



Aéroport International Tarbes–Ossun–Lourdes  
BP 930 – F65009 TARBES CEDEX  
FRANCE

# SHOCK ABSORBER

Part Nos. TB20 41007000,  
TB20 41007004, TB20 41013004

## COMPONENT MAINTENANCE MANUAL WITH ILLUSTRATED PARTS LIST

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**SOCATA  
COMPONENT MAINTENANCE MANUAL  
SHOCK ABSORBER  
PART NUMBERS TB20 41007000, TB20 41007004, TB20 41013004**

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**DESCRIPTION AND OPERATION**

**1. GENERAL**

The shock absorber is of the oleo–pneumatic type. It is attached to the landing gear leg at its upper portion and to the rocker beam at its lower portion. It absorbs the shocks transmitted by the wheel to the rocker beam during landings and taxiing.

**2. DESCRIPTION**

The shock absorber consists of :

- a lower body,
- a sliding body,
- a diaphragm,
- a jet,
- a valve,
- an inflating valve.

**3. CHARACTERISTICS**

- Fluid used : AIR 3520B grade H515 (MIL–H–5606G)
- Gas used : Nitrogen or air
- Shock absorber travel : 2.75 in (70 mm)

TB20 41007000 and 004 :

- Inflating pressure : 623.7 [+ 14.5 ; + 0] psi (43 [+ 1 ; + 0] bar)

TB20 41013004 :

- Inflating pressure : 665.7 [+ 14.5 ; + 0] psi (45,9 [+ 1 ; + 0] bar)
- Weight ± 3% : 3.9 lb (1,750 kg)

**4. OPERATION**

**A. Compression of the shock absorber**

When the sliding body starts moving downward, the hydraulic fluid, throttled by the jet and the valve, is displaced from the lower chamber into the upper chamber, thus compressing the nitrogen in the upper chamber.

The sliding body displacement stops when the load applied by the nitrogen pressure on the upper surface of the sliding body equals the load applied on the shock absorber.

**B. Expansion of the shock absorber**

When the load applied on the shock absorber diminishes, the shock absorber expands due to the energy stored by the nitrogen during the compression. The hydraulic fluid is therefore throttled through the jet, thus decelerating the expansion of the shock absorber.

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**TESTING AND TROUBLESHOOTING**

**1. TESTS**

**A. Tools and consumable materials**

- Nitrogen or dry compressed air cylinder with pressure gage
- Filling, inflating and bleeding device
- Hydraulic fluid AIR 3520B grade H515 (MIL-H-5606G)
- Graduated test tube
- Hose
- Drip pan
- Bench vise with protective jaws

**B. Drainage of the shock absorber**

- 1) Unscrew the valve cap.

**WARNING : PRIOR TO ANY MAINTENANCE OPERATIONS, MAKE SURE THE SHOCK ABSORBER IS DEFLATED (NIL PRESSURE).**

- 2) Deflate the shock absorber by pushing the valve mechanism.
- 3) Vertically position the yoke of the sliding body into a bench vise with protection jaws. Tighten moderately.
- 4) Position a drip pan under the inflating valve.
- 5) Remove and discard the valve mechanism.
- 6) By pushing slowly on the lower body assembly, compress the shock absorber downward to remove as much hydraulic fluid as possible.
- 7) Remove the shock absorber from the vise and discard the hydraulic fluid.

**C. Replenishing of the shock absorber (Figure 3)**

- 1) Position the shock absorber vertically (inflating valve upwards) into a bench vise with protective jaws. Tighten moderately.
- 2) Compress and hold the sliding body.
- 3) Fill a test tube with  $10.6 [\pm 0.03] \text{ in}^3$  ( $174 [\pm 0,5] \text{ cm}^3$ ) of hydraulic fluid and transfer the fluid through the valve with a hose.
- 4) Slowly extend the sliding body to transfer all the hydraulic fluid contained in the test tube.
- 5) Install a new valve mechanism (3-120).
- 6) Inflate the shock absorber – refer to Paragraph D.

**D. Inflation of the shock absorber (Figure 1)**

- 1) Thoroughly clean inflating valve (12).
- 2) If necessary, remove valve cap (11).
- 3) Screw plunger valve (7) fitted with union (9) and valve end (8), the plunger being in unscrewed position, on inflating valve (12).

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- 4) Connect inflating hose (6) to union (9) and to a nitrogen cylinder or dry compressed air (1) equipped with a pressure reducer (3) and a pressure gage (2).
- 5) Close bleed valve (10) and isolating valve (4).
- 6) Screw the plunger of plunger valve (7).
- 7) Unscrew the adjustment screw of pressure reducer (3).

**WARNING : EXERCISE CARE WHEN OPENING THE NITROGEN OR DRY COMPRESSED AIR CYLINDER.**

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- 8) Open nitrogen cylinder (1), set pressure to 623.7 [+ 14.5 ; + 0] psi (43 [+ 1 ; + 0] bar), as indicated on pressure gage (2) of the pressure reducer.

