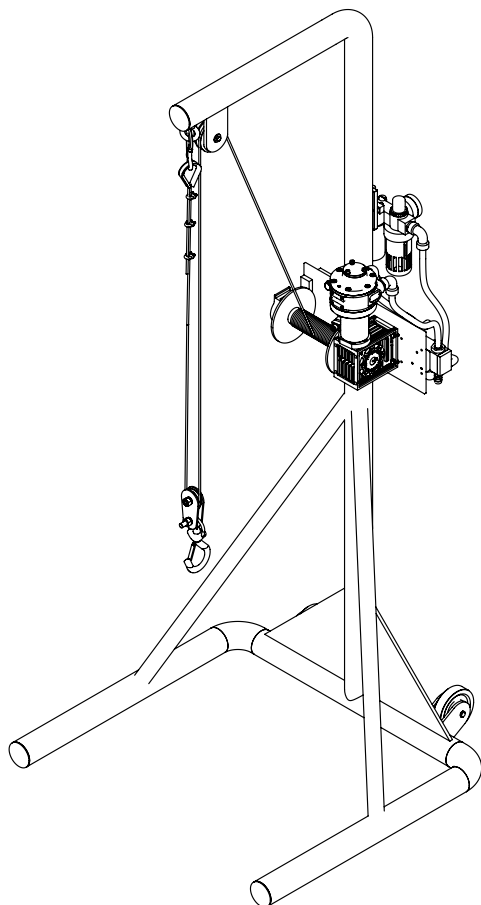
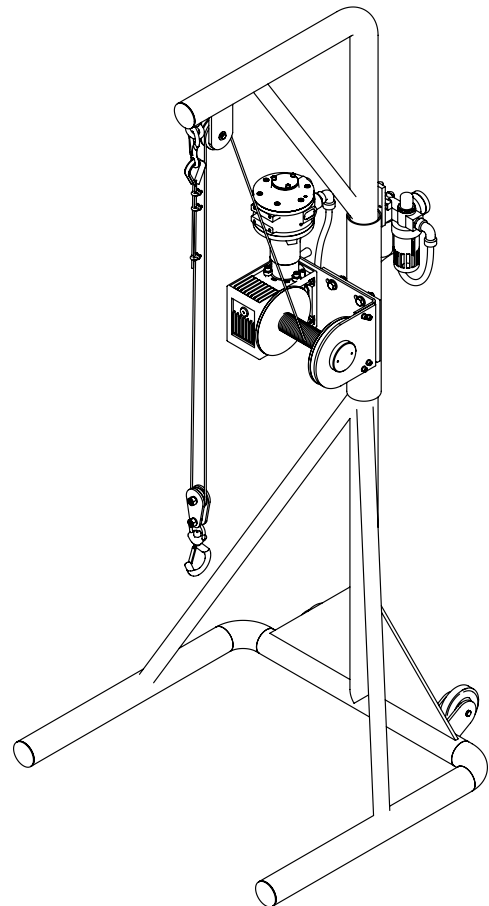


Operation and Maintenance Guide



MCW-100



MCW-200 / MCW-300

Pneumatic Driven Winch

Models	Descriptions	IMPA Code
MCW100	Pneumatic Driven Winch, 100Kg	59 06 03
MCW200	Pneumatic Driven Winch, 200Kg	59 06 05
MCW300	Pneumatic Driven Winch, 300Kg	59 06 07

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.

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Introduction

Teryair Pneumatic Driven Winches are pneumatically driven, specially designed for tank cleaning purposes. They have a Galvanized non spinning cable and a non- sparking safety hook. The mucking winch has a powerful air motor and worm gear box control handle, all designed for easy operation.

Technical Data

Teryair Model No	IMPA Code	Lifting Capacity	Wire Rope Diameter	Wire Rope Length	Air Hose Diameter	Air Inlet
MCW100	59 06 01	50	4 mm	33 mtr	12	1/2" NPT
MCW100	59 06 02	75	4 mm	33 mtr	12	1/2" NPT
MCW100	59 06 03	100	4 mm	33 mtr	12	1/2" NPT
MCW200	59 06 04	150	4 mm	33 mtr	12	1/2" NPT
MCW200	59 06 05	200	4 mm	40 mtr	12	1/2" NPT
MCW300	59 06 06	250	4 mm	33 mtr	12	1/2" NPT
MCW300	59 06 07	300	4 mm	44 mtr	12	1/2" NPT

Intended Use

- Teryair Pneumatic Winches are ideal for tank cleaning purpose. They are compressed air operated driven.

Prohibitive use

- 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.

job site is clear of bystanders. Ensure that no loose items of clothing etc come in the vicinity of the winch.



Caution

Use only genuine Teryair or Teryair approved accessories.



Warning

Safety and protective clothing, eyewear, headgear, ear protection, gloves and footwear to be worn during operation of this equipment.



Warning

This equipment is not designed for use in an explosive environment.

Safety Instructions

Following symbols are used through out this manual.



Warning

If not followed could cause personal injuries



Caution

If not followed could result in damage to equipment.



Warning

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



Caution

Operators under 18 not allowed to operate this equipment. Operators must be made familiar with the instructions in this manual before attempting to operate the equipment. Ensure that

Operating instructions

Safety checks before and after operating the Winch

Check list before starting the Winch

- Check safety wear mentioned earlier in warnings.
- Check Hose fittings are secure.
- Do not wear loose clothing etc around the winch.
- Unlock the hook from the wire.
- Connect supply hose correctly.
- Make sure the the pneumatic valve is in off condition.

Air Supply

- The Mucking winch work best at 8 to 12 bar air pressure. The air should be clean, dry and lubricated.
- The maximum distance of Mucking winch working place should be 20mtrs. From air supply source & above that distance cfm received by Mucking winch will reduce and will effect the efficiency.
- Always top up the Lubricator with specified lubricants.

Maintenance

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

Disconnect air supply from the FRL.

1. Keep wire rope properly oiled.
2. If air motor is dis-mantled for any repair work or maintenance, examine all components for wear after washing in suitable solvent. Replace any worn or damaged components. Coat parts with light oil and re-assemble carefully.

Disassembly and Re assembly

- Shut off air supply and allow residual Pressure to bleed off.
- Disconnect air supply from the FRL.

Disassembly of Air motor

Remove the PU tubes from the air motor.

