Disc 2
4 – Allen bolt M8 x 70 (8 pc)
5 – O ring
6 – Bearing ø25 x 47
7 – Circlip ø47

Fig. 32-16 Nose Wheel

C. Brake system

Type of maintenance: Line

Personnel qualification: Independent certifying staff qualified in accordance with Part-66 or higher.

Recommended tools, materials, persons and documentation:

ITEM	QUANTITY
Wrench 12	1 pc
Wrench 10	1 pc
Socket set 14	1 pc
Screwdriver 5	1 pc
Hex key 4	1 pc
Hex key 5	1 pc
Hex key 6	1 pc
Pliers	1 pc
Serrated locking washer ø6.4 mm	2 pc
Copper gasket ring ø10 x 15 x 1.5 mm	8 pc
Vaseline	AR
Sealing adhesive tape	AR
Persons	2
Beringer documentation - Assembly instructions for hose and banjo fittings	

Tab. 32-12 Recommended tools, materials, persons and documentation

(1) Brake fluid reservoir removal:

(a) Remove the brake fluid from the brake system (see 2.C.(11)).

(b) Remove the left laminated seat (Chapter 25-10).

(c) On the reservoir holder (38, Fig. 32-17), loosen and remove the bolt (39), remove the washer (37) and nut (33).

(d) Remove the hose clamp (35) and remove the brake fluid reservoir (1).

(2) Brake fluid reservoir installation:

(a) Connect the fluid reservoir (1, Fig. 32-17) with the hose (14) and secure with the hose clamp (35).

(b) Install and tighten the bolt (39) with the nut (33) into the central tunnel on the thread rod (5).

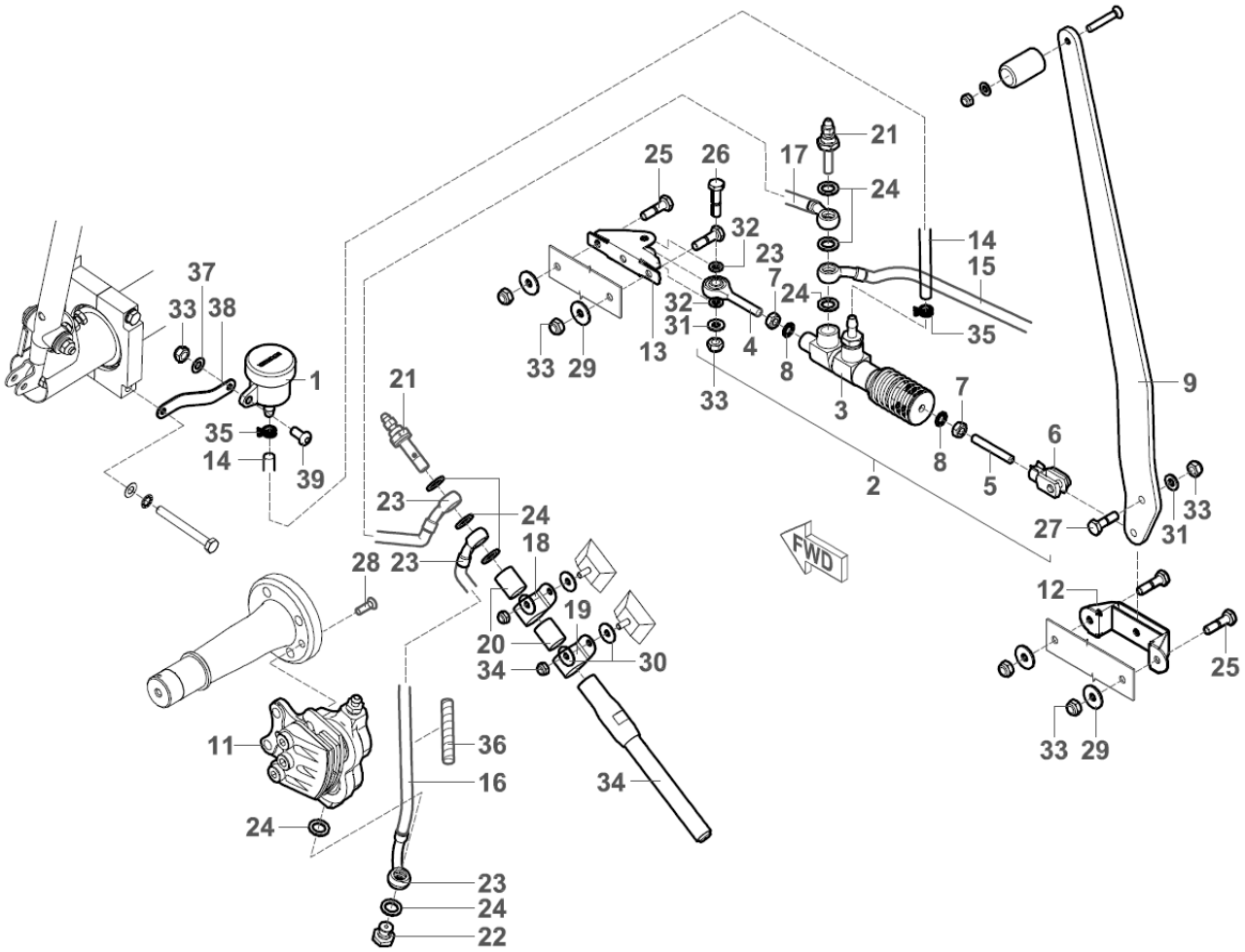
(c) Install the fluid reservoir (1) using the bolt (39) with the washer (37) and nut (33) on the reservoir holder (38).

