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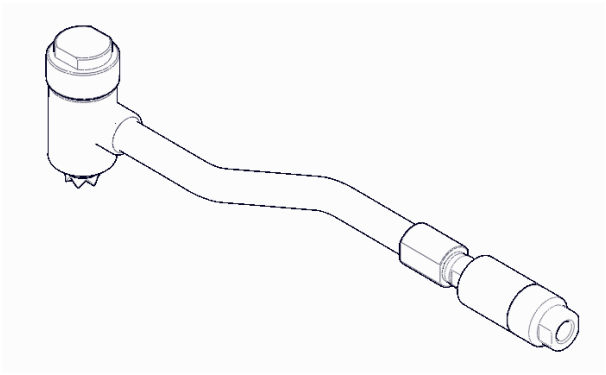
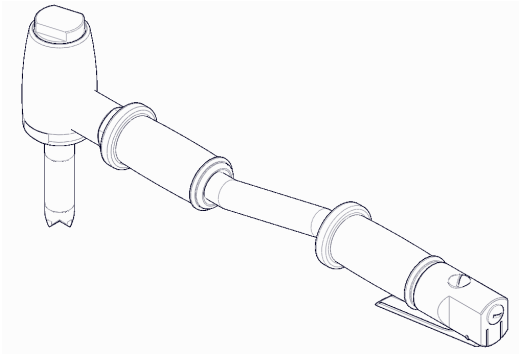
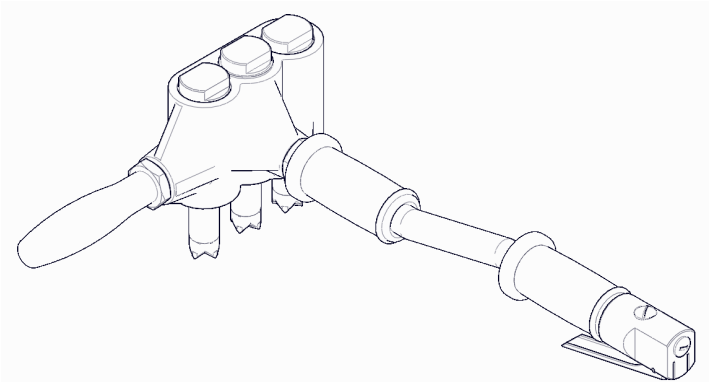
Operation and Maintenance Guide



X2



1SC



3SC

Models	Descriptions	IMPA Code
X2	Scabbler	59 03 82
1SC	Single Scabbler	59 03 81
3SC	Triple Scabbler	59 03 83

Read this manual carefully before installing, operating or servicing this equipment. It's the responsibility of the employer to ensure this manual is read by the operator. Please preserve this manual.

This document is issued with Product Serial No

Table of Contents

Introduction

Teryair Pneumatic Scabbling Hammers remove heavy rust and scale by the impacting action of a reciprocating piston. They are used where there is a need to break through heavy and stubborn layers of rust or chemical coatings.

Teryair Model No		**X2**	**1SC**	**3SC**
IMPA Code		59 03 82	59 03 81A	59 03 83
Maximum operating pressure		6kg/cm^2 (90 psi)		
Air Consumption (No Load)	*CFM*	7	8	15
	m3/ min.	0.20	0.23	0.42
No. of Piston		1	1	3
Piston Diameter	*mm*	30	27	27
Piston Length	*mm*	72	111	111
Piston Stroke	*mm*	21.3	26.2	26.2
Blows per min	*BPM*	3000	2400	3 x 2400
Sound Power Level (Load)	*LwA db(A)*	88.1	106.9	111.3
Vibration Level Primary	*m/s2*	6.8 (k)	6.96 (k)	8.7 (k)
Mass (Weight)	*Kg*	2.2	2.6	5.7
Thread Size of Air Inlet		3/8“ BSP	1/2“ BSP	1/2“ BSP