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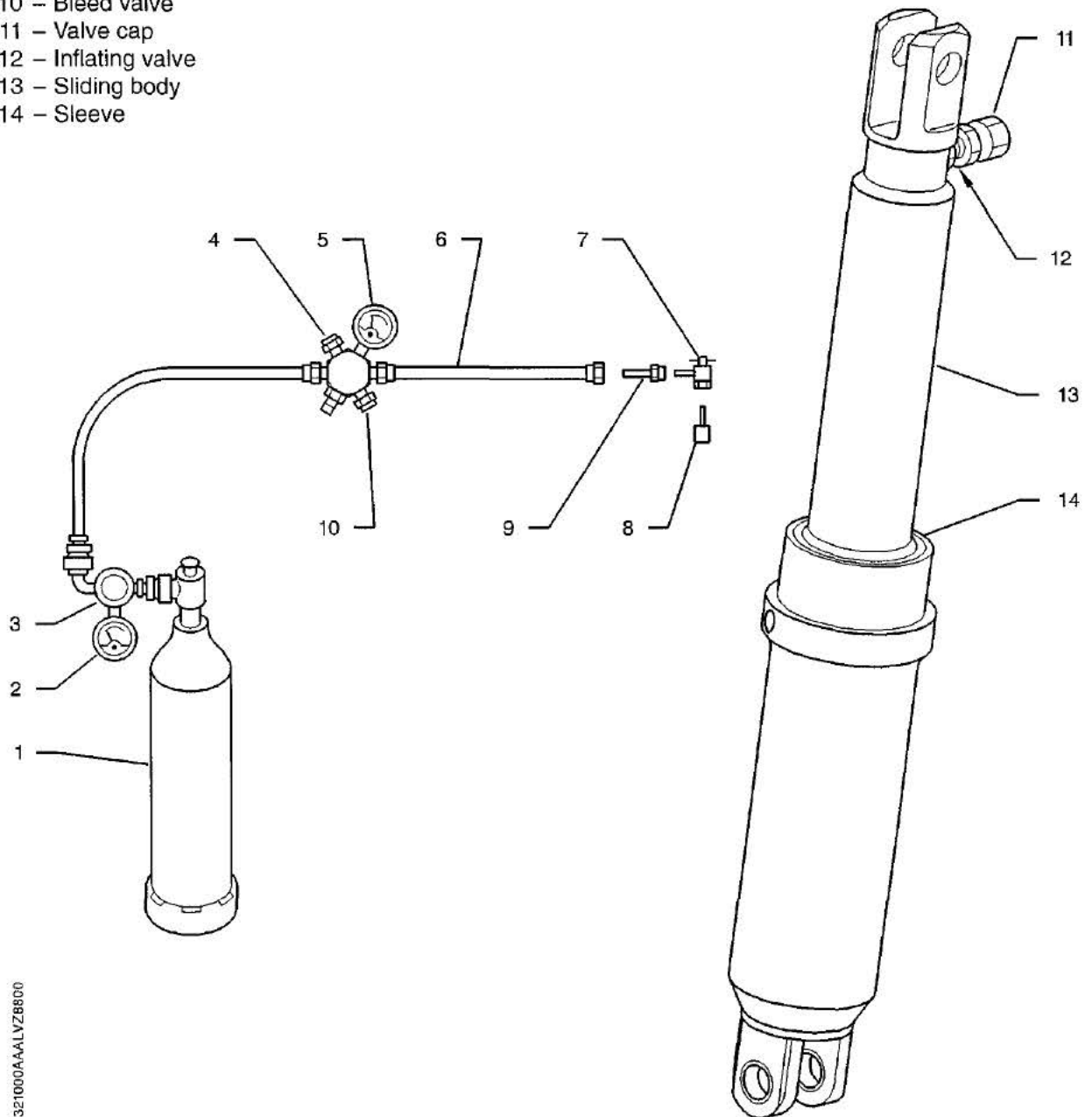
- 8) Open nitrogen cylinder (1), set pressure to 665.7 [+ 14.5 ; + 0] psi (45,9 [+ 1 ; + 0] bar), as indicated on pressure gage (2) of the pressure reducer.

All

- 9) Gradually open the isolating valve to avoid damaging the shock absorber during inflation.
- 10) Once the shock absorber has been inflated to working pressure, close isolating valve (4), allow few minutes to stabilize temperature and read pressure on pressure gage (5).
- 11) Allow the setup to stand as connected for approximately ten minutes.
- 12) Inspect sleeve (14) and sliding body (13) for oozing and check that the pressure indicated on the pressure gage has not dropped.
- 13) If the pressure has dropped, inspect for leaks and repair.
- 14) Close nitrogen cylinder (1).
- 15) Loosen the valve mechanism by unscrewing the plunger of plunger valve (7).
- 16) Open bleed valve (10) to drop the pressure inside the hose.
- 17) Unscrew adjustment screw of pressure reducer (3).
- 18) Disconnect the shock absorber from the system by disconnecting valve end (8).
- 19) Inspect the mechanism of inflating valve (12) for tightness.
- 20) Screw valve cap (11).

