

SEEMARK

SC-03 ~ SC-10

HYDRAULIC COMPACTION PLATE



IMPORTANT NOTICE

Read this manual carefully prior to installing, operating or maintaining the Hydraulic Compaction Plate for the first time.

Follow the instructions carefully, to ensure the safety of yourself and others; and to avoid damage to the device, the machine or other assets.

To avoid unnecessary injury or damage always observe relevant laws, regulations and safe working practices.

Ensure that all bolts are torqued correctly (Chapter 7) after the first hour of use. Do not use impact guns to torque bolts.

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Chapter 1 - Foreword

Please consult with SEEMARK (AUSTRALIA) P/L should any questions arise regarding your compaction plate, or this publication.

This manual contains safety, operation, lubrication and maintenance information.

The manual is a reference document for operators, service technicians and a refresher document for experienced personnel.

Read, understand, and store it close to the compaction plate.

WARNING

- Seemark compactor plates should not be used for purposes other than compaction of ground material when attached to the recommended size excavator
- Refer to "SAFETY PRECAUTIONS" prior to using the compaction plate
- If the compactor plate is used carelessly, damage to equipment may occur and or serious injury or death may result
- The operator and maintenance technician should read this manual before operating or repairing the compactor
- Keep this manual near the compactor plate, and ensure those who use or manage the compactor plate are conversant with it
- If this manual is lost or damaged, a replacement may be obtained from Seemark (Australia) Pty Ltd or by download from www.seemark.com.au/manuals
- If the compactor plate is transferred to another owner or user; ensure this manual accompanies it
- Use the compactor plate in accordance with local regulations
- The manufacturer may change the contents of this manual without notice or obligation

Chapter 2 Common uses

- Compacting the sloping surfaces on road or building sites
- Compacting the base for buildings or structures
- Compacting soils, gravels and similar materials
- Compacting the bottom surface of trenches
- Compaction of backfill materials during trench work

Chapter 3 Specification

1) General

Description Model	Impulse Force	Vibration per Minute (Max)	Required Oil Flow	Working Pressure	Weight	Suitable Excavator
	ton	bpm	lpm	kg/cm ²	kg	ton
SC-03	2 ~ 3	2,000	45 ~ 85	100 ~ 130	350	4 ~ 10
SC-06	6 ~ 7	2,000	85 ~ 105	100 ~130	700	11 ~ 16
SC-08	8 ~ 9	2,200	120 ~ 170	150 ~ 200	900	18 ~ 26
SC-10	10 ~ 15	2,200	120 ~ 170	150 ~ 200	1300	30 ~ 40

2) Motor

Type : Commercial

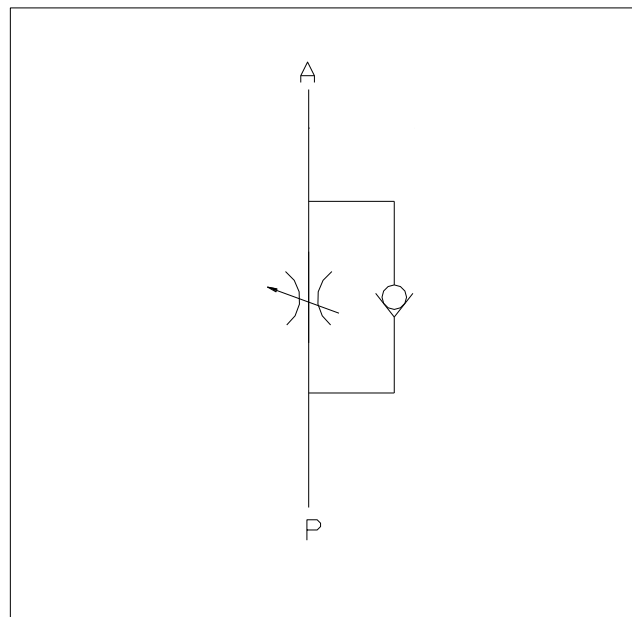
Model Description		SC-03	SC-06	SC-08	SC-10
Motor Size		M3100	M5100	M5100	M7600-100
Displacement (cc / rev)		32	63	80	100
Port Size	IN	1"	1 1/4"	2"	2"
	OUT	1"	1 1/4"	2"	2"
Drain Pressure (bar)		2.5	2.5	2.5	2.5
Hose Size		1/2"	3/4"	1"	1"

* Intermittent operation: the permissible values may occur for max. 10% of every minute.

