

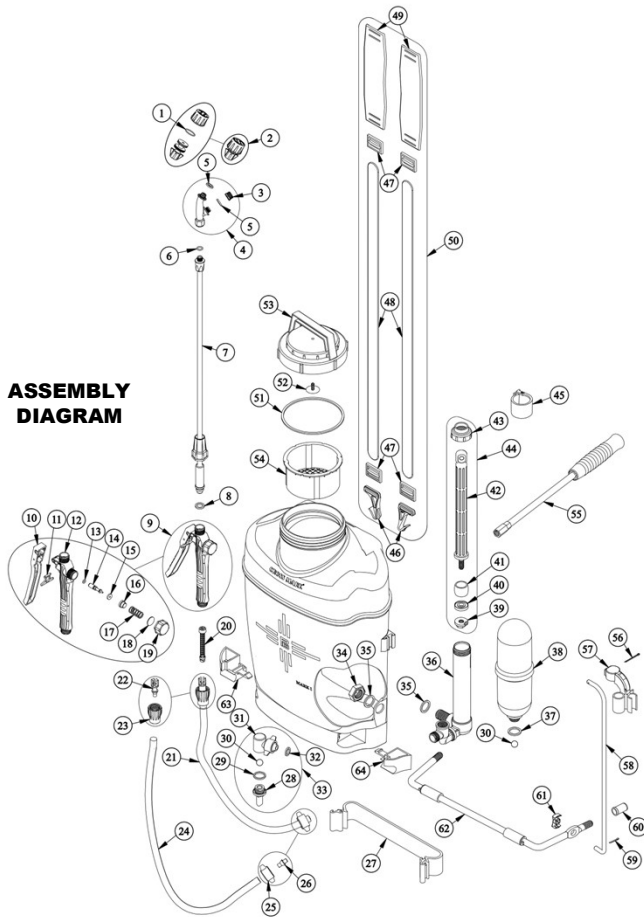
Diagram of Parts Assembling for PB MARK I



PB MARK I

AGRICULTURAL KNAPSACK SPRAYER

ASSEMBLY DIAGRAM



Made in Malaysia

Manufacturer reserve the right to do any technical changes as needed

Parts List for PB MARK I

NO.	CODE	DESCRIPTION
1	SCA/4/3R	'O' RING FOR SOLID CONE ADJUSTABLE NOZZLE
2	SCA/4	SOLID CONE ADJUSTABLE NOZZLE
3	TE/2AC	LOCK NUT
4	TE/2A(P1)	TWIN ELBOW
5	333W(B)	WASHER
6	333R	O-RING
7	331 (F)	SPRAYING LANCE
8	MEJ/22W	WASHER
9	321/CPT(P#2)	AUTOMATIC RELEASE COMPLETE WITH CLEANING CHAMBER
10	323(P#2)	PLASTIC LEVER
11	324	FIXTURE CLIP FOR LEVER [CODE NO.323(P#2)]
12	321 (P#2)	AUTOMATIC RELEASE BODY
13	325R	'O' RING 008
14	325	SPINDLE
15	326	DISC
16	327	VALVE
17	328	SPRING FOR AUTOMATIC RELEASE
18	329W	WASHER FOR PLUG
19	330	PLUG FOR AUTOMATIC RELEASE
20	322(P#2)	STRAINER FOR CHAMBER
21	346(P#2) – 42"	SPRAYING HOSE COMPLETE WITH UNION – 42"
22	343 (P#2)	NIPPLE FOR AUTOMATIC RELEASE (P#2)
23	344 (P#2)	UNION FOR AUTOMATIC RELEASE (P#2)
24	340	HOSE
25	344#2	UNION
26	343#1	NIPPLE FOR HOSE (INNER) / HOSE PLUG
27	304	STAND GUARD
28	310(P1)	RISING TUBE
29	310W	WASHER
30	311	BALL
31	312	SUCTION VALVE BODY
32	312W	WASHER
33	312/CPT	SUCTION VALVE COMPLETE
34	318	SCREW
35	317W	WASHER
36	315/CPT(P)	P PUMP CYLINDER COMPLETE
37	317W	WASHER
38	319	AIR CYLINER COMPLETE
39	309P	NUT FOR PISTON
40	308P	WASHER FOR PISTON (LOWER SIDE)
41	307E	PISTON (PINK COLOUR)
42	306(P)#2	P PLUNGER ROD
43	314(P1)	P1 MILLED NUT
44	306/CPT(P)#2	P PLUNGER ROD COMPLETE
45	315HC(P)#2	PUMP CYLINDER CLIP FOR 315/CPT(P)
46	339P	HOOK
47	338	STRAP HOLDER
48	337	SHOULDER STRAP
49	337B	SHOULDER PAD
50	337/CPT(B)P	SHOULDER STRAP COMPLETE WITH PAD
51	301R	RING FOR COVER
52	301V	VALVE FOR COVER
53	301(B)	COVER OF TANK C/W RING (BLUE)
54	303	STRAINER
55	347(A)	PUMP HANDLE COMPLETE WITH HAND SLEEVE
56	313D	PIN (M2.3 X 30)
57	MBE/63(P)	LANCE LEVER CLIP
58	313	PULL BAR
59	313B	PIN (1/8" X5/8")
60	MBP/03A	COVER FOR LEVER
61	313P	BUSH FOR PULL BAR
62	MBD/4	IRON ROD FOR STAND
63	MBD/4CL (L)	IRON ROD HOLDER (LEFT)
64	MBD/4CL (R)	IRON ROD HOLDER (RIGHT)