- a. Unscrew the bolts (44) from adaptor (13).
- b. Remove the adaptor (13) from the gear box (3).
- c. Now remove the air motor (5) with love joy coupling (20).
- d. Remove the grub screw (36) to remove the Love joy coupling (20)

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 Oil
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 MCW-100

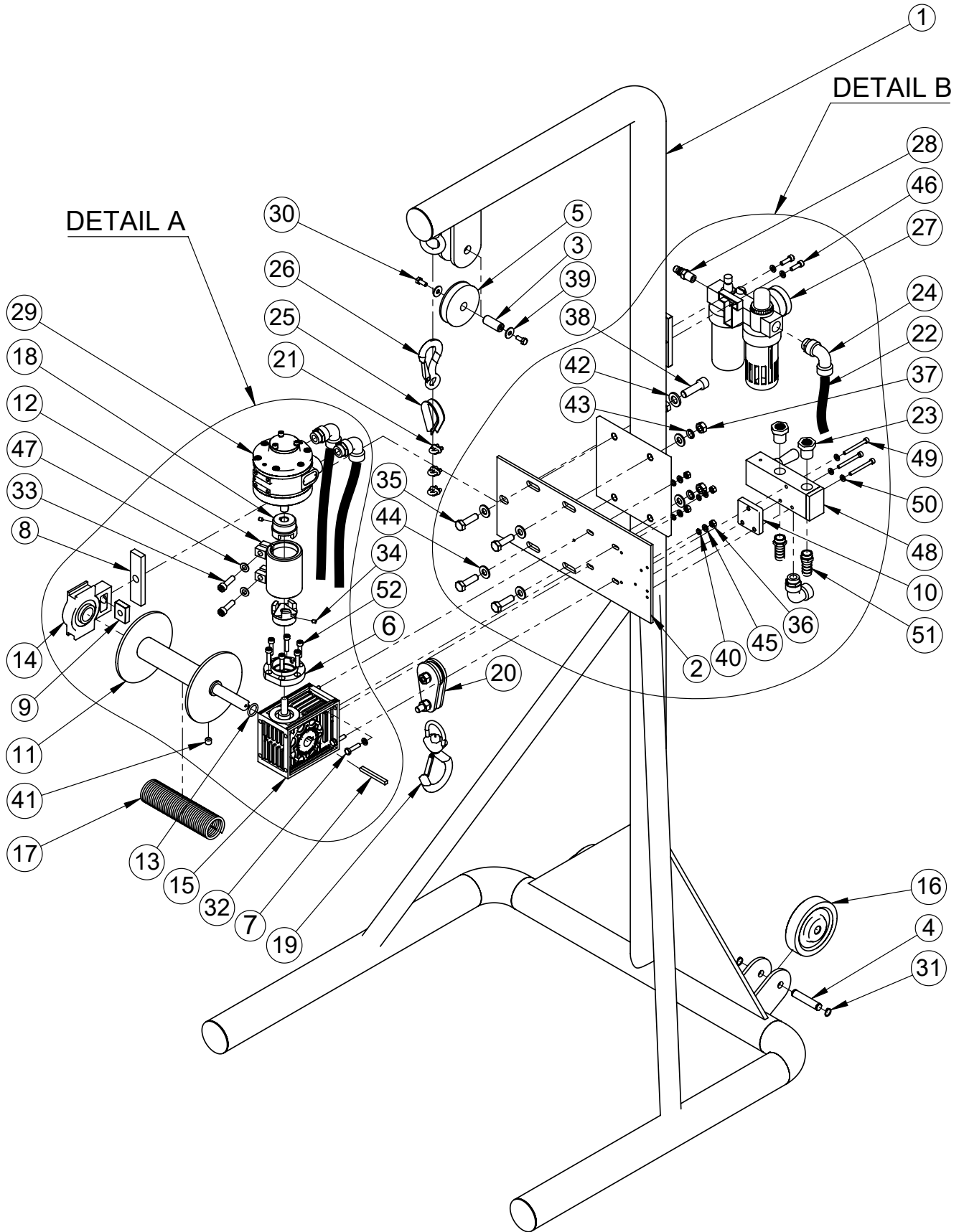
- a. Shut off air supply and allow residual Pressure to bleed off.
- b. Remove all Tubes (22) from Tube fitting elbow (24) & Tube fitting straight (23)
- c. Unscrew Tube fitting elbow (24) & Coupler (28) from FRL (27). Unscrew Allen bolt (46) with Plain washer (45) from FRL (27) and replace it with new one. (If found damaged/worn-out)
- d. Unscrew Tube fitting elbow (24), Tube fitting straights (23) & Hose nipples (51) from Deadman's valve (51) and replace with new one. (If found damaged/worn-out)
- e. Unscrew Allen bolt (49) with Plain washer (50) from Deadman's valve (51) to replace with new one. (If found damaged/worn-out)
- f. Loosen Wire rope Lock (21) to remove Wire rope (17) from Shackle (20) & Pulley (5).
- g. Unscrew Tube fitting elbows (24) from Air motor (29). Unscrew Allen bolt (33) with Plain washer (47) from Adaptor for gear box (12) to replace with new one. (If found damaged/worn-out)
- h. Unscrew Grub Screws (34) from Love joy couplings (18) to remove Air motor (29) & Love joy couplings (18) and replace with new one. (If found damaged/worn-out)
- i. Unscrew Allen bolt (52) from Spigot flange (6) to remove Spigot Flange (6).
- j. Unscrew Allen bolt (38) with Plain washer (42) from Bearing puller plate (9) and unscrew Allen bolt (32) with Plain washer (45) & Spring washer (40) from Hex nut (36) to Remove Spacer plate (8) & Bearing puller plate (9) .
- k. Remove Gear box assembly from Gear box mounting plate (2).
- l. Remove Bearing (14), Gear box (15), Key (19) & O-ring (13) from Rope drum (11) and replace with new one. (If found damaged/worn-out)
- m. Unwind Wire rope (17) from Rope drum (11) & unscrew Grub screw (41) from Rope drum (11) to replace with new one. (If found damaged/worn-out)
- n. Remove External circlips (31) from both sides of Pin for wheel (4) to remove Pin for wheel (4) & Wheel (16) and replace with new one. (If found damaged/worn-out)
- o. Unscrew Hex bolt (30) from both sides of Pin for Pulley (3) to remove Pin for Pulley (3) and Pulley (5) and replace with new one. (If found damaged/worn-out)
- p. Examine for any wear or damage to components and replace it if required. Now follow the above steps in reverse manner to reassemble the MCW-100.