Intended Use

- Marine and Offshore industries
- Removal of Coatings
- Hold cleaning, general deck and surface cleaning, removal of heavy rust on tankers and dry dock
- applications
- Tank descaling, Descaling of structures prior to painting.
- Paint removal
- Other industrial coating removal from floors and other surfaces
- Removals of concrete residue from re-bar Cleaning cement from plant and vehicles
- Weld cleaning

Prohibitive use

- Any use in an explosive atmosphere is prohibited
- Use on materials containing asbestos is prohibited
- Use by an underage, untrained or person who is under the influence of drugs or alcohol.
- Use with non-genuine spare parts or accessories is prohibited

Safety Instructions

Following symbols are used through out this manual.

⚠ Warning

This manual must be read and the operating instructions carefully followed.

⚠ Warning

Safety and protective clothing, eyewear, head-gear, ear protection, gloves and footwear to be worn during operation of this Pneumatic Scaling Hammer. Please see Table A at end of this section.

⚠ Warning

Operators under 18 not allowed to operate this Pneumatic Scaling Hammer. Operators must be made familiar with the instructions in this manual before attempting to operate the Pneumatic Scaling Hammer. Ensure that job site is clear of bystanders

Caution

Use only genuine Teryair or Teryair approved accessories.

⚠ Warning

This Pneumatic Scaling Hammer is not designed for use in an explosive environment.

Caution

Completely turn off the Pneumatic Scaling Hammer and disconnect air supply line before attempting any service. Read Assembly and Disassembly instructions.

⚠ Warning

Take care not to exceed the maximum 6 bar (90 psi) supply air pressure. Use a filter and regulator and lubricator as close to the Pneumatic Scaling Hammer inlet as operation will allow ensuring a clean and regulated and lubricated air flow.

Caution

Do not exert excessive pressure against the work surface. Keep hoses in good condition. Check hoses for signs of wear, cracks & bulges and ensure that they are secure. Accidental disconnection while hose is pressurized makes the hose whip and can be a safety hazard.

Caution

- Please check the hose connection prior to starting Scaling Hammer.
- Be aware that these Pneumatic Scaling Hammer can create dust & flying debris.
- Keep hands & clothing away from moving parts.
- Store these Pneumatic Scaling Hammer in secure & dry environment.
- Do not allow the Pneumatic Scaling Hammer to run unattended.
- Do not modify this Pneumatic Scaling Hammer in any way as this will invalidate the warranty and
- could lead to serious injury.
- Do not allow the Pneumatic Scaling Hammer to run continuously whilst not in contact with the surface
- being prepared.
- Do not hold the exposed needles whilst the Pneumatic Scaling Hammer is in use this could cause
- vibration damage to the hands.
- Do not drag this Pneumatic Scaling Hammer by air hose.

⚠ Warning

Do not use the Pneumatic Scaling Hammer in potentially explosive environments.

⚠ Warning

- Eye and face and ear protection must be worn at all times during operation of the Pneumatic Scaling Hammer. There is a chance of flying debris from the jobsite and the quality of wear should be such to protect against such flying debris such as flakes of the removed layer.
- Suitable gloves must be worn at all times during operation.
- Safety Shoes with toe cap protection are a must during operation.

Operating Instructions

Scabblers are rugged dependable tools designed to give you years of satisfactory service. Follow the instructions mentioned here to enhance life and performance of your Scabblers.

Daily Before Operating

Disconnect and pour in 1 to 2 ounces of recommended oil into the Pneumatic Scaling Hammer and reconnect hose after blowing out any accumulated dirt in the hose line before connection

Lubrication Requirements

Always install a line lubricator on the air line as close to the Pneumatic Scaling Hammer as possible. A Filter Regulator Lubricator unit (FRL)is strongly recommended. Keep the lubricator bowl topped up with recommended grade of oil and check that the oil is reaching the Pneumatic Scaling Hammer. Running the Pneumatic Scaling Hammer without lubrication is likely to cause damage to the components causing premature replacement.

Air Supply

The Scabblers work best at 6.2 bar (90 psi) air pressure. The air should be clean, dry and lubricated. Install a FRL unit as close as operation will permit.