(d) Fill the brake system with the brake fluid (see 2.C.(11)).

(e) Install the left laminated seat (Chapter 25-10).

(f) Carry out a test and check:

- If all bolt connections are tight.
- Tightness of the brake system.
- That no foreign objects remain in the aircraft.



1 – Brake fluid reservoir	14 – Hose	27 – Bolt M6x20
2 – Master cylinder assembly	15 – Brake hose R	28 – Allen bolt M6 x 16
3 – Master cylinder	16 – Brake hose L	29 – Washer ø6.4x18x1.6
4 – Swivel bearing	17 – Connecting brake hose	30 – Washer ø5.3 x 15 x 1
5 – Thread rod M6 x 20	18 – Holder ø75	31 – Washer ø6.4x12x1.6
6 – Fork with safety pin	19 – Holder ø70	32 – Washer ø6.4x10x1.6
7 – Nut M6	20 – Rubber	33 – Self-locking nut M6
8 – Serrated locking washer ø6.4	21 – Double banjo bolt M10	34 – Self-locking nut M5
9 – Brake lever	22 – Banjo bolt M10	35 – Hose clamp
10 – Pressure limiter	23 – Banjo fitting	36 – Spiral hose ø8
11 – Calliper	24 – Copper gasket ring ø10 x 15 x 1.5	37 – Washer ø6.4x12x0.5
12 – Bracket	25 – Bolt M6x22	38 – Reservoir holder
13 – Bracket	26 – Bolt M6x25	39 – Bolt M6 x 12

Fig. 32-17 Brake System Components Removal / Installation

(3) Master cylinder assembly with brake lever removal:
   (a) Remove the brake fluid from the brake system (see 2.C.(11)).
   (b) Remove the pedestal panel (Chapter 27-50).
   (c) Remove the left laminated seat (Chapter 25-10).
   (d) Remove the elevator push rod in the central tunnel (Chapter 27-30).
   (e) Remove the hose clamp (35, Fig. 32-17) and the hose (14).
   (f) Disconnect the brake hoses (15; 17) by removing the banjo bolt (21) and the gasket rings (24).
   (g) Disconnect the brake lever (9) from the fork (6), by removing the safety pin.
   (h) Remove the master cylinder assembly (2) with the bracket (13), by removing the nuts (33), washers (29) and bolts (25).
   (i) Remove the bracket (13), by removing the nut (33), washers (31; 32) and bolt (26).
   (j) Disassemble the master cylinder assembly (2):
      - Unscrew the thread rod (5) with the fork (6).
      - Unscrew the swivel bearing (4).
   (k) Remove the bracket (12) with the brake lever (9) by removing the nuts (33), washers (29) and bolts (25).
   (l) Remove the brake lever (9), by removing the nut (33), washer (31) and bolt (27).

(4) Master cylinder assembly with brake lever installation:
   (a) Connect the bracket (12, Fig. 32-17) with the brake lever (9), using bolt (27), washer (31) and nut (33); tighten the nut (33) just enough to allow the brake lever (3) to rotate freely.

CAUTION

DO NOT FORGET TO LUBRICATE THE ROTATING POINTS OF THE BRAKE LEVER.

   (b) If necessary, assemble the master cylinder assembly (2):
      - Screw the swivel bearing (4) with the washer (8) almost fully in and tighten the lock nut (7).
      - Screw the thread rod (5) with the fork (6), washer (8) and lock nut (7) in; do not tighten yet.
   (c) Connect the bracket (13) with the swivel bearing (4), using bolt (26), washers (31; 32) and nut (33).
   (d) Install the whole unit (13; 2) into the central tunnel using bolts (25), washers (29) and nuts (33).
   (e) Enclose the central console and adjust the length of the thread rod (5) so that the brake lever is fully unloaded (front position) and the master cylinder (2) is not pushed.
   (f) Remove the central console, secure the fork (6) with the safety pin and tighten the lock nut (7).