Bill of Materials for MCW-100

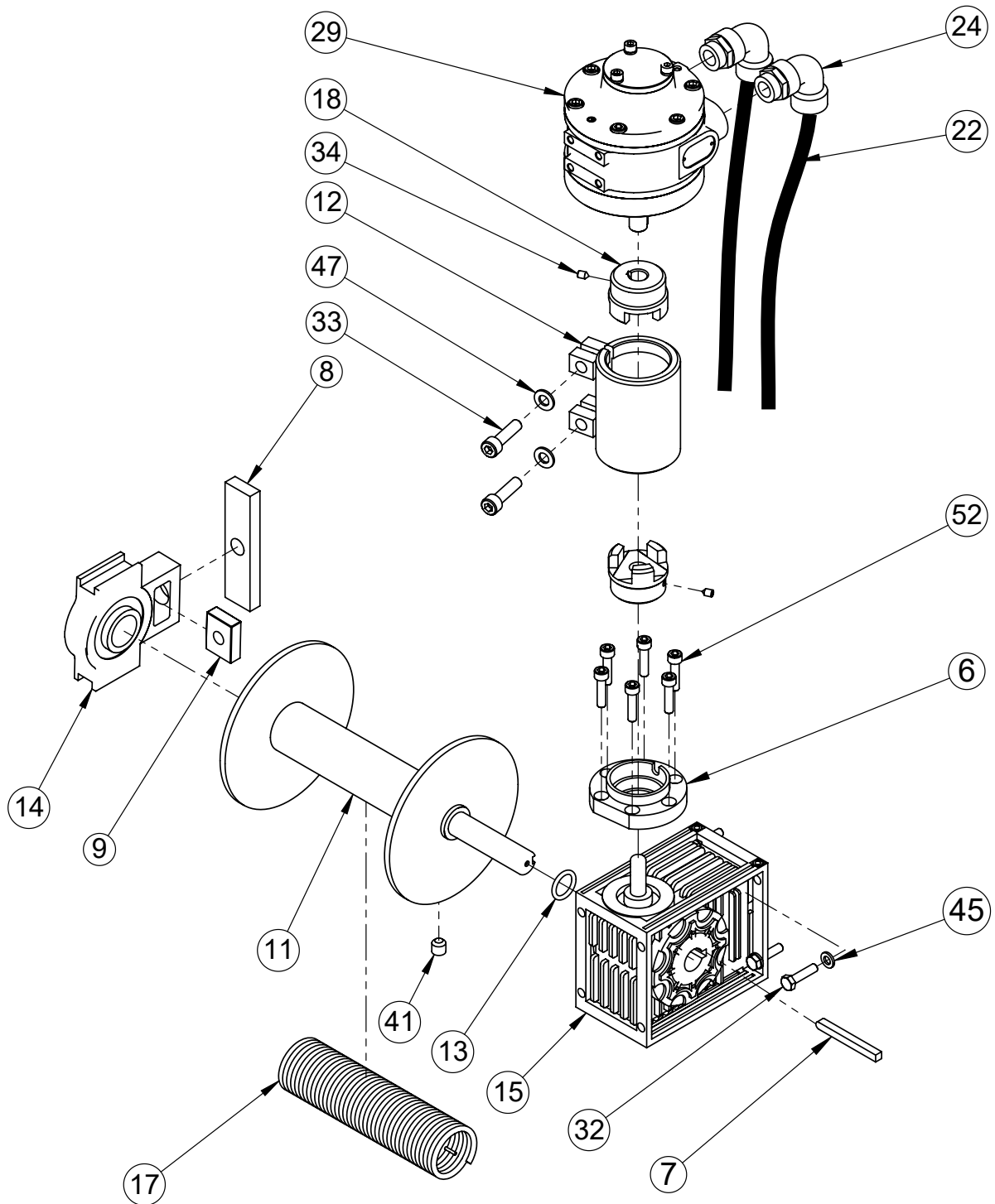
Illu No	Part Number	Description	MCW-100
1	5669701	TUBULAR FRAME	1
2	5663301-10	GEAR BOX MOUNTING PLATE	1
3	5662101	PIN FOR PULLEY	1
4	5662102	PIN FOR WHEEL	2
5	5662103	PULLEY	1
6	5662104	SPIGOT FLANGE	1
7	5662201	KEY	1
8	5663101	SPACER PLATE	1
9	5663102	BEARING PULLER PLATE	1
10	5663103	SPACER PLATE	1
11	5663302	ROPE DRUM	1
12	5663303	ADAPTOR FOR GEAR BOX	1
13	5664001	O' RING	1
14	5665001	BEARING	1
15	5665002	GEAR BOX	1
16	5665003	WHEEL	2
17	5665005	WIRE ROPE	34 Mtr
18	5665006	LOVE JOY COUPLING	1 Set
19	5665007	HOOK	1
20	5665008	SHACKLE	1
21	5665009	WIRE ROPE LOCK	3
22	5665010	TUBE	1 Mtr
23	5665011	TUBE FITTING STRAIGHT	1
24	5665012	TUBE FITTING ELBOW	5
25	5665013	LIMB FOR HOOK	1
26	5665014	EYE HOOK	1

Illu No	Part Number	Description	MCW-100
27	5665015	FRL	1
28	35.13.55	COUPLER	2
29	8040000	AIR MOTOR	1
30	5669001	HEX BOLT	2
31	5669002	EXTERNAL CIRCLIP	4
32	5669003	HEX BOLT	4
33	5669004	ALLEN BOLT	2
34	5669007	GRUB SCREW	2
35	5669008	HEX BOLT	4
36	5669009	HEX NUT	12
37	5669010	HEX NUT	4
38	5669011	ALLEN BOLT	1
39	5669012	PLAIN WASHER	2
40	5669013	SPRING WASHER	4
41	5669014	GRUB SCREW	1
42	5669016	PLAIN WASHER	1
43	5669017	SPRING WASHER	4
44	5669018	PLAIN WASHER	8
45	5669020	PLAIN WASHER	10
46	5679001	ALLEN BOLT	2
47	6429086	PLAIN WASHER	2
48	5675006	DEADMAN'S VALVES	1
49	5669022	ALLEN BOLT	3
50	5669015	PLAIN WASHER	3
51	5665017	HOSE NIPPLE	2
52	1504026	ALLEN BOLT	6