PB MARK I

AGRICULTURAL KNAPSACK SPRAYER

OUTSTANDING FEATURES

- * *Lightweight*
- * *D.I.Y Design*
- * *Durable*
- * *Safety and Easy Operation*
- * *Good Pressure Performance*
- * *Ergonomic Design*
- * *Easy Maintenance*
- * *Spare Parts Available*



Standard Spare Parts	Quantity
Spraying Lance [331(F)]	1
Handle Complete [347(A)]	1
Solid Cone Adjustable Nozzle [SCA/4(LG)] <i>Flow Rate: (1.30 – 1.45) L/Min</i>	1
Solid Cone Adjustable Nozzle Cap [SCA/4/1(R)] <i>Flow Rate: (0.70 – 0.85) L/Min</i>	1
Twin Elbow [TE/2A(P1)]	1
Strainer [322(P#2)]	1
Washer Set	1 set

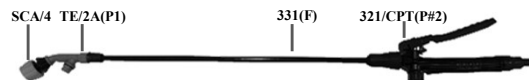
General Specification

Brand	PB	
Model	MARK I PBD-12	MARK I PBD-16
Tank Capacity	12.00 Litre	16.00 Litre
Pump Type	Piston	Piston
Pump Action	Left / Right Hand	Left / Right Hand
Maximum Pressure	8.00 kg/cm ²	8.00 kg/cm ²
Working Pressure	(2.0-4.0) kg/cm ²	(2.0-4.0) kg/cm ²
Measurement	446mm x 239mm x 451mm	446mm x 239mm x 511mm
Net Weight	3.90 Kg	4.10 Kg
Gross Weight	4.60 Kg	5.00 Kg



SYARIKAT JUN CHONG SDN. BHD.
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CROSSMARK® SPRAYER MANUFACTURER
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Operating Instruction

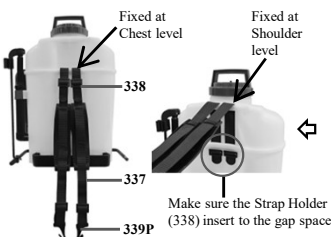


1) The lance [331(F)] with twin elbow [TE/2A(P1)] and SCA/4 nozzle are screwed onto the automatic release completed [321/CPT(P#2)] with hose [346/(P#2)-42"] and connected to sprayer.

2) Check all the joints are tightened properly with washer to prevent leaking.

3) Fill 2ml SAE30 lubrication oil into the P pump cylinder [315/CPT(P)]. The oil bath should be above the piston (307E).