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- 1 – Nitrogen cylinder
- 2 – Pressure gage
- 3 – Pressure reducer
- 4 – Isolating valve
- 5 – Pressure gage
- 6 – Inflating hose
- 7 – Plunger valve
- 8 – Valve end
- 9 – Union
- 10 – Bleed valve
- 11 – Valve cap
- 12 – Inflating valve
- 13 – Sliding body
- 14 – Sleeve



M321000AAALVZ8800

Inflation of the shock absorber  
Figure 1

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**2. TESTING OF THE SHOCK ABSORBER (Tables 1 and 1A)**

**A. Tools and consumable materials**

- TESTWELL – WOLPERT machine

**B. Procedure**

**NOTE : This test must be carried out at an ambient temperature of  $68 \pm 9^{\circ}\text{F}$  ( $20 \pm 5^{\circ}\text{C}$ ).**

- 1) Install the shock absorber on TESTWELL – WOLPERT machine.
- 2) Slowly compress and expand the shock absorber (at approximately 0.4 in / minute (10 mm / minute)) and check the shock absorber isotherm.

**NOTE : Make sure compression and expansion encompass the entire travel of the shock absorber.**

- 3) Make sure the loads are within the tolerances.
- 4) If necessary, re-adjust the inflating pressure or refer to the troubleshooting table.
- 5) Inspect the sliding body for leaks or oozing.
- 6) Perform a tightness test
  - a) Compress the shock absorber until it mechanically abuts.
  - b) Hold the shock absorber in this position for at least 30 seconds.
  - c) Ensure there are no leaks.

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Travel (mm)	Theoretical value (daN)	Value		Read value (daN)	
		min. (- 2%)	max. (+ 8%)		
0	420.4	412.0	454.0		
10	481.5	471.9	520.0		
20	583.3	571.7	630.0		
30	703.7	689.6	760.0		
40	898.2	880.2	970.0		
50	1300.9	1274.9	1405.0		
60	2148.2	2105.2	2320.0		
65	2898.2	2840.2	3130.0		
70	4500.0	4410.0	4860.0		

Shock absorbers P/Nos. TB20 41007000 and 004 isotherm  
Table 1



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Travel (mm)	Theoretical value (daN)	Value		Read value (daN)	
		min. (- 2%)	max. (+ 8%)		
0	445.2	436.3	480.8		
10	508.8	498.6	549.5		
20	614.8	602.5	664.0		
30	742.0	727.2	801.4		
40	954.0	934.9	1030.3		
50	1378.0	1350.4	1488.2		
60	2380.0	2332.4	2570.4		
65	3150.0	3087.0	3402.0		
70	4770.0	4674.6	5151.6		

Shock absorber P/N TB20 41013004 isotherm  
Table 1A

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**3. TROUBLESHOOTING (Figure 3)**

ANOMALY	PROBABLE CAUSE	CORRECTIVE ACTION
Hydraulic fluid leak at sliding body / sleeve assy.	O-ring(s) (3-040) damaged.	Replace O-ring(s) (3-040).
Hydraulic fluid leak at sleeve assy / lower body.	O-ring (3-070) damaged.	Replace O-ring (3-070).
Pressure drop.	Leak at inflating valve / sliding body.	Replace seal (3-140).
	Valve mechanism (3-120) damaged.	Replace valve mechanism (3-120).

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**DISASSEMBLY**

**1. DISASSEMBLY OF THE SHOCK ABSORBER (Figures 2, 3 and 4)**

**WARNING : DEFLATE AND DRAIN THE SHOCK ABSORBER PRIOR TO DISASSEMBLY.**

**CAUTION : SEALS MUST BE REMOVED WITH A NYLON SPATULA TO AVOID DAMAGING THEIR GROOVES.**

**A. Tools and consumable materials**

- Nylon spatula
- Bench vise with protective jaws
- Spanner 1.850 in (47 mm)
- Hot air generator Z00.N6046267220

**B. Removal of sliding body assembly**

- 1) Remove and discard lead plug (2-030).
- 2) Clear and discard retaining ring (2-040) by rotating sleeve (3-060) counter-clockwise.
- 3) Clear the sliding body assembly by pulling it upwards.

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- 4) Remove bolt (4-030) and ring (4-040). Discard ring (4-040).

**C. Disassembly of sliding body assembly**

- 1) Remove valve body (3-110) and seal (3-140). Discard seal (3-140).
- 2) Remove diaphragm assembly (3-100).
- 3) Remove jet (3-080) and valve (3-090).
- 4) Clear sleeve (3-060) equipped with sliding body (3-010).
- 5) Heat (212°F [100°C] max.) the end of sleeve (3-060), extract and discard wiper ring (3-020).
- 6) Remove and discard washer (3-030).
- 7) Remove and discard O-rings (3-040).
- 8) Remove and discard back-up rings (3-050).

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**CLEANING**

**1. GENERAL**

Remove all Loctite and Mastinox residues.

All the components must be cleaned with white spirit and dried with compressed air.