Hoses

Daily before operation check the hoses, especially the high pressure hoses for damage or leaks
Use genuine Teryair spares and if possible mention the serial number of the Pneumatic Scaling Hammer when ordering spares.

Suggested Lubricants

Brand	Above 27°C / 80°F	5°C to 27°C / 41°F to 80°F	Below 5°C / 80°F
Shell	Toona R 72	Toona R 41	Toona R 27
Mobil	Almo 529	Almo 527	Almo 525
Esso	--	Arox EP.65	Arox EP.45
Caltex	Rando Oil 100	Rando Oil 100	Rando Oil 46
Cp	--	--	Airolene Tool OiI
Texaco	Regal Oil F (R&O)	Regal Oil PE(P&E)	Regal Oil PE(R&O)
Daltron	Silkolene 881	Silkolene 548/T	Silkolene 733
Burmah Castrol	Castrol RD Oil 3	Castrol RD Oil Light	Megna SPX
Duckham	Garnet 7	Garnet 6	Zero Fio 5
Sternol	Merlin 87	Merlin 71	Merlin 54
Petrofina	Purifoc 53	Purifoc 46	Purifoc 32
Chevron	Vistac Oil 18X	Vistac Oil 19X	Vistac Oil 9X
Indoil	Servo Spyn -22	--	--

Diassembly and Re-assembly for X2

a. Shut off air supply and allow residual Pressure to bleed off.

b. Unscrew Cap Housing (1) from Housing (12) & remove Rubber Washer (2) and Piston (3) to replace it with new ones. (If found damaged/worn-out)

c. Unscrew Control Body (7) from Coupling (4) & unscrew Coupling (4) from Handle (13)

d. Unscrew Cap (11) from Control Body (7) & remove Taper Spring (10) to replace it with new ones. (If found damaged/worn-out)

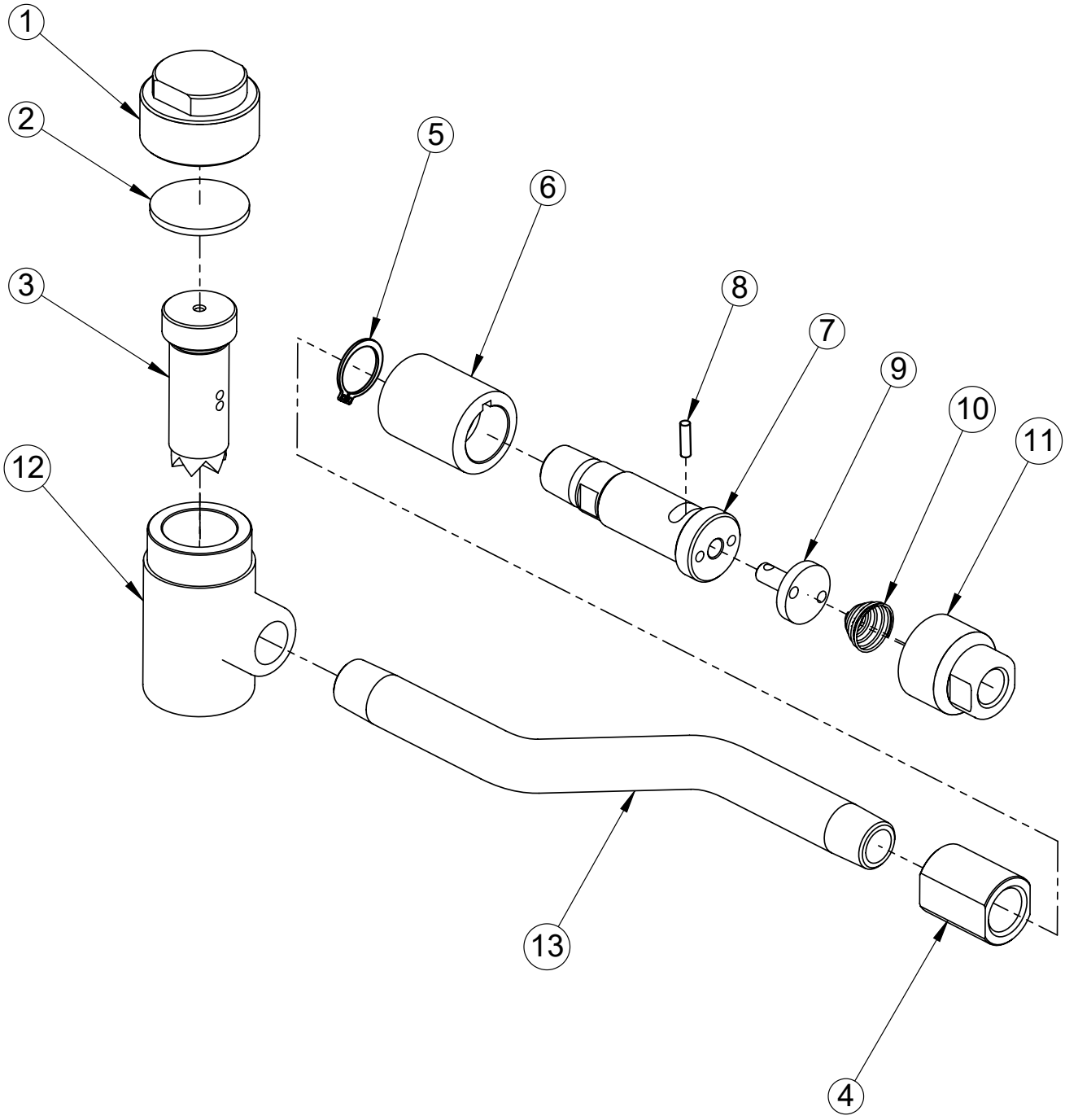
e. Remove External Circlip (5) from Control Body (7) using circlip plier and remove Throttle Ring (6), Pin (8) and Rotary Valve (9) from Control Body (7) respectively to replace it with new ones. (If found damaged/worn-out).