3) Flow Control Valve

Block Cartridge In Model	Flow Control v/v	Rated Flow (lpm)	Max. Pressure (bar)	Each Port Size (P.T.A.B)
SC-03	STUF-120	57	160	1/2"
SC-06	STUF-120	95	210	3/4"
SC-08	STUF-340	150	210	3/4"
SC-10	STUF-340	150	210	3/4"

Flow Control Valve Included Anti-Cavitation Check V/V .



Chapter 4 General Information

1. Usage of Compactor Plates

Seemark compaction plates are designed to work in civil and construction sites by qualified and experienced plant operators.

2. Serial Number

Products are manufactured to precise specifications under strict quality control and a serial number is stamped on the shaft housing. Should the products require repair or replacement parts, the serial number must be provided.

3. Clothing

Personal protective equipment and clothing must be worn whilst operating this compaction plate. You may be injured if you do not wear suitable clothing. Loose clothing can get caught in a machine and serious injury or death may result.

4. Lifting Equipment

Proper and safe lifting equipment must be used to maneuver this compaction plate. Serious injury or death may result from failure to obey this instruction.

5. Safety

This manual is a guide for safe operation and maintenance. Before installing, operating or maintaining the compaction plate, you must read this manual carefully and keep it with the device.

6. Operation

You should be a competent and qualified operator of the carrier machine to use the hydraulic compaction plate. It is the operator's responsibility to ensure that the compaction plate is securely attached to the machine and that hoses are correctly connected. Additionally, it is the operator's responsibility to ensure that the hydraulic oil flow and pressure meets the specific requirements of the compaction plate as detailed within this manual.

7. Practice

It is strongly recommended for inexperienced users of the hydraulic compaction plate to practice in a location where there are no bystanders in order to eliminate the risk of injury to others.

8. Communications

Poor communication can result in the occurrence of accidents. Work sites are generally noisy and verbal communication is often difficult to hear and understand. The operator and work colleagues must ensure that they are communicating effectively in order to ensure there is no risk to human safety or damage to plant and equipment. Well understood hand signals and or 2-way radio may be required to achieve this goal.

9. Safety Barriers

Whilst operating the compaction plate, safety barriers or fencing should be used to exclude access to the site by unqualified persons.

10. Equipment limits and Condition

Never operate the equipment beyond its limits. To do so may cause damage to the equipment and also may endanger you and other people. Do not try to modify or upgrade the compaction plate's performance by unapproved modifications. Defective compaction plates can injure you or others. Do not operate a compaction plate which is defective or has missing parts. Make sure all maintenance procedures are completed before use. Obey all laws and regulations of the work place. Do not operate at abnormally high temperature. Do not operate under water.

11. Repairs and Maintenance

Service, repairs or maintenance must only be carried out by qualified persons. Contact your service agent for parts and advice. Never assume anything you do not understand. Only routine maintenance listed in the manual may be done by the operator.

Chapter 5 Installation

1) Connecting

The first procedure is to connect the pressure and return hoses to the connection block.

MODEL	Pressure Ports Size	
	P (INLET)	T (RETURN)
SC-03	1/2" (PF)	1/2" (PF)
SC-06	3/4" (PF)	3/4" (PF)
SC-08	1" (PF)	1" (PF)
SC-10	1" (PF)	1" (PF)

2) Setting and Adjustment

Ensure the pressure and flow rates on the host machine are set to the requirements nominated in Chapter 3.

Compaction plates are fitted with a flow control valve which has been set at the factory at time of manufacture. The following procedure can be followed should it require adjustment in future.

- (1) Disconnect hoses at the motor and insert an oil flow meter.
- (2) Apply slightly low pressure to boom.
- (3) Let the oil flow through flow meter and adjust flow control valve to recommended flow rates, i.e.

Model	Set value
SC-03	50~70 lpm at 90~130 (kg/cm ²)
SC-06	60~100 lpm at 100~140 (kg/cm ²)
SC-08	60~100 lpm at 120~160 (kg/cm ²)
SC-10	80~120 lpm at 130~170 (kg/cm ²)

All motors are specially designed (SC03 – 10) as an internal drain type. However, please check back pressure at the same time. 2 – 7 bar as recommended. 10 bar being the maximum allowable for SC03 - 10. For all it is advisable to keep the pressure as low as possible to extend the life of the seal.

The manufacturer recommends no more than 5 Bar. If this back pressure cannot be obtained from model specification, a reduction of oil flow from the excavator is necessary via spool valve on the main hydraulic system. It is also recommended that the return oil goes directly back to tank.

Excessive back pressure will result in motor seal failure.

Chapter 6 Operation

The “pin centers” in the head bracket on some models are adjustable to allow attachment to different machines. The adjustment bolts and pin centre settings must be checked daily and can be welded if the quick hitch on the machine is too powerful and keeps forcing unwanted adjustment.