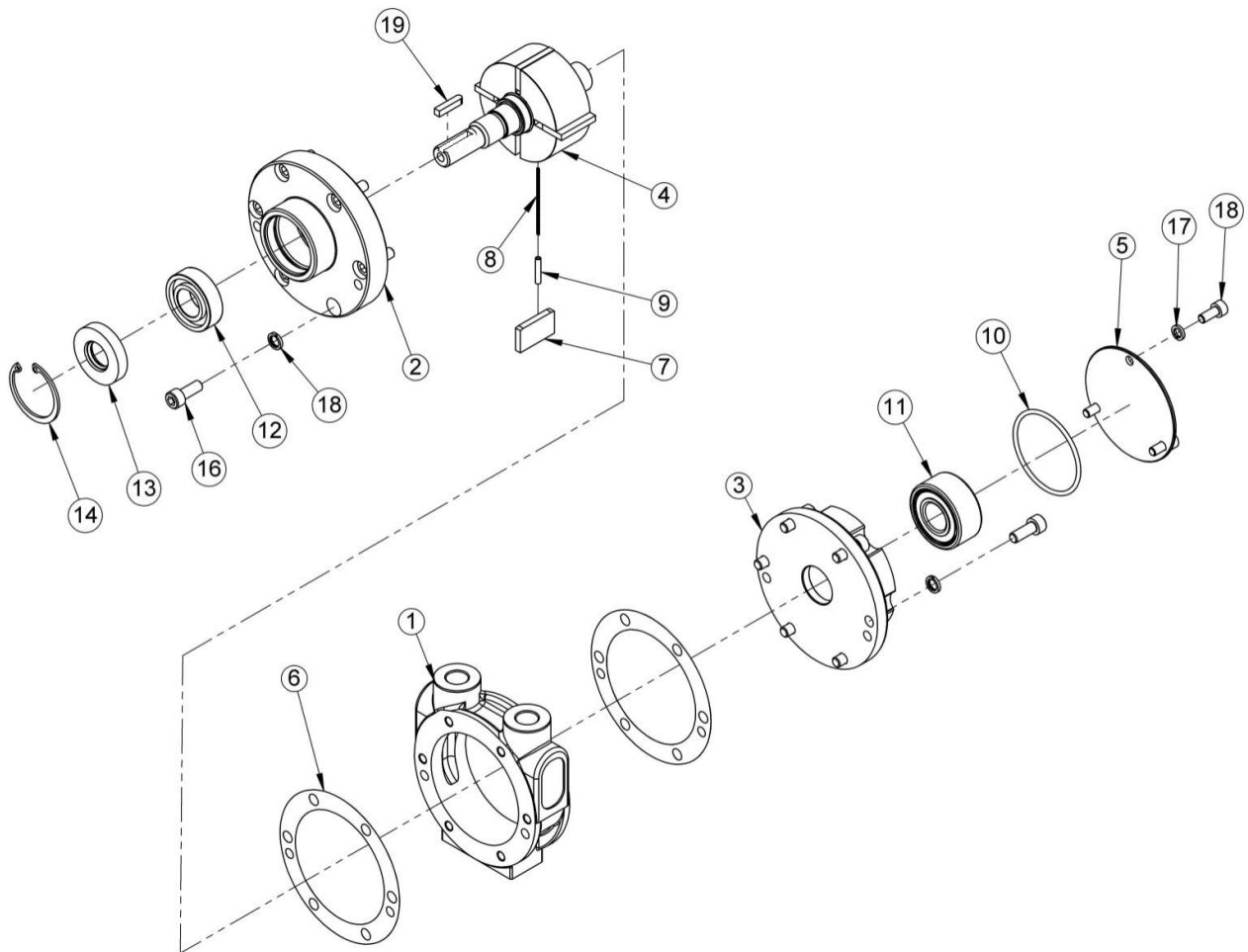
Exploded View for MCW-100



Exploded View Detail - A for MCW-100



Exploded view Air Motor 8040000



Bill of Materials for MCW-100

Illu No	Part Number	Description	Qty
1	8040501	MOTOR HOUSING	1
2	8040502	FRONT FLANGE	1
3	8040503	REAR FLANGE	1
4	8042101	ROTOR SHAFT	1
5	8042102	BEARING CAP	1
6	8043901	ROTOR BLADE	4
7	8044001	O' RING	1
8	8043701	SHIM	2
9	8045001	BEARING	2
10	8045103	COMPRESSION SPRING	2

Illu No	Part Number	Description	Qty
11	8046001	OIL SEAL	1
12	5662202	KEY	1
13	5509028	SOCKET HEAD CAP SCREW	3
14	8049003	SOCKET HEAD CAP SCREW	12
15	8059001	SPRING WASHER	3
16	8042103	SPRING CAP	4
17	5369004	SPRING WASHER	12
18	8049002	INTERNAL CIRCLIP	1
19	8049004	ROLL PIN	4

Diassembly and Re-assembly for MCW-200

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

Replacement of FRL and Tube

- a. Remove all Tubes (18) from Tube fitting elbow (23) & Tube fitting straight (22)
- b. Unscrew Tube fitting elbow (23) & Coupler (24) from FRL (4). Unscrew Allen bolt (39) with Plain washer (40) from FRL (4) and replace it with new one. (If found damaged/worn-out)
- c. Remove FRL (4) from Tubular frame (1) and replace it with new one.

Replacement of Wire Rope

- a. Loosen Wire rope Lock (14) to remove Wire rope (21) from Shackle (11), Limb for Hook & Pulley (2).
- b. Unwind Wire rope (21) from Rope drum (8) & unscrew Grub screw (37) from Rope drum (8) to replace with new one. (If found damaged/worn-out)

Replacement of Love Joy Coupling

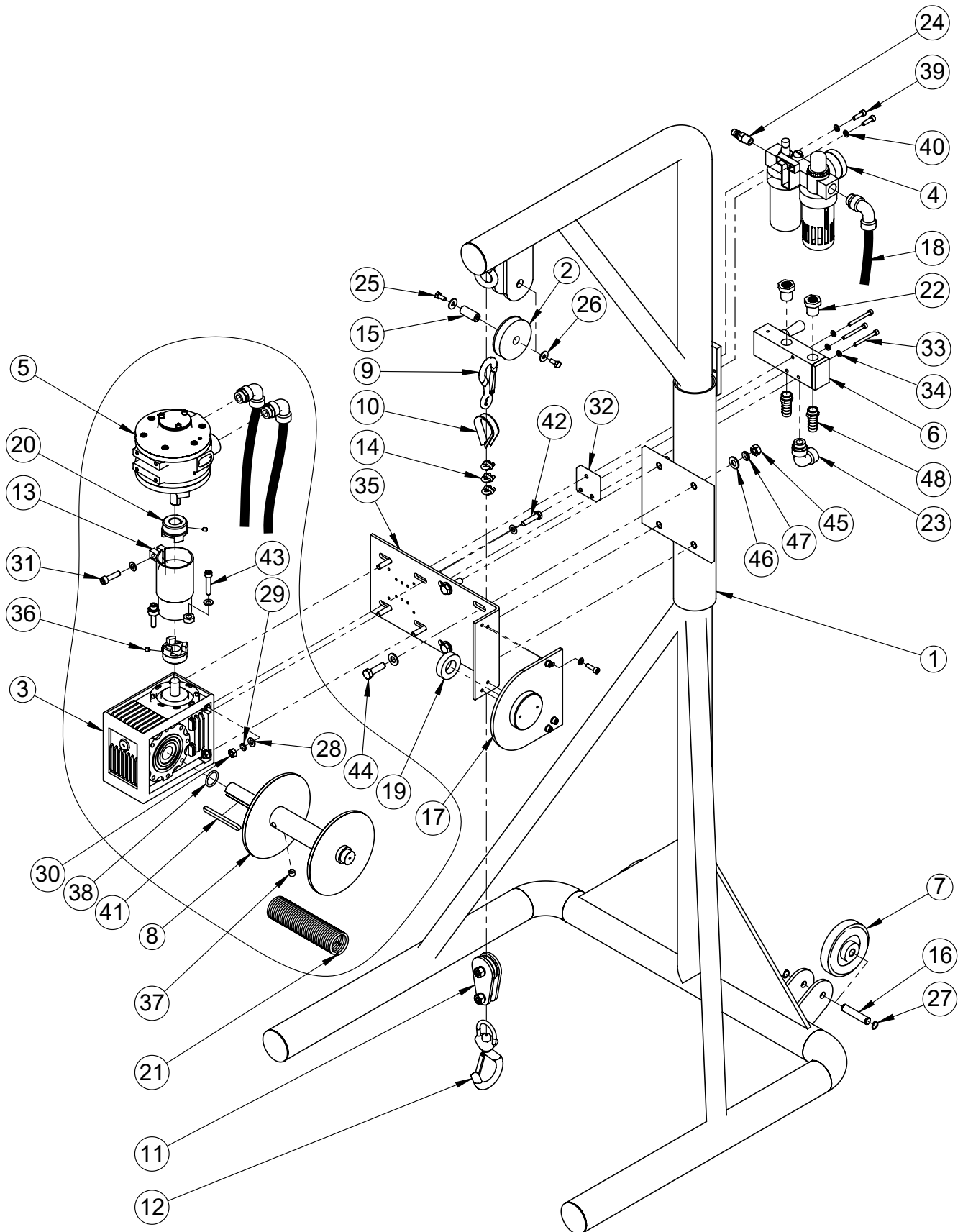
- a. Unscrew Allen bolt (43) with Plain washer (28) from Adaptor for gear box (13) to replace with new one. (If found damaged/worn-out)
- b. Unscrew Allen bolt (31) with Plain washer (28) from Adaptor for gear box (13) to replace with new one. (If found damaged/worn-out)
- c. Remove Adaptor for gear box (13) with Air motor (5) from Gear Box (3).
- d. Unscrew Grub Screws (36) from both Love joy couplings (20) to remove Love joy couplings (20) from Air motor (5) & Gear box (3) and replace with new one.