f. Coat parts with the recommended light oil before re-assembling. Now follow the above steps in reverse manner to reassemble the X2.

Bill of Materials for X2

Illustration Number	Part Number	Description	X2
1	798 10 17	Cap Housing	1
2	798 10 55	Rubber Washer	1
3	798 10 15	Piston	1
4	798 10 25	Coupling	1
5	798 10 47	External Circlip	1
6	798 10 43	Throttle Ring	1
7	798 10 19	Control Body	1
8	798 10 49	Cylindrical Pin	1
9	798 10 45	Rotary Valve	1
10	798 10 51	Taper Spring	1
11	798 10 21	Cap	1
12	798 10 13	Housing	1
13	798 10 11	Handle	1

Exploded View for X2



Diassembly and Re-assembly for 1SC

a. Shut off air supply and allow residual Pressure to bleed off.

b. Unscrew Screwed Cap (13) from Single Scaler Body (10) & remove Compression Spring (18), Spring Cap (14), Piston (12) and Cylinder (11) with Brush Seal (15) respectively to replace it with new ones. (If found damaged/worn-out)

c. Loosen Lock Nut (17) to unscrew Handle (20) from Single Scaler Body (10) & remove Sealing Washer (16) to replace it with new ones. (If found damaged/worn-out)

d. Unscrew Lock nut (17) from Handle (20) & remove Rubber Grip (19).

e. Unscrew Valve Body (1) from Handle (20) & remove Rubber Grip (19).