Most models have removable pins and bushes in the head bracket to enable them to be changed to suit other machine connections. Pins and bushes can be welded in place by the owner/operator if desired.

- 1) Ensure that all hoses are correctly fitted and tightened and that return lines are **fully open**.
- 2) Ensure that the flow rate and the pressure are correctly adjusted.
- 3) Turn Compactor plates on. Place on material to be compacted and apply low pressure for a period of 10 ~ 20 secs. This time period will vary slightly depending on the type of material being compacted.
- 4) Best results are obtained with two passes: the first with lighter down pressure and the following with heavier down pressure. **Do not over-vibrate.**

Granular material can be compacted in 1/2 to 1 meter depths and less with clay material. Moisture content is an important factor when compacting soil.

On completion of daily work, do not place boom load onto vibration mounts overnight.

Chapter 7 Maintenance

1) Bearing and hydraulic oil inspection after approximately 400 hours.

2) Torque of the Screws

SIZE	TORQUE
10 mm	44 Nm
12 mm	77 Nm
16 mm	190 Nm
20 mm	350 Nm

* All fasteners are High Tensile Grade 12.9T.

3) All hex Nuts

All hex nuts are High Tensile Grade 12.9T(JIS) and locking nuts are sometimes used.

Re-tighten all fasteners after first 4 hours of use, and then periodical checks are most important to ensure maximum performance.

IMPORTANT

When replacing bearings use only original spare parts as these are specially selected. Replaced bearing must be pressed into end plate by outer shell only, in order to avoid damaging the bearing.