Bill of Materials for MCW-200

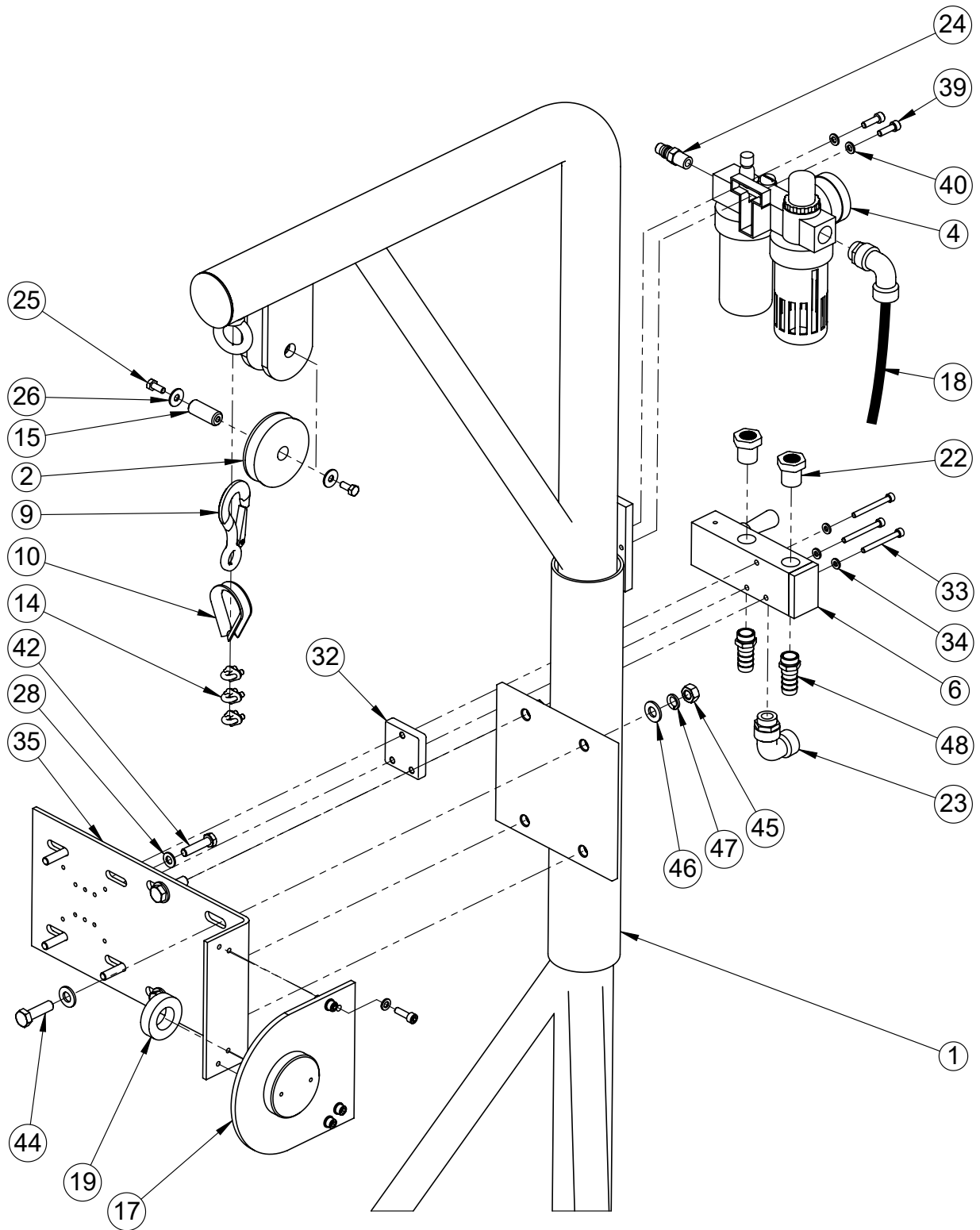
Illu No	Part Number	Description	MCW-200
1	5679701	TUBULAR FRAME	1 Set
2	5662103	PULLEY	1
3	5675001	GEAR BOX	1
4	5665015	FRL	1
5	8050000	AIR MOTOR	1
6	5675006	DEADMAN'S VALVE	1
7	5665003	WHEEL	2
8	5673303	ROPE DRUM	1
9	5665014	EYE HOOK	1
10	5665013	LIMB FOR HOOK	1
11	5665008	SHACKLE	1
12	5665007	HOOK	1
13	5673304	ADAPTOR FOR GEAR BOX	1
14	5665009	WIRE ROPE LOCK	2
15	5662101	PIN FOR PULLEY	1
16	5662102	PIN FOR WHEEL	2
17	5673101	BEARING PLATE	1
18	5665010	TUBE	1 Mtr
19	5675005	BALL BEARING	1
20	5675008	LOVE JOY COUPLING	1 Set
21	5665005	WIRE ROPE	41 Mtr
22	5665011	FITTING STRAIGHT	1
23	5665012	FITTING ELBOW	5
24	351355	COUPLER	2
25	5669001	HEX BOLT	2
26	5669012	PLAIN WASHER	2