(g) Assemble the brake hoses (15; 17) with banjo fittings (23) (see 2.C.(10)).

(h) Connect the brake hoses (15; 15) with the master cylinder (3), using banjo bolt (21) and gasket rings (24).

CAUTION

A NEW GASKET RINGS MUST BE INSTALLED AT EACH MASTER CYLINDER ASSEMBLY.

(i) Connect the hose (14) with the master cylinder (3) and secure with hose clamp (35).

(j) Install the elevator push rod in the central tunnel (Chapter 27-30).

(k) Fill the brake system with the brake fluid (see 2.C.(11)).

(l) Install the left laminated seat (Chapter 25-10).

(m) Install the pedestal panel (Chapter 27-50).

(n) Carry out a test and check:

- If all bolt connections are tight.
- Tightness of the brake system.
- That no foreign objects remain in the aircraft.

(5) Pressure limiter removal:

(a) Remove the brake fluid from the brake system (see 2.C.(11)).

(b) Remove the pedestal panel (Chapter 27-50).

(c) Remove the left laminated seat (Chapter 25-10).

(d) Disconnect the hoses (16; 17, Fig. 32-17) by removing the banjo bolt (21) and gasket rings (24).

(e) Remove the pressure limiter (10) by removing the nuts (34) and washers (30).

(f) Remove the holders (18; 19) and rubbers (20).

(6) Pressure limiter installation:

(a) Install the rubbers (20, Fig. 32-17) and the holders (18; 19) on the pressure limiter (10).

(b) Install the pressure limiter (10) into the central tunnel from the left side using washers (30) and nuts (34).

(c) Pass the connecting brake hose (17) through the holes in the central tunnel.

(d) Assemble the hoses (16; 17) with banjo fittings (23) (see 2.C.(10)).

(e) Connect the hoses (16; 17) with the pressure limiter (10) using banjo bolt (21) and gasket rings (24).

(f) Fill the brake system with the brake fluid (see 2.C.(11)).

(g) Install the left laminated seat (Chapter 25-10).

(h) Install the pedestal panel (Chapter 27-50).

(i) Carry out a test and check:

- If all bolt connections are tight.
- Tightness of the brake system.
- That no foreign objects remain in the aircraft.

(7) Brake calliper removal:

(a) Jack the aircraft and secure the tail (Chapter 07-10).

(b) Remove the main wheel (Chapter 32-10).

(c) On the main landing strut, remove the sealing adhesive tape and the spiral hose (36, Fig. 32-17).

(d) Disconnect the brake hose (16/15) by removing the hose fitting (23), banjo bolt (22) and gasket rings (24).

(e) Remove the wheel axle with the brake calliper (11) (Chapter 32-10).

(f) Unscrew the bolt (28) and remove the brake calliper (11) from the wheel axle.

(8) Brake calliper installation:

(a) Install the brake calliper (11, Fig. 32-17) with the wheel axle on the main landing gear leg (Chapter 32-10).

CAUTION

VENT VALVE MUST DIRECT UP.

(b) Apply Loctite 243 on the bolt (28) thread and fix the brake calliper (11) to the wheel axle.

(c) Assemble the hoses (16/15) with banjo fittings (23) (see 2.C.(10)).

(d) Connect the brake hoses (16/15) with the brake callipers (11) using banjo bolts (22) and gasket rings (24).

(e) The brake hoses (16/15) pass through the hole in the fuselage near the landing gear leg.

(f) Connect the brake hoses to the wire using the spiral hose (36) and secure it with sealing adhesive tape to the middle of the landing leg.

(g) Install the main wheel (Chapter 32-10).

(h) Carry out a test and check:

- If all bolt connections are tight.
- Tightness of the brake system.
- That no foreign objects remain in the aircraft.

(9) Brake hoses removal:

(a) Cut the hose fittings at the end of hoses and pull them out.

(10) Assembly of the banjo fittings on hoses:

NOTE

Install a new banjo fittings when specified during the installation of the brake system.

(a) Before each installation use always a new main fitting body, olive, and socket (Fig. 32-18).

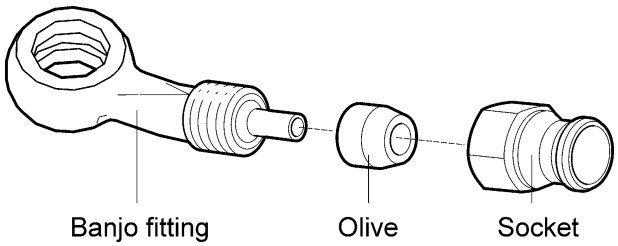


Fig. 32-18 Nose Banjo Fittings

(b) Cut the hose to a required length (hole must be circular profile). Push the socket onto the hose. Rub down the stainless steel from the PTFE tube (5 mm min. length) (Fig. 32-19).