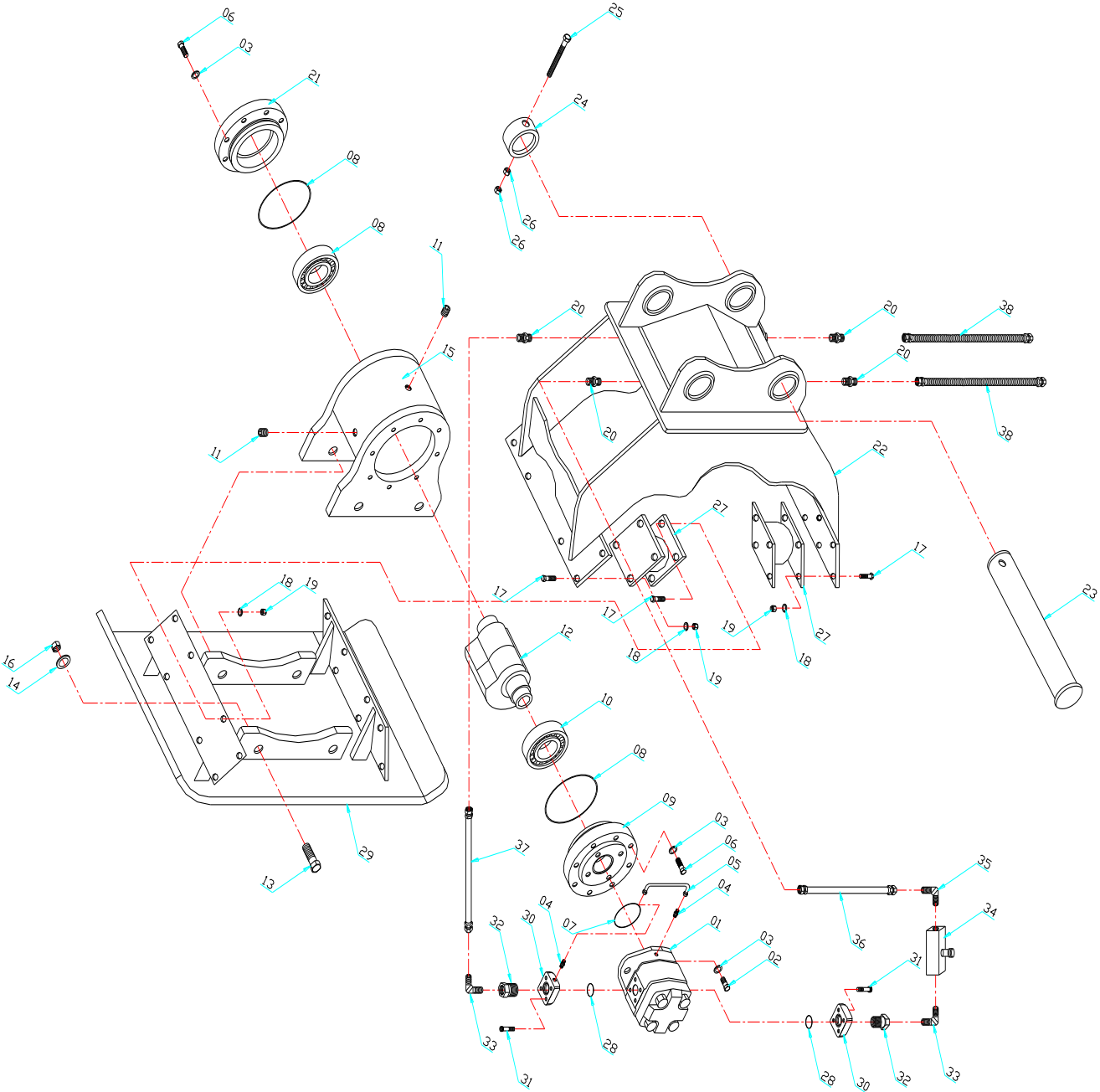
4) Lubrication Oil

The oil in the shaft housing should always be maintained at the specified quantity. Engine oil is satisfactory. The oil volume needed for each compactor is as follows;

Model	Proper Volume
SC-03	1.5 litres
SC-06	2.4 litres
SC-08	4.9 litres
SC-10	4.9 litres