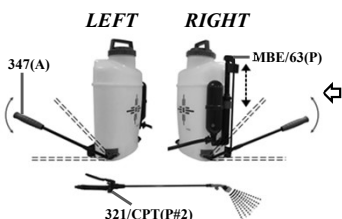
4) Fill the chemical mixture into the sprayer tank through the strainer (303) in order to filtrate the dirt and sediments. To avoid overflow.



5) Shoulder straps (337) are fully adjustable and able to fixed at Chest level or Shoulder level to ensure operator's comfort in fieldwork.



6) To carry the sprayer, shoulder strap hook (339P) can either be hooked on stand guard (304) or the base of the tank.



7) The pump handle [347(A)] can be fixed for right or left hand operation, then pumping upward and downward repeatedly for 5 or 6 strokes to build up pressure. Squeezing the trigger [321/CPT(P#2)] will allow the liquid to flow into the spraying lance and spray out through the nozzle at a certain pressure.

Locking Pressure (psi)	Number of Strokes
20	4
40	5
60	6
120	7

8) To maintain satisfactory pressure for spraying, please refer to the table as a guideline for number of stroke to achieve the listed locking pressure.

Maintenance Guides

- To clean the sprayer: Fill clean water into the sprayer tank and bring the sprayer under pressure by pumping the handle for several strokes, then squeezing the trigger to allow the clean water flow into spraying lance and nozzle in order to clean the mechanism portion and nozzle.
- To wash the nozzle (SCA/4) and filter [322(P#2)]: Remove the nozzle cap (SCA/4/1) and the filter [322(P#2)] from cleaning chamber for cleaning purpose. Then, replace them back after cleaning.
- To clean the valve of pump cylinder [315/CPT(P)]: Unscrewing the air cylinder (319) and take out the ball (311) for cleaning purpose. Replace them back after washing and cleaning.
- Fix all the joints properly: All of the joints must be tightened properly with washer.

Problems and Remedies

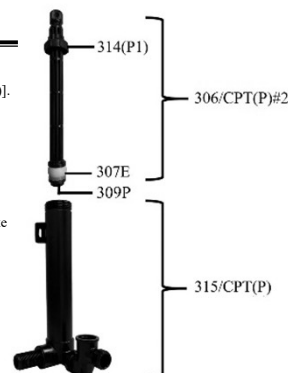
1) Piston (307E)

PROBLEM:

- Chemical mixture spilt out from P1 milled nut [314(P1)].
- Chemical mixture mixed with lubrication oil when spraying.

SOLUTION:

- Piston (307E) loosed:- Take out the piston rod [306/CPT(P#2)] tighten with nut (309P) slightly to make the piston convex shape and replace into the P pump cylinder [315/CPT(P)].
- Wear of piston (307E) or P pump cylinder [315/CPT(P)]:- Replace the piston (307E) or P pump cylinder [315/CPT(P)].



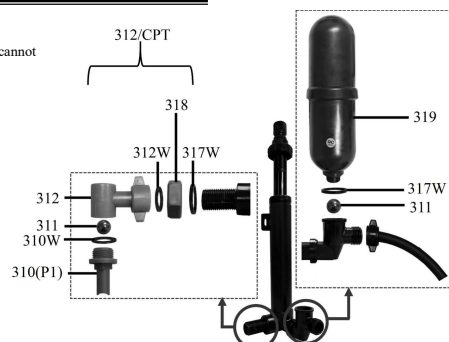
2) Suction Valve(312/CPT)

PROBLEM:

Normal operation but cannot build up pressure.

SOLUTION:

Problems of suction valve (312/CPT):- Ensure the ball (311) inside the suction valve (312/CPT) and the washer (312W) is in good conditions. Otherwise, replace the ball (311), washer (312W) or suction valve (312/CPT) if worn or damaged.