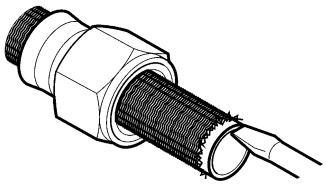


Fig. 32-19 Rub-down of Stainless Steel from the PTFE Tube

(c) Push the olive onto the end of PTFE inner tube and under stainless steel.

CAUTION

CAUTION: MAKE SURE THAT ALL THE STAINLESS STEEL FIBRES ARE OUTSIDE THE OLIVE.

(d) Push the olive against a flat solid surface, make sure that the PTFE tube is fully settled on the olive (Fig. 32-20).

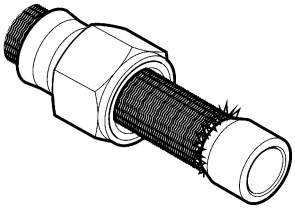


Fig. 32-20 Settled PTFE Tube on the Olive

(e) Insert the main fitting body, lubricate the thread, screw the socket in and tighten using a Vice (Fig. 32-21).

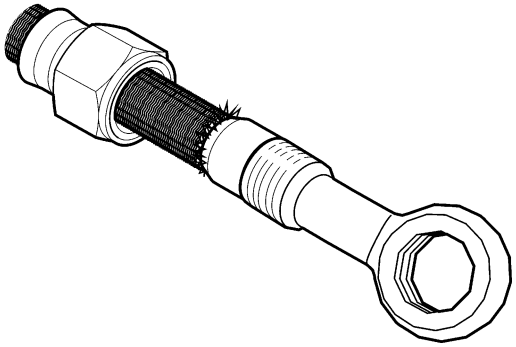


Fig. 32-21 Assembled Main Fitting Body on the Hose

(11) Brake system bleeding:

Type of maintenance: Line

Personnel qualification: Independent certifying staff qualified in accordance with Part-66 or higher.

Recommended tools, materials, persons and documentation:

ITEM	QUANTITY
Beringer jig	1 pc
Rags	2 pcs
Draining hose ø 6x300 mm	3 pcs
Container	2 pcs
Brake fluid	AR
Loctite 243	AR
Persons	2
Beringer documentation - Brake system bleeding procedure	-

Tab. 32-13 Recommended tools, materials, persons and documentation

(a) Remove the main landing gear fairings (Chapter 32-10).

(b) Remove the left laminated seat (Chapter 25-10).

(c) On both callipers, connect the draining hose to the vent valve and put the free end into the container. Release both vent valves.

(d) Unscrew the cap on the fluid tank and remove the membrane. Screw the Beringer jig on the fluid tank (Fig. 32-22).

Fig. 32-22 Beringer Jig

(e) Pump on the brake lever until all brake fluid has been drained into the containers.

(f) Pour the new brake fluid into the smaller tank on the Beringer jig.

(g) Pump on the jig until a clear brake fluid begins to flow out from the valves without any air bubbles.

(h) Tighten both vent valves on the brake callipers.

(i) Decompress the pressure vessel on the Beringer jig.

(j) Put a rag under the fluid tank and disconnect the jig from the fluid tank.

(k) Connect another draining hose to the main brake vent valve and put the free end into the container. Push the brake lever fully backward and hold it, release the vent valve while air bubbles blow out and immediately tighten it. Pump the brake lever a few times and release and tighten the vent valve again until a clear brake fluid flows out without any air bubbles.

CAUTION

CAUTION: CHECK THE LEVEL OF THE BRAKE FLUID IN THE FLUID TANK.

(l) Remove the draining hose.

(m) Repeat the same procedure at the venting pressure limiter and both callipers.

(n) Clean any spillage the of brake fluid and replenish the brake fluid to the max level in the fluid tank, install the membrane and close it with the cap.

(o) Check and tighten all the vent valves (4 pcs).

(p) Install the left laminated seat (Chapter 25-10).

(q) Install the main landing gear fairings (Chapter 32-10).

(12) Brake pads replacement:

The brake pads must be replaced when the thickness of the braking layer is under 2 mm. The brake pads must be replaced on both brake callipers.

Type of maintenance: Line

Personnel qualification: Independent certifying staff qualified in accordance with Part-66 or higher.

Recommended tools, materials, persons and documentation:

ITEM	QUANTITY
Rag	1 pc
Hex key 6	1 pc
New brake pads	2 pc
Loctite 243	AR
Persons	1
Beringer documentation- Change of brake pads	-

Tab. 32-14 Recommended tools, materials, persons and documentation

(a) Jack the aircraft and secure the tail (Chapter 07-10).

(b) Remove the main wheel (Chapter 32-10).