Illu No	Part Number	Description	MCW-200
27	5669002	EXTERNAL CIRCLIP	4
28	6429086	PLAIN WASHER	12
29	5679006	SPRING WASHER	4
30	5679003	HEX NUT	4
31	5669004	ALLEN BOLT	1
32	5663103	SPACER PLATE	1
33	5669022	ALLEN BOLT	3
34	5669015	PLAIN WASHER	3
35	5673301-13	GEAR BOX MOUNTING PLATE	1
36	5669006	GRUB SCREW	2
37	5669014	GRUB SCREW	1
38	5674001	O-RING	1
39	5679001	ALLEN BOLT	6
40	5669020	PLAIN WASHER	6
41	5672202	KEY	1
42	5679002	HEX BOLT	4
43	5679004	ALLEN BOLT	3
44	5669008	HEX BOLT	4
45	5669010	HEX NUT	4
46	5669018	PLAIN WASHER	8
47	5669017	SPRING WASHER	4
48	5665017	HOSE NIPPLE	2

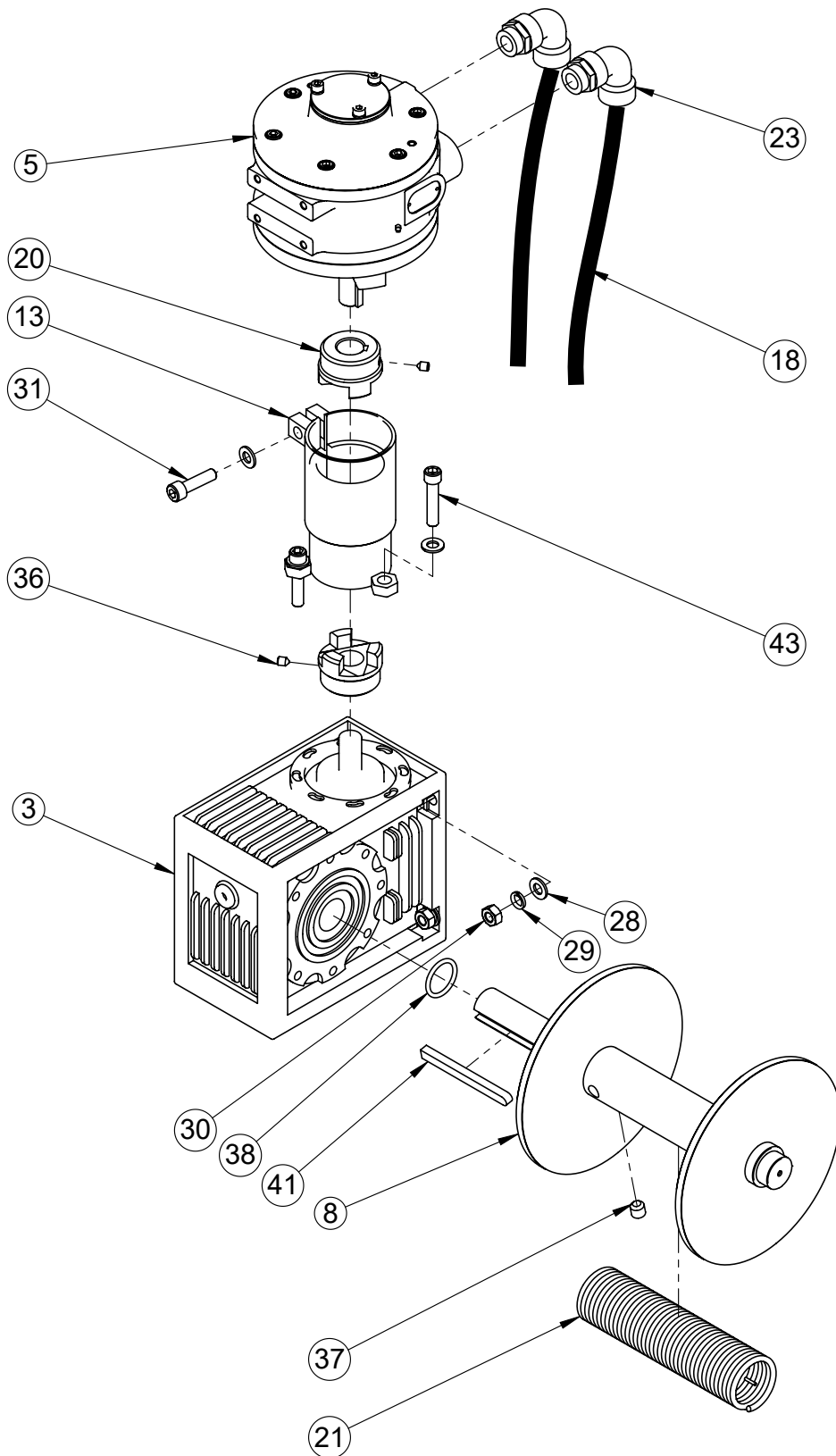
Exploded View for MCW-200



Exploded View Detail - A for MCW-200



Exploded View Detail - B for MCW-200



Diassembly and Re-assembly for MCW-300

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

Replacement of FRL and Tube

- a. Remove all Tubes (18) from Tube fitting elbow (23) & Tube fitting straight (22)
- b. Unscrew Tube fitting elbow (23) & Coupler (24) from FRL (4). Unscrew Allen bolt (39) with Plain washer (40) from FRL (4) and replace it with new one. (If found damaged/worn-out)
- c. Remove FRL (4) from Tubular frame (1) and replace it with new one.

Replacement of Wire Rope

- a. Loosen Wire rope Lock (14) to remove Wire rope (21) from Shackle (11), Limb for Hook & Pulley (2).
- b. Unwind Wire rope (21) from Rope drum (8) & unscrew Grub screw (37) from Rope drum (8) to replace with new one. (If found damaged/worn-out)