Painted portions must be stripped if they require metallurgic inspections (Dye penetrant or magnetic particle inspection).

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**INSPECTION / CHECK**

**1. GENERAL**

Once disassembled, the inspections to be carried out on the shock absorber are as follows :

- Visual inspection,
- metallurgic inspection.

**A. Visual inspection**

It consists in looking for evidence of impacts, seizing, battering, wear, etc., as well as surface protection defects, oxidation, corrosion, etc. This inspection must be carried out using a 5 X magnifying lens.

**B. Dye penetrant or magnetic particle inspection**

**NOTE : A dye penetrant or magnetic particle inspection is performed when an anomaly has been detected during visual inspection or for part condition cross-checking purposes.**

**CAUTION : NO CRACKS ARE ALLOWED.**

- 1) Crack detection on steel parts must be performed by dye penetrant inspection or by magnetic particle inspection according to SD-DQ-053 or SD-DQ-054 inspection specifications.
- 2) Crack detection on light alloy parts must be performed by dye penetrant inspection according to SD-DQ-053 inspection specification.

**NOTE : All these inspections must be performed after all the parts have been cleaned – refer to the Cleaning chapter.**

**2. INSPECTION PROCEDURE (Figures 2, 3 and 4)**

**A. Tools and consumable materials**

- Inside micrometer

**B. Procedure**

- 1) Inspect sliding body (3-010)
  - a) Visually inspect sliding body for cracks, impact marks, wear and corrosion.
  - b) Inspect the threads receiving valve body (3-130) and diaphragm (3-100) for condition.
- 2) Inspect sleeve (3-060)
  - a) Visually inspect the sleeve for cracks, impact marks, wear and corrosion.
  - b) Inspect the grooves receiving O-rings (3-040) and (3-070) and retaining ring (2-040) for condition.
  - c) Inspect the sleeve bore for condition.
- 3) Inspect lower body (4-010) assembly
  - a) Visually inspect the lower body assembly for cracks, impact marks, wear and corrosion.
  - b) Inspect body bores for condition.
  - c) Inspect the groove housing retaining ring (2-040) for condition.
  - d) Check that the inner diameter of bushings (4-020) is  $0.472 [+ 0 ; + 0.001]$  in ( $12 [+ 0 ; + 0,027]$  mm).

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- e) Inspect the threads receiving bolt (4-030) for condition.
- 4) Inspect the threads of diaphragm (3-100) for condition.
- 5) Inspect the overall condition of :
  - jet (3-080),
  - valve (3-090),
  - diaphragm (3-100),
  - valve body (3-110),
  - cap (3-130).

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- bolt (4-030)

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**REPAIR**

**1. REPLACEMENT OF BUSHINGS (Figure 4)**

**A. Tools and consumable materials**

- Hot air generator Z00.N6046267220
- Methyl-Ethyl-Ketone (M.E.K.)
- Loctite 641

**B. Procedure**

- 1) Heat (212°F [100°C] max.) the yoke of lower body (4-010) assembly then extract and discard bushings (4-020).
- 2) Remove Loctite residues from yoke bores.
- 3) Degrease yoke bores and new bushings (4-020) with M.E.K.
- 4) Evenly coat the outer diameter of a bushing (4-020) with Loctite 641 then insert it with a slight rotational movement to spread the adhesive. Make sure the bushing is correctly centered on the yoke.
- 5) Repeat step 4) for the second bushing (4-020).
- 6) Clean excess adhesive.

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**ASSEMBLY**

**1. ASSEMBLY OF THE SHOCK ABSORBER (Figures 2, 3 and 4)**

**CAUTION** : PRIOR TO ASSEMBLY, LUBRICATE ALL THE SEALS WITH HYDRAULIC FLUID.

**NOTE** : Prior to assembly, clean all the parts with white spirit – refer to Cleaning chapter.

Prior to assembly, all components must be inspected in accordance with Inspection / Check chapter.

**A. Tools and consumable materials**

- Installation tool 9620 TB10 41066000
- Bench vise with protection jaws
- Spanner 1.850 in (47 mm)
- Punch
- Methyl–Ethyl–Ketone (M.E.K.)
- Clean, lint–free cloths
- Hydraulic fluid AIR 3520B grade H515 (MIL–H–5606G)
- Loctite 542 without accelerator
- Mastinox 6856K (MIL–P–8116B)
- Grease AIR 4214B (MIL–G–6032D)

**B. Build–up of sleeve (3–060)**

- 1) Install a back–up ring (3–050), an O–ring (3–040), the second back–up ring (3–050), the second O–ring (3–040) and washer (3–030).
- 2) Slide in wiper ring (3–020) with installation tool.
- 3) Fill the groove with grease AIR 4214B (MIL–G–6032D).
- 4) Install O–ring (3–070).