(c) Unscrew the bolts (1; 2, Fig. 32-23), remove the brake pad support (3) and the brake pads (4).

(d) Clean the area around the pistons with a dry rag.

(e) Push the pistons backward with one finger (no force is needed). If you cannot push the pistons backward with one finger, the calliper must be checked and rebuilt.

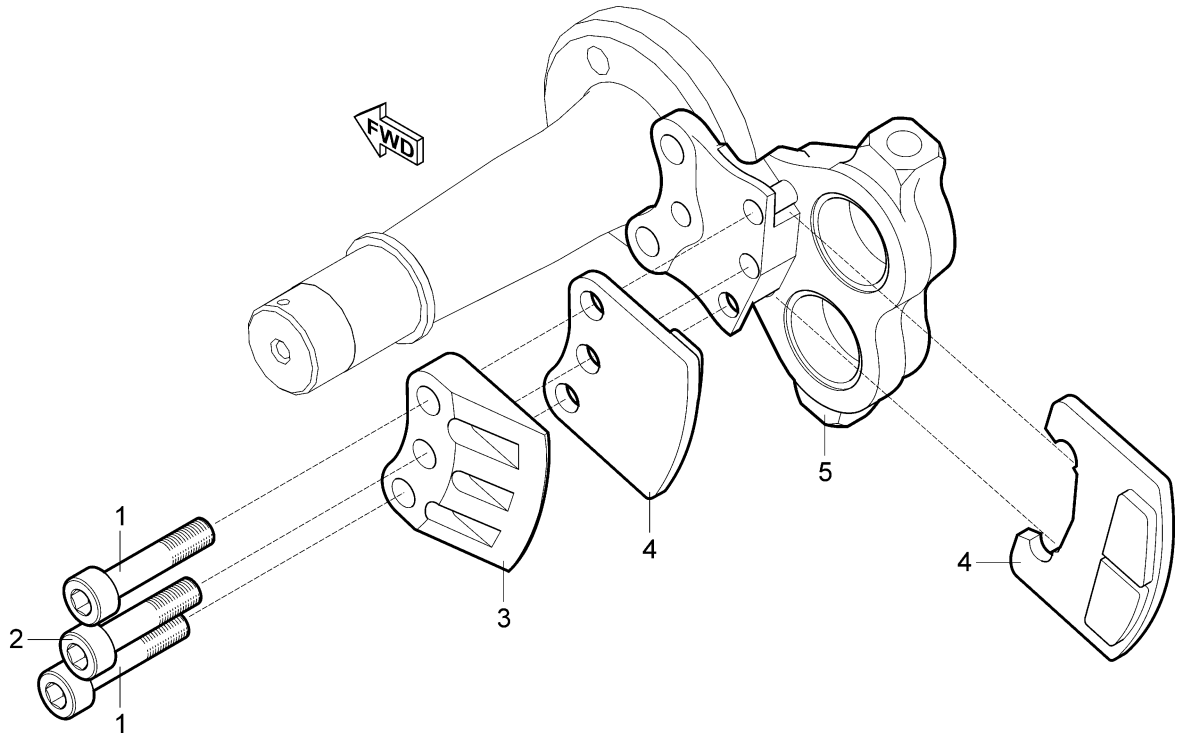
(f) Install the new brake pads (4) and brake pad support (3).

(g) Apply Loctite 243 on the bolts (1; 2) threads and tighten the bolts (1; 2) at torque moment 25 Nm.

(h) Install the main wheel (Chapter 32-10).

(i) Carry out a test and check:

- Torque moments.
- Brake system efficiency.



1 – Allen bolt M8 x 41
2 – Allen bolt M8 x 30
3 – Brake pad support
4 – Brake pad
5 – Brake calliper body

Fig. 32-23 Brake Pads

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32-50 STEERING

1. DESCRIPTION

The aircraft is equipped with a steerable nose gear. The steering is controlled by the rudder pedals.

The rudder pedals are connected to the nose landing gear leg by means of push-pull rods fitted with bearing eyes. The hole in the firewall for push-pull rod is protected with a flange with fireproof sleeve.

2. MAINTENANCE PRACTICES

A. Steering push rods

Type of maintenance: Heavy

Personnel qualification: Independent certifying staff qualified in accordance with Part-66 or higher.

Recommended tools, materials, persons and documentation:

ITEM	QUANTITY
Wrench 10	2 pc
Hex key 5	1 pc
Screwdriver	1 pc
Serrated locking washer ø6.4	4 pc
Persons	1

Tab. 32-15 Recommended tools, materials, persons and documentation

(1) Steering push rods removal:

(a) Jack the aircraft and secure the tail (Chapter 07-10).

(b) Remove the the engine cowlings (Chapter 71-10).