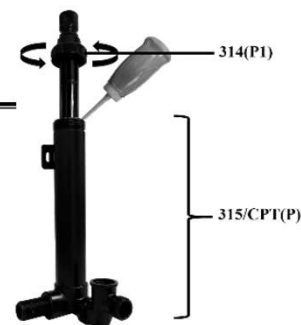
3) P Pump Cylinder [315/CPT(P)]

PROBLEM:

Heavy operation on plunger rod [306/CPT(P#2)].

SOLUTION:

Lack of lubrication oil:- unscrew the P1 milled nut [314(P1)] and fill 2ml of SAE 30 lubrication oil into the P pump cylinder [315/CPT(P)]. Push the P plunger rod [306/CPT(P#2)] forward and backward, then screw back the P1 mill nut [314(P1)] onto P pump cylinder [315/CPT(P)].



4) Iron Rod Stand (MBD/4)

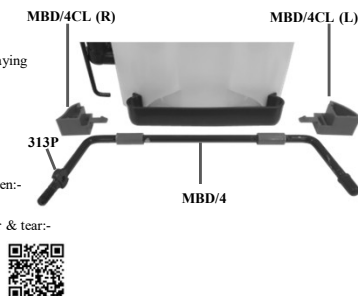
PROBLEM:

- Heavy operation on Iron Rod Stand
- Unable to get satisfactory pressure for spraying (refer to Operating Instruction no. 8)

SOLUTION:

- Iron Rod Stand get rusty and jammed :- Put lubrication oil on the rusty place.
- i. Bush for pull bar (313P) is missing or broken:- Replace a new Bush for pull bar (313P).
- ii. Iron Rod Stand (MBD/4) is bent or wear & tear:- Replace a new Iron Rod Stand (MBD/4).

Please scan the QR code for details.



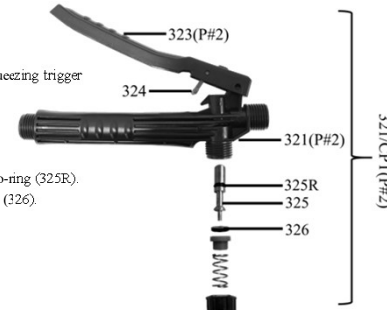
5) O-Ring (325R) Rubber Disc (326)

PROBLEM:

- Dripping from the spindle (325).
- Dripping from the nozzle tip without squeezing trigger [321/CPT(P#2)].

SOLUTION:

- O-ring (325R) is worn:- Replace a new o-ring (325R).
- Disc (326) is worn:- Replace a new disc (326).



It is Very Important

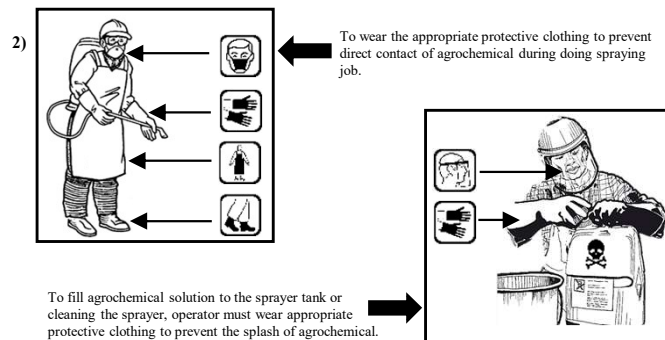
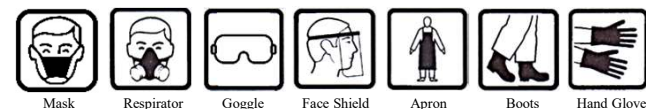
**Must clean the nozzle cap and filter [322(P#2)] properly after using the sprayer.

General Used Conversion Table

1 Litre	=	1,000 c.c.
1 Litre	=	0.22 Gal.
1 Gal. (UK)	=	4.55 Liter
1 kg/cm ²	=	14.22 psi
1 bar	=	14.50 psi
1 kg	=	2.20 lbs
1 in.	=	2.54 cm

Practical Guide of Protective Clothing

1) To wear personal protective equipment as pictograms below:-



3) To shower with clean water immediately if contaminated with agrochemical.

4) To bath yourself and clean all the clothing immediately after job then you can take in food or close to children or animal.