**C. Build–up of sliding body (3–010)**

- 1) Degrease jet (3–080) and diaphragm (3–100) with M.E.K.
- 2) Install valve (3–090) on jet (3–080).
- 3) Coat the threads of jet (3–080) with Loctite 542 and install the jet on diaphragm (3–100).
- 4) Make sure valve (3–090) moves freely and seats correctly on diaphragm (3–100).
- 5) Coat the threads of diaphragm (3–100) with Loctite 542 and install diaphragm on sliding body (3–010).

**D. Assembly of the shock absorber**

- 1) Coat the chromium–plated portion of sliding body (3–010) and wiper ring (3–020) with hydraulic fluid.
- 2) Engage sleeve (3–060) assembly onto sliding body (3–010) assembly.
- 3) Engage the obtained assembly into lower body (4–010) or (4–010A) while aligning the hole of sleeve (3–060) with the aperture in lower body.



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- 4) Coat a retaining ring (2-040) with Mastinox 6856K (MIL-P-8116B) and install it while rotating sleeve (3-060) clockwise.
- 5) Remove excess Mastinox from the sliding body aperture.
- 6) Install and stake a lead plug (2-030).
- 7) Degrease the threads of valve body (3-110), the threads and the seating face on sliding body (3-010) and the seal (3-140).
- 8) Install seal (3-140) on valve body (3-110) and coat the threads and the washer with Loctite 542.
- 9) Install valve body assembly on the sliding body.
- 10) Remove excess Loctite.
- 11) Replenish the shock absorber with hydraulic fluid and inflate – refer to Testing and Troubleshooting chapter.
- 12) Test the shock-absorber – refer to Testing and Troubleshooting chapter.

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**STORAGE**

**1. STORAGE OF THE SHOCK ABSORBER (Figure 3)**

**A. Tools and consumable materials**

- Grease AIR 4214B (MIL-G-6032D)
- Oiled paper
- Air bubble polyethylene film
- Polysterene chips
- Heat-sealable bag
- Cardboard box

**B. Protection**

**NOTE** : If the shock absorber is to be shipped by plane, deflate it to a 29-psi (2 bars) pressure and attach a warning tag to the valve – refer to Testing and Troubleshooting chapter.

- 1) Carefully lubricate the portions to be protected with grease AIR 4214B (MIL-G-6032D).
- 2) Wrap sliding body (3-010) in oiled paper.
- 3) Wrap the shock absorber in a heat-sealable bag.
- 4) Tightly heat-seal the bag.

**C. Packaging**

- 1) Place the shock absorber wrapped in its heat-sealable bag in a cardboard box.
- 2) Provide adequate anti-shock protection to shock absorber with :
  - air bubble polyethylene film pads,
  - polystyrene chips.
- 3) Put a plastic bag containing the unit follow-up documents (follow-up record sheet, inspection report, etc.) in the packing container.
- 4) Close the packing container and stick a label to indicate :
  - Consignor / Consignee,
  - Delivery note reference,
  - Unit description with :
    - . part number(s),
    - . serial number(s),
    - . storage date,
    - . special instructions for transport and storage.
- 5) Store the packed unit, sheltered from moisture and salt-laden air, at 45 to 70 % hygrometry.

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**D. Destorage**

- 1) Read the special instructions mentioned on the packing container.
- 2) Open the packing container and retain the unit follow-up documents.
- 3) Remove the unit from the heat-sealable bag.

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**SPECIAL TOOLS, FIXTURES AND EQUIPMENT**

**1. INDEX OF SPECIAL TOOLS, FIXTURES AND EQUIPMENT**

- 1 : Testing and Troubleshooting    2 : Disassembly    3 : Cleaning  
 4 : Inspection / Check    5 : Repair    6 : Assembly  
 7 : Storage

PART NUMBER	DESCRIPTION	USE						
		1	2	3	4	5	6	7
9620 TB10 41066000 Z00.N6046267220	TESTWELL – WOLPERT machine	X						
	Filling, inflating and bleeding device	X						
	Installation tool						X	
	Hot air generator		X					
	Graduated test tube	X						
	Spanner 1.850 in (47 mm)		X				X	

**2. LIST OF INGREDIENTS**

- 1 : Testing and Troubleshooting    2 : Disassembly    3 : Cleaning  
 4 : Inspection / Check    5 : Repair    6 : Assembly  
 7 : Storage

INGREDIENTS DESCRIPTION	SUPPLIER OR MANUFACTURER	ADDRESS	USE							
			1	2	3	4	5	6	7	
White Spirit (PD 680 Type 1)	Local purchase				X					
Methyl–Ethyl–Ketone (M.E.K.)	Local purchase							X		
Oiled paper	Local purchase									X
Grease AIR 4214B (MIL–G–6032D)	Local purchase							X		X
Air bubble polyethylene film	Local purchase									X
Polystyrene chips	Local purchase									X
Heat–sealable bag	Local purchase									X
Hydraulic fluid AIR 3520B grade H515 (MIL–H–5606G)	Local purchase		X							
Carboard box	Local purchase									X
Nitrogen, quality U	Local purchase		X							