(c) In the engine compartment, disconnect the push rod from the nose strut lever by unscrewing the nut (12, Fig. 32-24), remove the washers (8, 9) and the bolt (6).

(d) At the push rod, loosen the hose clamp (14) and the sleeve (3).

(e) If necessary, remove the sleeve by unscrewing the bolts (7).

(f) In the cockpit, disconnect the push rod from the foot control by removing the nut (12) washer (9) and bolt (5).

(g) Remove the second push rod.

(2) Steering push rods installation:

(a) Jack the aircraft and secure the tail (Chapter 07-10).

(b) If necessary, install the sleeve (3, Fig. 27-9) using bolts (7) and sleeve flange (4) on the firewall.

(c) Slide the push rod through the firewall and the sleeve. Then slide the hose clamp (14) on the sleeve (3).

NOTE

Pay attention to correct connecting of the push rods. The longer push rod (1) is on the right side and the shorter push rod (2) is on the left side.

(d) Connect the push rod with the torsion tube using bolt (5), washer (9) and nut (12).

(e) Connect the push rod with the nose strut lever using bolt (6), washers (8; 9) and nut (12).
If a new push rod(s) is used (1; 2):

- At the engine side of the push rod end, install the washer (10).
- Set the pedals to the middle position.
- Align the axis of the pedals at a distance of 230 mm from the firewall and fix them.
- Fix the nose landing gear in the neutral position.
- Adjust the length of the push rods (1; 2) so it is possible to connect the nose strut with the foot control.

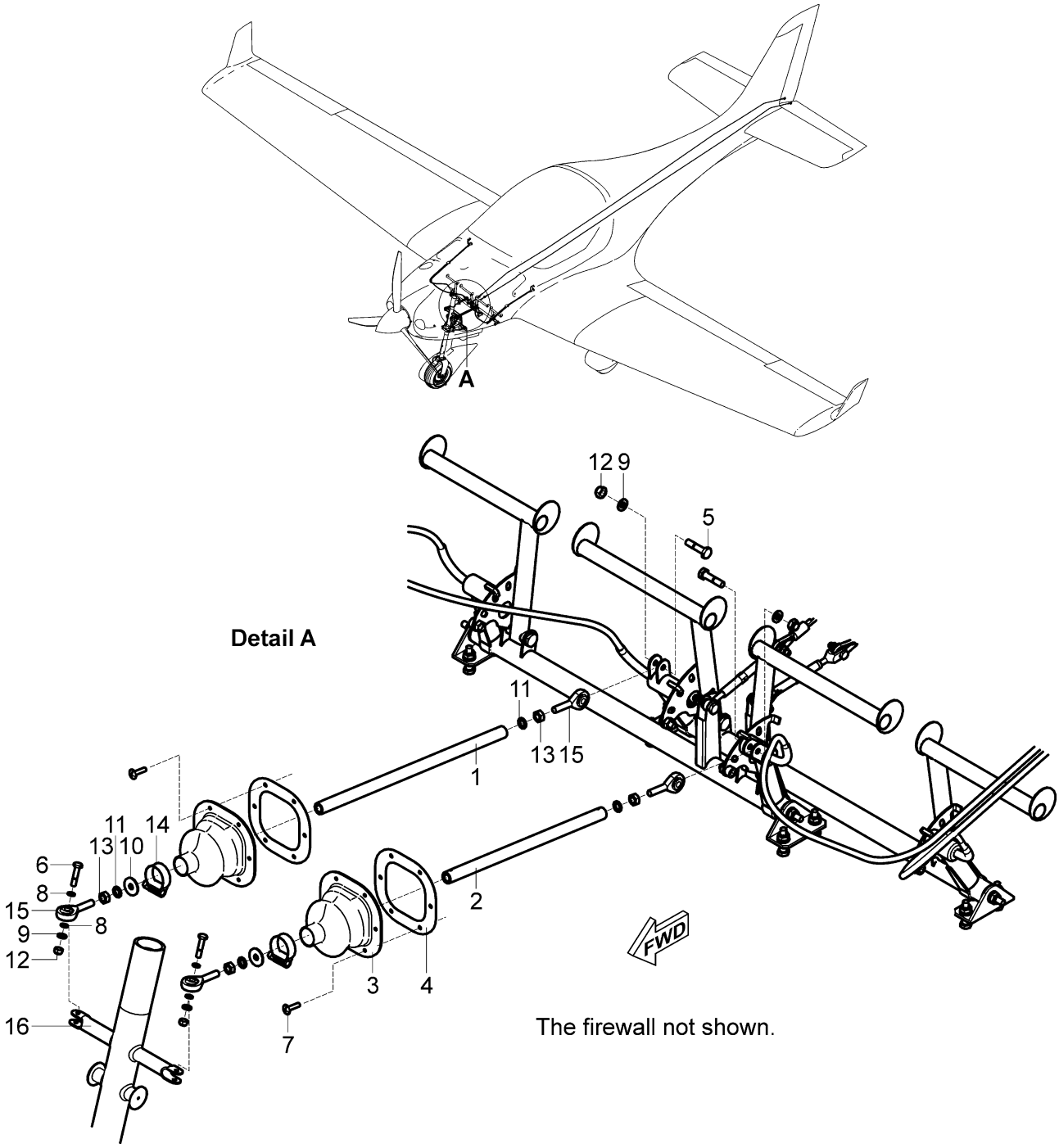
(f) Tighten the hose clamps (14) so that a full steering is available.