Chapter 8 Disassembled Part List

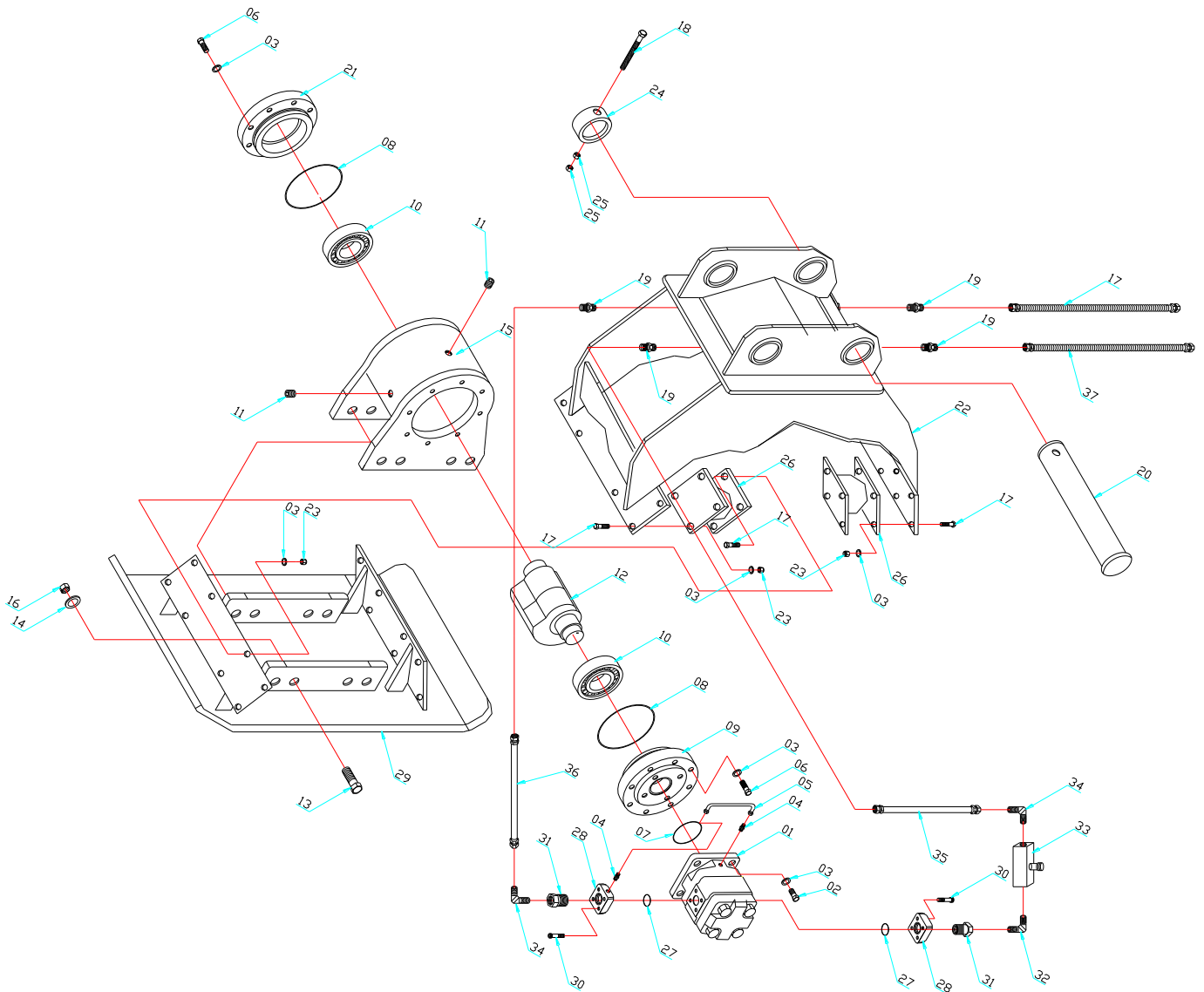
1) SC-03



SC-03 PARTS LIST

NO	PART NO	PARTS NAME	Q`TY	REMARK`S
1	SC-01	MOTOR	1	32CC
2	SC-02	MOTOR BOLT	4	M12×30
3	SC-03	SPRING WASHER	20	M12
4	SC-04	NIPPLE	2	PT 1/4"×PF 1/4"
5	SC-05	HOSE	1	1/4"905×1/4"905×250L
6	SC-06	BODY COVER BOLT	16	M12×40L
7	SC-07	O-RING	1	AS 236
8	SC-08	O-RING	2	1B G155
9	SC-09	BODY COVER (A)	1	Ø220×52
10	SC-10	BEARING	2	NJ312
11	SC-11	SOCKET PLUG	2	PT 1/2"
12	SC-12	CAM SHAFT ASS`Y	1	
13	SC-13	BODY BOLT	4	M24×70
14	SC-14	SPRING WASHER	4	M24
15	SC-15	BODY ASS`Y	1	
16	SC-16	NUT	4	M24
17	SC-17	RUBBER BOLT	32	M14×45L
18	SC-18	SPRING WASHER	32	M14
19	SC-19	NYLOCK NUT	32	M14
20	SC-20	NIPPLE	4	PT 1/2"×PF 1/2"
21	SC-21	BODY COVER (B)	1	Ø220×47
22	SC-22	BRACKET ASS`Y	1	
23	SC-23	BRACKET PIN		
24	SC-24	BRACKET PIN STOP PING	2	
25	SC-25	BRACKET PIN BOLT	2	M12×100L
26	SC-26	BRACKET PIN NUT	4	M12
27	SC-27	RUBBER	4	150×150×79
28	SC-28	O-RING	2	1B P32
29	SC-29	BASE PLATE ASS`Y	1	
30	SC-30	IN OUT FLANGE	2	73×59×28
31	SC-31	IN OUT FLANGE BOLT	8	M8×45L
32	SC-32	SOCKET	2	PT 1"× PT 1/2"
33	SC-33	NIPPLE	1	PT 1/2"× PT 1/2"
34	SC-34	CONTROL VALVE	1	1/2"
35	SC-35	NIPPLE	2	PT 1/2"× PF 1/2"
36	SC-36	HOSE	1	1/2"×500L
37	SC-37	HOSE	1	1/2"×450L
38	SC-30	HOSE	2	1/2"×1500L