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INGREDIENTS DESCRIPTION	SUPPLIER OR MANUFACTURER	ADDRESS	USE							
			1	2	3	4	5	6	7	
Loctite 542	Local purchase								X	
Loctite 641	Local purchase							X		
Mastinox 6856K (MIL-P-8116B)	Local purchase								X	

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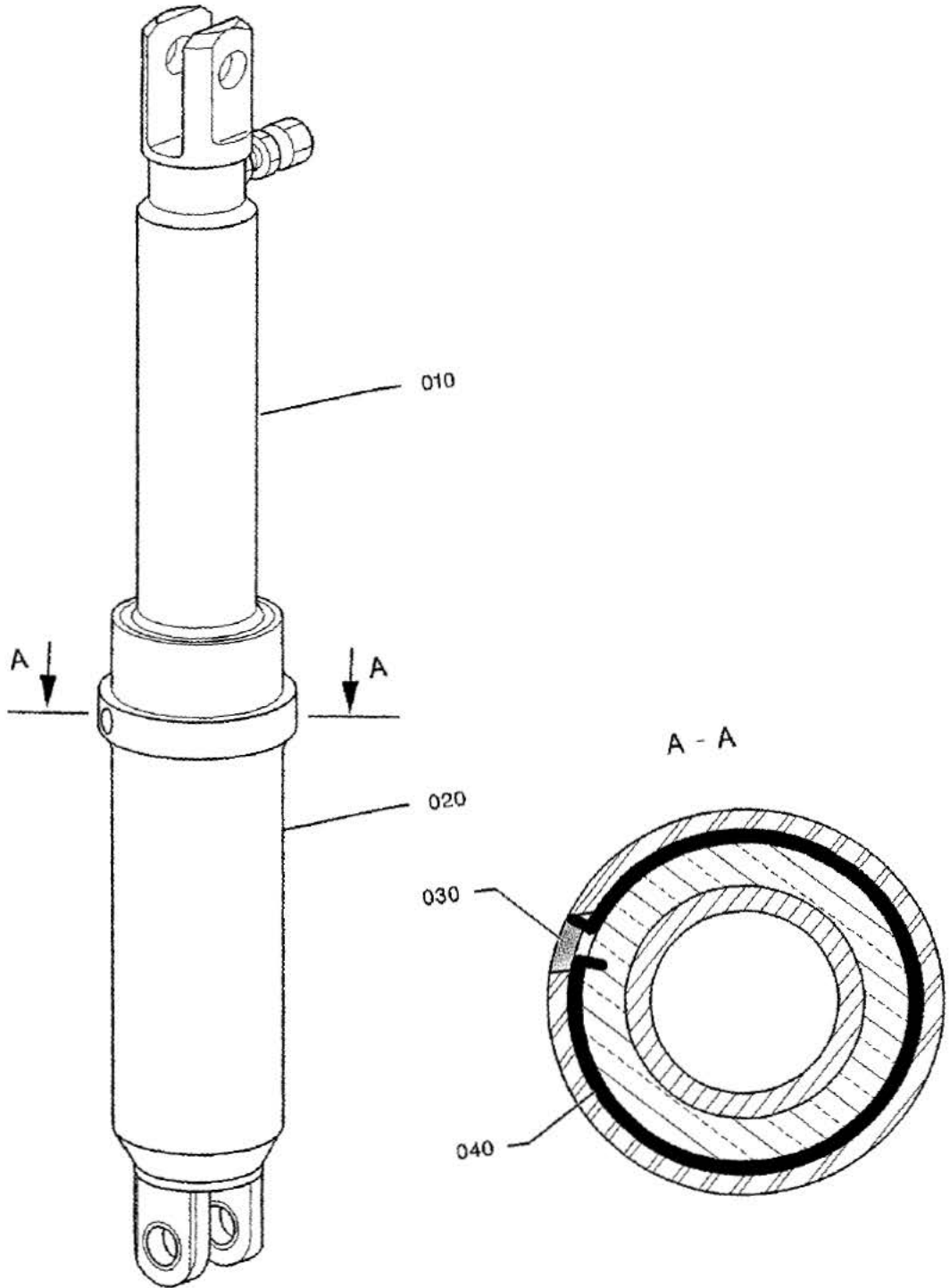
**ILLUSTRATED PARTS LIST**

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**CROSS-REFERENCE TABLE**

<b>SOCATA P/N</b>	<b>MANUFACTURER P/N</b>	<b>MANUFACTURER CODE</b>	<b>FIG</b>	<b>ITEM</b>	<b>QTY</b>
Z00.N5102953180	E27311H50Q18AGUL	F0110	4	30	1
Z00.N5414221100	10RH803 5M	F0224	3	120	1
Z00.N7061080747	VBY SF 35X45X7/10	F0384	3	020	1
Z00.N7061080748	35X41.3X1	F0384	3	050	2
Z00.N7061550006	BSA5PC851	F0229	4	40	1
Z00.N7079118718	28718-68	F0826	3	130	1
Z00.N7145110800	34308-00	F0826	3	110	1
Z00.N7174118929	32029-69	F0826	3	120	1
Z00.N7423081041	4137P5	F0384	3	040	2
Z00.N7423161004	8X12X1 ALUMINIUM	F0438	3	140	1
Z00.N7423821406	40X2 P5	F4482	3	070	1