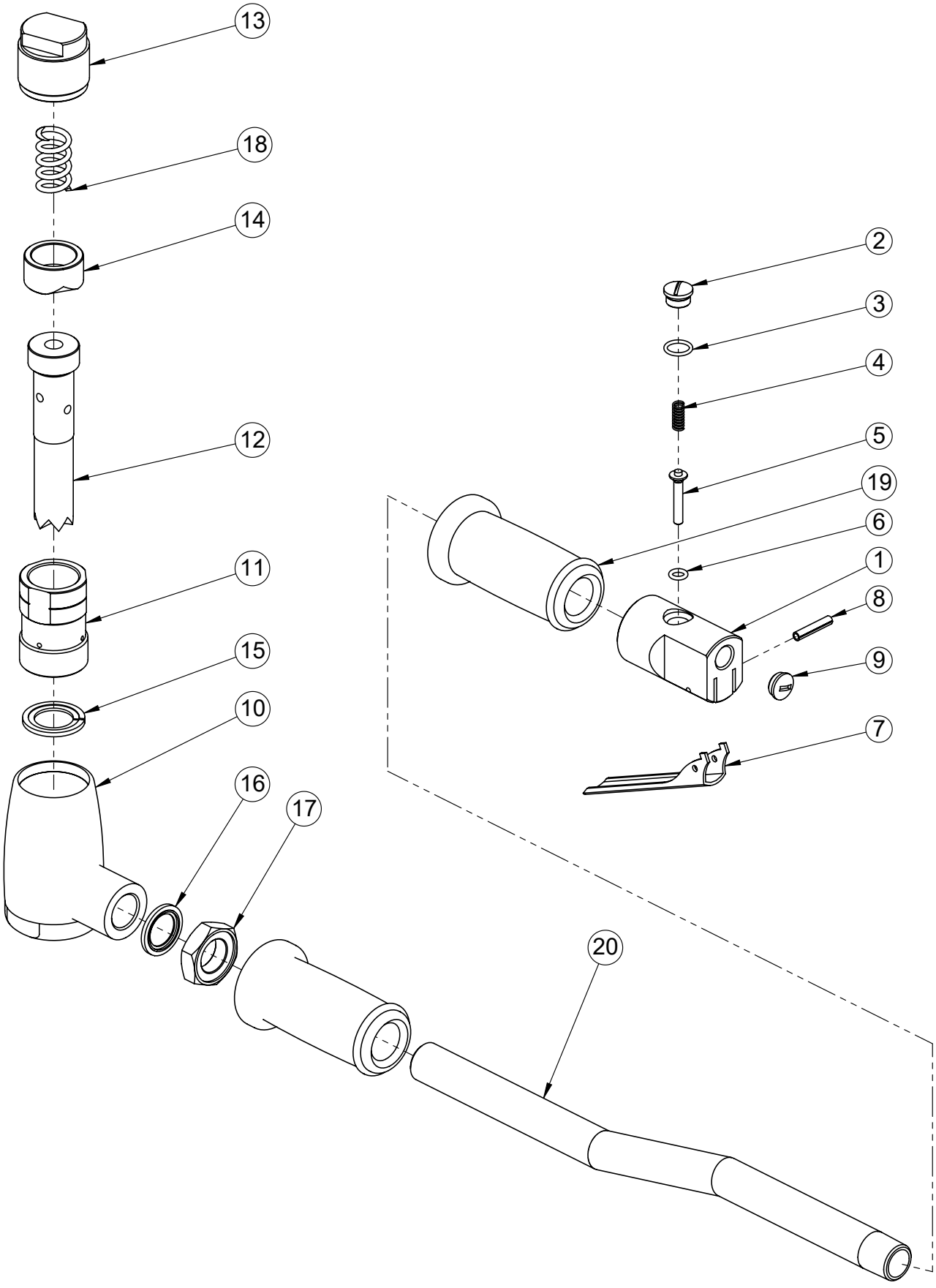
f. Unscrew Valve Cap (2) with O-ring (3) from Valve Body (1) & remove Valve Spring (4), Valve Stem (5) and O-ring (6) to replace with new ones. (If found damaged/worn-out)

g. Remove O-ring (3) from Valve Cap (2) and replace with new one.

h. Remove Roll Pin (8) from Valve body (1) & remove Throttle Lever (7) to replace with new ones. (If found damaged/worn-out).

i. Coat parts with the recommended light oil before re-assembling. Now follow the above steps in reverse manner to reassemble the 1SC.