Replacement of Love Joy Coupling

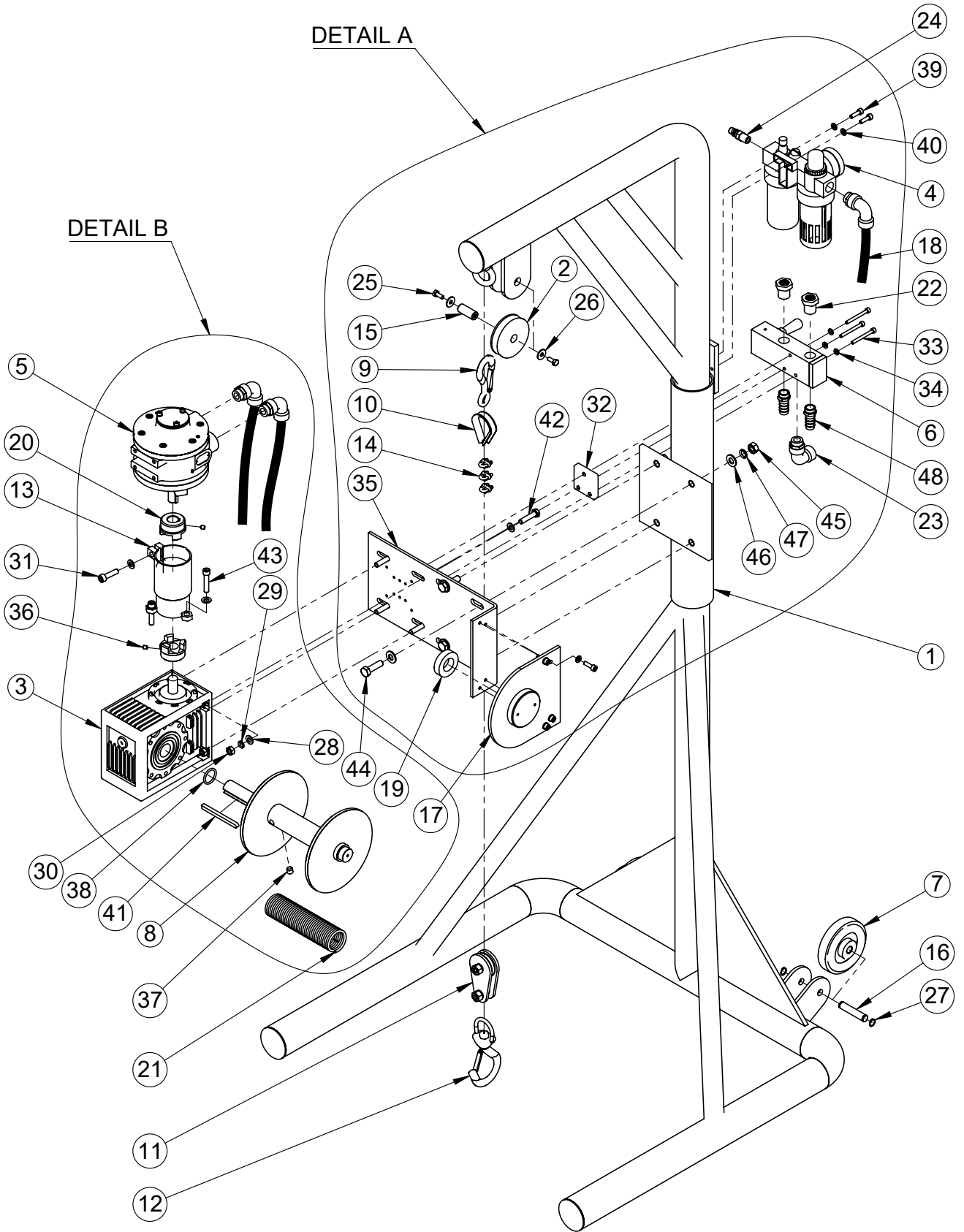
- a. Unscrew Allen bolt (43) with Plain washer (28) from Adaptor for gear box (13) to replace with new one. (If found damaged/worn-out)
- b. Unscrew Allen bolt (31) with Plain washer (28) from Adaptor for gear box (13) to replace with new one. (If found damaged/worn-out)
- c. Remove Adaptor for gear box (13) with Air motor (5) from Gear Box (3).
- d. Unscrew Grub Screws (36) from both Love joy couplings (20) to remove Love joy couplings (20) from Air motor (5) & Gear box (3) and replace with new one.

Bill of Materials for MCW-300

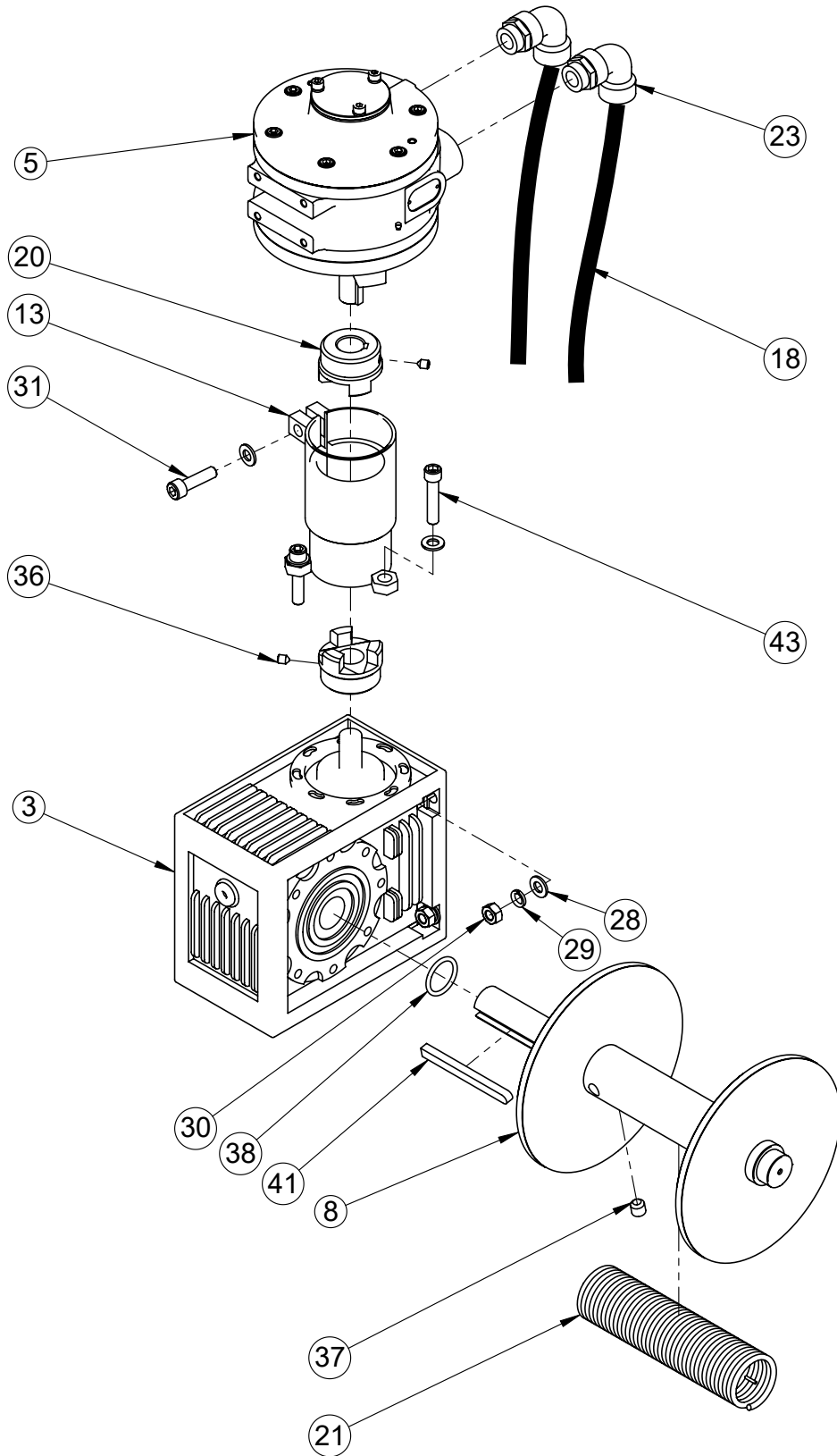
Illu No	Part Number	Description	MCW-300
1	5689701	TUBULAR FRAME	1 Set
2	5662103	PULLEY	1
3	5675001	GEAR BOX	1
4	5665015	FRL	1
5	8050000	AIR MOTOR	1
6	5675006	DEADMAN'S VALVE	1
7	5665003	WHEEL	2
8	5673303	ROPE DRUM	1
9	5665014	EYE HOOK	1
10	5665013	LIMB FOR HOOK	1
11	5665008	SHACKLE	1
12	5665007	HOOK	1
13	5673304	ADAPTOR FOR GEAR BOX	1
14	5665009	WIRE ROPE LOCK	2
15	5662101	PIN FOR PULLEY	1
16	5662102	PIN FOR WHEEL	2
17	5673101	BEARING PLATE	1
18	5665010	TUBE	1 Mtr.
19	5675005	BALL BEARING	1
20	5675008	LOVE JOY COUPLING	1 Set
21	5665005	WIRE ROPE	41 Mtr.
22	5665011	FITTING STRAIGHT	1
23	5665012	FITTING ELBOW	5
24	35.13.55	COUPLER	2
25	5669001	HEX BOLT	2
26	5669012	PLAIN WASHER	2