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SHOCK ABSORBER  
PART NUMBERS TB20 41007000, TB20 41007004, TB20 41013004



143210JCAAAKVZ8500

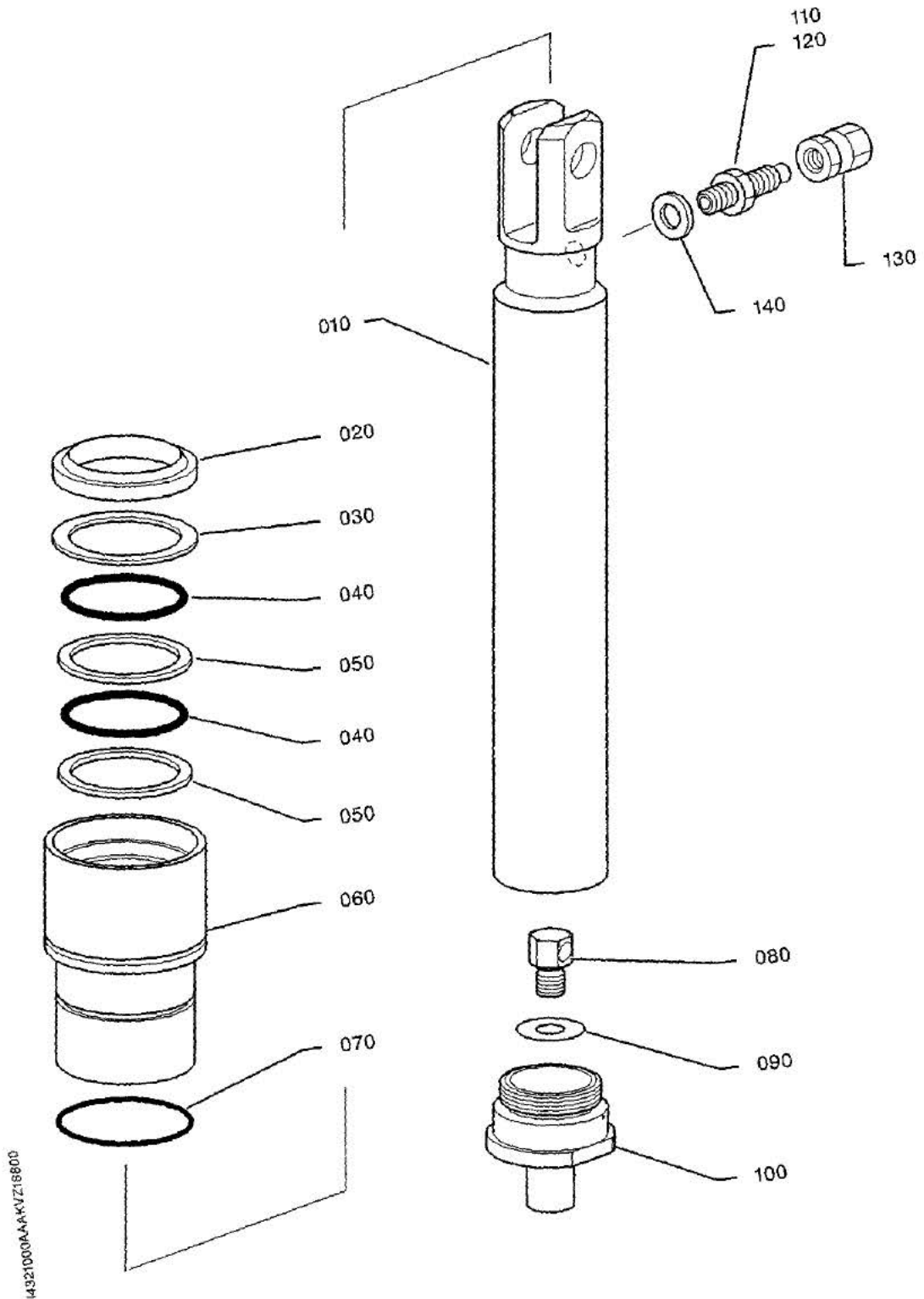
Shock absorber assembly  
Figure 2



**SOCATA  
 COMPONENT MAINTENANCE MANUAL  
 SHOCK ABSORBER  
 PART NUMBERS TB20 41007000, TB20 41007004, TB20 41013004**

FIGURE ITEM	PART NUMBER	DESCRIPTION	EFFECT.	QTY	OBS
2		1234567			
-001A	TB20 41007000	. SHOCK ABSORBER ASSY		RF	
-001B	TB20 41007004	. SHOCK ABSORBER ASSY		RF	
-001C	TB20 41013004	. SHOCK ABSORBER ASSY		RF	
010	32-12-01-3	.. SHOCK ABSORBER - SLIDING BODY		1	
020	32-12-01-4	.. SHOCK ABSORBER -- LOWER BODY		1	
		ATTACHING PARTS			
030	TB30 41007119	.. LEAD PLUG		1	
040	TB30 41047100	.. RETAINING RING		1	
		* * *			