(g) Install the engine cowlings (Chapter 07-10).

(h) Carry out a test and check:

- If all bolt connections are tight.
- Alignment of the rudder with the nose gear.
- Plays.
- Free movement of the rudder control system (nose wheel must be off the ground).

(i) That no foreign objects remain in the aircraft.



1 –	Push rod	9 -	Washer ø6.4 x 12 x 1.6
2 –	Push rod	10 -	Washer ø6.4 x 18 x 1.6
3 –	Sleeve	11 -	Serrated locking washer ø6.4
4 –	Sleeve flange	12 -	Self-locking nut M6
5 –	Bolt M6 x 25	13 -	Nut M6
6 –	Bolt M6 x 28	14 -	Hose clamp ø16-27
7 –	Bolt M4 x 16	15 -	Swivel bearing
8 -	Washer ø6.4 x 10 x 1	16 -	Nose landing gear leg

Fig. 32-24 Steering Push Rods Removal / Installation

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33 LIGHTS

CONTENTS

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33-00 GENERAL

1. INTRODUCTION

This chapter describes the system and maintenance practices about the lighting on the airplane.

Wiring diagram of the airplane lighting is described in the Airplane Wiring Manual (Doc. No. AS-AWM-01-000).

2. TROUBLESHOOTING

TROUBLE	POSSIBLE CAUSE	REMEDY
Both position lights do not operate.	Circuit-breaker not set or defective.	Set/replace the circuit-breaker.
	Defective position light switch.	Replace the switch.
	Defective wiring	Carry out a continuity test of the wiring. Repair/replace defective wiring. Refer to Airplane Wiring Manual (Doc. No. AS-AWM-01-00)
One position light does not operate.	Defective wiring.	Carry out a continuity test of the wiring. Repair/replace defective wiring. Refer to Airplane Wiring Manual (Doc. No. AS-AWM-01-00).
Landing light not operate.	Defective light.	Replace the light.
	Circuit-breaker not set or defective.	Set/replace the circuit-breaker.
	Defective landing light switch.	Replace the switch.
	Defective wiring.	Carry out a continuity test of the wiring. Repair/replace defective wiring. Refer to Airplane Wiring Manual (Doc. No. AS-AWM-01-00).
	Loose connector next to the light.	Connect the connector correctly.
Decrease of light transmission (milky appearance)	Degradation of light cover surface.	Polish with a good automotive cleaner wax and/or a liquid polishing compound, apply coat of an automotive polish and polish with electric buffing machine.