Exploded View for 1SC



Bill of Materials for 1SC

Illustration Number	Part Number	Description	1SC
1	121 21 04	VALVE BODY	1
2	100 21 06	VALVE CAP	1
3	100 40 15	O-RING -VALVE CAP	1
4	100 51 14	VALVE SPRING	1
5	100 25 11	VALVE STEM	1
6	124 40 01	O-RING -VALVE SEAT	1
7	100 30 12	THROTTLE LEVER	1
8	100 50 19	ROLL PIN	1
9	100 40 18	PLASTIC PLUG	1
10	123 21 01	SINGLE SCALER BODY	1
11	126 21 03	CYLINDER (HEAVY DUTY)	1
12	121 21 19	INTEGRAL PISTON	1
13	126 21 01	SCREWED CAP	1
14	126 21 02	SPRING CAP	1
15	126 40 23	BRUSH SEAL	1
16	121 40 12	SEALING WASHER	1
17	121 23 07	LOCK NUT	1
18	126 51 42	COMPRESSION SPRING	1
19	121 40 13	RUBBER GRIP	2
20	121 32 10	MAIN HANDLE	1

Optional Accessories

Part No	Description	Qty
121 21 02	SINGLE PIECE PISTON	1
121 21 20	INTEGRAL PISTON (SHORT LENGTH)	1
121 21 21	NON SPARK PISTON	1

Diassembly and Re-assembly for 3SC

a. Shut off air supply and allow residual Pressure to bleed off.

b. Unscrew Screwed Cap (13) from Triple Scaler Body (10) & remove Compression Spring (18), Spring Cap (14), Piston (12) and Cylinder (11) with Brush Seal (15) respectively to replace it with new ones. (If found damaged/worn-out)

c. Follow Step 'b' to replace the remaining piston assembly from Triple Scaler Body (10).

d. Loosen Lock Nut (17) to unscrew Handle (20) from Triple Scaler Body (10) & remove Sealing Washer (16) to replace it with new ones. (If found damaged/worn-out)

e. Unscrew Lock nut (17) from Handle (20) & remove Rubber Grip (19).

f. Unscrew Side Handle (21) from Triple Scaler Body (10) & remove Sealing Washer (16), Side handle Grip (22) to replace it with new ones. (If found damaged/worn-out)

g. Unscrew Valve Body (1) from Handle (20) & remove Rubber Grip (19).