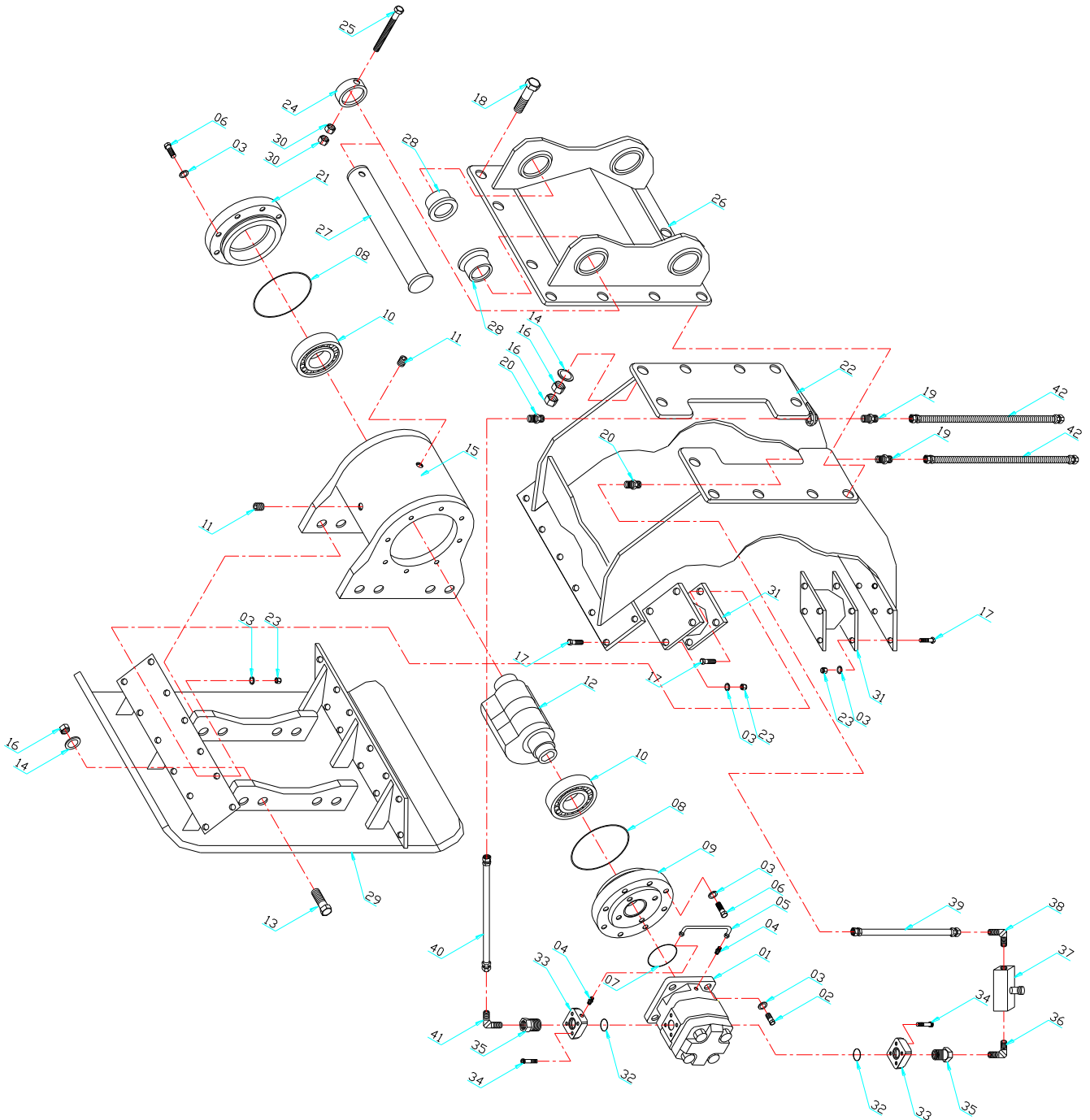
2) SC -06



SC -06 PARTS LIST

NO	PART NO	PARTS NAME	Q'TY	REMARK'S
1	SC-01	MOTOR	1	63CC
2	SC-02	MOTOR BOLT	4	M14×35
3	SC-03	SPRING WASHER	60	M14
4	SC-04	NIPPLE	2	PT 1/4"×PF 1/4"
5	SC-05	HOSE	1	1/4"905×1/4"905×300L
6	SC-06	BODY COVER BOLT	16	M14×65L
7	SC-07	O-RING	1	AS 250
8	SC-08	O-RING	2	1B G220
9	SC-09	BODY COVER (A)	1	Ø290×75
10	SC-10	BEARING	2	NJ318
11	SC-11	SOCKET PLUG	2	PT 1/2"
12	SC-12	CAM SHAFT ASS'Y	1	
13	SC-13	BODY BOLT	8	M24×75
14	SC-14	SPRING WASHER	8	M24
15	SC-15	BODY ASS'Y	1	
16	SC-16	NUT	8	M24
17	SC-17	RUBBER BOLT	40	M14×50L
18	SC-18	BRACKET PIN BOLT	2	M16×160L
19	SC-19	NIPPLE	4	PT 3/4"×PF 4/3"
20	SC-20	BRACKET PIN	2	
21	SC-21	BODY COVER (B)	1	Ø290×65
22	SC-22	BRACKET ASS'Y	1	
23	SC-23	NYLOCK NUT	40	M14
24	SC-24	BRACKET PIN STOP PING	2	
25	SC-25	BRACKET PIN NUT	4	M16
26	SC-26	RUBBER	6	180×180×100
27	SC-27	O-RING	2	1B G36
28	SC-28	IN OUT FLANGE	2	83×64×29
29	SC-29	BASE PLATE ASS'Y	1	
30	SC-30	IN OUT FLANGE BOLT	8	M10×45L
31	SC-31	SOCKET	2	PT 1 1/4"× PT 3/4"
32	SC-32	NIPPLE	1	PT 3/4"× PT 3/4"
33	SC-33	CONTROL VALVE	1	3/4"
34	SC-34	NIPPLE	2	PT 3/4"× PF 3/4"
35	SC-35	HOSE	1	3/4"×700L
36	SC-36	HOSE	1	3/4"×600L
37	SC-37	HOSE	2	3/4"×2000L