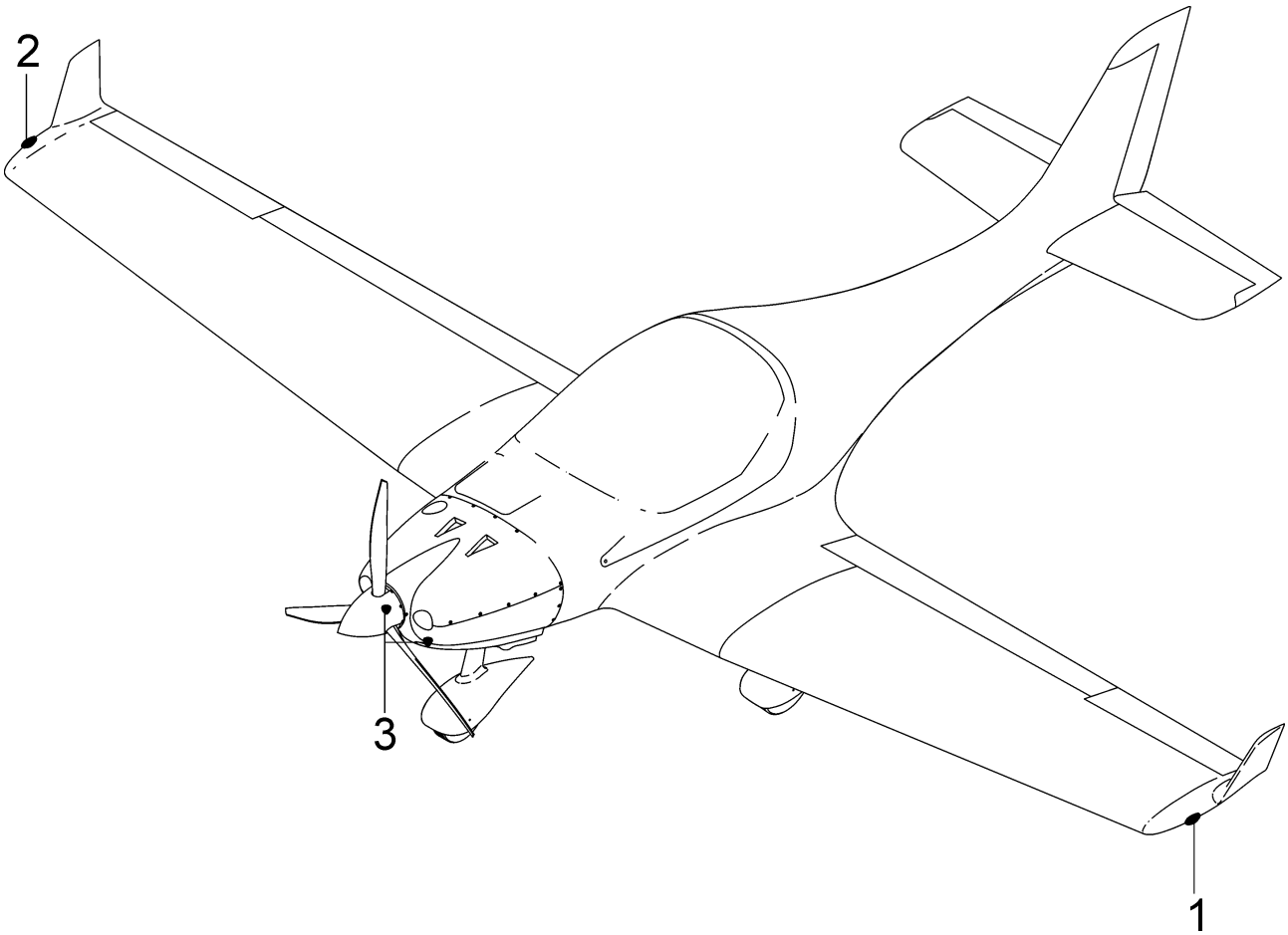
33-40 EXTERIOR LIGHTING

1. DESCRIPTION

This chapter contains information on servicing the anti-collision / position and landing lights. The anti-collision / position lights (1; 2, Fig. 33-1) are mounted to the outboard surface of each wing tip. The light assembly includes a LED strobe light with forward (red-left, green-right) and white position LED lights.

The landing lights (3) are mounted to the bottom engine cowl.

Landing lights are activated by switch labelled as **LAND** and they are connected through a circuit breaker to the master switch. Anticollision / position lights are activated by switch labelled as **ACL/NAV** and they are connected through a circuit breaker to the master switch.



1 – Left anti-collision / position light
2 – Right anti-collision / position light
3 – Landing light

Fig. 33-1 Exterior Lighting

2. MAINTENANCE PRACTICES

A. Anti-collision / position lights

Type of maintenance: Line

Personnel qualification: Independent certifying staff qualified in accordance with Part-66 or higher.

Recommended tools, materials, persons and documentation:

ITEM	QUANTITY
Phillips screwdriver	1 pc
Knife	1 pc
Soldering gun	1 pc
Cable tie 2.6	1 pc
Shrink tube ø3.2 x 1.6	AR
Persons	1

Tab. 33-1 Recommended tools, materials, persons and documentation

WARNING

ENGINE IGNITION MUST BE SWITCHED OFF. DISCONNECT NEGATIVE TERMINAL OF AIRPLANE BATTERY.

(1) Anti-collision / position light removal:
- (a) Remove wing (Chapter 57-10).
- (b) On wing root remove cable tie and push wires into the wing.
- (c) On wing tip unscrew the screw (3, Fig. 33-2).
- (d) Pull out light (1), remove the spiral hose (5), remove shrink tubes and unsolder the el. wires (4).
- (e) Remove the light (1) and gasket (2).

(2) Anti-collision / position light installation:
- (a) Pass the wires (4, Fig. 33-2) through the appropriate hole in the gasket (2).
- (b) Put on the wires shrink tube, using soldering gun connect wires; pull the shrink tube over join.
- (c) Set the position light (1) with the gasket (2) to the wing tip (5) and fasten it with screw (3).
- (d) Install wing (Chapter 57-10).
- (e) Carry out an operational test.

(3) Anti-collision / position light polishing:
- (a) Polish the lights after installation.

NOTE

Under no circumstances should any petroleum based product be used to clean the lights.