Illu No	Part Number	Description	MCW-300
27	5669002	EXTERNAL CIRCLIP	4
28	6429086	PLAIN WASHER	12
29	5679006	SPRING WASHER	4
30	5679003	HEX NUT	4
31	5669004	ALLEN BOLT	1
32	5663103	SPACER PLATE	1
33	5669022	ALLEN BOLT	3
34	5669015	PLAIN WASHER	3
35	5673301-13	GEAR BOX MOUNTING PLATE	1
36	5669006	GRUB SCREW	2
37	5669014	GRUB SCREW	1
38	5674001	O-RING	1
39	5679001	ALLEN BOLT	6
40	5669020	PLAIN WASHER	6
41	5672202	KEY	1
42	5679002	HEX BOLT	4
43	5679004	ALLEN BOLT	3
44	5669008	HEX BOLT	4
45	5669010	HEX NUT	4
46	5669018	PLAIN WASHER	8
47	5669017	SPRING WASHER	4
48	5665017	HOSE NIPPLE	2

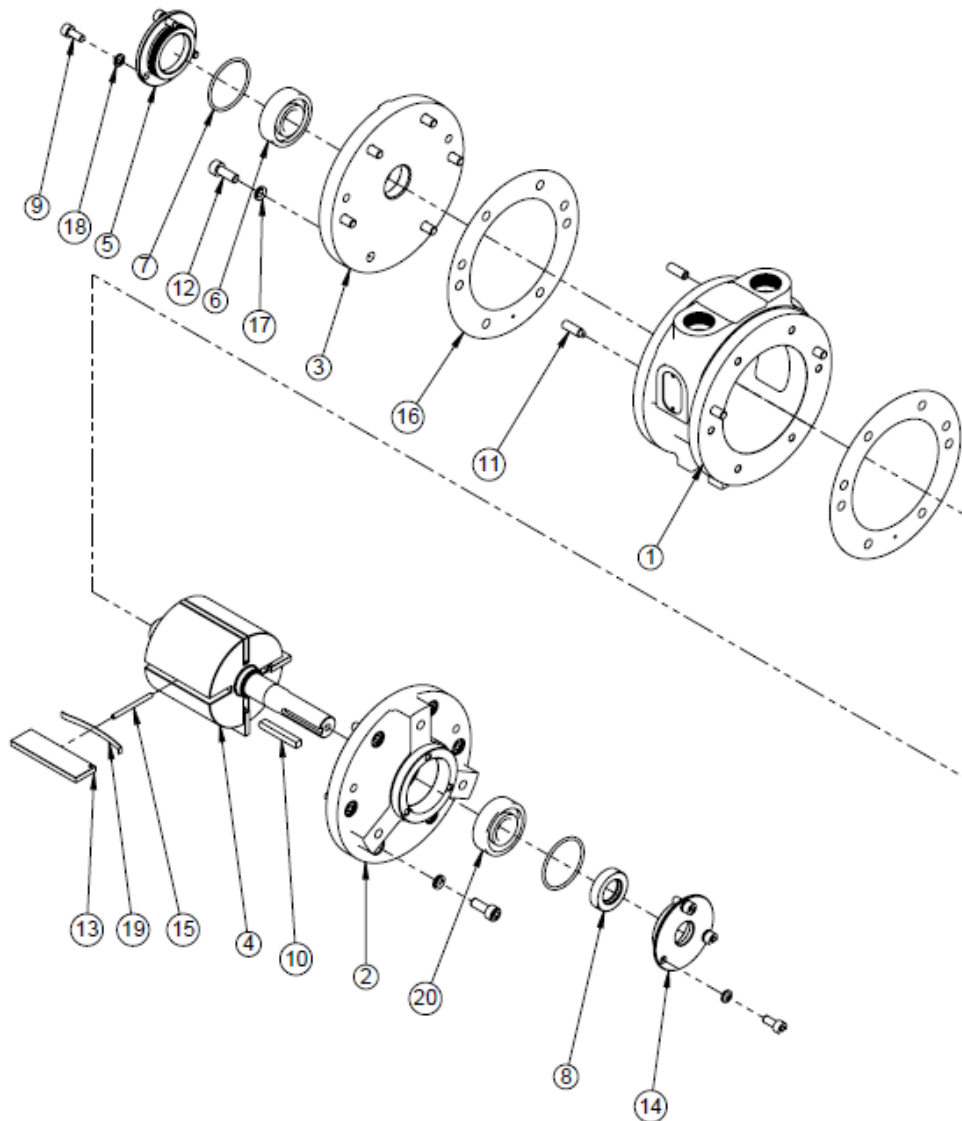
Exploded View for MCW-300



Exploded View Detail - B for MCW-300



Exploded view Air Motor 8050000



Bill of Materials for MCW-200 & MCW-300

Illu No	Part Number	Description	Qty
1	8050501	MOTOR HOUSING	1
2	8050504	FRONT FLANGE	1
3	8050503	REAR FLANGE	1
4	8052107	ROTOR SHAFT	1
5	8052102	REAR BEARING CAP	1
6	8055002	REAR BALL BEARING	1
7	8054001	O' RING	2
8	8056001	OIL SEAL	1
9	5509028	ALLEN BOLT	6
10	8052202	ONE SIDE KEY	1

Illu No	Part Number	Description	Qty
11	8049004	ROLL PIN	4
12	8049003	ALLEN BOLT	12
13	8053902	ROTOR BLADE	4
14	8052103	FRONT BEARING CAP	1
15	8052108	DOWEL PIN	2
16	8053701	SHIM	2
17	5369004	SPRING WASHER	12
18	8059001	SPRING WASHER	6
19	8055102	LEAF SPRING	4
20	1995035	FRONT BALL BEARING	1

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 Driven Winchs**

Model Number : **MCW Series**

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



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 : MCW Series


Mr. Pratik Tikhande
Q.A. Manager
(Company Seal)

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