3) SC -08

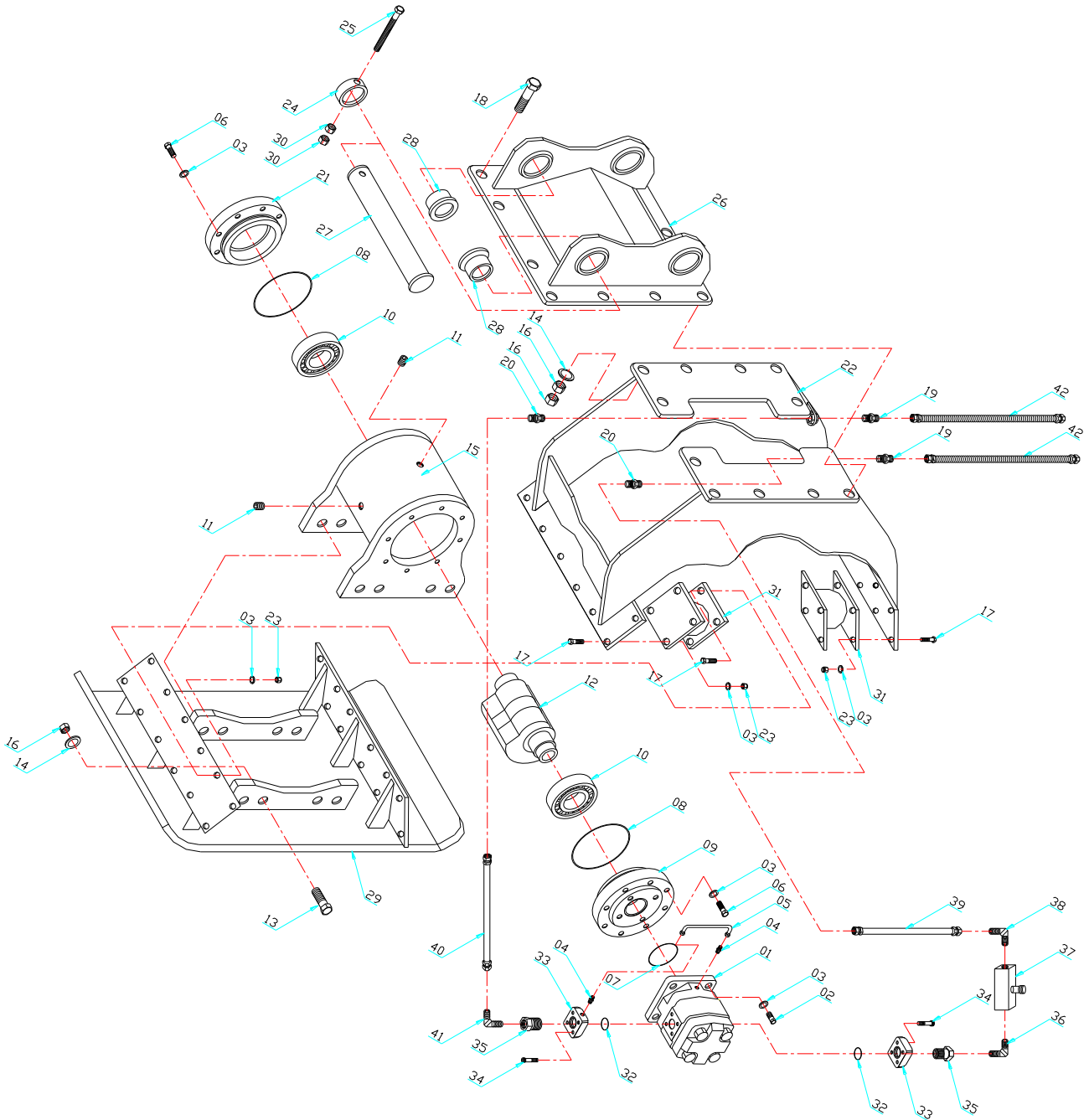


SC-08 PARTS LIST

NO	PART NO	PARTS NAME	Q`TY	REMARK`S
1	SC-01	MOTOR	1	80CC
2	SC-02	MOTOR BOLT	4	M14×35
3	SC-03	SPRING WASHER	68	M14
4	SC-04	NIPPLE	2	PT 1/4"×PF 1/4"
5	SC-05	HOSE	1	1/4"905×1/4"905×300L
6	SC-06	BODY COVER BOLT	16	M14×65L
7	SC-07	O-RING	1	AS 250
8	SC-08	O-RING	2	1B G220
9	SC-09	BODY COVER (A)	1	Ø290×75
10	SC-10	BEARING	2	NJ318
11	SC-11	SOCKET PLUG	2	PT 1/2"
12	SC-12	CAM SHAFT ASS`Y	1	
13	SC-13	BODY BOLT	8	M24×75
14	SC-14	SPRING WASHER	20	M24
15	SC-15	BODY ASS`Y	1	
16	SC-16	NUT	32	M24
17	SC-17	RUBBER BOLT	48	M14×50L
18	SC-18	TOP BRACKET BOLT	12	M24×90L
19	SC-19	NIPPLE	2	PT 1"×PF 1"
20	SC-20	NIPPLE	2	PT 1"×PF 3/4"
21	SC-21	BODY COVER (B)	1	Ø290×65
22	SC-22	BRACKET ASS`Y	1	
23	SC-23	NYLOCK NUT	48	M14
24	SC-24	BRACKET PIN STOP PING	2	
25	SC-25	BRACKET PIN BOLT	2	M16×180L
26	SC-26	TOP BRACKET ASS`Y	1	
27	SC-27	BRACKET PIN	2	
28	SC-28	T-BUSH	4	
29	SC-29	BASE PLATE ASS`Y	1	
30	SC-30	BRACKET PIN NUT	4	M16
31	SC-31	RUBBER	6	180×180×100
32	SC-32	O-RING	2	1B G50
33	SC-33	IN OUT FLANGE	2	97×83×38
34	SC-34	IN OUT FLANGE BOLT	8	M12×60L
35	SC-35	SOCKET	2	PT 2"× 1"
36	SC-36	NIPPLE	1	PT 1"× PT" 3/4"
37	SC-37	CONTROL VALVE	1	3/4"
38	SC-38	NIPPLE	1	PT 3/4"×PF 3/4"
39	SC-39	HOSE	1	3/4"×800L

40	SC-40	HOSE	1	3/4"×700L
41	SC-41	NIPPLE	1	PT 1"×PF 3/4"