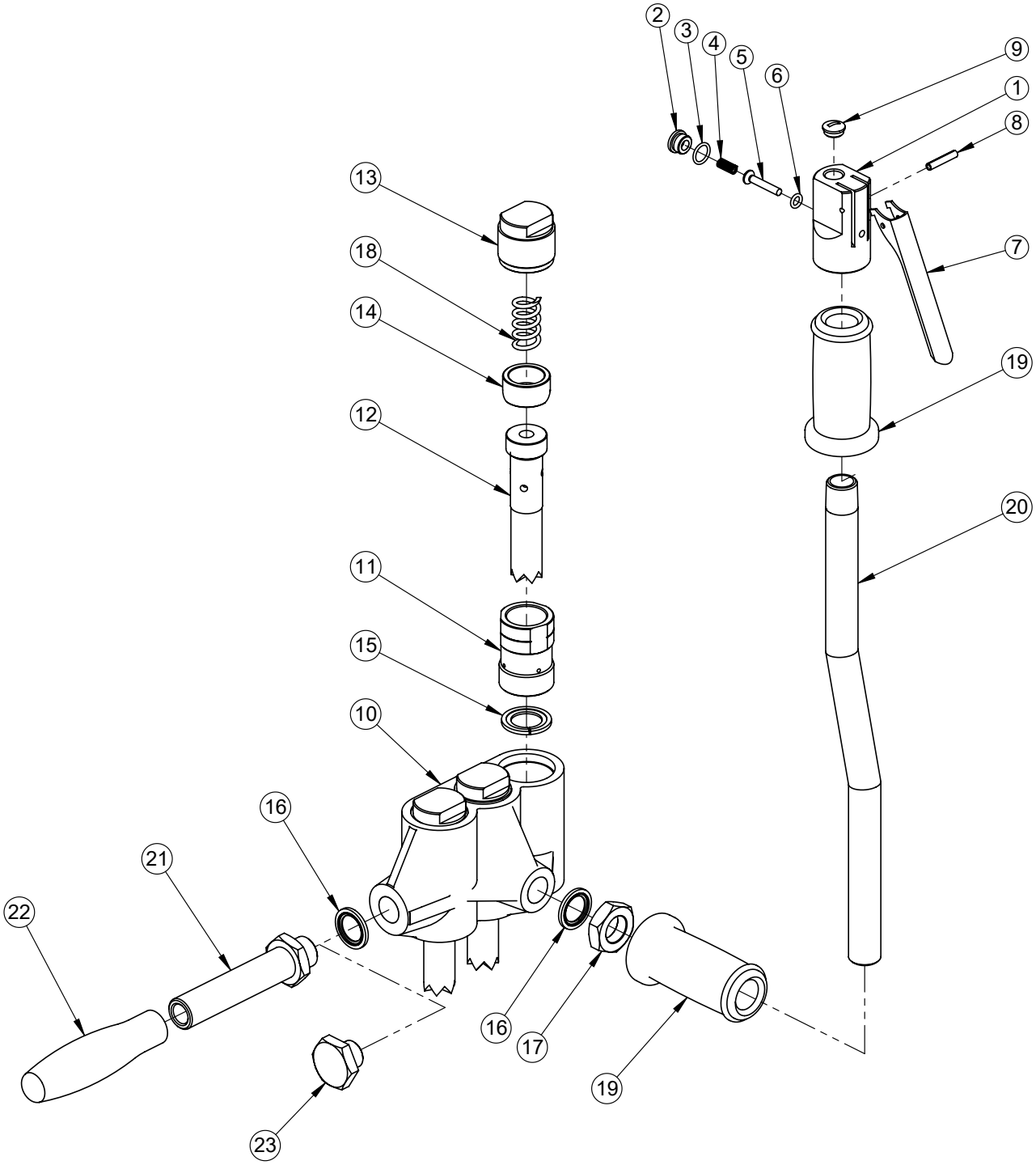
h. Unscrew Valve Cap (2) with O-ring (3) from Valve Body (1) & remove Valve Spring (4), Valve Stem (5) and O-ring (6) to replace with new ones. (If found damaged/worn-out)

i. Remove O-ring (3) from Valve Cap (2) and replace with new one.

j. Remove Roll Pin (8) from Valve body (1) & remove Throttle Lever (7) to replace with new ones. (If found damaged/worn-out).

k. Coat parts with the recommended light oil before re-assembling. Now follow the above steps in reverse manner to reassemble the 1SC.

Exploded View for 3SC



Bill of Materials for 3SC

Illustration Number	Part Number	Description	3SC
1	121 21 04	VALVE BODY	1
2	100 21 06	VALVE CAP	1
3	100 40 15	O' RING - VALVE CAP	1
4	100 51 14	VALVE SPRING	1
5	100 25 11	VALVE STEM	1
6	124 40 01	O' RING - VALVE SEAT	1
7	100 30 12	THROTTLE LEVER	1
8	100 50 19	ROLL PIN	1
9	100 40 18	PLASTIC PLUG	1
10	121 02 01	TRIPLE SCALER BODY	1
11	126 21 03	CYLINDER	3
12	121 21 19	INTEGRAL PISTON	3
13	126 21 01	SCREWED CAP	3
14	126 21 02	SPRING CAP	3
15	126 40 23	BRUSH SEAL	3
16	121 40 12	SEALING WASHER	2
17	121 23 07	LOCK NUT	1
18	126 51 42	COMPRESSION SPRING	3
19	121 40 13	RUBBER GRIP	2
20	121 32 10	MAIN HANDLE	1
21	121 21 03	SIDE HANDLE	1
22	121 40 17	SIDE HANDLE GRIP	1
23	121 21 18	HEXAGON PLUG	1

Optional Accessories

Part No	Description	Qty
121 21 02	SINGLE PIECE PISTON	3
121 21 20	INTEGRAL PISTON (SHORT LENGTH)	3
121 21 21	NON SPARK PISTON	3

EU DECLARATION OF CONFORMITY

We hereby certify that the Listed Product stipulated below comply with all relevant provisions of the machinery directive (2006/42/EC) and the national laws and regulations adopting this directive.