**SOCATA**  
**COMPONENT MAINTENANCE MANUAL**  
**SHOCK ABSORBER**  
PART NUMBERS TB20 41007000, TB20 41007004, TB20 41013004



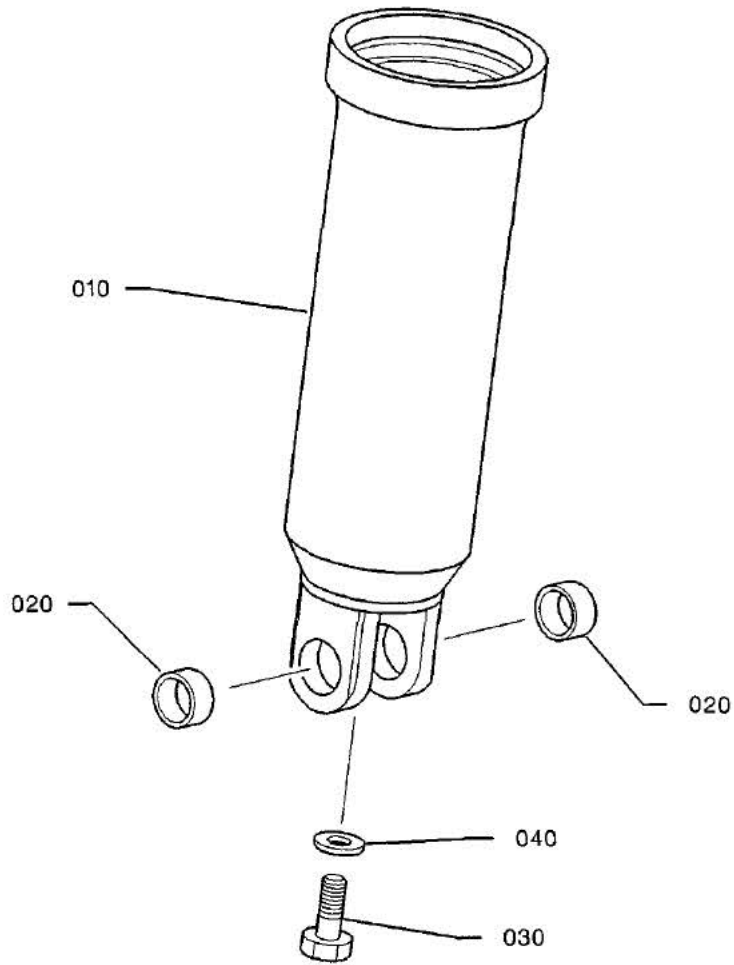
Shock absorber - Sliding body  
Figure 3

14321000AAKVZ16800

**SOCATA  
 COMPONENT MAINTENANCE MANUAL  
 SHOCK ABSORBER  
 PART NUMBERS TB20 41007000, TB20 41007004, TB20 41013004**

FIGURE ITEM	PART NUMBER	DESCRIPTION	EFFECT.	QTY	OBS
3		1234567			
-001	32-12-02-2	SHOCK ABSORBER - SLIDING BODY		RF	
010	TB30 41040100	. SLIDING BODY		1	
020	Z00.N7061080747	. WIPER RING		1	
030	TB30 41048100	. WASHER		1	
040	Z00.N7423081041	. O-RING		2	
050	Z00.N7061080748	. BACK-UP RING		2	
060	TB30 41042100	. SLEEVE		1	
070	Z00.N7423821406	. O-RING		1	
080	TB30 41050100	. JET		1	
090	TB30 41051100	. VALVE		1	
100	TB30 41052100	. DIAPHRAGM		1	
110	Z00.N7145110800	. VALVE BODY		1	
120	Z00.N7174118929	. VALVE MECHANISM		1	
130	Z00.N7079118718	. CAP		1	
140	Z00.N7423161004	. SEAL		1	

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SHOCK ABSORBER  
PART NUMBERS TB20 41007000, TB20 41007004, TB20 41013004



I4321000AAKVZ18500

Shock absorber – Lower body  
Figure 4

**SOCATA  
 COMPONENT MAINTENANCE MANUAL  
 SHOCK ABSORBER  
 PART NUMBERS TB20 41007000, TB20 41007004, TB20 41013004**

FIGURE ITEM	PART NUMBER	DESCRIPTION	EFFECT.	QTY	OBS
4		1234567			
-001	32-12-02-2	SHOCK ABSORBER - LOWER BODY		RF	
010	TB30 41046100	. LOWER BODY REPLACED BY TB20 41009100	1A	1	NP
-10A	TB20 41009100	. LOWER BODY	1B, C	1	
020	TB30 41049100	. BUSHING		2	
030	Z00.N5102953180	. BOLT	1A	1	
040	Z00.N7061550006	. RING	1A	1	
-050	TB10 72013900	. IDENTIFICATION PLATE		1	