42	SC-42	HOSE	2	1"×2400L

4)SC- 10



SC-10 PARTS LIST

NO	PART NO	PARTS NAME	Q`TY	REMARK`S
1	SC-01	MOTOR	1	80CC
2	SC-02	MOTOR BOLT	4	M14×35
3	SC-03	SPRING WASHER	68	M14
4	SC-04	NIPPLE	2	PT 1/4"×PF 1/4"
5	SC-05	HOSE	1	1/4"905×1/4"905×300L
6	SC-06	BODY COVER BOLT	16	M14×65L
7	SC-07	O-RING	1	AS 250
8	SC-08	O-RING	2	1B G220
9	SC-09	BODY COVER (A)	1	Ø290×75
10	SC-10	BEARING	2	NJ318
11	SC-11	SOCKET PLUG	2	PT 1/2"
12	SC-12	CAM SHAFT ASS`Y	1	
13	SC-13	BODY BOLT	8	M24×75
14	SC-14	SPRING WASHER	20	M24
15	SC-15	BODY ASS`Y	1	
16	SC-16	NUT	32	M24
17	SC-17	RUBBER BOLT	48	M14×50L
18	SC-18	TOP BRACKET BOLT	12	M24×90L
19	SC-19	NIPPLE	2	PT 1"×PF 1"
20	SC-20	NIPPLE	2	PT1 "×PF 3/4"
21	SC-21	BODY COVER (B)	1	Ø290×65
22	SC-22	BRACKET ASS`Y	1	
23	SC-23	NYLOCK NUT	48	M14
24	SC-24	BRACKET PIN STOP PING	2	
25	SC-25	BRACKET PIN BOLT	2	M16×180L
26	SC-26	TOP BRACKET ASS`Y	1	
27	SC-27	BRACKET PIN	2	
28	SC-28	T-BUSH	4	
29	SC-29	BASE PLATE ASS`Y	1	
30	SC-30	BRACKET PIN NUT	4	M16
31	SC-31	RUBBER	6	180×180×100
32	SC-32	O-RING	2	1B G50
33	SC-33	IN OUT FLANGE	2	97×83×38
34	SC-34	IN OUT FLANGE BOLT	8	M12×60L
35	SC-35	SOCKET	2	PT 2"× 1"
36	SC-36	NIPPLE	1	PT 1"× PT" 3/4"
37	SC-37	CONTROL VALVE	1	3/4"
38	SC-38	NIPPLE	1	PT 3/4"×PF 3/4"

39	SC-39	HOSE	1	3/4"×800L
40	SC-40	HOSE	1	3/4"×700L
41	SC-41	NIPPLE	1	PT 1"×PF 3/4"
42	SC-42	HOSE	2	1"×2400L