Description **: Pneumatic Scabbling Hammers**

Model Number **: X / SC Series**

Date **:**

Serial No **:**

Is in conformity with the provisions of the following European Directives: (2006/42/EC) Machinery Safety and Harmonized standards

ISO 12100-1: 2010: Safety of Machinery –general Principles for Design –Risk Assessment and Risk Reduction.

Registered Office	:	TERYAIR EQUIPMENT PVT. LTD. A-1, Tirupati Udyog Nagar, Sativali Road, Vasai(E), Palghar – 401 208. Maharashtra, India
Web site	:	www.teryair.com
Works	:	A-1, Tirupati Udyog Nagar, Sativali Road, Vasai East, Palghar – 401208, Maharashtra, India.

CE certification registration no – C E 16831

Issued by – BMQR Certifications Pvt Ltd.
www.cemarking-india.com

Valid Till – 03/11/2025

Signed for and on behalf of

TERYAIR EQUIPMENT PVT. LTD.

Place of Issue : Vasai
Date :

www.teryair.com

Warranty Certificate

Every product manufactured by Teryair

is built to meet the highest standards of quality.

Teryair warrants that the Products, accessories and parts manufactured or supplied by the company be free from defects in material and workmanship for a period of six months from date of Teryair authorized dealer invoice to customer, or one year from date of Teryair invoice to dealer, whichever is earlier. Failure due to normal wear, misapplication, or abuse is, of course, excluded from this warranty.

Since the use of Teryair products and parts is beyond our control, Teryair cannot guarantee the suitability of any product or part for a particular application and Teryair shall not be liable for any consequential damage or expense arising from the use or misuse of its products on any application. Teryair does not warranty bought out products or components such as electric motors and hardware but will assist in directing warranty queries to the dealer/manufacturer responsible. Teryair responsibility is limited solely to replacement or repair of defective Teryair products or components.

Dealer/End User shall have no right or remedy and Teryair shall have no liability or obligation under the warranty, if: (i) a Product is altered, changed, modified or tampered with in any way, (ii) a Product is damaged after deposit with the transporter for shipment; (iii) a Product is not properly preserved, packaged, stored, processed or handled after receipt; (iv) a Product is not used and maintained in accordance with Teryair's recommended operating and maintenance manuals, instructions and procedures, if any; (v) a Product is not properly incorporated or installed in, or not properly combined with, an Other Product; (vi) the issue with a Product is directly or indirectly attributable to, or directly or indirectly results from or arises out of, a failure, substandard performance or other issue with another product, material, component or part not supplied by Teryair; (vii) the issue with a Product is directly or indirectly attributable to, or directly or indirectly results from or arises out of, compliance with any design, specification or other specific requirement of Dealer/End User; (viii) a Product is used in a manner, with a substance or for a purpose other than the normal manner, substance and purpose for which it is intended or is otherwise subjected to abnormal use or service; (ix) a Product is subjected to a power surge, brown out or other similar occurrence; (x) the issue with a Product is directly or indirectly attributable to, or directly or indirectly results from or arises out of, normal wear and tear of such Product (including, without limitation, things such as worn seals, diaphragms, balls, O rings, gaskets, chisels, cutters, hoses and other such wearing components; (xi) the issue with a Product is directly or indirectly.

Model Number : X / SC Series

Serial Numbar :

Dated :

Ajay Bhagat, Q.A. Manager

(Company Seal)

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